# Western Electric 

 ELECTRICAL SUPPLY
## YEAR BOOK



## TO THE TRADE

## Discount 50\%

A uniform discount of $50 \%$ from the Western Electric list prices in this Year Book gives the approximate cost to the trade of any article cataloged. Quotations on larger cuantities may be secured from our salesmen, and open orders will be billed at the lowest prices prevailing for the quantity ordered.

$$
50 \% \text { DISCOUNT EXCEPTICNS }
$$

| Material | Pages |
| :--- | :---: |
| Condulets | $782-880$ |
| Panelboards | $1056-1096$ |
| Iron Conduit | 740 |

Prices subject to change with out notice


# Western Electric Company <br> New York Newark Boston New Haven Providence <br> Philadelphia Baltimore Syracuse Syracuse Pittsburgh <br> Atlanta Richmond Birmingham Charlotte Savannah <br> Kansas City Minneacolis St. Paul St. Paul <br> $\begin{array}{ll}\text { Duluth } & \text { Indianapolis } \\ \text { Milwautee } & \text { Cincinnati }\end{array}$ <br> Milwaukee $\quad$ Cincinnati <br> Denver <br> Salt Lake City Spokane <br> Omahe <br> Oklahoma City <br> San Francisco Oabland Los Angeles Seattle Portland <br> EQUIPMENT FOR EVERY ELECTRICAL NEED 

## FOREWORD

We have not permitted abnornal market conditions to interfere with a fixed program of preparing annually a Year Book for the benefit of our customers. We have once more followed the plan of showing list prices, which with a few exceptions, permit a uniform discount, and in addition, print the manufacturers' list prices on standard supplies, for the convenience of customers who prefer to purchase on that basis, or who may wish an independent means of checking our invoices without the necessity of referring to a manufacturer's catalog.

The year 1919 is certain to be a period of fluctuating values and no permanent schedule of list prices could have stability as an accurate quotation basis. Nevertheless, our uniform list price and discount plan provides a very complete electrical guide for estimating, cost requisitions, and for retail counter use. When purchases of any large quantities of supplies are contemplated, and accurate costs are required, a quotation should always be obtained from our representatives, or from our nearest office.

Supplementing this Year Book, we furnish upon request, descriptive matter of all items of electrical equipment dealt in by the electrical trade.

Substantially all the material listed in our Year Book is carried in stock at each Western Electric distributing house.

Customers are urged to anticipate future requirements, wherever possible, by placing orders for supplies in standard packages. By so doing they climinate the necessity for double handling of material, and can secure a lower price in return for this saving in labor.

We shall be glad to have the opportunity of serving you during the year 1919.

## Prices

Prices found in this catalog are revised to agree with the latest lists at the time of issue. It is understood that they are subject to change without notice and are, therefore, not offered by us as a quotation. It is contemplated that ell prices are for shipment from our warehouse unless otherwise spenifed, except such goods as are shipped regularly direct from factories, in which cases prices are for factory delivery unless otherwise specifically arreed upon.

## Orders

When possible, we have placed opposite each acticle a list number. When ordering material, kindly order by the list number and give a description of the article required.

You are requested to sperify the routing over which you prefor shipments to be made. In the absence of specifie instructions, we shall use our test judgment in seleeting the route, but we are not responsible for extra drayage expenses at destination.

## Terms

Our terms are 30 days net from date of invoice. Cash discount for payment within ten days from date of invoice may be deducted at we rates set forth in the manufacturers' schedules of cash discounts, or such mash diseounts may le deducted for payment with urder.

Payments may be made by eheck, bank draft, postal or express money order, drawn to the order of or endorsed to the order of the Western Electric Company, Incorporated.

Payments in currency through the mails even if registered are not rocommended and are at sender's risk. We are not responsible for loss or misearriage of the mails.
lieceipts are not issued for remittances unless rectisted. Our endorsement on remittance is acknowledgment of the reecipt of the funds.

We solicit new accounts on a crodit basis, and in oreler to give prompt serviee, request that were you are not rated by the commereial. Igencies, references or other information of a credit character be forwarded with the orter. These will be immediately acted upon, and the results heid in strict confidence for our sole use amd, when reasonably satisfactory, shipment will follow with all possible dispatch.

To avoid the delay incidental to communieating with references, ote., it would be mutually convenient, when immediaft shipment is desired, to inst ruct us to ship ( ' O. D. by express, or parcel post (insured if so instructed) or by freight subject to sight draft through a local bank against bill of lading.

We shall advise the terms on future orders promptly after communieations from referenees are reecived.

## Returned Goods

To save transportation charges, and to facilitate the handling of goods upon receipt, you are requested not to returin goods without having obsained shipping instruetions from us.

## Shipments

As experienced packers are employed, and as reasonable care is usex in packing, we cannot be held responsible for breakage in patekages which are delivered in "good or ler" by the carrier.

Shipments of glasware are made at your risk,
cioods ordered to be shipped by pareel post will be sent only at the purehaser"s risk of loss or damage.

## MATERIAL INDEX



## Western Electric

| Material | l'age | Material | Page |
| :---: | :---: | :---: | :---: |
| Bridge Suspension | 1042, 1043 | Carts, Tool | 100:; |
| Bridle Jings. . . . | . . . . . 979 | Criling Buxes. | 760-763 |
| Bronze Wire | 005 | ('eiling Bratkets. | 951 |
| Buffalo Cirips. | 1007 | Ceiling Buttons. | (i2) |
| Buffer, Electric | 49 | Ceiling Fans | 317 |
| Bulb Trester | 296 | (eiling P'ixtures. | 442, 448-454 |
| Bulkhead Fixtures | 191, 499 | (Ceiling Susprosions. | 1042, 1043, 10.46 |
| Bulldog Clips | 977 | Ceiling Switches. | 535, 577 |
| Bulls Fiye Combination | 570, 571 | Connent Mical . | . . . 519 |
| Burglar Alarm Apparatus | 23:-2:37 | Chafing Dishes | 331 |
| Bus Ibar Clamps........ | .180 | (Chain Clamps. | 484 |
| Bush Hook. . ${ }^{\text {a }}$ | 999 | Chain Drill. | 1015 |
| Bushing, Conduit | , $501-753$ | Chain, Oncida. | 911 |
| Bushing Tools. . | 747 | Chamel lins. | 948, 10t3 |
| Bushings, Fixture | 441 | (Chapman Rerceptames | 563 |
| Bushings, Lead. | 74 | Charcoal Jumate. | 1038 |
| Bushings, Porrolain | . 914 | Charging Mitehines | 216, 217 |
| Bushings, Socket. | (116 | Chatterton Compound. | $\ldots 205$ |
| Buttons, Ceiling | 1625 | Chisels. | $18,1023,1024$ |
| Buzzers and Bells. . $151,1 \mathrm{~s}$, | $38,2 ; 31212$ | Choke Coil: | 98, 99 |
| $24+-250$ | $75,-4 \times 9-491$ | (Christmas larec (hitlits | 357,3 \% |
|  |  | (ircuit lreakers. | $.73-82$ |
|  |  | Clamp Kinohs. | $483$ |
|  |  | (lamping liars | 1050, 1051 |
|  |  | ( lamps, Be:an | .979 |
|  |  | Clamps, I3us Bar | 680 |
| C |  | Clamps, Cable. | \% 7539 |
|  |  | Clamps, Conduit | 753, 779 |
|  |  | Clamps, (rossarn | 975 |
| Cabinets and Panel Buamts. | 10tifi-10s9 | Clamps, (iround. | .778,779, 781 |
| Cabinets, I ire .larm. . . . . | 39, $2+1 \cdot-248$ | Clamps, Ciuy. | . . 978 |
| Cable Boxes. . . . . | . 749 | ( 'lamps, Messenger | 1010 |
| Cable Cars. | 1001 | ( ${ }^{\text {amps, Pipe }}$ | 1042 |
| Cable Clamp | 979 | ( 'amps, lunpe | 48. |
| Cable (lips | 988 | Clamps, Splicing | 1017 |
| Cable Ductsilields | 1009 | Chmps, Tible. | 291 |
| Cable (irips. | .985 | Clamps, Wire and Slere. | $1017$ |
| Cable langers. | 703, 988 | Clay Conduit . . . . . | $992$ |
| Cable looks. . | . . 981 | Cleaners, Vicoum | 306-309 |
| Cable Insulators. | .9:31 | C'leats, Brass. | 779 |
| Cable Lug. | . .1799, 683 | (leats, Fiber | 781 |
| Cable Racks | 2. 973,981 | Cleats, Porrelain | 916 |
| Cable lieels. | .1001-1004 | ('lats, lioper. | 484 |
| Cable lings | . . 984 | Cluwis Bult | . 976 |
| Cahle Rollers | 1001 | Clevis, C'rossarm | 975 |
| Cable Saws. | 10:31 | ('limberstrips. | $1012$ |
| Cable Splitting Kinver | 10:31 | Climbers, Pulo | $1012$ |
| Cable Strippers. . . . | 10:31 | Clips, Cable | 985 |
| Cable supports. | 7\% | Clips, Test | 135 |
| Cable Suspension Clamps | 978 | ( Cijus, Wire lanpe | . 977 |
| Cable Tips, . . . . . . . . . | 1882 | Coudes, I3urgrar Alarm | 235 |
| Cable Terminal | 1sis, 204 | Cloth Cuther, Electric | . 1 |
| Cable Wheels. | 998 | ('luth, Micanite | i15 |
| Cables and Wires. | 0is, 8sio-911 | Cloths, Wipung | 1038 |
| Calipers, Mierometer | ….1032 | Cluster Borlios. | $.378$ |
| Candolabra Lamps | $35 \%$ | Cluster Fixtures | (1) 459 |
| Candelabra Receptacles | 515, 594 | Clusters, Sorket | 380-380 |
| Candelabra Sockets... | 515, 594 | Crat Pocket J-tashlimhts. | $203$ |
| Candelabra Switches. | .237, 555 | Coils, Choke. | 98, 99 |
| Candles, Eleetric. | 294 | Coils, Induction | 210 |
| Canopies. . . . . . | 4.4 | Coils, Sneak | 702 |
| Canopy Insulators | 416 | ( ${ }^{\text {ain Collectors. }}$ | 207 |
| Canopy Switches. | -5.j, 627 | Collar Protector | 985 |
| Cant llooks. . . . | . . . 095 | Color Caps | $\text { . } 359$ |
| Canvasite Cord | 909 | Colorings, Iamp | 359 |
| Caps, lipe. | 748 | Come-llong (irip . ${ }^{\text {chen }}$ | 1008 |
| Car Fuses. | 169 | Combination Bell amil lush | 28.4 |
| Car Wire. | 910 | Combination Plates. |  |
| Carhon l3atteries | 16.5 | Commutator Cement | 505 |
| Carbon Lamps. | 354 | Commutator C'ompound. | 505 |
| Card lacks.. | 291 | Commutator Lubricant | 310, 0 \% |
| Cargo Iights | 461 | Compensares | 310, 361 |
| Carriage Bolts. | (0) 5 | Compensator Switches. |  |
| Carrage Call Ammmeiator | 234 | Compensators | 56,57 |
| (arrying Hooks.... | 149\% | Compound, Chatterdon | 501, |
| Cars, cable. | 1001 | Compound, Commutator. |  |



| Material | Page |
| :---: | :---: |
| Escutcheon Push | 283 |
| Etch-O-Lite. | 359) |
| Exhaust Fans | 317-31! |
| Expansion F3olts: | 181,919 |
| Expansion Shields | (1) ${ }^{\text {a }}$, 969 |
| Expulsion Fuses. | 102, 10, |
| Extension Bells. | 1as. $2(1) .209$ |
| Extension Bit Holders. | 1021 |
| Extension Push Buttons | 2910 |
| Extinguishers, Fire. | 304 |
| Hye Bolt. |  |
| Lye Nuts.... | . 976,979 |


| Naterial | Page |
| :---: | :---: |
| Fry ing Griddle | 344 |
| F'uller Board | 518 |
| Furaces, Soldering | 1038 |
| Fuse l3oxes. | 705, 706 |
| Fuse Itolders | 684 |
| Fuse links. | .(189, 690 |
| Fuse Plugs. | .1092, 693 |
| Fuse Receptades | . 487 |
| Fuse kiblun. | . 689 |
| Fuse Wire. | 169 |
| Fussless Rosettes | 505 |
| Fusss and Cut Onts. | 691-706 |
| Fuses and Pants. | 209 |
| Fuses Expulsion | 102, 103 |
| Fuswitch. | . 677 |

## G

Galvanized Chain. . . . . . . . . . . . . . . . . . . . . . . . . 911
(ialvanized Wire. . . . . . . . . . . . . . . . . . . . . 902, 903
( Batug buxes . . . . . . . . . . . . . . . . . . . . . . . . . . . 76.5
( a - Vingine switcher. . . . . . . . . . . . . . . . . . 678
(iasaline Porcher....................... . 1034-1037
Gaskets, Comblulet . . . . . . . . . . . . . . . . . . . . 876
(imuss, Wire. . . . . . . . . . . . . . . . . . . . . . . . . . . . 1032
(ieru Lamps. . . . . . . . . . . . . . . . . . . . . . . . . . . . 354
(ienurators. ..................33. 34, 40-45, 136
(icherators, Hand. . . . . . . . . . . . . . . . . . . . . . . . 210
(Giant Nitrain Manalators.............935, 936, 1054

Cilase Whates.
$39-396,428-431.875$
Glabe Hollers .390, 391
(iluvess, Rubber. . . . . . . . . . . . . . . . . . . . . . . . 1039
Cilnwer fitoves. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 332
(ih:e, Insulating . . . . . . . . . . . . . . . . . . . . . . 519
Glue lotr.. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 330
Gre vity lhatherios. . . . . . . . . . . . . . . . . . . . . . . . 165
firidlles, lirying ................................... . . . . . . 344
(rinders, l'ortable . . . . . . . . . . . . . . . . . 49-51, 326
(irip) Arms. . . . . . . . . . . . . . . . . . . . . . . . . . . . 485
(irizs, Bulfalo. . . . . . . . . . . . . . . . . . . . . . . . . 1007
Grip)s, (:ible ..................................... 085
(irip), Wire ...............................008. 1000

(ircound liods. . . . . . . . . . . . . . . . . . . . . . 202, 982
Guntrl, lrons. . . . . . . . . . . . . . . . . . . . . . . . 975
1333 Ciutrds, llub. . . . . . . . . . . . . . . . . . . . . . . . . . . 974
740 Gu:ır(k, Lamu̧... . . . . . . . . . . . . . $370-377,875$
895, 896 Gity inchors. . . . . . . . . . . . . . . . . . . . . . . . . . . 983
if Ciuy ('lamps. . . . . . . . . . . . . . . . 978
3ti2, 3ti:3 Guy llooks. . . . . . . . . . . . . . . . . . . . . . . . . . . 976

7! Ciuy Thimbles. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 976
780
$1: 37$
2 $2 \times$
000, 501
391
Wereptack.
$203.205,209$
Flush Annunciators
H

Flush Switches

Food Warmer . . . . . . . . . . . . . . . . . . . . . . . $335 \times .312$
Foot I'ush . . . . . . . . . . . . . . . . . . . . . . . . . . . . 991
Forks, Insulatel. . . . . . . . . . . . . . . . . . . . . . . . $18!$
Foundation Bolts. . . . . . . . . . . . . . . . . . . . . . . 481
Frames, Hack Saw. . . . . . . . . . . . . . . . . . . . . . . 1024
Framing Chisels . . . . . . . . . . . . . . . . . . . . . . . . . 10223
Frequency Meters . . . . . . . . . . . . . . . . . . . . . . . . 120
Friction Tapes. . . . . . . . . . . . . . . . . . . . . . . . . 0 . 0 .3
Frogs, Trolley . . . . . . . . . . . . . . . . . . . . . . 10nen-10n8

## Western Electric



## I

| Material | Page |
| :---: | :---: |
| Inter-Phone Systems | 168-18i |
| Iron Box Bells and Buzzers | 261-264 |
| Iron Brackets | 949-960 |
| Iron Clad Switches. | .72\% |
| Iron Conduit | 740 |
| Iron Pins. | .944-048, 052, 956 |
| Iron Wire | .886, 899, 902, 930 |
| Ironing Machines | :313, 314 |
| Iron, Electric. | 328, 329 |
| Irons, Soldering | 336, 1033 |

## J

| Jack Rabhit Sewing M:whines. | 325 |
| :---: | :---: |
| Jack Straps | 1013 |
| Jateks, Cable Reel | 1001 |
| Jacks, I'ole | 997 |
| Jateks, Trepehone | 211 |
| Jars, Battory | 5, 167 |
| Jenney Pole Support | . 996 |
| Jeweler's Lathe Motor | 326 |
| Joints, Insulating | +43-446 |
| Joints, Splicing. | . 984 |
| Junction Iboxes |  |
| 486, +68, 499, 302.357 | 763, 766 |
| Junction Iboxes, Fiber | . . . . 991 |
| Jimper Wire Reel | 1003 |
| Jupiter Insulators. | . 467 |

## K

| Wirosene Torches. | 1034-1037 |
| :---: | :---: |
| Kiey Arm Switches. | $55 \%$ |
| Keys, Switch | 575 |
| liers, Telegraph. | 219, 220 |
| Nitchenette Ranges | . 334 |
| lilaxon Horns | 148, 149 |
| Knife Switches. | (i.51-67 |
| kinives | 1015, 10233, 1031 |
| Knohs, (lamp | . . . . . . $48: 3$ |
| Kinobs, Porrelain | 913-915, 918 |
| J. W. Rosettes. |  |

L

| Tacquer, Lamp | 359 |
| :---: | :---: |
| Ladders, Mamhole | 1006 |
| Latles, Pouring | 1038 |
| Lagserew Wrench | 1016 |
| Lag Screws. . . . | . 912 |
| Lamp Changers | 370,371 |
| Lamp Coloring. | . 359 |
| Lamp Cords. | 741, 742 |
| Lamp) (iuards | (370-377, 875 |
| Lamps, Incandeseent | :34ti-357 |
| Lanterns, Electrie. | 296 |
| Isead Bushings. | . 747 |
| Lead Encased Wires |  |
| Learners Instruments | , 219 |
| Lifters, Manhole Cover | 1006 |
| Light and Power Outfits | 136-143 |
| Lightning Arresters. | (1)-101 |


| Material | lage | Material | Page |
| :---: | :---: | :---: | :---: |
| Line Carts | 998 | Minw Insulators. | 914. 029 |
| Line Material. | 10)40-1065 | Mine Suspension. | 1042, 1043 |
| Lineman's Block | ... 1009 | Min Trelephone. | 200. 201 |
| Lineman's 'Tool. | 1007 | Minor's Flashlights | . 29.3 |
| Linen T:upe | . 506 | Miniature Lamps. | 352,355 |
| Link Fuses. | (5x9, 690 | Nimiature Sorlerts | 545, 504 |
| Links, Connceting | . 97 | Timng C'able... | ...8! |
| Lonomotive damps. | $34!$ | Mognl Sorkets. . . . 3x3, | 542, 54x, 595, 61s |
| Locking Iamps. | 356 | Moldinge Metal. | …729-736 |
| Locking Lamp Gilarrs | 371, 373 | Molding Spacers | .736 |
| Locking Shade Molder. | 385 | Molding Wire (irip | TN1 |
| Loocknuts. | 7心 | Monitor Ikells | . $21920,265,490$ |
| Locks, Burglar Alamis. | 2:36 | Notar Plugs. | .612 62? |
| Locks, Pole. | 424 | Moter Starters. | 55, 64, 71 |
| Low Voltige ( Outfits. | 1:3i-14:3 | Mot mitarting Pancks. |  |
| Loys. | 994 | Mot erstarting K heostats. | 5 s |
| Laluricant, Commatator | 505 | Mor orstarting switehes. | 673, 674, 723,725 |
| Lage llooks. | 09.5 | Mot-ns amd Cenerators. | $\cdots 30-45,13 i$ |
| Langs (able. | 179, 183 | Motars Indurtion | . . 30, 31 |
| Laminous ladiators | (3:34, 335 | Mowing Picture 1 pparatas. | 360, 361, 007 |
|  |  | Mul Supports.......... | . . . . . . 904 |
|  |  | Taj iple l3atterics. | 15 |
|  |  | Tutriple Plurs. . | .60) |
|  |  | Multiple Push Buttons | . 289 |

M

| Machine Rolts | 964 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Magnet Wire | 904, 90)5 |  |  |  |
| Magneto Stations. | 25 |  | N |  |
| Magneto Tolephone | 189-191, 208 |  |  |  |
| Magneto Test set. | 213 | Nail Puller. |  | $\ldots 1024$ |
| Manhole Cover Lifters | 1006 | Newell Posts. |  | 478, 479 |
| Manhole Latders | 10\%4; | Nownad Reecplatos. |  | 368 |
| Manhole Skids | $110 \%$ | -ipples Conduit. |  | 750 |
| Marine Supplies. | 1.31, 376, 4 $415-502$ | Non-Merallic ('onduit |  | $\overline{10}$ |
| Massage \ibrators | . . . . . . 305 | Nut:, Eye. |  | 976, 979 |
| Mast Arm liopes. | 911 |  |  |  |
| Matting, Rubler | . 10 |  |  |  |
| Mattocks | 919 |  |  |  |
| Mazda Lamps | 311-357 |  |  |  |
| Measuring Tapes. | 10:31 |  |  |  |
| Measuring Outfits. | 10105 |  | 0 |  |
| Mechanical lars. | 10:51-10.52 |  |  |  |
| Mechanical Signaling Gysteme. | 1st. $1 \times 8$ | Office Wire. |  |  |
| Medieal Batteries. | 303 | Oil IBrak Switrhos |  |  |
| Melting I'ots. . . . . Mereury Rectifers. | $10: 38$ 145 | Oil Fuse Cut-buts: |  | $\begin{array}{r} 8: 3-90 \\ .699 \end{array}$ |
| Merenry Rectifiers. Messenger ('ar. | 145 1001 | Oil Jamp Altacluments |  | $519$ |
| Messenger (ar... Messenger (Clamps | 1001 1010 | Oneda (hatin...... |  | $!111$ |
| Messenger langer: | 9.9 | Operers. Inow... |  | 278-280 |
| Messenger Sirands. | (1)? | Ornmmental Brackets |  | 469-17-478-1N0 |
| Messenger Wire Cirips | $1010!$ | Out ef Jox Jit fines |  | 16.481, -182 |
| Metal (ase Annunciators. .22i | 25, 239, 254, 255 | Out at Joxes and $0^{\text {anems }}$ |  |  |
| Metal Molding and Pittings | 729-736 | Out et Homds. |  | - $04.8 \times 2$ |
| Metal loates. ..... | (2) 204 | Out ats Floor. |  | - 0 , 8x |
| Metal Push Buttons. | 2x-2-91 | Ovens, Electric. |  | 342,343 |
| Metal Reflectors |  | Ovens, Electric. |  | 342,343 |
| Meter Trims. | 726 |  |  |  |
| Meters, lattery | 13-1. 167 |  |  |  |
| Meters, Wire. . | 10:32 |  |  |  |
| Mica Cut. | -09 |  |  |  |
| Mica Fuses. | 209 |  |  |  |
| Mica Sorkets. | 1619 |  | P |  |
| Micanite Cloth | \%15 |  |  |  |
| Micanite l'aper. | 516 | 1). and B. Compounds. |  | 513 |
| Micanite Plates. | 51+. 515. 517 | Parsing IIonse ( ${ }^{\text {aral }}$ |  | 909 |
| Micanite T'ubing. | 50 | Pade, Strap |  | 1012 |
| Nieos Cement. | 519 | Paints and Varnishes. |  | 511,512 |
| Mico Insulating Gluc. | 519 | Pan I Boards and ('athime |  | 70\%-718, 106ib-1089 |
| Micrometer Calipers. | 10:32 | limel Board Switches. |  | . . . . . . . .642, 618 |
| Midget Push Muttons. | 282 | Pand Box Commetors. |  | 744 |
| Mil-Ammeters | . $104,107,110,117$ | I'and Switches. |  | 1885, 686 |
| Millivoltmeters. | . 105, 107 | Pands, Master Relay. |  | . 1.51 |
| Mine Bumarrs. | .151 | P'anels, Motor Starting. |  | . . $\mathrm{j}^{9}$ |





| Material | Page | Material | Page |
| :---: | :---: | :---: | :---: |
| Tamping Bars. | . 994 | Tubular Flashlights. | 293 |
| Tank Switeh. | .64) | Tiubular Fuses. | 209 |
| Tapes, Measuring. | $10: 31$ | Tubular Lamp (iuarts. | . 37 |
| Tapes, Insulating. | 503, 506, 507 | Tidular lamps... | 346 |
| Taplets, Pipe. . . | $.851-884$ | Tungar Rectifiers | 989,1054 |
| Taps, Cable... . . . . . . |  | Turnbuckles. | 95\%, 1054 |
| Taps, Current. . . . . . . . 379 | (i)1, 609, 629 | 'Turn Down Lamps. . . | 355 397 |
| 'Taps, Feeder . . . . . . . . . . | .1046 | Tungsten Dry 13:1teries. | 1015 |
| Tea Kettle. . | 3:32 | Tweezers, Wire. | 1015 |
| Trees, Conduit | 749 | Twin Suckets. | 543 1015 |
| Telecode Relays. | 151 | Twin Wronch. . . | 1015 912 |
| Telegraph Apparatus. | .219, 220,702 | Twisting Wrenclus. | 912 |
| Telegraph Wires. | 869, 903 | Two-niay Plug. | 37 |
| Telephone Booth | . $2(0) 4$ |  |  |
| Tolephone Booth Fims.. | . 316 |  |  |
| Telephone Brackets | 214 |  |  |
| Telephone Switch Plates. | .3世, 569, 577 |  |  |
| Telephone Switr ches. | . 6177,678 |  |  |
| Telephone Wires. |  |  |  |
| Temperature liegulators. | ..30:3, 3:3x | U |  |
| Temporary Receptarles. | . .59)3 |  |  |
| Terninal Bushings. | 185. 747 | I'aderdome Gongs. | 275 |
| Terminal, Cable. | 185, 2016 | Unit Fixtures. | (16-4i) , 453-457, 460 |
| Terminal Wrench | 1016 | Iniversal (irips | .985) |
| Test ( lips s. | 13. | Ino Shade Hotiters | . 389 |
| Testers, Battery. | 109, 296 | Untreated Papers: | 518, 519 |
| Testing Sets. | 133, 213 | Uri, Coffee Heater. | . 345 |
| Theater (cord. | $\ldots 9$ |  |  |
| Thermometers. | . 167 |  |  |
| Thermo-Wynks. | . 365 |  |  |
| Thimbles, Ciuy | 976 |  |  |
| Threaders, Pipe'. | 1029 |  |  |
| Time Detectors. | $25: 3$ |  |  |
| Time Switches. . | - 367 | V |  |
| Toasters. | . 330,312 |  |  |
| Toggle Bolts. | . 971 | Vacumm Cleaner Cord | 910 |
| Toggle Switehes. | . $2 \mathrm{Sl}, 58$ | Facuum Cleaners | .306-309 |
| Tool lugs. . . | . 1014 | Vacumm Switehes | . . . . iti |
| Tool Brelts. | 1013 | Vapor Proof Fixtures | . 456 |
| Tool Carts. | 1003 | Vapor Proof Lamp) (Gards. | 368, 369, 376 |
| 'Tool Cirinders | 10151046 | Varnished Tape.... | ...... 507 |
| Tool Sets. | 101\%, 1016 | Varnisher, Insulating | 511, 512 |
| Tools, Bushing , |  | Verhicle Call Ammunciators | . . 23.1 |
| 'Tools, Lineman's. | 993-1039 $1033-1035$ | Vehicle Flashlight | (17 2945 |
| Torehnes, Soldering. | 10.33-10.38 | Ventilating Fans. | 317-319 |
| Toy Trinsformers. |  | Verdelites Portables | 435, 4336 |
| Toys, Electrir. | $298-302$ 10103 | Vest Pocket Flandights | ¢, 294 |
| Track Dollys Traffic Post: | $\begin{array}{r} 10103 \\ 478 \end{array}$ | V'ibrating (iongs. | $248,272-274$ |
| Traffic Post: <br> Train Liehting Lamps. | $\begin{gathered} +78 \\ .349 \end{gathered}$ | Vibrators, Electric Massage | . . . . 305 |
| Train Lighting Lamps Transformers, Bell. | 211, 274 | Vise Strals . . . . . . . . . . | $747,1027,1028,1013$ |
| Transformers, Bell Kinging | -276,277 | Fises <br> Vitrified Clay C'onduit | , 1027, 1028, 1029 |
| Transformers, lime...... | 5-54,90 | Volt-ammeters. .. | 10x, 117 |
| Transmitters, Telephonc. |  | Voltmeters and Ammeters. | 104-121 |
| Transom Springs. | $\begin{array}{r} 2: 37 \\ 0960 \end{array}$ | oltmeters ans Amineters. |  |
| Transposition Brackets. | . 940 |  |  |
| Transposition Insulators. | - 928 |  |  |
| Treads, Floor. . . . . . . . . | . 291 |  |  |
| Tree Insulators. | . . 986 |  |  |
| Tree Pruners. | . . 1000 |  |  |
| Tree Trimmers. | . . 1000 | W |  |
| Trimmer, Rope. | . 484 |  |  |
| Trimmers, Tree. | . 1000 |  |  |
| Triple Insulation Arms: |  | Nall Brackets. |  |
| Tripods. . . . . . . . . | +45 037 | Nall Insulators. . Hall Lamp ( fuards | $37(3,377$ |
| Trips, Door | 10+8-10)2 | Wall hamp Cinards. Wall llates. | 2 S 8 |
| Trolley Ears | $1048-1052$ $477,9+3$ | Wall Pates. <br> Wiall Receptacles. | (0)2, 60:3, 611, (11:3, 620 |
| Trolley Posts. | .. $477,9+3$ | W:all Receptacles. Wiall Sodets. | (02, $00.3,61,584$ |
| Trolley Wire. | $24+248$ | Wiall straps. | $.976$ |
| Trouble Bells. ${ }^{\text {Trouble Flashlights }}$ | 24-248 | Wrall Switehes |  |
| Trouble Flashights | 1002 | Wrashing Machines | 310-319 |
| Tubes, Bracket. |  | Wasson 1 Reels. | 1002 |
| 'lubes, Porcelain. | . 919 | Wateh Case Buzzars | 06 |
| Tubing, Nicanite | 5 | Watehman's Time Diotodor | \% |
| Tubing, Soft liohber | 510 | Water lieater Filectrie |  |

## Western Electric

| Material | I'age | Material |  | Page |
| :---: | :---: | :---: | :---: | :---: |
| Water Heaters |  | Wire Tope Clips. |  |  |
| Water lomps | 320,321 | Wire St rand. . . |  | 977 902 |
| Waterproof Cord. |  | Wire Tools. |  | 1009 |
| Watertight Bells. | 368, 364 | Wireless Clusters. |  | 378-382 |
| Watertight Boxes. | -17 | Wirrems ${ }^{\text {Wiremald }}$ |  | 218 |
| Watertight Bushings |  | llires and Cal |  | \% $20.737-739$ |
| Watertight Buzzers. | 18:9-4! 1 | Wood Pave Suritches |  | 86, 205, 885-911 |
| Watertight lixtures. | 191-194, 498, 499 | Wiond Bax luells. |  | 281 |
| Watertight llugs..... | . 10.48 - $4 \times 8$ | Woord Brackets. |  |  |
| Watertight P'ush Buttons. | 290, 145, +14 | Wiord (rossamms. |  |  |
| Watertight liereptacles. . | 4x9, 495, 501, 012 | Wood liye blooks. |  | .939 |
| Wathour Meters. | (10) $112 \pm-1: 3$ | Wood Mioulding. |  | 1011 781 |
| Wattmeters. . . | 110-112, 119 | Wood lins. . . . |  | . 9815 |
| Weatherproof Bells. Weatherproof Coloring | -258, 259 | Wood Poles |  | 9+0)941 |
| Weatherproof Coloring | - . 3 50! | Wood Pulley Blocks. |  | 1010, 94011 |
| Weatherproof Pixturas. |  | Wood I'ush Muttons. |  | 185, $2 \times 5$, 1010,1011 |
| Weatherproof Receptarles. | 4 $40.495,501,502$ | Wood Screws. . . . |  | 18.), 285, 289, 290 |
| Weatherproof liope ... | . . . . . 184, 911 | Wood Strain Insulators |  |  |
| Weatherproof Sockets and |  | Wooden (omduit . . . |  | . 1059 |
| Weatherproof switches. . | -4s, 604, 605, 624 | Wrenches of. |  | 1016, 1023 |
| Weatherproof Wire. . . |  | Wrenches, Twisting |  | . 912 |
| Webbing. . . . . . . . | sme, 50, 507 | Ifringers, Lilectrie. |  | 310, 312 |
| Wedge, Roof. | -1017 |  |  |  |
| Well Pumps. | 320,321 |  |  |  |
| Wheels, (able Reol | . . 908 |  |  |  |
| Wheels, Trolle: | . 1060.5 |  |  |  |
| Windlasses. | . . $46 i$ |  | X |  |
| Window Springs. | 2.37 |  |  |  |
| Wiping Cloths. | 10:3 | S-hay lieflectors. |  | .428-431 |
| Wire, Binding | (90) |  |  |  |
| Wire (lamps. | 1017 |  |  |  |
| Wire Comnectors. . . . . |  |  |  |  |
| Wire Cutters. | . . . . 101.5 |  |  |  |
| Wire, Fish. | . 7.50 |  | Y |  |
| Wire, fuse. . | (t90 |  |  |  |
| Wire Giauges. | 10:3: | ram Lights |  | $3162,3633,461$ |
| Wire Cirips. | 100s. $1000!$ |  |  |  |
| Wire Ciuards | -11:7, 420, 875 |  |  |  |
| Wire Lug. . . . |  |  |  |  |
| Wire Measuring ( 1 ditit. Wire Meters . | 100.) |  |  |  |
| Wire Meters Wire Reels. | 10:3 |  | Z |  |
| Wire Ricels. | 10101-100\%. 10, $0^{3}$ |  |  |  |
| Wire Rope. | $1 \times 1,911$ | Zinme, Battery |  |  |

## Quality Products

The Western Electric Company accepts as its position and whigation in the industry not only to distribute appliances that are recognized ans "Quality I'rodacts," but to assist its agents "TO IIGITEN TIIE LABOR OF SELLLIN('':

Hence-The Western Electric popular magazine publicity, Dducational publicity selling the idea of doing it electrically in the home-a poliey that is different from the advertising of most manufacturers and absolutely unique among jobbers. It directs the purchaser to the electrical dealerour merchant-customer. It is a foree that is leelpinf: to build up the electrical industry and "TO LIGHTEN THE IABOR OF SELILINC"':

Hence-The Western Electric corps of expert salex specialists, which is at all times at the disposal of the merchant-customer, who wishes to put on a special campaign. These men are experienced. They are ready and willing to assist you:

Hence-The Western Ehectric complete line of merehamdising helps-window display outfitsnewspaper advertising electrotypes-small mailing foliters and bookdots-iantem slides for the movies -all of these are avalable for the use of our morchat-customer, and without charge.

In this manual you will find samples and reprobluctions of our eomplete line of solling helps, designed for your use. Int them to work for you; tio up with the magazine publicity and proclaim your store the place to huy this nationally advertised line of "(buality l'rolucts." I se these sales helps for they will LIGHTEN THE LABOR OF SELLANG:

## POINTERS ON ORDERING SALES HELPS

## NEWSPAPER PRINTING PLATES

Standard ready-to-use advertisements-sperify number only, wion ordering, as V-112 or NM-!

Standard printing plates for making up your own advertisementsalways sperify width, :1s SM-t, $1 \frac{1}{4}$ inches wide, or $11-2 s, 21 / 4$ inches wide.

Special plates-DO NOT ORDER AN "OOLIMAN" OR "DOUBLE ('IL」"MN'" plates-always give both dimensions of space available width first, height secomt.

Electrotype is the nambe givell to atome of either a halfone or line plate-don't use it to distinguish. For mewspaper work, line phates are pref(ratble, but coarse serem half-tomes wan be supplimi.
 or smooth) that is to low used.

SMALL FOLDERS
DISPLAY CARDS and
LANTERN SLIDES
In ordering any of these with your imprint, give name, address, telephone number, ete, just as you want them to appear. In ordering printed matter be sure to anderify untantify desiom?

Order All Sales Helps by Number

## PORTABLE SEWING MACHINES

Newspaper Printing Plates


SM-2


SM-15


SM-16


SM-28


SM-5


SM-17


SM-3

## Note

In ordering SM-2, 3, 5, 15, 1617 and 28 always specify the width desired, in inches.


SM-11
Single Colunin 7 inches high


SM-24
Double Column
7 inches high


SM-25
Double Columo
7 inches high


SM-26
Double Column 7 inches high


SM-27 Double CoIumn 10 Inches IIigh
Display Card


Ci-704

For Bill and Letter Heads


SM-14
Furnished in 'I'hree Sizes,
1 Inch. ${ }^{\prime}$ ínches and 2,1 Inches Wide
Specify size wanted


W-109

W. 113

## PORTABLE SEWING MACHINES

Stickers
To attach to monthly bills


B-162


B-163


13-160

Small Folders


13-161

Lantern Slides


B-164
Stickers Are $6 \times 31 / 4$ Inches


LS-626


LS-627


LS-624


LS-625


LS-629
WASHING MACHINES

## Newspaper Printing Plates



W-1
I)ouble Column

6 s.inches high


W-2
Single Column
61: inches high


W'7
Single Column $6 \cdot 3$ inches high

CHANGSS WASH DAY


W-8
$\underset{\text { Single Colunnn }}{\text { Sinches high }}$

## WASHING MACHINES

Newspaper Printing Plates




W-16
Double Cidumn 7 inches high


w-30
Singl Column 6! $\frac{1}{2}$ incles high



W-33
Double Column
63/4 inohes high


W-34
Double Column 7 inches high


W-35
Double Column 7 inches high


W-28
Furnished in three sizes $11 / 8^{\prime \prime} .21^{\prime \prime}$, and $4^{\prime \prime}$ wide Specify size wanted

## WASHING MACHINES

Window Display

W.116

Display Card

C. 711

Display Card Set-W-117


Lantern Slides


Stickers
To attach to monthly bills



A nominal charge will be made for this display board W-115


HR-1 Double Column 7 inches high


HR-4
Single Column $61 / 2$ inches high

Newspaper Printing Plates


HR-2
Double Column 7 inches high


HR-3
Double Column 7 inches high

Small Folder


HR-5
Single Column 61/2 inches high

## IRONS

Newspaper Printing Plates


E1-4
Dauble Column 7 inches high


E1-6
Single (iolumn inches high


E1-5 Double Column 4 itiches high
 53/inches high

IRONS
Newspaper Printing Piates


Lantern Slides


B-166

LS-543


LS-617

W-114


W-114


This is an integral part of window display outfit W-114. After using in the window, it can be used on your store counter. The little girl is shown to give an idea of the size of the cut-out.

Lantern Sides

Display Card


C-710

## VIBRATORS

Newspaper Printing Plates


VR-1
Furnished in three sizes 13 inches, $21 / 4$ inches and 4 inches wide


VR. 2
Furnished in three sizes $1^{3}$ inches. 2 inches and 4 inches wide


LS-54.3

Small Folder


B-134

## SEWING MACHINE MOTORS

Newspaper Printing Plates


SM-1
3 inches wide, 5 inches high

Lantern Slide


LS-540


SM-18
Furnished in two sizes $11 / 4$ inches and $21 / 4$ inches wide

Small Folder


IB-170


SM-19
Actual Size


SM-13
Actual Size

Newspaper Printing Plates


## SEASONABLE WINDOW DISPLAYS

Use your window to tie up to current eventseither national or local. The window displays here illustrated offer seasonable suggestions. Order the outfits by number.

If there is any special event in your town for which you desire a suitable window--such as an "()hd Home Werk"-write to us. We will be glad to prepare a display.

Write for Our Window Display Service Book


## SEASONABLE WINDOW DISPLAYS



An Easter Window
W-97


For Jume Weddings
W-99


For Labor Day
W-100


For Decoration Day
W-112


For Fourth of July
W-101


Eor Hallowe'en
W-103


For Election Day
W-106



For Thanksgiving Day
W-104
GENERAL FOLDER

This folder describes the eight leading Western Flectric (quality Prod-ucts-Wasling Machine, Vactum Cleaner. Sewing Machine, Iron, Toaster, Heat Regulator, Heating Pad and Portable Lamps.


For Christmas
W-107

## BUSINESS MOTORS

 Newspaper Printing Plates

RC Motor
Furnished in five sizes: RC-T/8" $11 / i^{\prime \prime}+1 \frac{13 / /^{\prime \prime}}{}, 2^{n}$ and $3^{\prime \prime}$


KT Motor Furnished in three sizes: KT-1 ${ }^{1} \mathrm{a}^{\prime \prime}, 1^{3} 3^{\prime \prime}$ and $2^{\prime \prime}$

Half-t one electrotypes in various sizesof Type KT, KS, RI, SA, RC, RCS, ani ND motars and of motor generator charging outfits (NIG) are available. Order by specifying type of motor and width of clectrotype desired.

Lantern Slides
For Bill and Letter Heads

$\qquad$
W8 1
Actual size


LS-53


LS-533

## SUNBEAM MAZDA LAMPS



NEWSPAPER PRINTING PLATES<br>Write for

This Mazda Ad book No. 4. It contains a large number of reproductions of live, smapy newspaper a lvertisements that will keep your stock of Sunbean Mazdas constantly on the move.

## MOTION PICTURES

The Western Electrie Conmany has prepared two motion pictures that will put over your sales message in your town. They tell about the changes that take place in home life when electrical appliances are introduced. One is called " 1 Square Deal for His Wie," the other, "The Education of Mrs. Drudge." leun them at your local theatres-arrange for bookings with us.


## Lantern Slides



LS-634


LS-635

These sates helps-the folder distributed to users of electric light in your town and the lantern slides to be used in theatres where the film is to be shown -will serve as announcements and bring people to see the picture.

## POWER AND LIGHT OUTFITS AND WATER SYSTEMS

For the use of those engaged in the sale of Western Electric Power and Light Outfits and Water Systems, there is available a complete assortment of attractive, interest-creating sales helps.

These sales helps include a large number of newspaper printing plates featuring the outfits, as well as a number featuring accessbries and water systems; lantern slides to be shown at your local motion picture theatres; a number of follers printed in colors; booklets and lithographed signs. that can be placed in store windows or fastened to fenees and harns in the territory.

Further details may be obtained by writing to our nearest house.

## Western Electric

## SINGLE TWO AND THREE PHASE INDUCTION MOTORS

${ }_{3} \mathrm{~S}_{\mathrm{TO}} 5$ H.P.
60, 40, 25 Cycles-110, 220, 440 and 550 Volts


Type K Squirrel Cage Type Induction Motors<br>RIVETED FRAME DESIGN<br>Construction Details

Frame. Stator laminations of selected sheet steel are securely elamped and riveted under heavy hydraulic pressure between two heary flanges.

Windings. The stator coils are form wound, and thoroughly insulated. The stator slots in which they are embedded are overhung or partially enclosed, thus offering perfect mechanical protection to the coils.

Insulation. The completed stator is dipped in a heavy insulating compound and baked for soveral hours at a high tomperature-resulting in a moisturcproof winding.

Rotor. Built up of selected steel laminations, sccurcly elamped between heasy end rings under hydraulic pressure and keyed directly to rotor shaft. Rotor bars are embedded in the core slots and short circuited at their projecting ends.

The rotor of the Type KS motor is similar except that the rotor is monnted on an arguto plug bearing lining which is plared between the sterl slecere upon which the core is assembled, and the shaft.

## Western Electric

## TWO AND THREE PHASE INDUCTION MOTORS Types KQ and KT Form B 5 TO 200 H.P.



## Construction Details

Frame. The skeleton frame consists of a single cesting of two end rings connected by horizontal ribs. On the inner surface of the ribs the laminated stell core is securely keycd, and is held in place by heavy end flanges.

Windings. The coils are form wound and thoroughly insulated with a moisturc-resisting insulating compound. The coils for stators of frames 322 and larger are of the molded type, as these frames have open slots.

Rotor. The rotor is built up of selected steel laminations, carefully annealed, japanned and clamped hetween, heavy end rings under hydraulic pressure. It is keyed direct to the shaft on the smaller frames and built upon a spider on the larger motors. The rotor winding consists of copper bars imbedded in the rotor and short circuited at their ends by being solidly welded to a copper ring.

Ventilation. The laminations of the core are dircetly exposed to the air and numerous ventilating ducts are provided in the rotor and stator through which the air is drawn when the motor is in use.

## Western Electric ALTERNATING CURRENT MOTORS



MIS 105 to MIS 104, Form A
Open Type Mill Motor


M1 101 to M1 109. Form B Totally Enclosed Mill Motor

Alternating Current Mill Type Motors
25 CYCLES - 3 TO 150 H.P.
The Westem Electric alternating current mill type motors have proven remarkably successful when applied to the externally severe service conditions which are met with in steel mills, crane and hoist service, ete. The best grade of materials chter into their construction and special care and attention is given to attaining the best mechanical and clectrical chatacteristics, insuring the utmost service reliability, and ability fo withsfand severe straius and heavy overloads.

Ratings-The totally enclosed mill type motors (N1l design) are furnished for mill service, hased on sixty-minute operation in capacities ramging from is h.p. to 150 h .p. The open mill type motors (alls design) are furnished for coninuous sorvice in sizes ranging from $25 \mathrm{~h} . \mathrm{p}$ to $1: 0 \mathrm{~h}$. p . The motors are wound for 220 or 440 volis, 25 cycles, three phate cirenits, and will carry their full rated load with a temperature rise not to exceed iadegres (. on all parts.

The synchronous specd of the mbtors up to and including $20 \mathrm{~h} . \mathrm{p}$. is $750 \mathrm{r} . \mathrm{p} . \mathrm{m}$. ; from $2.5 \mathrm{~h} . \mathrm{p}$. to $100 \mathrm{~h} . \mathrm{p}$., inclusive, 5010 r.p.me, and the 150 h.p. motor operates at 375 r.p.m.

The standail notors are designated as Form A, but when furnished with axle brackets for back gear equipment are known as Form B. lack gear pinions and enelosing covers for the gears may be supplied, and solenoid brake: of exceptionaliy strong construction are built for these motors.

The solenoid brake is furnished with a surecial brake shoe of spreial mulded asbestos compound. The coik of the brake are wound single phase and nay be connected across any single, two or three phase circuit without change. Ther have a maximum retarding torgue of not less than full had torgue of the notor, and a holding torglic of met kss than 125' of full load torque.

Prices and data on application.


Sing; Drum lloist
-2. 440 or 5.50 volis at 60 cycles. The controllers hate a external to the moter. This resistance is ronstructed for severe service and is practically indestructible.

They are supplied in hoisting capacities ranging from 300 lbs . to 6000 lbs , with rope speeds of 100 to 200 feet per minute.

The motors are rated from $1 \frac{1}{2}$ h.p. to 52 h.p. Prices and data on application.

## Western Electric ALTERNATING CURRENT GENERATORS

Belt Driven Alternators



Type TAB or OAB Form ML Belt Driven Alternators, Self-excited Revolving Armature Type


ATB 150 KW 90 mPM 2300 Volt 60 Cycle Belt Driven Alternaror

## SELF-EXCITED REVOLVING ARMATURE TYPE TAB AND QAB FORM ML $71 / 2,15$ AND 25 KW .

The self-excited revolving armature Form ML alternator is especially allapted for inst:ullation in isolated plants and small power plants. It is exceptionally compact and simple in construction and operation. The first cost as well ins the operation and mainfenance expenses are lower than if two separate units were used.

Ratings. The alternators are built in three sizes, $71 / 2,!5$ and $25 \mathrm{kw}, 120,2.10,480$ and (imo wolts, fin cycle two phase or three phase. They may be operated as single phase alternators by employing two of the three phases. Their single phase rating is 70 per cent. of their three phase rating.

## TYPES ATB AND AQB FORM PB 25 TO 200 KW .

The Form Pll belt driven alternator is especially adapted for installation in suall phants where le w power factor is to be encountered. This condition exists or a line where power is supplied to induction motors, transformers or other inductive apparatus.


Type ATB Form PB Belt Driven Alternators With Direct Connected Exciters

Ratings. These alternators are so designed that they operate at high efficiencies at all loads on power factors of from 80 to 100 per cent. They range in c:upacity of from 25 kw . to 200 kw ., 60 cycles, two or three phase and voltages of $240,480,600,1150$ or 2330 tolts.

They may be operated as single phater siternators by using two of the phases, and may then be rated at 65 per cent. of the polyphase rating. They rate be furnished with or without direct connected exciter

The Form PB alternators may be used as synchronous motors, synchronous condensers, and for tiis duty they are equipped with squirrel eage winding in the pole faces, which does not interfere with their use as generators.

Prices and data on application.

# ALTERNATING CURRENT BELT DRIVEN GENERATORS 60 Cycles-3 or 2 PHase <br> Self-excited, Revolving Armature-Form ML <br> Type TAB or QAB <br> $120,240,480$ or 600 Volts 

| K.W. Capacity $40^{\circ} \mathrm{C}$. Rise |  | Speed <br> IR.P. M | $\begin{aligned} & \text { Iist } \\ & \text { l'rice } \end{aligned}$ | Ship. <br> Wt. <br> in <br> ILis. <br> (Ap- <br> prox.) | Poles | Efficiency |  |  |  |  |  | Net Weight in Lbs. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $1.0 \mathrm{P} . \mathrm{F}$. |  |  |  | 0.8 P.F. |  |  |  |  |  |  |
| P.F. | 0.8 P.F. |  |  |  |  | $\begin{aligned} & \text { Fuld } \\ & \text { Looad } \end{aligned}$ | $\begin{gathered} 3 / 4 \\ \text { I.otal } \end{gathered}$ | Lomal | Full Iomd | $\frac{3 / 4}{\text { I.oad }}$ | $1 / 2$ Load | Rotor | Stator | Subbase | Total |
| 7.5 | * |  | $1 \times 00$ | Sti 82 | (3i) | 4 | Sif) 0 | 8:3.0 | 79.0 | 83.0 | 80.0 | 75.0 | 120 | 500 | 95 | 715 |
| 15 | 12 | 1800 | 8.80 | 1300 | 4 | 88.0 | 85.5 | 81.5 | 85.5 | 82.5 | 77.5 | 165 | 810 | 9.5 | 1070 |
| 25 | 20 | 1800 | 11.88 | 20.50 | 4 | 8 Sa | 86.0 | 82.0 | 86.0 | 83.0 | 78.0 | 235 | 1160 | 140 | 1535 |

Prices are F. O. 13. tactory boxed, and include standard pultey, belt tightener and fied rheostat.
The generators are eduipped with an auxiliary direct current armature winding and commutator from which the field excitation is ohtained The alternating current winding can be two or three-phase at the same price.

Single-phase capacity is 70 per cernt. of the above capacity.
The above listed gencrators will oprrate at rated lond and voltage contimously with heating not to exceed 40 degrees $C$. rise and with 25 per cent. overload for 2 hours, with herating not to excreed $\overline{0}$ ) dearees $C^{\prime}$. rise.

For different conditions of power and lighting scrviee the following is recommended:

| $\begin{gathered} \mathbf{K W}, \\ \text { of } \\ \text { Generator } \end{gathered}$ | Power Service Alone |  |  | Lighting Load Service |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total II. P. Capacity of Motors | Maximum II P. per Motor |  | Total II.P. <br> Capacity of Motors | Maximum 11. P. per Motor |  |
|  |  | W'ith Compensator | Withont Compenstior |  | With <br> Compensator | Without Compensator |
| $71 / 2$ $15^{1 / 2}$ 25 | $71 / 2$ 15 25 | 3 5 $71 / 2$ | 2 3 5 | $\begin{aligned} & 3 \\ & 5 \\ & 71 / 2 \\ & \hline \end{aligned}$ | 2 <br> 3 <br> 5 | 1 <br> 2 <br> 3 |

Synchronoua Motors. These machines may bc sold for use as mochronous motors at the same prices as above, the requisition should state, however, that they are for this use and should call for grid danping device inserted in pole faces. These parts are necessary for mynchronous notor operation.

Rotary Condensers. These machines may be sohl as rotary condensers with ratings, 6 kv -a., $12 \mathrm{kv}-\mathrm{a}$. , and $20 \mathrm{kv}-\mathrm{a}$. reapectively at the same prices as above.

Special Rotary Condensers. These machines can be equipped with special ficla windings for operation as rotary condensers with ratings of $7.5 \mathrm{kv}-\mathrm{a}, 15 \mathrm{kv}$-a. and 25 kv -a. respectively for price 10 pet cent greater than the above.

Starting Compenatora are not ineluded in the above prices.

> With or Without Direct Connected Exciter
> Form PB
> Types ATB or AQB
> $240,480,600,1150$ or 2300 Volts

| $\begin{gathered} \text { Capa- } \\ \text { city } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Syn } \\ \text { Cond } \\ \text { lat- } \\ \text { ing } \\ \text { in } \\ \text { Kiv-a } \end{gathered}$ | $\begin{aligned} & \text { Speed } \\ & \text { R.P.M. } \end{aligned}$ | List I'rice |  |  |  | Ship. Wt. in Llos (Approx.) |  | Normal Approx. <br> K.W. K.W. <br> of Losses <br> 12. Nolt at <br> Gixciter Sync. <br> IRe Cond. <br> quired Rating |  | $\begin{gathered} \frac{0}{c} \\ \frac{0}{6} \\ \text { en } \end{gathered}$ | $\dagger$ Efficiency |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | WithoutExe. | With Direct Con Exc. | Allowancer for Omissions |  |  |  | K. W | . 1.0 |  | P-F. |
|  |  |  |  |  |  |  | Without Exc. | With Direct Con. Exc. |  |  |  |  |  |
| $\begin{aligned} & 1.0 \text { to } \\ & 0.8 \\ & \text { P.F } \end{aligned}$ |  |  |  |  | $\begin{gathered} \text { Drive } \\ \text { ing } \\ \text { Pulley } \end{gathered}$ | Sub1bise |  |  |  |  | Full | 3/4.40d | $\begin{gathered} 1 / 2 \\ \text { Load } \end{gathered}$ |
| 30 | 37.5 | 1200 | \$1718.20 | \$1984.40 | \$15.74 | St4.78 | 2100 | 23500 |  |  | 11/4 | 5 | 6 | 89.0 | 87.5 | \$5 0 |
| 45 | 563 | 1200 | 2008 bit | 2250.90 | 19.34 | $5: 3.4$ | 2800 | 3150 | 112 | 6 |  | 6 | 90.0 | 88.7 | 85.5 |
| 60 | 75 | 1200 | 2202.20 | 2480.50 | 19.314 | 6.5.34 | 3220 | 36610 | 11. | 716 |  | 6 | 91.5 | 90.2 | 87.0 |
| 90 | 112.5 | 1200 | 2516.80 | 2904 00 | 24.20 | 72.60 | 34900 | 4.400 | $21 / 2$ | $91 / 2$ | 6 | 92.5 | 91.2 | 88.3 |
| 90 | 112.5 | 900 | 2783.00 | 3170.20 | 30.91 | 8108 | 4300 | 4800 | $21 / 2$ | 10 | 8 | 92.0 | 91.0 | 88.0 |
| 120 | 150 | 720 | 35\% 1111 | 4077 | 119.4.017 | 89.54 | 5.510 | 6:300 | 4 | 13 | 8 | 122. 5 | 91.5 | 88.5 |
| 120 | 150 | 600 | 438080 | 4924.70 | 117.38 | 100.44 | 16900 | 6800 | 4 | 13 | 10 | 92.5 | 91.3 | 88.5 |
| 180 | 22:3 | 900 | 3790.40 | 4307.60 | 75.03 | 94.38 | 6475 | 7175 | $41 / 2$ | 16 | 8 | 03.3 | 92.3 | 89.6 |
| 180 | 225 | 720 | 408980 | 41i16 40 | 117.38 | 100.4 | (i6.50 | 7450 | 5 | 16 | 10 | 93.2 | 92.2 | 89.4 |
| 180 | 225 | 600 | +6, 4 | $540 \times 70$ | 1.6972 | 100.48 | 8100 | 0200 | 5 | 16 | 12 | 93.2 | 92 | 89.4 |

*Synchronous condenser guarantecs are 50 degrees $C$. rise for armature and ficld under continuous operation. No overload.

Prices are F. O. B. Factory, hoxing included. Prices inchude penerator, field rheostat, main driving and exciter driving pulleys and sliding base with ratchet bett-tightening device instead of rails

When the above generators are used as symehonous motors or as swhehronous rondensers, add a list price for damping

 have self-contained switches expept 180 K .16 at 240 volts, for which the switches should be mounted on a panel, and will be shipped only at an extra charve.
+Efficiencies include load losses, friction and windage, and field rheostat losses at rated exciter voltage, but do not include the exciter losses.

Single-phse rating of the above generators at unity power factor will be 80 per cent. of the three-phase rating and at $0.8 \mathrm{I}^{3}-\mathrm{F}$ it will be 65 per cent; of the threr-phatse kilowolt-anpere rating.
 35 deg. C. rise rotor. No overluad

If it is desired to othtain an 0 . . phef. ratine on which 25 per cent. overlosd for two hours may be guaranteed, this rating will be $83 \frac{1}{3}$ per cent. of the corresponding one given above.

For this rating heating guarantees will be full load continuous 40 leg. (. rise on any part. 125 per cent. luad two hours 55 deg. C. rise on any part.

In determining efficiencies, the followine losses are ineludel: Total armature losss at short circuit which includey load lose and I KR armature (resistance being measured at 75 deg. C.) ; tield losi (includes rineostate loss whell operating exciter at rated voltag(i) and core loss.
friction and windage is included.

## ENGINE－DRIVEN ALTERNATORS

The engine－driven alternators listed below are designed with spider，permitting them to be bored within the limits as apec－ ified in the columns＂Bore of Iful，in Ins．＂If it is necessary to change this bore it will probably affect the price and shipment and the General Office should be consulted．

All engine－driven alternators are furnished with rheostat and brush rigging，consiating of collector rings，brushes，brush－ holder studs and ring for supporting studs．This chuipment is all that is necessary when the engine is not of the cross－com－ pound type and is furnished with a sub－base．

When alternators are to be direct connected to cross－compoun 1 angines，rails，carriers，brushholder stand and brush－ holder stand support must be supplied．

The rails consist of two plates long enough to allow sufficient mo\％ment of the stator parallel to the shaft，and are placed on top of the concrete or other foumdation．

The carriers are small shows placed betwern the foot of the stater and ther rail．A lug projects from the carrier againgt which a jack serew is male to act so that the stator may be moved alang wos an abar the rotor．

The brushholder stand is a pedestal on which is plaed the hrush rigeing aml is supported by brushholder stand support． which is a platform extenting uross the pit over which the alternator is monnted．

TWO AND THREE－PHASE ENGINE－DRIVEN ALTERNATORS

| K．W． <br> （＇aparits <br> $50^{\circ} \mathrm{C}$ <br> lise |  |  | I．ist l＇ride With Rheo，and Standard Brush 1Rigging Without Rails |  |  | Ship．Wre． <br> in Libs．（Approx．） |  |  |  |  | $\begin{gathered} \text { Hore } \\ \text { "1 } \\ \text { IInh } \\ \text { in Ins } \end{gathered}$ | $\stackrel{\frac{\pi}{3}}{3}$ |  | P＇， | Efficency <br> 1．0 P．F． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { Ileat } \\ & \text { visest } \\ & \text { I'art } \end{aligned}$ |  |  |  | Total |  |  |  |  |  |  |  |  |  |  |
|  |  | Stam <br> Fingine ＂l＇spe |  | $\begin{gathered} \text { Gins } \\ \text { Hin } \\ \text { rine } \\ \text { Tspe } \\ \text { busci- } \\ \text { bixci- } \\ \text { ter } \end{gathered}$ | Stram E．ngim Tsuc |  | Cias <br> 1：n－ ginn <br> Typr <br> Lesis <br> Fixil－ <br> ter | Fill <br> 1，ond | $1 \text { 8/4.40 }$ |  |  |  |  |  | $\begin{gathered} 16 \\ \text { ladad } \end{gathered}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} 0.8 \\ 1 . W_{1} \end{gathered}$ |  | Lese <br> NXXili－ <br> ter | ， |  | $\begin{aligned} & \text { Idss } \\ & \text { Exci } \\ & \text { ter } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |
|  |  | 1）irert |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | （ $\mathrm{BH}^{\text {a }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Exciter |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | 24 |  | 3010 | S2468．111 | 33：38 | $26(1)$ | 1600 | $2(15)$ | 412：3） | 27 M |  |  |  |  |  |  |  |  |
| 42 | 34 |  | 3（1） | 2589 401 | 3509 110 | －74， 10 | 1600 | 26.51 | 4080 | 27 Mi | 4 |  | $\stackrel{24}{24}$ |  | 70 | xs． 2 |  | 76 |
| ce | 48 |  | 327 | 26 N 6 j 20 | 3tios en： | 2867.70 | 22000 | 32：0 | 41580 | 3306 | $\pm$ | ＋ 6153 | 22 | 1 ¢50 | 125 | x8． 2 | 86.3 | $\begin{array}{\|} 82.5 \\ 84.0 \end{array}$ |
| 60 | 48 | 300 | 273460 | 365420 | 20.40 .30 | $20(10$ | 3：300 | 4.40 | $340 \%$ | 5 | 4 | $\bigcirc$ | 750 | 130 | 88.7 |  |  |
| 90 | 72 | 300 | 3182．30 | 43193 | 33888. | 270 | 4．4， | 6104 | 451以？ | ${ }^{\text {i }}$ |  | 24 | $2(110)$ | 170 | 90.2 | 88.8 | 88.8 |
| 90 | 72 | 277 | 330：3 30 | 4．288， 6 | 35333 201 | $27 \times 1$ | $4 \mathrm{~S}_{5} \mathrm{H}$ | 6170 | 46 kl | 6 | － 1 | 24 | 2700 | 190 | 90.2 | 88.8 | 8.57 |
| ） | 72 | 257 | 350900 | 5094． 10 | 370286 | 230 | 46100 | 810 | 4701 | 15 |  | 23 | （0） | 17.5 |  |  |  |
| 120 | 96 | 225 | 4259．20 | 5880．100 | 4．149． 10 | 3600 | （；150） | 8.150 | 6200 | 1 | ${ }^{1} 8$ | 32 | 6：300 | 21.5 | 91.7 | 88.9 89.8 | 8 |
| 120 | 96 | 200 | 4719.00 | 63－40．40 | 4048．90 | 4000 | 7300 | 96.50 | 7400 |  | ¢ 10 | 36 | 11000 | 225 | 91.7 | 89.8 | 87.5 |
| 150 | 120 | 277 | 4259.20 | 5820.10 | 4464． 00 | 3550 | 6100 | 8400 | 6200 | 7 |  | $\underline{2 f}$ |  |  |  |  |  |
| 150 | 120 | 2.77 | 4622.201 | 6183.10 | 4852 | 3550 |  | 8．50， | 63041 | 7 | 681 | 28 | 5100） | 270 | $\left\|\begin{array}{ll} 92 & 2 \\ 92 & 2 \end{array}\right\|$ | $\begin{aligned} & 90.8 \\ & 908 \end{aligned}$ |  |
| 150 | 120 | 225 | 4767.40 | （6．3א8．80 | 50：33． 60 t | 3000 | 7100 | 9400 | 72019 | 7 | ¢ $10^{2}$ | 32 | 11500 | 250 | $\left[\left.\begin{array}{l} 92.2 \\ 92.2 \end{array} \right\rvert\,\right.$ | $\begin{aligned} & 90.8 \\ & 90.8 \end{aligned}$ | $\begin{aligned} & 87.5 \\ & 90.0 \end{aligned}$ |
| 180 | $1+4$ | $3(0)$ | 55 fif O0） | 7157 40 | 58.56 .41 | 43351 | т！ | 1026 61 | X（M）H | 7. | $8-10$ | 317 | 1；30） 0 | 2い |  | 90.8 |  |
| ＊ 180 | 1.4 | 120 | 7865.00 | 101．51．901 | 8252．20 | 6800 | 1.3510 | $15 \times(10)$ | 1360 mr | $\mathrm{S}^{2}$ | 10． 12 | 6 | 52000 | 330 | 91 | 90.3 | 8 |
| 210 | 168 | 257 | 5529.90 | 7090.60 | 58.23 .10 | $4 \overline{5} 00$ | 8000 | 10380 | 8100 | 71 | 8－10 | 28 | 13500 | 240 | 32.7 | 91.8 | 90.0 |
| 210 | 168 | 22.5 | 5779.40 | 735680 | 607.420 | 4500 | 82：0 | 10f50） | 8400 | \％ | 810 | 32 |  |  |  |  |  |
| 210 | 168 | 150） | 5735.40 | （1729．41） | 7N2N． 70 | （isch | 1270 | 16900 | 12800 |  | （11）12 | 42 | 521960 | 420 | 928 | 91.8 | 8 |
| 241 | 192 | 200 | 6655．00 | 7394.20 | 6081．76 | 56（1） | 11000 | 13100 | 1000） | 812 | （1） 11 | 36 | 18000 | 46 | 927 |  |  |
| 2.40 | 192 | 164 | 7211．60 | 9147．6id | 7．574．601 | 5460 | 10600 | 13s6mil | 10700 | 1 | 1012 | 44 | $26(1) 0$ | 4：35 | 32.7 |  | 89.5 |

＊Prices include rails．

## Rails

Rails are not included in the list price of the altarnator．Where urcessary they can be supplied at the following additional list price：

| K．W． | Cycles | Speed | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Ship．Wt． in Lins． （Approx．） | K．${ }^{\text {F }}$ ． | Civeles | Speed | $\begin{aligned} & \text { l,ist } \\ & \text { Price } \end{aligned}$ | Ship． in I．bs． （Approx．） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30 | 60 | 300 | \＄10S． 90 | 420 | 15 C | 60 | 277 | 814； 20 | 575 |
| 42 | 60 | 300 | 108.90 | 420 | 150 | 60 | 257 | 181.80 | 575 |
| 60 | 60 | 327 | 10ヶ．90 | 420 | $15 \%$ | 60 | 225 | 181．．50 | 575 |
| 60 | 60 | 300 | 108． 90 | 420 | 180 | 60 | 200 | 181． 510 | 755 |
| 00 | 60 | 300 | 121.00 | 510 | 210 | 60 | 257 | 181．50 | 755 |
| 90 | 60 | 277 | 121.00 | 510 | 210 | 60 | 225 | 181．50 | 755 |
| 80 | 60 | 257 | 121.00 | 575 | 210 | 60 | 150 | 217.80 | 980 |
| 120 | 60 | 225 | 133.10 | 575 | 24C | 60 | 200 | 20．）． 70 | 900 |
| 120 | 60 | 200 | 181.50 | 755 | 240 | 60 | 164 | 217．80 | 920 |

# Western Electric 

## TYPE SA AND TYPE SD

FRACTIONAL H.P. BACK GEARED MOTORS


## Type SA ana SD Back Geared Motors

The standard gear ratios are 4 to $1: 5$ to $1 ; 6$ to $1 ; 7$ to 1 .
The motors are wound for 110 and 20 volts alternating current or for 110 and 220 volts direct current.
The alternating current motors car be furnished for cither 1800 R.P.M. or 1200 R.P.M.; the direct current motors can be furnished for either $17(0)$ R. P. M. or 1100 IR. P.M. The full load speeds of the alternating current motors are approximazely the same as those of the direct current moters, 1700 R.P.M. and 1100 R.P.M. respectively.

Motors of $1 / 8$ to $1 / 2$ II.P. can he supplied with back gears.
Back geared TypessD andsid motors can be furnished at in addiional price over standard listed motors as follows:

| Trpe ${ }^{\text {For }}$ | Type | -Addition te: I.ist Price of Standard Motor (Less Pulley)- |
| :---: | :---: | :---: |
| S. | SD | $4: 1$ or $7: 1 \quad 5: 1$ or $6: 1$ |
| 145-147-155 | $-44-246-254$ | Prices on Prices on |
| 1(55 | 264 | Appheation. Application. |

Back geared equipment consists of motor with pinion mounted on a cradle attachment consisting of a bedplate carrying countershaft and gear of specified ratio, thus raaking a conplete self-contained unit. Both gear and pinion are covered with a protective guard. Oil or dusi-tight gear casing cannot be furnished.
, Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.


Type BSS Motor with


Type BSS 1/4 II. P. Single Phase Motor With foot Controller

## Brush Shifting Varying Speed Motors

## TYPE BSS-SINGLE PHASE-60 CYCLES-110 OR 220 VOLTS

The single phase brush shifting motor is a varying sueed motor, speed variation being oltained by shifting the hrush yoke. As at present built these motors are of tiwo types.

One type firnished with foot controller, ratings from 4 to 11 . P. inclusive, and the type operated by hand controller from $2 \mathrm{H} . \mathrm{P}$, to $71 / 2 \mathrm{H} . \mathrm{P}$, inclusive.

With the foot controlled motor bolted to any machine, such as a printing press, the operator has the use of both hands at all times for feeding the press.

The spoed range is approximately from naximum down to $1 / 3$ or $1 / 4$ minimum; the number of speeds obtainable is almost unlimitel, therefore the operator can easily run his machine at exaetly the proper speed best suited to his work.

There is no current wasted in resistances when varyitg the speed, so that the power used is nearly in proportion to the speed and is greatly reduced as the speed is reduced. I'rices and data on application.


## Westertit Electric

## ALTERNATORS



Western Eiectric Engine Driven Alternator Skeleton Frame Construccion

## Engine Driven Alternators

The Thestern Elretric engine driven alternators are especially adapterl for enntral stations and isolated plants where reliabl serviee and ceoncmical operation are cssential. They may be directly connected to a steam or gas "ngin" and form a compact gencrating unit of exceptinnally high operating efficiencies, requiring a minimum floor space and operating with practicatly no noise or tibration. They are furnished in capacities ranging from $30 \mathrm{~K} . \mathrm{W}$. to $240 \mathrm{~K} . \mathrm{W}$., in the standard engine speeds for 60 cycles, $2 \cdot 10,480,600$ or 2300 volts. 60 cycle generators employ the skrleton frame construction. Larger generators and 25 cycle machines are of the box frame type. Standard 25 cycle sizes are $180 \mathrm{~K} . \mathrm{W}$. and $240 \mathrm{~K} . \mathrm{W}$.

Standard alternators are wound Eor either 2 or 3 phase scrvice, but may be operated single phase, the 3 phase delivering 70 per cent. of their rated 3 phase output, the 2 phase 50 per cent. of their rated 2 phase output. When 60 eyele alternators are furnished with direct connected exciters, exciters are provided without base, shaft or bearings, and are mounted outside of the engine company's pillow block on a suitable bracket or other support, the exciter rotor being pressed on ac extension of the engine shaft.

Prices and data on application.

## Western Electric

## TYPE RC MOTORS

## Direct Current-Commutating Poles



## Type RC Motors

These Western Electric Type IRC dirent current motors are designed to meet the most exacting conditions. They are furnished from $1 / 2$ to 75 horsepower and ior 115,230 and 550 volt circuits, with either shunt, series or compound windings.

## DIRECT CURRENT ENGINE DRIVEN GENERATOR



Western Ejectric 3 Wire Direct Current Ensine Driven Generator Direct Connected to a Skinner "Universal Linaflow" Engine

TYPE MPC, FORMS LD AND LDS COMPOUNE WOUND

| Kw. | Speee 1 | $\frac{\pi}{5}$ | L.st Priow |  |  | Shipping Weight in 1.t)s. <br> (Approx,) |  |  | Normal Ampere Rating |  | $\begin{aligned} & \text { - ver- } \\ & \text { age } \\ & \text { Volts } \\ & \text { per } \\ & \text { Bar } \end{aligned}$ | Poles | Fifficiency in Per Cent. 2 Wire Gencerator |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{gathered} 1,1) \\ \text { (2 } \\ \text { (ire) } \end{gathered}$ | $\begin{gathered} 1.195 \\ (3, \\ \text { Wir }) \\ 125- \\ 250 \mathrm{~V} \end{gathered}$ | *For <br> 1) $\mathrm{S}-2$ <br> Parts <br> Add | $\begin{gathered} \mathrm{I} 11 \\ (\underset{2}{2} \\ \text { Wire }) \end{gathered}$ | $\begin{array}{\|c} 1.1 . \mathrm{S} \\ \text { (3 } 3 \\ \text { wire }) \end{array}$ | For DS-2 Parts Add | Line | $\begin{aligned} & 3 \\ & \text { Wire }^{3} \\ & \text { Neu- } \\ & \text { tral } \end{aligned}$ |  |  | $\begin{aligned} & 11 / 4 \\ & \text { Load } \end{aligned}$ | Full Load | $\begin{gathered} 8 / 4 \\ \text { Load } \end{gathered}$ | $\begin{gathered} 1 / 2 \\ \text { Loud } \end{gathered}$ |
| 25 | 310 | 125 | \$21337.80 |  | 36.41 .30 | 3000 |  | 1000 | 200 |  | 10 | 6 | $85^{3} 4$ |  | 87 | 86 |
|  |  | 250 | 23:37.80 | 8:3 20, 51 | 641.30 | 3000 | 3250 | 1000 | 100 | 2.5 | 10 | 6 | Sn1/4 | 87 | 87 | 80 |
| 25 | $\dagger 280$ | 125 | 2698.30 2608.30 | $3270.11)$ | 6.41 .30 6.41 .30 | 3000 3000 | 3250 | 1000 1000 | 210 100 | 2.5 | 10 10 | 6 6 | 8514 $85 \%$ | 86 86.5 | 86.1 $860^{2}$ | 8.71 |
| 35 | 300 | 125 | 2938.10 |  | 701.80 | 3500 |  | 1100 | 280 |  | 12 | 6 | $871 / 2$ | 88 | 881́ | $87^{\text {t/ }}$ |
|  |  | 250 | 31012.90 | 36.308101 | 701.80 | 3500 | 37.50 | 1100 | 140 | 35 | 12 | 6 | 871/4 | 881/4 | $8: 3$ | sis |
| 3.5 | †270 | 125 200 | 3158.16 3121.80 | 3726 | 701.80 701.80 | 3500 3500 | 3750 | 11100 | 280 | 3. | 12 | 6 | 86.5 | 8714 | $88.3 / 8$ | s. 7 |
| . 50 | 2! 0 | 125 | 3690.50 |  | 762.30 | 4750 |  | 1300 | 400 |  | 7 | 6 | 89 | 8034 | 901/4 |  |
| , |  | 230 | 31:30 (10) | 43077 | 75\% 30 | 4750 | 50.50 | $1: 360$ | 200 | 50 | 14 | 6 | 89 | $90{ }^{81}$ | $901 / 2$ | $81.1 / 3$ |
| 50 | $\dagger 260$ | 125 | $3 \times 729$ |  | $71 i 2.30$ | 4750 |  | 11360 | 400 |  | 7 | 6 | 881/4 | 89 | 8931 | 8×14 |
|  |  | 250 | 3775.20 | 4.477.0) | 7122.30 | 4750 | 50:50 | 1300 | 200 | 50 | 14 | 6 | 881/4 | 89 | 891/4 | $881 / 2$ |
| 75 | 275 | 125 | 470690 |  | 907. 50 | 6300 |  | 2000 | 600 |  | 9 |  | 89.5 | $901 / 2$ | 91 | 90 |
|  |  | 250 | 4189.10 | $5108.71)$ | 907.50 | 6700 | 71130 | 2060 | 300 | 75 | 9 | 6 | 90 | 913, ${ }^{1}$ | 9115 | (1011/2 |
| 75 | $\dagger 250$ | 125 | 4912.60 |  | 007.50 | 690 |  | $20 \times 10$ | 600 |  | 9 | 6 | $8813 / 4$ | 90 | 901: | $801 / 2$ |
|  |  | 250 | 4630.64 | 5578.10 | 907.50 | 6700 | 7140 | 2000 | 300 | 75 | 9 | 6 | 893, | 90122 |  | 90 |
| 100 | 260 | 125 | 5735.40 |  | 1052.70 | 83.50 |  | 2800 | 800 |  | 10 | 6 | $901 /$ | 91 | $911 / 4$ | $901 / 2$ |
|  |  | 250 | 5115. 19 | 15509.80 | $710 \% 2.70$ | *300 | 8890 | 2860 | 400 | 100 | 10 | 6 | 9013 | $911 / 2$ | 913 | 91 |
| 100 | †235 | 125. | 5429.610 |  | 10.92 .70 | 8350 |  | 2810 | 800 |  | 10 | 6 | 90 | 9013 | 91 |  |
|  |  | 250 | 51837.00 | 181500 | 1052.70 | b300 | 8800 | 2800 | 400 | 100 | 10 | 6 | 90.5 | 911/4 | $911 / 2$ | 903/3 |
| 125 | 250 | 125 | 6763.90 |  | i234. 20 | 10500 |  | 4000 | 1000 |  | 11 | 6 | 901/4 | 91 | 911/4 | $901 \%$ |
|  |  | 250 | 13425.119 | 757.4 .60 | $\because 234.20$ | 10.400 | 11070 | 4000 | 500 | 125 | 11 | 6 | 91 | 913 | 9214 | 913/6 |
| 195 | +225 | 125 | 7105.611 |  | $\because 234.20$ | 11600 |  | 4000 | 1000 |  | 11 | 6 | $89 \%$ | 913 ${ }^{3}$ | 91 | $9{ }^{10}$ |
|  |  | 250 | 17815.50 | 7840.80 | !234.20 | $10 \pm 00$ | 11000 | 4000 | 500 | 125 | 11 | 6 | 90.5 | $911 / 2$ | 913/4 | 91 |
| 150 | 225 | 125 | 8369.90 |  | 1415.70 | 11500 |  | 44M0 | 1200 |  | 8 | 8 | $891 / 2$ | $901 / 2$ | 901/2 |  |
|  |  | 250 | 5524.20 | xins.si | -415.70 | 11300 | 12030 | 4400 | 600 | 150 | 15 | 8 | 9114 | 913 | 913 | $9111 / 4$ |
| 1:0 | +200 | 125 | 8745.30 7877.10 | 9208.1i) | $1+15.70$ 8.15 .70 | 11.500 11300 | 12000 | 4460 4400 | 1200 600 | 150 | 8 15 | 8 | $891 / 4$ $901 / 2$ | 90114 | $9011 / 4$ $911 / 4$ | $891 / 4$ $901 / 3$ |
| 200 | 200 | 125 | 10781.10 |  | $\cdot 621.40$ | 15450 |  | 4900 | 1600 |  | 9 | 8 | 90 | 91 | 91 | 90 |
|  |  | 250 | 10.3.4.80 | 11047 (3) | 1621.40 | 152.50 | 16200 | 4900 | 800 | 200 | 16.5 | 8 | $911 / 4$ | 92 | 92 | 9114 |
| 200 | tiso | 125 | 11208.82 |  | 1621.40 | 15450 |  | 4900 | 1600 |  | ${ }_{16}{ }^{5}$ | 8 | $89^{3 / 4}$ | $901 / 2$ | $901 / 2$ | $893 / 4$ |
|  |  | 250 | 94.58 .30 | 11.455.03 | 1631.10 | 15250 | 16200 | 4900 | 800 | 200 | 16.5 | S | 91 | $913 / 4$ | 913/4 | 91 |
| 200 | 1:0 | $125$ | 1331000 |  |  | $21200$ |  |  | 1600 |  | 8 | 8 | 90 | 9084 | 903/4 | 90 |
|  |  | 2.50 | $12705.00$ | 1185:3. (b) |  | $20700$ | 221130 |  | 800 | 200 | 16.5 | 8 | 91 | $911 / 2$ | $911 / 2$ | 91 |
| 200 | †135 | 125 | $13611.40$ |  |  | $\begin{aligned} & 21200 \\ & 21200 \end{aligned}$ |  |  | 1600 |  | $8$ | 8 | $891 / 2$ | 9014 | $901 / 4$ | $891 / 2$ |
|  |  | 250 | 13068.00 | 1524ti.(m) |  | 20700 | 22140 |  | 800 | 200 | 16.5 | 8 | 903 | 914 | 911/4 | 903/4 |
| 200 | 110 | 125 | 16335.0n |  |  | 23000 |  |  | 1600 |  | 6.5 | 10 | 89 |  |  | 89 |
|  |  | 250 | 15488.00 | 17finitiot |  | 23060 | 24890 |  | 800 | 200 | 16.0 | 10 | 00 | 90) 8 / | 9084 | 90 |
| 200 | +100 | 125 | 14.335 (0) |  |  | 233000 |  |  | 1600 |  | 6.5 | 10 | 8812 | $89 \%$ | 891/2 | $8 \times 1.2$ |
|  |  | 250 | 15.8880 | 17405 50 |  | 23000 | 218130 |  | 800 | 200 | 6.5 | 10 | 8915 | 901/4 | 9014 | 89112 |

[^0]
## Western Electric

## DIRECT CURRENT GENERATORS



Western Electric Direct Current Generator Type LD 2 Wire


Western Electric Direct Current Generator Type LDS 3 Wire

## Type LD-2 Wire and Type LDS 3 Wire

The type $L D$ and $I D S$ engine type generators represent the highest development in generators designed primarily for central station and isohted plant equipments. All generators of this design are cquipped with commutating poles which insure practically sparklens commutaion over the entire range of operation. The general construction emborlies simplicity .mh mechanical strength together with high efficiency and low operating temperatures.

Standard 2-wire grnerators may be converted into 3-w ire generators by tio addition of a compensator momed on the rear end vi the armature and a slip ring mounted on the commutator end.

## Frame

The yoke is cast of soft steel selected for high magnetis permeability and is divided horizontally above The centar line to avoid disturbate of the poles in assembling or disasembling. The inside of the frame is bored to furm a continuous finished seat for the reception of the poles.

## Poles

The main poles are of laminated steel accurately punched. Commutating poles are made from rolled steel stock. All poles together with their coils are casily removable without disturbing the nagnet frame or brush rigging.

## Fields

The main field coils are wound on metal spool bodies with a series coil mounted outside of the shunt coil with large ventiating space betwern. The commutating field coil is a helical winding of copper wound edgewise, nermitting a most effective heat radiation.

## Armature

The armature core is tuiit up of soft steel laminations thoroughity annealed aiter punching. Large air ducts are provided to insure perfect ventilation. Commutator segments are of selected hard drawn copper insulated from each other by high grade mica segments of proper hardness to insure even wear and sparkless operation. The commutator face is extra long, permitting the brushes to be staggered.

## Brush Rigging

The commutating polese permit a permanent setting of brushes at the electrical neutral throughout the entire range of operation.

Prices and data on application.


Type R. C. Generator


Type L. C. Generator

## Type R. C. Direct Current Belt Driven Generators

The Type R. C. machines are furnisthed both as generators and exciters. They have rommutating poles which render them capable of operation under variable loads without the necessity of brush shift. All standard generatore are supplied with oprof frames If semi-enclosed ventilated or totally enclosed construction is desired, the matter should be referred to the General (lffice for ratings, ete.

## Type R. C. Belt Driven Generators and Exciters 25 TO 75 K.W.

| K.IV. | Speed | Vints | List l'rice |  | Shng. I't. |  | Normal Ampere Ratings |  |  | Frame | Poles |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | -Wire | 3-Wire | 2-Wire | 3-11:re | 2-Wire | 3-Wire Line | Xeltal |  |  |
| 25 | 950 | 115 | \$1427. 80 | 81704.:0 | 1680 | 1810 | $\because 00$ | 100) | 10 | 3 | $\stackrel{+}{4}$ |
|  | 950 | 250 | 1427.50 |  | 1680 |  | 100 |  |  | 32 | 4 |
|  | 1050 925 | 515 | 1427.80 1764.60 |  | 1680 1900 |  | 43 24 240 |  | 12 | 32 | 4 4 4 |
| 30 | 925 | 250 | 17.30 .30 | 2020.70 | 1900 | 2030 | 120 | 120 |  | 33 | 4 |
| 35 | 1025 | 575 | 1730.30 |  | 1900 |  | 52 |  |  | 33 | $t$ |
|  | 900 | 125 | 1936.00 | 2178. 00 | 2306) | 2.80 | 280 | 140 | 1.1 | 34 | 4 |
|  | 900 | 200 | 1851, 30 |  | 2:300 |  | 140 |  |  | 34 | 4 |
| 35 | 1000 | 575 | 1851.30 <br> 1597.60 |  | 2300 1680 |  | 61 $2 \times 1$ | 140 | 11 | 32 | 4 |
|  | 13001 1309 | 105 250 | 1597.20 1476.20 | 1730.30 | 1680 | 1810 | 1.10 |  |  | 32 | 4 |
| 40 | $13+5$ | 575 | 1476.20 |  | 1680 |  | 161 |  |  | 32 | 4 |
|  | 850 | 125 | 2250.60 | 25.51 .00 | 2900 | 3100 | $3: 0$ | 160 | 16 | 35 | 4 |
|  | 850 | 250 | 2214.30 |  | 2900 |  | 160 70 |  |  | 35 35 | 4 |
| 40 | 950 | 575 | 2099.35 |  | $\underline{2900}$ |  | 70 300 |  | 16 | 33 | 4 |
|  | 1250 | 125 | 1790.80 1718.20 | 2020.70 | 1900 1000 | 20:50 | 1tio | 160 |  | 33 | 4 |
|  | 1250 | 5 | 1718.20 1718.20 |  | 1900 |  | 70 |  |  | 33 | 4 |
| 50 | 775 | $12 \%$ | 2 2 40.10 | 302\%.00 | 37.40 | 330\%0 | $4(1)$ | 200 | 20 | 36 | 4 |
|  | 775 |  | 2613.60 |  | 3740 |  | 200 |  |  | 36 | 4 |
| 50) | 850 | 5i5 | 2528.90 |  | 3740 |  | 8 |  |  | 3 | 4 |
|  | 1200 | 125 | 2093.30 | 23:35.30 | $\stackrel{3}{9300}$ | 2480 | 400 | 200 | 20 | 34 | 4 |
|  | 1200 | 250 | 1972. 30 |  | $\stackrel{2300}{2300}$ |  | 200 |  |  | 34 | 4 |
| (6) | 1325 | 575 <br> 125 | 1925.95 $2+20.00$ |  | 2900 | 3100 | $\therefore 20$ | 260 | 26 | 35 | 4 |
|  | 11150 | 20 | 2299.00 | $213 \times 1.20$ | 2900 |  | 260 |  |  | 35 | 4 |
|  | 1250 | 575 | 2190.10 |  | 2900 |  | 113 |  |  | 35 | 4 |
| 75 | 750 | 125 | 3472.70 |  | 4750 |  | 600 300 |  |  | 37 |  |
|  | 750 | 2 So | 3363.80 | 3811.50 | 4750 | 5100 | 300 | 300 | 30 | 31 | 4 |

## Type L. C. Direct Current Belt Driven Generators and Exciters

The Type L. C. generators are of the commutating pole construction and are manufactured in both two and three wire type (the three wire type from $121 / 2$ to 50 K . W. inclusive). The generatoracan be supplied with either shunt or compound windings and with the armature wound for the following voltage, will meet the standard heat and over load tests. The generators are designed for 125 or 250 volts two wire, or $125 / 250$ three wire.

Prices and data on application.

## DIRECT CURRENT BELT-DRIVEN GENERATORS AND EXCITERS Belt-driven Generators



TYPE LF, TWO BEARING

| KW. | Speed | Frame | Polcy | $\ddagger$ \#.ist Prices |  |  | $\begin{aligned} & \text { Wt. in } \\ & \text { lhs. } \\ & \text { (Approx.) } \end{aligned}$ |  | KW. | Speed | \$List Prices |  |  | Wt. in Lbs. (Approx.) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} 35 \\ \text { Volts } \\ \text { Shuent } \end{gathered}$ | $\begin{aligned} & 125 \mathrm{or} \\ & 250 \mathrm{~V} \\ & \text { comt } \end{aligned}$ | $\begin{aligned} & 261 \\ & \text { Volts } \\ & \text { Conn- } \end{aligned}$ |  |  | $\begin{gathered} 35 \\ \text { Volts } \\ \text { Shunt } \end{gathered}$ |  | 125 or 250 V . Con:pound 2-Wire | 250 Volts Compound 3-Wire |  |  |
|  |  |  |  |  | 2-Wire | 3-11保 | Ship. | $\mathrm{N} \cdot \mathrm{t}$ |  |  |  |  | Ship. | Net |
| 20 | 500 | 15 | 6 |  | \$1766]. 10 | \$1960.20 | 31.30 | 26.35 | 45 | 375 |  | \$2807.20 | \$3182.30 | 6330 | 5240 |
| 27 | 475 | 20 | 6 |  | 2129 . 60 | $2 \cdot 192$. (i) | $34(0)$ | 2975 | 50 | 650 |  | 3025.00 | 2698.30 | 4950 | 4160 |
| 30 | 750 | 15 | 6 |  | 1960. 210 | 1960.20 | $31: 30$ | 2635 | 55 | 950 |  | 2129.60 | 2492.60 | 3400 | 2975 |
| 35 | 465 | 25 | 6 |  | 2323. 20 | 2068.60 | 4950 | 4168 | 70 | 925 |  | 2666.20 | 2783.00 | 4950 | 4160 |
| 40 | 1000 | 15 | 6 |  | 1706.10 | 1960.20 | 3130 | 2635 | 75 | 620 |  | 3061.30 | 3448.50 | 6330 | 5240 |
| 40 | 700 | 20 | 6 |  | 2129.6 m | 2402 (i0) | 3.400 | 2975 | 00 | 750 |  | 3182.30 | 3593.70 | 6330 | 5240 |

In ordering, state eize of pulley and whether front or back of bourd tspe rheostat is desired.
These generators will carry full rated low for 24 hours with a rise in temperature as measured by thermometer not exceeding 40 degrees (. on windings and 4.5 degre's $C$. on commutator; they will then carry 25 per cent. overload for 2 hours with a temperature rise not excceding 55 degrece $C$. ou any part of the machine, and will carry 50 per cent. overload momentarily withcutinjury. Shunt-wound generators are recommended for use in parallel with storage batteries.

Belt-driven Exciters, Type ML, 125 Volts
To Be Uned with Alternators an Listed


NOTE: Prices inclute iron sub-base, Inelt-tightenor, pulley and rheostat
*Belt-driven alternator. tEncinedriven alternator. These excit"rs may be used with or without TA voltageregulatort.
\$Delivery F. O. B. Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

# Western Electric DIRECT CURRENT MOTORS <br> ADJUSTABLE SPEED 



Type RA Open Motor


Type RA Enclosed Motor

## Type RA Adjustable Speed Motors

115,230 and 550 Volts

The Western Flectric Type $12 . \lambda$ auljustable speed motor is especially adapted for installations requiring from 3 źs to $11 / 2$ II.P. capacity. The speed adjustment is ohtained ly field control. and full rated horse power may be obtained over range of speed indicated. Sperd at full load for these motors is subject to a maximum variation of 5 per cent. ahove or below rated speed specified. The motors may be obtained for a 2 to 1,3 to 1 or 4 to 1 speed adjustment.

Prices and data on application.


Type RF Open Motor Frames 7-11


Type RF Open Motor Frames 12-17

## Type RF Adjustable Speed Motors 230 and 550 Volts

The Western Flectric Type RF motors range in capacity of from 2 to 50 H .P., and speed variations of 3 to 1 or 4 to 1 . 'Mey are exceptionally ruged in mechanical constrution and are absolutely reliable under the most severe service conditions. They are equipped with commutating poles, which permits rapid fluctuation in loads with no sparking at the brushes, resulting in long life for the commutator.

Prices and data on application.


CO-2500 Motor with Solenoid Brake

## Crane and Hoist Motors

The Western Flectric crane and hoist motors range in capacity of from 1 to $200 \mathrm{~h} . \mathrm{p}$. These motors possess all the electrical and mechanical features necessary to successfully perform the exacting duties incident to general hoisting work. They are especially adaptorl to intermitrent service. They are reversible and operate at low temperatures and with heavy overloads with absolute reliability.

Prices and data on application.

## Western Electric DIRECT CURRENT GENERATORS



Western Electric Electrolytic Generator IDEG Design

## Electrolytic Generators DEG Design

The Western Electric Type DFG generator for use in electro-metallurgy is furnished in five sizes. The $11 / 2 \mathrm{k} . \mathrm{w} .250$ amperes, and $3 \mathrm{k} . \mathrm{w}$, 501 amperes at $180(\mathrm{r}$.p.m. for 2 to 6 volts, are self-exciting and furnished with one eommutator only. The larger sizes, $5 \mathrm{k} . \mathrm{w} ., 10 \mathrm{k}$. w., and $15 \mathrm{k} . \mathrm{w}$., with two commutators are separately excited, and have current camacitiss at 10 volts of 500,1000 and 1500 amperes and at 5 volts of 1000,2000 and 3000 ampers respectivoly. They may be equipped direct connected to an alternating or direct eurrent motor for all standard voltages, or with pulley for belt drive.


Western Electric Type B Low Voltage Direct Current Generator


Western Electric ML No Flicker Generator

## Belt Driven Low Voltage Generators <br> \section*{$1 / 2$ TO 9 K.W.}

The Western Electric Type ML and Type B direct current generator is especially adapted for service requiring a low voltage generator from 3 to $9 \mathrm{k} . \mathrm{w}$. capacty. The voltage of this generator is from 30 to 35 volts, and they are extensively used in low voltage solated plant instillations.

The Type B generator has been adopted as standard by the Electric siorage Battery Company for the isolated plants which they handle.

## No Flicker Generator <br> FOR GAS E.NGINE DRIVE

The $\boldsymbol{T}$ estern Flectric Type ML generators are peculiarly adaptable to ans engine belt drive. They have proved exceptionally valuable in isolated plants and small central stations due to their service reliability and economy of operation and maintenance. A the of these generator: wound for low voltage is especially adapted to charging storage batteries. Sinooth: operation and excellent voltage regulation are insured by a perfectly balaneed flywheel support od between pedestal hearings.

## Ratings

The Type ML generators range in capacities from $3 / 4$ to $18 \mathrm{k}, \mathrm{w}$. for voltages of $35,125,250$ or 550 volts and may be shurt or compound wound. The stindard aceessories supplied with each generator consist of pulley, base, flywhec! and rheostat

Prices and data on application.


## Rockwood Paper Pulleys

The effectiveness of belted machinery is dependent on a uniform suced. Iron. woonen and envered iron pulleys are tanreliable. A belt pulley of paper to a large degree if not entircly owercomes the annoyaner and loss occasioned by slipping belts. Paper pulleys are esperially recommended for operating electric light plants and clectrie notors, where the highest belt efficiency is necessary fur their success.

The alvantages of the paper pulley are: reducel slipping, decreised belt tension, more power transmitted, and lower total cost of pulleys and belt ing.

There leeng no slurink are strains, as in cast iron, or numerous picens. as in wood pulleys, they may be run at very high rates of spred with safety, and are nut easily danaged in handling.

The following specifieations should be given.

1. Nuntw'r of pulleys wanted. 2. Diameter (D). 3. Total wilth of face. 4. Width of felt. 5.
 10. Kind of fure, whet ther crawn, straight, double crown or combination. 11. (a) If double crown give width of crown on side dimension " 1 " is given. 1?. (a) If combination face, give width of crown face. (b) Width of straight face. 13. Leust allowable inside dianceter of rim (E).

DOUBLE BELT
Manufacturer's Lists.
Special Discounts on Application

| Dia. Ins. | $\underset{\text { Fine }}{2 \mathrm{In} .}$ |  | $\begin{aligned} & \text { I In. } \\ & \text { Fite } \end{aligned}$ | $\underset{\text { Fiace }}{ } \operatorname{In}^{2}$ | $\begin{gathered} 6 \mathrm{In} \text { Face } \\ \text { Fa } \end{gathered}$ | $\underset{\text { late }}{7} \text { In. }$ | $\underset{\text { Fice }}{\substack{\text { In }}}$ | $\begin{aligned} & \text { In. } \\ & \text { In: } \end{aligned}$ | $\begin{aligned} & 10 \mathrm{In} . \\ & \text { loine: } \end{aligned}$ | $\begin{aligned} & 11 \text { In. } \\ & \text { Fac\% } \end{aligned}$ | $\frac{12}{} \operatorname{In}$ | $\begin{aligned} & \text { 1:P In } \\ & \text { Face } \end{aligned}$ | $\begin{gathered} 1+\mathrm{In} . \\ \text { lan } \end{gathered}$ | 15 In . Face | 11 In . Face |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | \$2.00 | \$23.3 | \$2 10 | 82.29 | \$2.3.7 |  |  |  |  |  |  |  |  |  |  |
| $21 / 2$ | 205 | $\stackrel{\square}{\square} 10$ | $\cdots$ | ? - \% | 2.40 |  |  |  |  |  |  |  |  |  |  |
| 3 | 210 | $\because 15$ | 2.30 | 2.30 | 2.45 | 88.65 |  |  |  |  |  |  |  |  |  |
| 315 | 2.15 | $\cdots$ | 2.25 | 2.35 | \%.31) | $\cdots$ | \$2.9\% |  |  |  |  |  |  |  |  |
| 4 | 2.30 | $\cdots$ | 2.30 | 2.40 | 2.5. | \% 78 | 3.100 |  |  |  |  |  |  |  |  |
| 413 | 2.25 | 2. | 2.33) | $2.1 \%$ | 2.60 | $\stackrel{2.80}{2.50}$ | 3.0 .7 3.10 | S3.3i) 3.40 |  |  |  |  |  |  |  |
| 5 | 2.30 | 2.0 | 2.40 | 2. 20 | 2.6. | 2.85 2.90 | 3.10 | 3. 30 | $\$ 3.68$ 3.80 |  |  |  |  |  |  |
| 5 | 2.35 | 3.15 | 3. 10 | 3.25 | 3.9 | 3.70 | 4.00 | 4.40 | 4.80 | 85.30 |  |  |  |  |  |
| 7 |  | 3, 즈) | 3.20 | 3.10 | 3.55 | 3.80 | 4.15 | 4.50 | 4.95 | 5.45 | \$6.0) |  |  |  |  |
| 8 |  | 3. 40 | 3. 3.5 | 3.8 | 3.7 .5 | 4.110 | 4.30 | 4.70 | 5.10 | $5.81)$ | 6.20 | 86. 80 |  |  |  |
| 9 |  | 3.75 | 3. 35 | 3.7 | 3.9 .5 | 4.20 | 4.80 | 4.90 | 5.30 | 5.80 | 6.40 | 7.00 |  |  |  |
| 10 |  | 3.75 | 3.80 | 3.95 | 4.15 | 4.40 | 4.7) | 5.05 | 5.50 | 6.00 | 6.8 |  |  |  |  |
| 11 |  | 4.00 | 4.15 | 4.30 | 4.5 .5 | 4.90 | 5.25 | 5. 70 | (i. 20 | 6.75 | 7.40 |  |  |  |  |
| 12 |  | 4.25 | 4.45 | 4.70 | 5.00 | 5. 40 | 5. 50 | 6. 30 | 6. 90 | 7.50 | 8.30 |  |  |  |  |
| 13 |  | 4.50 | 4.7.7 | 5. 13: | 5.4 | 5.90 | 6. 40 | 6.93 | 7. 5if | 8.25 | 9.00 |  |  |  |  |
| 1.1 |  | 1.75 | 5.9 | 5.30 | 5.70 | 6. 6.6 | 6. 60 | 7.20 7.80 | 7.80 <br> 8.50 <br> 8 | 8.50 9.25 | 9.45 |  |  |  |  |
| 15 |  | $5.14)$ | 5. 30 | 5.70 | c. 10 | 6.60 7.60 | 7.20 780 | 7.80 8.50 | 8.50) | 9.25 | 10.05 | 10.9 .5 11.90 |  |  |  |
| 16 |  | 51, 0 | 5.70 | 6. 10 | 6.19 <br> 7.10 | 7. 7.3 | 8.8 | 8.80 9.20 | 10.10 | 10.90 | 11.80 | 12.80 | 13.90 |  |  |
| 178 |  | 5. 510 | (;.4\% | 7.10 | 7 (ii) | 8.30 | 9.0 .5 | 9, 90 | 10.75 | 11.70 | 12.70 | 13.7 .3 | 1.1 .96 |  |  |
| 19 |  |  | 6.75 | 7.35 | 7.95 | 8.65 | 9.10 | 10. 20 | 11.05 | 12.00 | 13.01 | 14.05 | 15.20 | \$16.40 |  |
| 20 |  |  | 715 | 7.7 . | S.15 | $9 \cdot 3$ | 11.00 | 10.90 | 11.85 | 12.80 | 13.90 | 15.00 | 112.20 | 17.45 |  |
| 21 |  |  | 7.5 .5 | 8. ${ }^{2}$ | 9. (1) | 9.80 | 11.70 | 11. 10 | 12. 610 | 13.71 | 14. 50 | 116.00 | 17.25 | 14.85 | \$19.9\% |
| 22 |  |  | 8.103 | 8.75 | (1, \% | 10.45 | 11.40 | 12.40 | $13.4 \overline{3}$ | 1.4 . $0^{5}$ | 15.75 | 17.00 | 18. 30 | 19.70 | 21.10 |
| 23 |  |  | 8.45 | 9.2\% | 10.10 | 11.05 | 12.05 | 13.10 | 14.25 | 15.45 | 16.70 | 18.00 | 19.40 | 20. 80 | 22.30 |
| 2.4 |  |  | 8.80 | 9.814 | 111.50 | 11.45 | 12.45 | 13.3) | 14.610 | 15. NO | 17.05 | 18.40 | 19.75 | 21.20 | 23.70 |
| 25) |  |  | 9. 2.5 | 10. 19 | 11.05 | 12.05 | 13. 10 | 14.25 | 15.4 | 16.70 | 18.(0) | 19.40 | 20.80 | 22. 30 | 23.90 |
| 26 |  |  | 9.5 | 10. 74 | 11.70 | 12.45 | 13.90 | 1.0 | 16 30 | $1: 60$ | 19.00 | 20.45 | 21.95 | 23.60 | 25. 10 |
| 27 |  |  | 10.25 | 11.2! | 12.30 | 13.45 | 1.4.60 | 15.90 | 17.30 | 18.05 | 20.00 | 21.00 |  |  | 26.10 |
| 28 |  |  |  | $11 . \mathrm{kc}$ | 12.95) | 14.10 | 1.76 | 16.70 | 18.05 | 19.80 |  |  |  |  | 27.60 28.05 |
| 29 |  |  |  | 12.26 | 13.40 <br> 1.400 | 1.485 | 1.9. 0 | 17.10 | 18.80 19.40 | 19.95 20.90 | 21.40 | 23.00 24.05 | 21.60 2.3 .75 | 26.30 27.50 | 28.05 29.30 |

[^1] will be made on application.

## ELECTRIC DRILLS



Nectric Drill

## Western Electric Electric Drills

Bearings. All drills except the $1 / 4$ inch size have ball bearings on the armature shait. The $1 / 4$ inch size has bronze bearings made of Cramp's special bearing bronze, provided with oil grooves and liberally designed. The specially wound arnuture and distributed fold windings give electrical and mechanical balance and excellent insulation. The large commutator is mica insulated. No fibre is used. The brushes are large and the holder properly insulated. The construetion of the eommutator and brush holders promote freedom from ground and short circuits.

Fan. The liberally designed fan keeps the motor cool.
Gear Cases and Gears. The gear case is entirely separated from the motor, with gears running iu grease like an automolile transmission. The gears are of special alloy steel, heat treated, and are journaled on both ends. No gears running on studs. Each gear can hoz taken out separately and replaced if necessary.

The Ball Bearing Thrust and the long bronze bearing for the spindle insures minimum friction and maximum life.

The Casing of the tool is aluminum with properly positioned handles, one of which is removable.
Switch. The switch is specially constructed but may be replaced with a standard C.II. 7007 Switch.
Chuck. The high-grade three jaw chuck takes drills from the smallest to the capacity of the machines.
Tie Rods. The use of tie rods eliminate the abnormal wear which is experienced with threaded ahrminum and is a fcature which will be appreciated.

By taking off the four hexagon cap nuts on end bell and three screws from gear case cover, the whole. machine can be quickly disassembled. These points make for accessibility, durability and power.

The torque is so much in excess of capacity requirements that stalling when breaking through or cramping in a hole is practically eliminated.

Each machine complete with 8 feet of wire and plug, breast plate, $D$ handle, extra side handle, three jaw chuck and wrench. Pressure screw or "Old Man" can be furnished. Price \$4.00.

Each machine will safely drill holes in steel 20 per cent. over rated capacity; or ream holes up to 80 per cent. over rated capacity.

| List |  | Fu'l Load | Capacity |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Speed | in Steel | Weight | Each |
| UB | Electric drill, complete | 650 R.P.M. | 0 to $1 / 1 \mathrm{in}$. | 7 lbs. | \$92.80 |
| UC | Electric drill. | 550 R.P.M. | 0 to 3 \% in . | 14 lbs . | 118.40 |
| UD | Electric drill | 350 R.P.M. | 0 to $1 / 2 \mathrm{in}$. | 18 lbs . | 144.00 |
| UE | Electric drill | 300 R.P.M. | $1 / 8$ to $5 / 8 \mathrm{in}$. | 21 lbs . | 156.80 |

Note: These drills will operate on either direct or alternating current. Built for 110 or 220 volts. State voltage when ordering.


## Electric Hammers

These hammers will do the work of pnenmatic tools of like capacity at about 15 per cent. of the power cost and without the expense and inconvenience of compressor, air piping hose, etc. Over hand work, the economy is from 80 per cent. to 30 per cent., and it is by no means uncommon for a tool to save its cost in a week. Every tool is controlleal by a switch mounted in the handle and equipped with flexible cord and plug. They may be attached to any lamp socket.

A man drilling by hand strikes from 40 to 65 blows per minute.
These hammer from 1000 to 4000
D.C. ONLY-110 OR 220 VOLTS

|  | Approximate Capacity Concrete or limestone |  |  |  |  | Shpg. W't. Ihs. | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type |  |  | Power Watts | Blows per Min. | Net W't. lbs. |  |  |
|  | Diam. of Drill ins. | Drill Speed ins. per Min. |  |  |  |  |  |
| D-3 | 1/2 | 2 | 150 | 3000 | 14 | 20 | \$216.00 |
| D-4 | 1 | 2 | 220 | 1800 | 25 | 35 | 261.00 |
| D-7 | 112 | 3 | 550 | 1300 | 50 | 65 | 351.00 |
| D-9 | $11 / 2$ | 6 | 620 | 1100 | 75 | 95 | +32.00 |
| OPERATE ON A.C. OR D.C. CURRENT-25, 30 OR 60 CYCLES-110 OR 220 VOLTS |  |  |  |  |  |  |  |
| U-2 | 1/2 | 2 | 150 | 3000 | 15 | 21 | \$261.00 |
| U-6 | 1/2 | 9 | 240 | 1800 | 27 | 37 | 324.00 |

For drilling speed in brick multiply by 2. For drilling speed in granite divide by 2 and use diamond drills. Each tool is complete with cord and plug and runs from a light socket.

STANDARD DRILLS
List Price per Dozen for Drilling Lengths

| Type | $\begin{gathered} \text { Dia. } \\ \text { of } \\ \text { Drill } \end{gathered}$ | 5 In. | 8 In. | 12 In . | Type | $\begin{gathered} \hline \text { Dia. } \\ \text { of } \\ \text { Drill } \end{gathered}$ | 8 In , | 12 In . | 18 In. | 24 In . | 36 In. | 48 In . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| D-3 |  |  |  |  |  | $3 / 1$ | \$38. 70 | \$41.40 | \$46.80 |  |  |  |
| D-4 | 8/8 | $\$ 2 S .80$ 30 | *\$36.00 |  | U-6 | 7/8 | 39.60 | 43.20 | 48.60 | \$55.80 |  |  |
| U-2 | $\frac{7}{16}$ | 30.60 | *36.00 | *37.80 | U-6 | 1 | 41.40 | 45.00 | 50.40 | 58.50 | *\$70.20 | \$81.00 |
| U-6 | $1 / 2$ | 34.20 | *37.80 | *39.96 |  | 11/4 | 45.00 | 48.60 | 54.00 | 63.00 | *73.89 | *84.60 |
| D-4,7 | $\frac{9}{16}$ | 36.00 | *37.80 | *39.96 |  | $11 / 2$ | 48.60 | 54.00 | 60.30 | 34.65 | *81.00 | *90.00 |
| U-6 | 5/8 |  | 37.80 | *39.96] |  |  |  |  |  |  |  |  |

*Special; not in stock.
DIAMOND DRILLS

|  | 8 In. | 12 In. |
| :--- | ---: | ---: |
| All |  |  |
| Types |  |  |\(\left\{\begin{array}{lrr}1 / 2 \mathrm{in} . or under \& \$ 2 \mathrm{n} .20 \& \$ 27.00 <br>

5 / 8 \& 27.00 \& 28.80 <br>
3 / 4 \& 31.50 \& 34.20 <br>
1 \& 34.20 \& 37.80\end{array}\right.\)

## FLAT CHISELS

Hexagonal Shank Length

| 8 In. | 12 In. |
| ---: | ---: |
| $\$ 28.80$ | $\$ 30.60$ |
| 30.60 | 32.40 |
| 34.20 | 36.90 |
| 37.80 | 41.40 |

Round Shank Length 8 In. 12 In. $\$ 25.20 \quad \$ 27.00$ $27.00 \quad 28.80$ $\begin{array}{ll}31.50 & 34.20 \\ 34.20 & 37.80\end{array}$

## HOLLOW DRILLS

| List Price |  |
| :---: | :---: |
| Each | Diameter |
| $\$ 8.10$ | $1 \frac{3}{18}$ |
| 10.80 | $1 \frac{1}{16}$ |

List Price
Length
36 36 $48 \quad \$ 15.30$

| Diameter | Length |
| :---: | :---: |
| $1 \frac{7}{16}$ | 12 |
| $1 \frac{18}{16}$ | 24 |

To be used with water feed a set consists of one of each size.
To be used with Type D-7 only. To be used with water feed a set consists of on
Delivery F.O. B. Chicago, Ill. For warehouse deliveries write nearest house.

## Western Electric <br> Electric Drills



## Western Electric Portable Drills

These drills are thoroughly reliable, strongly built, light in weight and convenient in shape. They operate on either alternating or direct current and are reversible. Attachment is made to the ordinary drop cord or incandescent lamp socket.

Model B: Has the hreakover feature for changing drills or taps instantly by hand without the use of chuck wrench or key.

Model C: Has two speeds, the gears running in grease. It has the offset spindle, allowing close quarter drilling.
List


Tool Post Grinder


Buffer and Polisher

## Western Electric Tool Post Grinder

This tool is not only adapted for grinding centers on lathes, but also for grinding dies, reamers and cutters and for universal grinding as well.
List
Shpg.
Wgt. with Cord and Plug 23 lbs. $\$ 100.00$ $\$ 100.00$
ordering.
No. 220009 Tool Post Grinder, complete.
Voltages regularly furnished, $32,100,110,120,240$ or 250 . Always specify voltag
Western Electric Buffer and Polisher
This tool is very useful for buffing and polishing brass, steel and other metals and when equipped with the small emery wheel is well adapted for light grinding also.
220010 Buffer and Polisher, complete.
8 lbs.
$\$ 50.00$
*Deliverv F. O. B. Factory, Leipsic. O. For warehouse deliveries write nearest house.

Voltages regularly furnished, $32,100,110,120,240$ or ${ }^{2} 50$. Always specify voltage wanted in ordering.

## ELECTRIC PORTABLE GRINDERS AND DRILLS



## Electric Portable Grinder

The handy tool that grinds dies, reamers, etc. Only the highest grade of materials used in its construction. Complete it weighs only 5 lbs., the outer castimps are nade throughout of highly polished aluminum. The dustproof bearings are made of highest grade speed nickel bablitt. The armature shait is ground on centers to a mirror finish assuring extreme aceuracy.

The motor is air cooled and proof against excessive heat. This air cool feature has double functions, that of keeping the motor cool, at the satme time clean and free from dust. The aljustable end thrust and bearing take up all wear, assuring long life. A special feature is the dustproof bearing caps. Operates from any electric light socket on both direct and alternating current, voltage from 104 to 120 volts.


## Western Electric Portable Electric Drills

Model A Drill. This tool was designed for drilling in either metal or wood. It will run on either alternating or direct current. The offset spindle allows drilling in close corners. The main driving spindle is run in a tobin bronze bushing, two inches in length. The lower handle can be readily removed when necessary.

The body is made of aluminum thoroughly strengthened and supported where the strain is most severe. Arrangements are made for positive and effective ciling for the motor shafts, driving spindle and all parts that are subjected to wcar. The gears are accurately machined and run in grease. This drill is very light and convenient to handle. It is especially useful for drilling in sheet metal of all kinds. Also for drilling name plate and oiler holes and for light drilling in wood.

Model O Drill. Specially designed for light drilling in wood.
This drill is a sturdy little tool, light in weight, convenient to handle and operate. The spindle is offset and run in a thrust. It operates on either A.C. or D.C. Attachment is made to the ordinary electric drop cord.

| Model | Std. Voltage | Length Over All with Chuck | Capacity in Steel and Other Metals | Distance from Center of Chuck to Edge of Motor | Net <br> Weight Complete | *List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | $32,100,110,120,240$ or 250 | 14 ins. | 0 to $1 / 1 \mathrm{in}$. | $7 / 8 \mathrm{in}$. | 9 lbs . | \$76.00 |
| 0 | $32,100,110,120,240$ or 250 | 13 ins. | 0 to ${ }_{10}^{3} \mathrm{i}$ in. |  | 9 lbs . | 56.00 |

*Delivery F. O. B. Factory, Leinsir. (). For warehouse deliveries write nearest house.

DUMORE ELECTRIC SPECIALTIES


Electric Sensitive Drill


## Dumore Electric Sensitive Drill

The Dumore electric sensitive drill is especially adapted for the use of jewelers, watchmakers, instrument manufacturers and gold and silver smiths. The feed control, which is equipped with a spring balance, is extremely sensitive and the most delicate piece of work can be drilled accurately and rapidly.

Height 18 inches; weight 17 lbs .; stroke 2 inches. Drills to center of a six-inch pipe. Drilling capacity Steel 0 to $\frac{3}{32}$ inch; brass, aluminum and soft alloys, 0 to $\frac{13}{62}$ inch. Equipped with a high speed universal motor which operates on either D.C. or A.C. Speed 8000 R.P.M. Imported S.K.F. ball bearings to eliminate vibration.

## Dumore Electric Grinder

The Dumore portable electric grinder cuts grinding costs because it is correctly designed and because with it you get the right cutting speed at the whechs. The notor spindle operates at a speed of 10000 R.P.M., and the internal attachment at 30000 R.P.M. The Dumore grinder is dynamically balanced, insuring perfect work; free from chatter marks. The Dumore costs no more than other grinders, but it will do more work in less time than any other similar tool on the market. It is particularly adapted for grinding gauges, dies, reamers, cutters, etc.
220025 Dumare electric grinder.
$\$ 120.00$

## Dumore Electric Cloth Cutter

The Dumore electric cloth cutter is a small light wcight cutter especially adapted for cutting one, two and three layers and up. The thin circular knife, keen as a razor, revolving at 6000 KII . M., slips through the cloth at a speed limited only by the operator's ability to follow the lines of his pattern. Clothing manufacturers, custom tailors, dressmakers, and all kind of garment manufacturers, will find the Dumore a wonderful


Electric Cloth Cutter time saver. Workmen become expert in handling them in a few hours. The Dumore, while moderate in price, (costing less than one-quarter as much as large electric cutters) is a high-grade. practical cutter. An entirely new principle is ambodied; the power is transmitted from the motor to the cutting blade by a belt, doing away with the disagreeable, nerve-racking gear noises. The motor is universal-operating on direct or alternating current. The cutter is connected to any convenient electric light socket.

A small emery whecl running at right angles to the cutting blade-leaving it hollow ground-gives it a keen razor edge. When Elade becomes dull it can be instantly sharpened.
220026 Dumore electric cloth cutter.
$\$ 80.00$ Delivery F. O. B. Factory, Racine, Wis. For warehouse deliveries write nearest house.

Mail Orders
at Prevailing
Friced


Type H Transformer


Iransformer Without Case

In the Western Electric Type H Transformers result of extended investigation under actual operating conditions, and an exhaustive analysis of the most successlul modern types.

Notable among the many excellent features are the means adopted to secure cool operation, the convenience and security of the terminal connections, the care taken to insure ease in handling, and the perfected methods which attain the ultimate degree of insulation. Both core and copper losses have been reduced to a minimum, the symmetrical core structure insuring a balanced magnetic condition and maintaining uniform cffective radiation of heat.
Single-phase Transformers for Outdoor or Indoor Installation- 50 to 140 Cycles, for Power and Lighting Service-Suspension Hooks Provided with all Sizes 50 KV -A and Below


[^2]
## Western Electric TRANSFORMERS

Types A and H Transformers FOR 60 CYCLE CIRCUITS-OUTDJOR INSTALLATION
Pole Type Except 75 and 100 Kv .-A. Type A and 125,150 and 200 Kv .-A. Type $H$

| Type A Transformers |  |  |  |  |  | Type H Transformers |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Capacity |  | (List Prices Include Oil and Boxing and on the 1 to 50 Kv.-A. Sizes Two Primary Fuse Boxes Cat. No. *104227 and Hanging Hooks) Primary Voltage 1150-2300 Secondary Voltage 115230 |  |  |  | (List Prices and Weights) Fuse Boxes Not Included <br> Primary Voltages 6900-11950 Secondary Voltage 110-2500 |  |  |  |
| Kv.-A. | $\begin{gathered} 50 \\ \text { Watt } \\ \text { Lamps } \end{gathered}$ | $\begin{aligned} & \text { Quarts } \\ & \text { Oil } \end{aligned}$ | Shpg. Wt. in Lbs. |  | $\begin{gathered} \text { List } \\ \text { Prices } \end{gathered}$ | $\begin{aligned} & \text { Quarts } \\ & \text { Oil } \end{aligned}$ | Shpg. Wt. in Lbs. |  | $\begin{gathered} \text { List } \\ \text { Prices } \end{gathered}$ |
|  |  |  | Trans. | $0 i 1$ |  |  | Trans. | Oil |  |
| 1 | 20 | 4 | 100 | 10 | \$59.34 |  | 235 | 35 | \$146.28 |
| $11 / 2$ | 30 | 6 | 150 | 14 | 84.18 | 16 | 235 | 3 |  |
| $\stackrel{3}{3}$ | $(6)$ | 8 | 190 | 17 | 107.64 | 16 | 250 365 | 35 70 | 186.30 235.95 |
| 5 | 100 | 12 | 275 | 26 | 144.90 193.20 | 32 40 | 365 435 | 70 90 | 235.94 293 |
| $71 / 2$ | 150 | 14 | 315 | 30 | ${ }^{1935}$ | 48 | 435 645 | 155 | 3+9.14 |
| 10 | 200 | 21 | 450 | 54 | ${ }^{2314.64}$ | ${ }_{88} 88$ | ${ }_{7} 70$ | 200 | 444.36 |
| 15 | 300 | 24 | 400 | 8 | 452.64 | 136 | 1020 | 305 | 625.14 |
| 25 | 500 750 | 40 184 | 700 1600 | 85 400 | $\stackrel{4}{598.92}$ | 1329 | 1540 | 515 | 821.10 |
| $371 / 2$ 50 | 750 1000 | 181 | 16.50 | 450 | 734.16 | 156 | 1250 | 350 | 993.60 |
| 75 | 1500 | 308 | 1725 | 675 | -972.90 | 2:8 | 1980 | 510 8.20 | 1222.6s |
| 100 | 2000 | 310 | 2200 | 750 | 1203.36 | 360 680 | 3 | 820 1530 | 14078.70 |
| 125 | 2500 | $\ldots$ | $\ldots$ | . | ..... | 760 | 3400 | 1710 | 1791.05 |
| 150 | 3000 | $\ldots$ |  |  |  | 860 | 3600 | 1950 | 2111.40 |
| 200 | 4000 |  |  |  |  |  |  |  |  |

Transformers wound for more than one primary voltage are equipped with porcelain eonnection boards for adapting the primary to either circuit.
*Sizes $371 / 2$ and 50 , when operated on 1150 volts, take Cat. No. 106918 , which should be orderd separately.

## 6900 VOLT TRANSFORMERS

Standardized voltage ratings for nominal 6900 volt distribution are as follows:

|  | Secondary Voltages | ServiceSecondary <br> Sighting |  |
| :--- | :--- | :--- | :--- |
| Primary Voltages | and Motor | Notor | Distribution |

Name plate rating II-60 (Kv.-A.) 6900/11950 Y with taps for 6585/6275/5980 . .
These standardized lines are designed for operation on the following circuits, giving secondary voltages as shown:



For secondary voltages of over 1000 , increase list prices of sizes 1.5 to 25 Kv .-A. inclusive, 10 per cent: 37.5 to $100 \mathrm{Kv} .-\mathrm{A}$. inclusive, 5 per cent.

Prices include oil and boxing.
All sizes suitable for outdoor installation.
Suspension hooks are regularly provided with all sizes 100 Kv . A. and helow. Sizes 125 to 200 Kv .-A. are not suitable for pole suspension.

Secondaries of transformers raterl $115 / 230$ in sizes 1.5 to 100 Kv .-A. inclusive, also secondaries of transformers rated $230 / 460$ in sizes 1.5 to 200 F̌v.- $\lambda$. inclusive, can be arranged for series, multiple or three-wire service by connction of the secondary leads outside of the transformer tank. Secondaries of transformers rated $115 / 230$ in sizes 125 to 200 Kv.-A. inclusive, are arranged for series and three-wire service only.

When fuse boxes are desired, two List No. 155757 should be ordered separately for sizes 1.5 to 75 Kv .-A., or two List No. 106918 for sizes 100 to 200 Kv.-A. inclusive.

Delivery F. O. B. Ft. Wayne, Ind., for Type A, and Pittsfield, Mass., for Type II. For warehouse deliveries write nearest house.

## Western Electric <br> TRANSFORMER SPECIALTIES

After a complete investigation of the yarious demands for small electrical capacity, at low voltage, we developed a uniform line of parts for manufacturing miniature air cooled transformers (Type M), ranging from lo watts capacity to and including $21 / 2$ kilotsit ts.

The broad use of alternating current and the economy and ease with which its pressure may be varied through the medium of the Type M transformer to meet varions requiraments has nade it preferable in all applications not inherently requiring direct current. By substituting this transformer for batteries or magnetogenerators no naintenathce or replacement charges, e to wear, are ineurred, lesa space is required and cleanliness and reliability are assured.
The parts developed are suitable for capacities of 15 to 2500 watis inclusive, 60 cycles, and to 1250 watts inclusive, 25 cyeles, at voltages 550 and below. The construction may be for indoor or outdoor service as desired. Type M transformers The following applications are representative of the many to whice where good appearance is desired or neecssary.

Flectric welding
Speed variation of motors.
Operation of small low voltage motors from higher voltage cireuits.


Special
Three-Phase or Two. Phase Transformer


Special
Transformer for
Operating Electric
Stop-Motion of
Textile Machinery

Railway simnals.
Two phase to three phase transformation.
Nitrogen filled lamps.


Standard
Transformer for
SignLighting

SICN LIGHTING TRANSFORMERS TYPE M PRIMARY 110-220 VOLTS; SECONDARY 11-22 VOLTS FREQUENCY RANGE' 60 TO 140 CYCLES

| Watts | List | Core <br> J.oss |
| :---: | :---: | :---: |
| Cap. | No. | Watts |
| 250 | 76676 | 9 |
| 500 | 76678 | 17 |
| 750 | 146138 | 24 |
| 1000 | 76680 | 29 |
| 1500 | 146139 | 40 |
| 2000 | 76683 | 55 |


| Copper | l'ul! | Wall |
| :---: | :---: | :---: |
| I.oss | J.oad | Space |
| Watts | Eff. | in Ins. |
| 17 | 90.5 | $47 / 8$ by $81 / 8$ |
| 29 | 92.7 | $51 / 2$ by 911 |
| 25 | 93.8 | $51 / 2$ by $91 / 8$ |
| 29 | 94.5 | $61 / 2$ by 11 |
| 33 | 95.3 | 61/2 by 118 |
| 36 | 95.1 | $75 / 8$ by 128 |

Depth
inIns.
$35 / 8$
$41 / 4$
$41 / 8$
478
478
$53 / 8$

| Approximate |  |
| :---: | ---: |
| Wgt. in | Sbs. |
| Net | Ship |
| 15 | 20 |
| 20 | 30 |
| 25 | 40 |
| 35 | 50 |
| 40 | 55 |
| 60 | 80 |



Special
Transformer for Eiectric Welding

220 volts.
The above weights and prices do not ifctucte slate bases. The bases will be supplied at an additional net charge of 50 cents cach

Nove: When placing requisition for slate base which is to be used for mounting a transformer already in service, the serial number of the transformer should be given so that the proper base may be supplind. This is necessary by reason of slight changes which have been made from time to time in the dimensions of the trunsformer cases. The shipping weight of the base is approximately 15 pourds.

Four c.p. 5 watt Mazda lamps having a range of volts from 10 to 12, have been found best adapted for sign lighting and the transformers have been designed to take eare of this range of secondary voltages. They are rated for 60 cycle operation 220 volts so that they ean be operated on cither 110 or 220 volt eircuits. They are with series multiple primary rating of 110 volts or 200 to 2.40 volts, having a range of transformation at full load of $10: 1$ or $20: 1$ ded for use on circuits from 100 to 120 ts or 200 to 240 volts, having a range of transformation at full load of $10: 1$ or $20: 1$ depending upon the connection.
lly on practically all sign lighting circuits, and lanns can be ordered to mef primary voltages they will operate suceess
These transformers are designed for either 2 or 3 wire service on the seeondary and conditions.
without changing their existing wiring.


Approx.
8hip.
Wgt. in J.bs.
AUTO TRANSFORMERS

T a. output at 110 vols 2 wire or allowable unbalaneing at $110-220$ volts 3 wire.
sizes of transformers are suitable for outdoor installipping weight includes oil or the Tvpe H units. All the above liated
The above auto transformers are designed for siagle phase, two phase or open deltastransformation Type $H$ sizes.
formery are not designed to transform power three phase to three phase from 220 volts to 110 volts and Theas auto transfrmery are not designed to transform power three phase to three phase from 220 volts to 110 volts, nor can they be used to transform three to two phase power as special taps must be provided to obtain proper voltage ratio.

## SPECIAL TRANSFORMERS

Prices and information, therefore, involving autc transformers for three-phase trapsformation, or for three-phase to two-
phase transformation, or for speeial electric welding, signal, ete, operation, sent on application
Delivery F. O. B. Factory, Schenectady, N, Y. For warehouse deliveries write nearest house.

# Western Electric CONTROLLING DEVICES FOR ALTERNATING CURRENT MOTORS 



CR 1027 Motor Starter for Type KS Squirrel Cage Single Phase Motors


For Type RI Repulsion Induction Single Phase Motcr Up to 71/2 H.P.


For Type RI Repuision Induction Single Phase Motors I.arger than 7\% H.P.

CR 1025 Motor Siarters

## Single Phase Motor Starters

## Salient Features

1st. The low voltage release opens the circuit in case of failure of power. 2nd. A long lead scgment at the off parition insures that the arc will be broken. 3rd. Large tibre washer protects the haud of the operator.

## Type CR 1027 for Squirrel Cage Motors

The Type CR-1027 starters are designed for starting Weatern Fiectric Type ks Squirrel Cage aingle-phase induction motors, and consist of a resistance-reactance coil assembled in a well-ventilated box, on the froat of which is mounted a slate motors, anding the etarting switch and no-voltage relcase.

The switch contacts are eomposed of renewable scgments. One of these scgments is rascie un of two oarts, one part being the switch contacts are eomposed of renewable schments. Ane alatch located urdernestia the startiag arm prevents the operfior from throwing the arm to the running position without frist stopping on the starting segment.

Ther from throwing the arm to the runding postion witheutarting resistance-reactance sa starters are provided with tap on the starting torque can be chaned to ment service conditions. Taps are not neresarary on the emaller sizes.

| 110 Vo!ts |  |  |  |  | $320 \mathrm{Vo!}$ \% |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. |  | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Approx Ship. w't. | $\begin{aligned} & \text { H.I' } \\ & \text { of } \\ & \text { Motor } \end{aligned}$ | I.ist No. |  | List Price | $\begin{aligned} & \text { Approx. } \\ & \text { Ship. } \\ & \text { Wt. } \end{aligned}$ |
| Motor | $\underset{\text { Cycles }}{60}$ | $\stackrel{40}{\text { Cycles }}$ |  |  |  | 60 Cycles | $\stackrel{90}{\mathrm{Crcles}}$ |  |  |
| $1^{1 / 2}$ | $\begin{aligned} & 187090 \\ & 187092 \\ & 197094 \end{aligned}$ | $\begin{aligned} & 18710 \times \\ & 187110 \\ & 187112 \end{aligned}$ | $\$ 40.00$ 40.00 48.00 | 25 25 60 | $1^{1 / 2}$ | $\begin{aligned} & 187091 \\ & 157093 \\ & 1 \times 7095 \end{aligned}$ | $\begin{aligned} & 187!1: 9 \\ & 187: 11 \\ & : 87: 13 \end{aligned}$ | $\begin{array}{r} \$ 40.00 \\ 40.00 \\ 48.00 \end{array}$ | 25 25 60 |
| $\begin{aligned} & 2 \\ & 3 \\ & 5 \end{aligned}$ | 187096 187098 187100 | $\begin{aligned} & 187114 \\ & 1 \times 7116 \\ & 187118 \end{aligned}$ | $48 . c 0$ <br> 36.00 <br> 56.00 | $\begin{aligned} & 60 \\ & \frac{65}{35} \end{aligned}$ | 2 3 5 | $\begin{aligned} & 187097 \\ & 127099 \\ & 137101 \end{aligned}$ | $\begin{aligned} & 187157 \\ & 187117 \\ & 187119 \end{aligned}$ | 48.00 56.00 86.00 08.00 | 60 75 75 |
| $1{ }^{15}$ | 187102 187104 187106 $\ldots \ldots$. | 197120 187122 $\cdots \cdots$ $\cdots$ | 68.00 100.00 112.00 $\ldots \ldots$. | 90 110 140 $\cdots$ | 10 10 10 $\cdots$ | $\begin{aligned} & 187103 \\ & 187105 \\ & 187107 \\ & 187129 \\ & \hline \end{aligned}$ | 197121 $18714 \%$ | $\begin{array}{r} 68.00 \\ 84.00 \\ 100,00 \\ 10000 \\ \hline \end{array}$ | $\begin{array}{r}90 \\ 110 \\ 140 \\ 140 \\ \hline\end{array}$ |

## Ordering Directions

When ordering CR-1027 starters the II.P., voltage, specd, frequency and serial number of the motor with which it is to be used ahould be clearly stated.

Type CR 1025 for Repulsion Motors
The Type CR-1025 starting rheostats have been designed primarily for use with the Western Electric single-phase repulsion motor (Type RI) where the inrush of curreat resulting from throwing the motors dirccty upon the line is objectionable. When thear motors are started by being thrown directly upon the line they require from $21 / 2$ to $31 / 2 \%$ sif full load curent. While in rany casea this starting current inay not be objectionable, it is recommendent that a starting hox be installed ia every case with the 71 g. 10 and $15 \mathrm{H} . \mathrm{P}$, motors and with the smaller motors where it is desired to reduce the starting current. When a starting boz is used, the inrush of current at the instant of starting is approximately $11 / 5$ full load current. box is used, the inrush of current at the instant of starting is approximately $1, \frac{1}{2}$ fulldoad current.

| 110 Volts, 60 Cycle |  |  |  | 220 Volts, 60 Cycle |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| IL.P. | List No. | I. ist Price | $\begin{aligned} & \text { Approz. } \\ & \text { Ship. } \\ & \text { Wit. } \end{aligned}$ | H.P. | List No. | I.int Price | Approx. Ship. Wt. |
| $\begin{gathered} \hline \text { Up to I Incl. } \\ 2 \\ 3 \\ 5 \\ 71 / 2 \\ 10 \\ 15 \end{gathered}$ | $\begin{aligned} & 187072 \\ & 187073 \\ & 187074 \\ & 187075 \\ & 187076 \\ & 187077 \\ & 187078 \end{aligned}$ | 819.00 19.00 21.00 24.0 .1 60.00 60.00 60.00 | $\begin{array}{r} 20 \\ 20 \\ 25 \\ 35 \\ 75 \\ 80 \\ 125 \end{array}$ | एp 1001 incl. 2 3 5 $71 / 2$ 10 15 | 187079 187080 187081 187082 187003 187084 187085 | $\begin{array}{r}\$ 19.00 \\ 19.00 \\ 21.00 \\ 24.00 \\ 3100 \\ 641 \\ \text { (i) } 00 \\ \hline\end{array}$ | $\begin{aligned} & 2 i \\ & 2 i \\ & 2 i \\ & 2 i \\ & 30 \\ & 3 i \\ & 80 \\ & 85 \\ & \hline \end{aligned}$ |

[^3]
## Western Electric CONTROLLING DEVICES

FOR ALTERNATING CURRENT MOTORS


Form H2 Compensainr with Fuses, Cover and Oll Tank Renioved


H-2 Compensator with Fuses, Cover and Oil Tank in place


Form 3 Compensator with Overload Relays

## Type CR 1034 Starting Compensators for TWO AND THREE PHASE SQUIRREL CAGE INDUCTION MOTORS

The Form K, or squirrel cage, motor can be started by simply closing the stator or primary switch, and the motor will then carry its load up to nearly synchronous speed, but with a large inrush of current at the moment of starting.

In order to reduce this current. when the maximum starting effort is not necessary, a Type CF-1034 Starting Compensator is employed. This compensator acts as a transformer, reducing the potential at the terminals of the motor and coneequently diminishing the current taken by it.

The compensator consists of coils (three for three phase and two for two phase) wound upon laminated iron cores, and an oil immersed switch assembled in a suitable case. The switch in the off position is held by a latch in such a way as to prevent its being thrown directly into the running position.

## SALIENT FEATURES OF WESTERN ELECTRIC COMPENSATORS

The handle cannot be left in starting position.
The handle cannot be moved to running position without first being thrown to the starting position.
The low-voltage release opens the circuit in case of failure of voltage.
Fuses or overload relays open the circuit in case of overload.
Switches are oil immersed, thus eliminaring sparking and insuring long life of contacts.
Compound treatment of the coils makes them practically waterproof.
Simplicity of wiring.
Accessibility of taps and contacts.
See following page for prices.

# Western Electric <br> CONTROLLING DEVICES 

## For Alternating Current Motors

 TYPES CR-1034 STARTING COMPENSATOR FOR TWO AND THREE PHASE SQUIRREL CAGE INDUCTION MOTORSEnclosed Overload Relay or Fuses

| List |  | H.P. | Forms $\mathrm{H}-3$ and J-3With Overload Relays |  | Size No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3-Phase | 2-Phase |  | $\begin{gathered} \text { List } \\ \text { Price } \\ \text { 3-Phase } \end{gathered}$ | $\begin{gathered} \text { List } \\ \text { Price } \\ \text { 2-Phase } \end{gathered}$ | Phase | $\begin{gathered} 2- \\ \text { Phase } \end{gathered}$ |

110 VOLTS-60 CYCLES

| 1601 | 1759 | $5-51 / 2$ |  |  |  |  |
| :--- | :--- | :--- | ---: | ---: | ---: | :--- |
| 1605 | 1763 | $71 / 2$ | 180.00 | $\$ 184.00$ | 1 | 1 |
| 1609 | 1767 | 10 | 188.00 | 184.00 | 1 | 1 |
|  |  | 106.00 | 1 | 1 |  |  |
| 1613 | 1771 | $12-15$ | 188.00 | 196.00 | 1 | 1 |
| 1617 | 1775 | 20 | 308.00 | 316.00 | 3 | 3 |
| 1021 | 1779 | 25 | 336.00 | 344.00 | 3 | 3 |

220 VOLTS - 60 CYCLES

| 1602 | $17 \mathrm{~B})$ | 5-51/2 | \$180.00 | \$184.00 | 1 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1606 | 1764 | $71 / 2$ | 180.00 | 184.00 | 1 | 1 |
| 1610 | 1768 | 10 | 188.00 | 196.00 | 1 | 1 |
| 1614 | 1772 | 12-15 | 188.00 | 196.00 | 1 | 1 |
| 1618 | 1776 | 20 | 208.00 | 212.00 | 1 | 1 |
| 1622 | 1780 | 25 | 216.00 | 220.0) | 1 | 1 |
| 1625 | 1783 | 30 | 300.00 | $30 \mathrm{~K}, 00$ | 2 | 2 |
| 1625 | 1783 | 35 | 300.00 | 308.00 | 3 | 3 |
| 1625 | 1783 | 40 | 300.00 | 308.00 | 3 | 3 |
| 1629 | 1787 | 50 | 328.00 | 336.00 | 3 | 3 |
| 1633 | 1791 | 60-75 | 400.00 | 420.00 | 3 | 3 |
| 1637 | 1795 | 85-100 | 456.00 | 472.00 | 3 | 4 |

440 VOLTS-60 CYCLES

| 1603 | 1761 | $5-51 / 2$ | $\$ 180.00$ | $\$ 184.00$ | 1 | 1 |
| :--- | :--- | :--- | ---: | ---: | :--- | :--- |
| 1607 | 1765 | $71 / 2$ | 180.00 | 184.00 | 1 | 1 |
| 1611 | 1769 | 10 | 188.00 | 196.00 | 1 | 1 |
|  |  |  |  |  |  |  |
| 1615 | 1773 | $12-15$ | 188.00 | 196.00 | 1 | 1 |
| 1619 | 1777 | 20 | 208.00 | 212.00 | 1 | 1 |
| 1623 | 1781 | 25 | 216.00 | 220.00 | 1 | 1 |
| 1626 | 1784 | 30 | 248.00 | 252.00 | 2 | 2 |
| 1626 | 1784 | 35 | 248.00 | 252.00 | 2 | 2 |
| 1626 | 1784 | 40 | 248.00 | 252.00 | 2 | 2 |
| 1630 | 1788 | 50 |  | 268.00 | 280.00 | 2 |
| 1634 | 1792 | $60-75$ | 344.00 | 352.00 | 3 | 3 |
| 1638 | 1796 | $85-100$ | 372.00 | 380.00 | 3 | 3 |

Low-Voltage Release

| List | H.P. | Forms H-3 and J-3 With Overload Relays |  | Size No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3-Phase 2-Phase |  | $\begin{gathered} \hline \text { List } \\ \text { Price } \\ \text { 3-Phase } \end{gathered}$ | $\begin{gathered} \text { List } \\ \text { Price } \\ \text { 2-Phase } \end{gathered}$ | 3-1 | $\left\lvert\, \begin{gathered} 2- \\ \text { Phase } \end{gathered}\right.$ |

440 VOLTS-60 CYCLES (Cont'd)

| 1641 | 1799 | $110-125$ | 8436.00 | $\$ 452.00$ | 4 | 3 |
| :--- | :--- | :--- | ---: | ---: | ---: | ---: |
| 1644 | 1802 | $135-150$ | 484.00 | 504.00 | 4 | 4 |
| 1647 | 1805 | $175-200$ | 540.00 | 560.00 | 4 | 4 |
| 1857 | $\ldots$ | 250 | 772.00 | $\ldots .$. | 5 |  |

550 VOLTS- 60 CYCLES

| 160.4 | 1762 | 5-51/2 ${ }^{18180.10}$ |  | \$184.00 | 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1608 | 1766 | $71 / 2$ | 180.00 | 184.00 | 1 | 1 |
| 1612 | 1770 | 10 | 188.00 | 196.00 | 1 | 1 |
| 1616 | 1774 | 12-15 | 188.00 | 196.00 | 1 | 1 |
| 1620 | 1778 | 20 | 208.00 | 212.00 | 1 | 1 |
| 1624 | 1782 | 25 | 216.00 | 220.00 | 1 | 1 |
| 1627 | 1785 | 30 | 248.00 | 252.00 | 2 | 2 |
| 1627 | 1785 | 35 | 248.00 | 252.00 | 2 | 2 |
| 1627 | 1785 | 40 | 248.00 | 252.00 | 2 | 2 |
| 1631 | 1789 | 50 | 268.00 | 280.00 | 2 | 2 |
| 1635 | 1793 | 60-75 | 344.00 | 352.00 | 3 | 3 |
| 1639 | 1797 | 85-100 | 372.00 | 380.00 | 3 | 3 |
| 1642 | 1800 | 110-125 | 4336.00 | 452.00 | 4 | 3 |
| 1645 | 1803 | 135-150 | 484.00 | 504.00 | 4 | 4 |
| 1648 | 1806 | 175-200 | 540.00 | 560.00 | 4 | 4 |

## *2200 VOLTS-60 CYCLES With Overload Relays

| 2719 | 2738 | 15-20 |  |  | 3 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2720 | 2739 | 25 |  |  | 3 | 3 |
| 2721 | 2740 | 30-40 |  |  | 3 | 3 |
| 2722 | 2741 | 50-55 | E |  | 3 | 3 |
| 2722 | 2742 | 60 | . | . | 3 | 4 |
| 2723 | 2742 | 75 | 즐 | $\cdots$ | 4 | 4 |
| 2724 | 2743 | 85-100 | $\stackrel{\square}{\square}$ | ๔ | $t$ |  |
| 2725 | 2744 | 110-125 | - | - | 4 | 4 |
| 2726 | 2745 | 135-150 | 免 | 䳐 | 4 | 4 |
| 2727 | 2746 | 175-200 | \& | $\stackrel{2}{2}$ | 4 | 5 |
| 2728 |  | 250 |  |  | 5 | $\ldots$ |

Prices cover compensators complete with no-voltage release and oil for switch tank. They also include fuses and fuse bases for compensators of 550 volts or less, and overload relays with enclosing covers for 2200 volt compensators.

## EXTRAS

For overload relays with enclosing covers in place of fuses for 550 volts or less add $\$ 16.00$ list to the above prices.

For overload relays and ammeter, add $\$ 30.00$.
For overload relays, ammeter and conduit wiring case, add $\$ 8.00$.
For enclosing covers for fuse pancls, add \$7.00.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# FOR DIRECT CURRENT MOTORS For Series, Shunt or Compound Wound Motors 



Fig. 1


Fig. 2


## Fig. 3

## CR-1000 Direct Current Motor-Starting Rheostats

CR-1000 rheostats are recommended for use with motors which, when not overloaded in starting, will attain full speed in one minute or less. They can also be used for starting motors overloaded 50 per cent., providing the resistance is not in circuit over thirty seconds. These rheostats have been so designed that they comply with the service rules of the Amerisan Institute of Electrical Fingineers, viz., one minute starting duty every four minutes for one hour.

Fig. 3 illustrates the type of starter used above $35 \mathrm{H} . \mathrm{P} ., 115$ volts, $50 \mathrm{H} . \mathrm{P} ., 230$ volts, and $20 \mathrm{H} . \mathrm{P}$., 550 volts. This starter comprises a knifc-blate type of dial switch so interlocked with a line contactor as to provide low-voltage release as well as positive making and breaking of the circuit. 'This contactor is also provided with a magnetic blowout coil.

The motor circuit is not made or broken on the dial switch and no arcing can possibly occur thereon.
The contactor when once opened can be closed again only with the starting arm at the initial starting point.

Resistance units throughout this entire lite of motor-starting rheostats are absolutely fireproof, CR9000. Form P resistance units are used in the following sizes:
$1 / 8-5$ H.P. inclusive, 115 volts. $1 / 8-71 / 2 \mathrm{II}$. $\mathrm{I}^{\prime}$. inclusive, 230 volts. $1 / 8-20 \mathrm{H} . \mathrm{P}$. inclusive, 550 volts.
In the larger sizes cast grid resistance units are used.
In rheostats 2 H.P. and larger the Form $P$ units are mounted on supports independent of the iron box the supports being fastened to the slate top of the rheostat; consequently the resistance can be removed for inspection or necossary repairs without disturbing the units or their connections.

| H.P. | 115 VoltsGood for 90 to 130 Volts |  |  |  | Good for 180 to 260 Volts |  |  |  | 5.50 VoltsGood for 4.50 to 600 Volts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | "List No. | List Price | Approx. Ship. Wt. | Fig. No. | I.ist No. | List Price | Approx. Ship. Wt. | .Fig. No. | List <br> No. | $\underset{\text { Price }}{\text { List }}$ | $\begin{aligned} & \text { Ap- } \\ & \text { grox. } \\ & \text { Ship. } \\ & \text { Wt } \end{aligned}$ | Fig. No. |
|  | 111901 | \$9.00 | 16 | 1 | . 111916 | \$9.00 | 18 | 1 | 111933 | 8:1. 50 | 16 | 1 |
| 14 | 111902 | 8.00 | 16 | 1 | 111917 | 9.00 | 16 | 1 | 111934 | 91.51 | 16 | 1 |
| $1 / 2$ | 111903 | 9.50 | 16 | 1 | 111918 | 9.50 | 16 | 1 | 111935 | 9. 50 | 16 | 1 |
| $3 / 8$ | 111904 | 14.50 | 16 | 1 | 111919 | 9.50 | 16 | 1 | 111936 | 9.50 | 16 | 1 |
| 1 | 111905 | 9.50 | 16 | 1 | 111920 | 9.50 | 16 | 1 | 111937 | 3. 50 | 16 | 1 |
| 2 | 111906 | 13.06 | 22 | 1 | 111921 | 14.50 | 20 | 1 | 111938 | 17.00 | 22 | 1 |
| 3 | 111907 | 14.00 | 22 | 1 | 111922 | 14.510 | 22 | 1 | 111939 | 17.00 | 20 | 1 |
| 5 | 111908 | 18.00 | 24 | 1 | 111923 | 14.00 | 28 | 1 | 111940 | 19.00 | 26 | 1 |
| 712 | 114019 | 32.100 | 100 | 1 | 111924 | 2:200 | 32 | 1 | 111941 | 22.00 | 32 | 1 |
| 10 | 114020 | 44.10 | 115 | 2 | 114022 | 40.00 | 100 | 1 | 111942 | 34.00 | 32 | 1 |
| 15 | 114021 | 48.00 | 180 | 2 | 114023 | 52.00 | 100 | 2 | 111943 | 32.00 | 36 |  |
| 20 | 111912 | 80, 010 | 185 | 2 | 114024 | 52.00 | 115 | 2 | 111944 | 48.00 | 85 | 2 |
| 25 | 111913 | 80.00) | 192 | 2 | 114025 | (34.00) | 115 | 2 | 197901 | 117.10 | 300 | 3 |
| 30 | 111914 | 14.00 | 198 | 2 | 111929 | 68.00 | 180 | 2 | 197902 | 117.00 | 300 | 3 |
| 35 | 111915 | 72.00 | 204 |  | 111930 | 72.10 | 186 | 2 | 197903 | 117.00 | 300 | 3 |
| 40 | 157783 | 184.00 | 335 | 3 | 111031 | 76.00 | 198 | 2 | 197904 | 184.00 | 300 | 3 |
| 50 | 157784 | 224.00 | 470 | 3 | 111932 | 88.00 | 200 | 2 | $19790 \%$ | 184.00 | 300 | 3 |
| 55 | 157785 | 228.00 | 470 | 3 | 157788 | 200.00 | 3.50 | 3 | 197006 | 184. (\%) | 300 | 3 |
| 60 | 157786 | 232.00 | 480 | 3 | 157789 | 204.09 | 3.50 | 3 | 157801 | $19+6.60$ | 350 | 3 |
| 75 | 157787 | 2336.00 | 480 | 3 | 157590 | $\bigcirc 212.00$ | 370 | 3 | 157802 | 1916.00 | 350 | 3 |
| 85 |  |  |  |  | 157791 | $\because 242.00$ | 500 | 3 | 157803 | 20180 | 365 | 3 |
| 100 |  |  |  |  | 157792 | 248.00 | 500 | 3 | 157804 | 20800 | 375 | 3 |
| 125 |  |  |  |  | 157793 | 252.00 | 515 | 3 | 15:805 | 212.00 | 390 | 3 |
| 150 |  |  |  |  | 157794 | 2 (61) 010 | 525 | 3 | 1.78806 | 216.10 | 400 | 3 |



CR-1000 Rheostat with Resistance Removed from Boz

The above prices cover rheostats with low-voltage melease only.

## Overload Release

If on sizes up to and including 35 H.P., 115 volts 50 II.P., 230 volts and 20 M.P., 550 volts, an overload release is desired in addition to low-voltage release, add \$7. 71 list to above prices. For larger sizes CR-1102 is recommended.

## ORDERING DIRECTIONS

Rheostats with low-voltage release only should be ordered by List No.

Rheostats with low-voltage and overload release should not be ordered by list No.. but order should give the II. P. rating and voltage of the motor, with the statement that the overload release is desired.

Delivery F. O, B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.


## Western Electric <br> CR-1100 D.C. MOTOR STARTING PANELS FOR DIRECT CURRENT MOTORS

Line Switch and Fuses

CR-1100 Starting Panels consist of standard ClR-1000 Starting Rheostats and a double-pole line switch and fuses, mounted on a slate base. The resistance is designed for one minute starting duty onee every four minutes for an hour. These 1)ands are all arranged for wall mounting and are particularly recommended on account of cconomy of space, compactness and the added neatness given the complete equibment.

## Overload Protection

These rheostats may be furnished with an overload release coil which in case of overload will short circuit the low-valtage release coil, allowing the starting arm to Cr-1100 Starting Panel ret urn to the "off" position.

| H.F. | 115 Volts |  |  |  | 230 Volts |  |  |  | 550 Volts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. of Panel | List <br> Price | Ship. Wt. | List No. of Fuses | List No. of Panel | List Price | Ship. Wt. | List No. of Fuses | List No . of Panel | List Price | Ship. Wt. | List No. of Fuses |
| 1.1 | 1126\%3 | 332,00 | (i) | 5937 ! | 112684 | \$32.00 | (3) | 59951 | 112695 | 540.0) | 60 | 42638 |
| 1. | 112674 | 32.00 | 60 | 59381 | 112685 | 32. 00 | 60 | 59379 | 112696 | 40.00 | 60 | 42639 |
|  | 112685 | 32.00 | 60 | $3495 \%$ | 112686 | 32.00 | 60 | 34950 | 112997 | 40.00 | $(3)$ | 42639 |
| 1 | 112686 | 32.00 | 60 | 34953 | 112687 | 32.00 | 60 | 59381 | 112698 | 40.00 | 6i0 | 34992 |
| 2 | 112687 | 44.00 | 80 | 34056 | 112688 | 44.00 | 80 | 34953 | 112699 | 48.00 | 80 | 34909 |
| 3 | 112478 | 48.00 | 80 | 34958 | 112689 | 44.00 | 80 | 34955 | 112700 | 48.00 | 80 | 59385 |
| 5 | 112639 | 56.00 | 80 | 34962 | 112690 | 52.00 | 80 | 34956 | 1:2701 | 52.00 | 80 | 349905 |
| 71.2 | 119787 | 76.00 | 150 | 34967 | 112691 | 52. 00 | 80 | 34959 | 112702 | 520.00 | 80 | 34997 |
| 10 | 119788 | 104.00 | 150 | 34970 | 119790 | 84.00 | 150 | 34961 | 112703 | 315.00 | 80 | 34998 |
| 15 | 1197スヘ | 1112.00 | 2 Ea | 34976 | 119791 | 104.00 | 1.50 | 34967 | 112704 | (i). 00 | 150 | 35100 |
| 20 | 132688 | 712.00 | 275 | 34980 | 119792 | 112.00 | 150 | 34970 | 112705 | 80.00 | 1.50 | 35103 |

The above prices cover panels with low-voltage release only.

## Overload Release

If overload release is desired in addition to low-voltage release, add $\$ 7$. (1) list to above prices.

## CR-1102 D.C. Motor Starting Panels

CR-1 102 Starting l'imel is the same as CR-1100 except that the fuses are replaced by a double pole circuit brenker, and the starter has a low-voltage release.

Circuit Breaker

| H.P. | 115 Volts |  |  | 230 Volts |  |  | 550 Voits |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. | list Price | Approx. Ship. Wt. | I.ist No. | List Price | Approx. Ship. Wt. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Approx. Ship. Wt. |
| 1 | 104247 | \$64.00 | 124 | 104258 | \$64.00 | 124 | 104271 | \$72. 00 | 124 |
| 2 | 104248 | tis.00 | 124 | 104259 | (68.0) | 124 | 104272 | 76.00 | 124 |
| 3 | 104249 | (6s.00) | 124 | 104260 | (58. 00 | 124 | 104273 | 76.00 | 124 |
| 5 | 10:250 | 72.00 | 150 | $10+261$ | 68.00 | 170 | 104274 | 76.00 | 170 |
| 718 | 110795 | 100.00 | $1 \% 0$ | 104262 | 72.100 | 170 | 104275 | 80.00 | 170 |
| 10 | 119480 | 116.00 | 180 | 119802 | 112.00 | 175 | 104276 | 84.00 | 175 |
| 15 | 119801 | 139,00 | 275 | 119803 | 120.00 | 250 | 101278 | 88.00 | 250 |
| $21)$ | 104254 | 160.00 | 400 | 119804 | 120.00 | 270 | 101278 | 100.00 | 270 |
| 25 | 104255 | 164.00 | 400 | 119805 | 15 ta | 270 | 19 RO 011 | $22^{2} \mathrm{O} 00$ | 350 |
| 30 | 104256 | 168.00 | 450 | 104267 | 1 (64.0) | 425 | 198012 | 25200 | 350 |
| 35 | 104257 | 17600 | 450 | 104248 | 16.400 | 450 | 198018 | 252.00 | 350 |
| 40 | 126:935 | 308.00 | 425 | 104269 | 164.00 | 450 | 198014 | 252.00 | 400 |
| 50 | 126.936 | 352.00 | 425 | 104270 | 16.4 .00 | 500 | 198015 | 2.52 .00 | 400 |
| 60 | 126937 | 334.00 | 42: | 126041 | 308.00 | 425 | 126949 | -88.00 | 425 |
| 75 | 126938 | 376.00 | 425 | 126:42 | 320.00 | 425 | 124950 | 288.00 | 425 |
| 85 | 126639 | 748.00 | 600 | 1269.43 | 36.4 .00 | 425 | 124951 | 906.00 | 425 |
| 100 | 126440 | 760.00 | 600 | 126944 | 378.100 | 42.5 | 120952 | 296.00 | 425 |
| 12.5 | 142763 | 1(8).00 | 750 | 12694\% | 408.00 | 42.5 | 126953 | 308.00 | 425 |

## ORDERING DIRECTIONS

Give the List. Number of the starting panel and state the horse power and voltage of the motor with which the starting panel is to be used.

Delivery F.O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# Western Electric CONTROLLING DEVICES For Direct Current Motors 



Fig. 1
1/2.16. $3 / 4.3 / 4$. P. 115. 230 and 550 Volts

2 Starting and
16 Field Points


Fil. ${ }^{2}$
1 to $71 \cdot \frac{1}{2} \mathrm{H} . \mathrm{P}$. Inel. 115. 230 and 550 Volts 8 Starting and 16 Field Points

## CR-1200 D.C. SPEED REGULATING RHEOS


${ }^{[1 f} 4$
20 to 35 H.P. Sncl. 115 Volts
30 to 50 H.P. Incl., 230 Volts 12 Starting and 20 Field Points

## For Shunt or Compound Wound Variable Speed Motors Only

CR-1200 rheostats are designed for use with variable apeed moturs, the speed control of which is obtained by varying the resistance inserted in the field circuit.

These controlling rheostats comprise $\#$ etarting switck of the type used on CR-1000 rheostats. The starting switch is provided with a projection carrying a slidiug contact which bears on the contact buttons connected to the field resistance. An auxilary arm on the rheostat front retains s short circuit pn the Geld reaistance during the period of starting, and on the gtarting resistance after the motor attains normal speed. The shor: circuit is also retained on the atarting reastance, when the starting arm is turned back to vary the ruaning speed of the motor.

When starting the motor, the starting arm cannot be left in asy position on the contact buttons until it has been turned to the right and engaged the auxiliary arm, forcing the latter to be retained by the low-voltage release coil. The auxiliary arm then withholds the spring which affects ithe starting arm, and thereby makes it possible to leave the starting arm in any position that will give the desired speed control of the motar. Upon sailure of voitage the retaining coil in de-energized, releasing the auxiliary arm, which releames the spring that carries the starting arm to the "off" position, thus opening the motor circuit
A feature is provided, however, so that it requires a little extrs presure to move thre arm beyond the maximu
point to call the operators atention to maximum speed position so hee will not unintentionally shut down the motor.
auiliary arm are designed to take pare of any passible arcing and in the larger sizes are protected by an auxiliary carbon block.

Overlosa Protection: These rheostats cas be furnished with an overload release which in case of overload will short circuit the low-voltare release coil

Fireproor and moisture proot resistance celd resistances; all startiug resistances up to and including $10 \mathrm{H} . \mathrm{P}_{\urcorner} 115$ and 230 volts; up to and including $20 \mathrm{H} . \mathrm{P}$., 550 volts, CR-9000 (Form P).

Ail starting resistances 15 H.P. and larger 11.5 and 230 volt.s. Cast Grid (Forms C)

| H P. of Moter | List Prices |  |  |  |  |  |  |  |  | Approx. Ship. Wt. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 to 1 Speed Variation |  |  | 3 to 1 Speed Variation |  |  | 4201 Speed Variation |  |  |  |
|  | $\xrightarrow{115} \text { Volts }$ | $\stackrel{230}{\text { Volts }}$ | $\begin{aligned} & 550 \\ & \text { Volts } \end{aligned}$ | $\begin{aligned} & 115 \\ & \text { Volts } \end{aligned}$ | $\stackrel{230}{\text { Volts }}$ | $550$ Volts | $\begin{aligned} & 115 \\ & \text { Volts } \end{aligned}$ | 230 Volta | $\begin{aligned} & 550 \\ & \text { Volts } \end{aligned}$ |  |
| 1/4 | 534.00 | \$34.00 | \$34.00 | \$42.00 | 342.00 | \$42.00 |  |  |  | 20 |
| 1/8 | 34.00 | 34.00 | 34.00 | 42.00 | 42.00 | 42.00 |  |  |  | 20 |
| $8 / 4$ | 36.00 | 34.00 | 34.00 | 44.00 | 42.00 | 42.00 | \$2200 | 848.00 | \$48.00 | 20 |
| $1 / 2$ | \$34.00 | 34.00 | 34.00 | 42.00 | 12.00 | 42.00 |  |  |  | 20 |
| 1 | 36.00 | 38.00 | 38.00 | 44.00 | 48.00 | 48.100 | 5200 | 52.10 | 52.00 | 25 |
| 2 | -40.00 | 40.00 | 40.00 | 48.00 | 48.00 | 48.00 | St, 00 | 56.00 | 53.00 | 25 |
| 3 | 40.00 | 44.00 | 48.00 | 48.00 | 52.00 | 54.00 | 5600 | 60.00 | 60.00 | 25 |
| 4 | . 22.00 | 44.00 | 48.00 | 60.00 | 52.60 | 50.10 | 180 | 60.00 | 60.00 | 25 |
| 5 | 52.00 | 44.00 | 48.00 | 80.00 | 52.00 | 56.00 | 68.00 | 60.00 | 64.30 | 35 |
| $71 / 2$ | 52.00 | 52.00 | 52.00 | 60.00 | $61) .10$ | 60.00 | 68.00 | 68.00 | 68.00 | 40 |
| 10 | 76.00 | 76.00 | 76.00 | 84.00 | 84.00 | 84.00 | 9210 | 92.00 | 92.00 | 45 |
| 15 | 104.00 | 190.00 | 100.00 | 116.00 | 108.00 | 112.00 | 12000 | 116.00 | 116.00 | 100 |
| 20 | 124.00 | 104.00 | 104.00 | 132.00 | 115.00 | 116.00 | 140.00 | 120.00 | 120.00 | 100 |
| 25 | 128.00 | 104.00 |  | 136.00 | 116. ${ }^{10}$ |  | 144.00 | 120.00 | . . . . . | 100 |
| 30 | 144.00 | 12800 |  | 156.00 | 133600 |  | 160.00 | 144.00 | $\cdots$ | 150 |
| 35 | 16400 | 136.00 |  | 172.00 | 144.00 | ...... | 180.00 | 148.00 | $\cdots \cdot \cdot \cdot$ | 150 |
| 40 |  | 144.00 |  | . . . . . | 152.00 | ...... | . . . . | 180.00 |  | 200 200 |
| 50 | . | 156.00 | $\ldots$ | ... . | 164. 16 | . . . . | ... . | 108.00 |  | 200 |

With low-voltage release only.
If overload release is desired in addition to low-voltage release, add $\$ 7.00$ list to above prices.
Ordering Directions: In ordering rheostats give H.P. rating and voltage of the motor.
If the rheostat is to be used with a W. E. motor, the order should be accompanied with thu complete wame plate rating of the motor. If the rheostat is to bis used with other than a W.E. motor the order should be acoompanied with advice as to the maximum shunt field current and the ohms nereaeary to insert in the field circuit to give the maximum speed increase.

In ordering rheostats with low-voltage and overioad release include, in uddition to above, the statement that the overload release is desired.

Delivery. F. O. B. Factory, Schenectady, N Y For warehouse deliveries write nearest houge.
Nots. Motor Agents, U.S Government and Maohine Manufacturers, cansuli. Specislist.

# Western Electric CONTROLLING DEVICES 

## FOR DIRECT CURRENT ADJUSTABLE SPEED MOTORS ARMATURE CONTROL-MACHINE SERVICE



CR-1220-Renewable Sément Type Speed Regulating Rheostat

## CR-1220 Speed Regulating Rheostats

CR-1220 speed regulators for machine service are designed to reduce the spced of the motor 50 per cent. from normal at full load by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating. These rhcostats should be installed with motors where the same amount of current is required at half speed as at full speed. CR1220 rheostats are equipped with renewable segments which may be easily replaced from the front of the rheostat should they become worn or pitted by frequent operation.

The retaining coil for low-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.
In the large sizes the motor circuit is made and broken by a contactor and not on the switch contacts, thus preventing arcing and subsequent burning of these contacts. A rugged knife-blade type of switch is used, with segnents that can be renewed if desired, but this is seldon necessary, as all arcing is handled by the coatactor, which is provided with a strong magnetic blowout, and all parts liable to wear are renewable. The switch is interlocked with the contactor, so as to provide low-voltage protection.

With Overload Release
These rheostats can be furnished with an overload release, which in case of overload will short circuit the low-voltage protective coil.

| $\begin{gathered} \text { H.p. } \\ \text { of } \\ \text { Motor } \end{gathered}$ | 115 Volta |  |  | 230 Voits |  |  | 550 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ${ }_{\text {List }}^{\text {No }}$ |  | $\begin{aligned} & \text { Approx. } \\ & \text { Ship. } \\ & \text { Wt. } \end{aligned}$ | $\xrightarrow{\text { I.ist }}$ No. | $\underset{\substack{\text { List } \\ \text { Price }}}{\text { Ler }}$ | $\begin{aligned} & \text { Approx. } \\ & \text { Stp. } \\ & W_{t} . \end{aligned}$ | ¢. ${ }_{\text {L.st }}^{\text {No. }}$ | ${ }_{\substack{\text { List } \\ \text { Price }}}^{\substack{\text { a }}}$ | $\begin{aligned} & \text { Appror. } \\ & \text { Ship. } \\ & \text { W.t. } \end{aligned}$ |
|  | 59209 | \$2400 | 30 | ${ }_{50216}$ | ${ }^{\mathbf{2} 24.40)}$ | 30 | 89225 | \$25.00) | 30 |
| \% | 59211 | ${ }^{28} 8200$ | ${ }_{47}^{35}$ | ${ }_{59218}^{59217}$ | 28.00 32.00 | 35 47 | ${ }_{59227}^{59226}$ | - $38 .(0)$ | 35 47 |
| ${ }^{18}$ | ${ }_{59212}$ | 34.1010 | 47 | 599219 | $34 .(0)$ | 47 | 59228 | 36.00 | 47 |
| ${ }_{3}^{2}$ | ${ }_{599214}^{59213}$ | +48.00 | ${ }_{12}{ }^{2}$ | ${ }_{5921}^{59220}$ | ${ }^{45} 50$ | ${ }_{82}^{82}$ | ${ }_{599239}^{5929}$ | 48.00 | 82 |
| ${ }_{8}^{3}$ | 59214 | 56.00 | 112 120 | 59221 | ${ }^{56} 600$ | 112 120 120 | +59230 | ${ }_{7}^{56.00}$ | 112 120 |
| $81 / 2$ | ${ }_{144787}^{100818}$ | ${ }_{92}$ | ${ }_{335}^{120}$ | 144798 | 96.00 | 325 | 144813 | 104.00 | 330 |
| $10^{1 /}$ | 144788 | ${ }^{160} 000$ | 335 | 144799 | 104.00 | 325 | 144814 | 116.00 |  |
| 15 20 | +144789 | 1.56 .00 <br> 8.20 .00 <br> 200 | 500 500 | 1448800 148801 | 128.00 176.00 | 500 500 | 144815 <br> 144816 | 156.00 164.00 | 515 515 |
| ${ }_{25}^{20}$ | * 144791 | \% 69.100 | 770 | 144802 | 220000 | 740 780 | ${ }^{1} 144817$ | 232.00 | 650 |
| 30 | ${ }_{*}^{*} 144792$ | 3332.04 | 870 | ${ }^{*} 144803$ | ${ }^{264.00)}$ | 770 | ${ }_{*}^{*} 144818$ | 264.0) | 650 |
| 35 | ${ }_{*}^{*} 14479793$ |  |  | *144804 | ${ }_{\substack{3}}^{308.00)}$ |  | ${ }_{*}^{*}{ }_{1}{ }^{144819}$ | 276.00 | ${ }^{650}$ |
| ${ }_{45}^{40}$ | ${ }^{*} 144794$ | 352.00 | 1200 | $* 144805$ ${ }_{*}^{144806}$ | $3.44 .(0)$ 408 (1) | 1200 <br> 1250 <br> 120 | ${ }_{* 144821}^{*}$ | ${ }^{332.04}$ | 1100 |
| 50 |  |  |  | * 144807 | $4420.10)$ | ${ }_{1250}$ | ${ }_{* 144822}$ | - | 200 |
| 60 | ${ }^{+}+144796$ | 6,40.(0) | 1600 | ${ }^{+}{ }_{1} 448808$ | 440.10 | 1250 | ${ }^{+14448823}$ | 376.00) | 1250 |
| 75 | ${ }^{1 * 144797}$ | 648.00 | 1700 | ${ }^{+} \times 144809$ | 572.00 | 1300 | ${ }^{+144824}$ | 396.00) | 1250 |
| 100 |  |  |  | ${ }_{\substack{+144810}}^{+1481}$ | 774.100 | ${ }^{17200}$ | ${ }_{\text {\% }}$ | 52880 | 1300 |
| 125 150 150 |  |  |  | ${ }_{\substack{\text { + } \\+14448811}}$ | 904.00 <br> 968 <br> 000 |  |  |  | 13700 |
| 150 200 |  |  |  | ${ }^{\mathrm{r} * 144812}$ | 968.00 | 2250 | $\underset{\substack{\dagger * 144827 \\+144828}}{\substack{\text { a }}}$ | (860.(4) | 1700 2800 |
| 250 |  |  |  |  |  |  | ${ }^{+144829}$ | 123000 | ${ }_{3000}$ |

[^4]
## Overload Release

If overload release is desired in addition to low-voltage protection, add $\$ 7.00$ list to above prices fcr sizes up to and including 15 H.P., 115 volts; 25 H.P., 230 volts, and 20 H. P., 530 volts. For overload release on larger sizes prices will be furnished on application.

## ORDERING DIRECTIONS

Rheostats with low-voltage protection only should be ordered by List No.
Rheostats with low-voltage protection and overload release should not be ordered by List No., but order should give the H.P. and voltage of the motor with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# Western Electric CONTROLLING DEVICES 



CR-122I D.C. Speed Requlating Rheostat

# For Direct Current Adjustable Speed Motors 

## CR-1221 D.C. SPEED REGULATING RHEOSTATS

## Button Contacts-Armature Control-For Machine Service

CR-1221 Speed Regulating Rheostats for machine service are designed to reduce the speed of the motor 50 per cent. from normal at full load by inserting resistanee in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating. These rheostats shoukl be installed with motors where the same anount of current is required at half speed as at full speed

The retaining coil for low-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.

CR-1221 Rheostats are supplied with button contacts. If renewable segments are wanted, see CR-1220.

## With Overload Release

These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage protective coil.

| $\begin{aligned} & \text { H.P. } \\ & \text { of } \\ & \text { Motor } \end{aligned}$ | 115 Volts |  |  | 230 Volts |  |  | 550 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No., | List <br> Price | Approx. Ship. W. . | List No. | List Price | Approx. Ship. Wt. | List <br> No. | List Price | Approx. Ship. Wt. |
| 1/8 | 58314 | \$17.00 | 20 | 5832 b | \$17.00 | 20 | 58338 | \$17.00 | 20 |
| 1/4 | 58315 | 24.00 | 30 | 58327 | 24.00 | 30 | 58339 | 24.00 | 30 |
| 1/2 | 58316 | 24.00 | 35 | 5832.3 | 24.00 | 35 | 58340 | 24.00 | 35 |
| $3 / 4$ | 58317 | 26.00 | 47 | 58329 | 26.00 | 47 | 58341 | 26.00 | 47 |
| 1 | 58318 | 30.00 | 47 | 58331 | 31100 | 47 | 58342 | 30.00 | 47 |
| 2 | 58319 | 42.00 | 82 | 58331 | 42.00 | 82 | 58343 | 42.00 | 82 |
| 3 | 58320 | 52.00 | 112 | 58332 | 48.00 | 112 | 58344 | 48.00 | 112 |
| 5 | 100815 | 72.00 | 120 | 100815 | 68.00 | 120 | 100817 | 68.00 | 120 |
| $71 / 2$ |  |  |  | 144830 | 88.00 | 325 | 144832 | 100.00 | 300 |
| 10 |  |  |  | 144831 | 96.00 | 325 | 144833 | 104.00 | 300 |
| 15 |  |  |  |  |  |  | 144834 | 144.00 | 300 |

The above prices cover rheostats with low-valtage profection only.

## Overload Release

If overload release is desired in addition to law-voltage protection, add $\$ 7.00$ list to above prices.

## ORDERING DIRECTIONS

Rheostats with lnw-voltage protection only should be ordered by List No.
Rheostats with low-voltage protection and overload release should not be ordered by List No., but order should give the horse power rating and voltage of the motor with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# Western Electric controlling devices 

## For Direct Current Adjustable Speed Motors

CR-1225 Speed Regulating Rheostats for fan service are designed to reduce the speed of the motor 50 per cent. from normal, at full speed where the loul varies directly with the speed, by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating.

They should be specified for use with motors driving ventilating fans, small job presses, ice cream freezers, centrifugal pumps, etc.

Cl'-1225 Rheostats are supplied with button contacts. If renewable segments are wanted, see CR-1224.
The retaining coil for low-voltage protection is connected across the line in series with at high resistance and is, therefore, independent of the strength of the inotor field current. This permits the same rheostat to be used with either shunt, series or compound wound motors.

## With Overload Release

These rheostats can be furnished with an overload release which in case of overload will short circuit the low-voltage protective coil.

CR-1225 D.C. SPEED REGULATING RHEOSTATS
Button Contacts-Armature Control-For Fan Service

| H.P. of Motor | 115 Volts |  |  | 230 Volts |  |  | 550 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Approx. Ship. Wt. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Approx. Ship. W't. | List No. | List Price | Approx. Ship. Wt. |
| 1/8 | 59607 | \$17.00 | 20 | 59619 | \$17.00 | 20 | 59631 | \$17.06 | 20 |
| $1 / 4$ | 59608 | 24.010 | 30 | 59620 | 24.00 | 30 | 59632 | 24.00 | 30 |
| 1/2 | 59609 | 24.0 | 35 | $596 \div 1$ | 24.00 | 35 | 59633 | 24.00 | 35 |
| 8/4 | 59610 | 26.00 | 40 | 5962 | 26.00 | 40 | 59634 | 26.10 | 40 |
| 1 | 59611 | 80.00 | 40 | 59623 | 30.00 | 40) | 59635 | 30.00 | 40 |
| 2 | 59612 | 42.00 | 85 | 50624 | 42.00 | 85 | 59636 | 42.00 | 85 |
| 3 | 59613 | 50.00 | 110 | 59625 | 48.00 | 110 | 59637 | 48.00 | 100 |
| 5 | 100821 | 68.10 | 200 | 100822 | 68.00 | 200 | 100823 | 68.00 | 200 |
| $71 / 2$ |  |  |  | 144863 | 88.00 | 300 | 144865 | 100.00 | 300 |
| 10 |  |  |  | 144864 | 112.00 | 300 | 144866 | 120.00 | 300 |
| 15 |  |  |  |  |  |  | 144867 | 156.00 | 440 |

CR-1224 D.C. SPEED REGULATING RHEOSTATS
Renewable Segments-Armature Control-For Fan Service

| 1/4 | 59827 | \$24.00 | 30 | 59834 | \$24.00 | 30 | 59843 | \$25.00 | 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1 / 2$ | 59828 | 30.00 | 35 | 59835 | 28.00 | 35 | 50844 | 28.00 | 35 |
| 3/4 | 59829 | 32.00 | 40 | 59836 | 32.00 | 40 | 59845 | 34.00 | 40 |
| 1 | 59830 | 34.00 | 40 | 59837 | 34.00 | 40 | 59846 | 36.00 | 40 |
| 2 | 59831 | 48.00 | 85 | 59838 | 48.00 | 85 | 59847 | 48.00 | 85 |
| 3 | 59832 | 56.00 | 110 | 59839 | 56.00 | 110 | 59848 | 56.00 | 110 |
| 5 | 100824 | 72.00 | 200 | 100825 | 76.00 | 200 | 100826 | 72.00 | 200 |
| 7122 | 144835 | 76.00 | 375 | 144843 | 96.00 | 300 | 144853 | 104.00 | 300 |
| 10 | 144836 | 116.00 | 375 | 144844 | 120.00 | 300 | 144854 | 132.00 | 300 |
| 15 | 144837 | 156.00 | 480 | 144845 | 144.00 | 460 | 144855 | 168.00 | 440 |
| 20 | *144838 | 2 2, 6.00 | 550 | 144846 | 188.00 | 500 | 144856 | 176.00 | 500 |
| 25 | *144839 | 308.00 | 700 | 144847 | 212.00 | 780 | *144857 | 264.00 | 600 |
| 30 | *144840 | 352.00 | 740 | *144848 | 308.00 | 780 | *144858 | 264.00 | 650 |
| 35 | *144841 | 376.00 | 780 | *144849 | 352.00 | 780 | *144859 | 308.00 | 670 |
| 40 | *144842 | 396.00 | 1060 | * 144850 | $36-4.00$ | 1060 | *144860 | 3332.00 | 930 |
| 45 |  |  |  | *144851 | 408.00 | 1140 | *144861 | 364.00 | 930 |
| 50 |  |  |  | *144852 | 420.00 | 1200 | * 144862 | 376.00 | 930 |

*Rheostats equipped with contactor for making and breaking the armature circuit.
The above prices cover rheostats with low-voltage protection only.

## Overload Release

If overload release is desired, in addition to low-voltage protection, add $\$ 7.00$ list to above prices 1 or sizes up to and including 15 H.P. 115 volts, 25 H.P. 230 volts and 20 H.P. 550 volts. For overload release on larger sizes prices will be furnished on application.

## ORDERING DIRECTIONS

Rheostats with low-voltage protection only should be ordered by List No.
Rheostats with low-voltage protection and overload release should not be ordered by List No., but order should give the horse power rating and voltage of the motor, with the statement that the overload release is desired.

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

## Western Electric

## MOTOR STARTERS

CR-2301 Self-starters-Low-Voltage Protection


Type CR-2301

## Type CR-2301 Self-starters

The following prices cover the devices complete exclusive of float switch, pressure governor or switch for hand contact.

|  | 115 Volts |
| :---: | :---: |
| Tist | H.P. |
| No. | of Motor |
| 176099 | 1 or less |
| 176100 | 2 |
| 176101 | 3 |
| 194539 | 5 |


| CR-2301 |  |  |  |
| :---: | :---: | :---: | :---: |
|  | 230 Volts |  |  |
| List Price Earh | $\begin{aligned} & \text { List } \\ & \text { So. } \end{aligned}$ | H.P. of Motor | List Price Each |
| \$22.00 | 176102 | 1 or less | \$24.00 |
| 24.00 | 176103 | 2 | 26.00 |
| 24.00 | 176104 | 3 | 26.00 |
| 60.00 | 194540 | 5 | 60.00 |
|  | 194541 | 71/2 | 60.00 |
|  | 194512 | 10 | 72.00 |

CR-2302

| 194543 | 1 or less |
| :---: | :---: |
| 194544 | 2 |
| 194545 | 3 |
| 104546 | 5 |


| $\$ 34.00$ | 194547 |
| ---: | ---: |
| 36.00 | 194548 |
| 36.00 | 194549 |
| 74.00 | 194550 |
|  | 1945.51 |
|  | 194552 |


| 1 or less | $\$ 36.00$ |
| :---: | ---: |
| 2 | 36.00 |
| 3 | 36.00 |
| 5 | 76.00 |
| $71 / 2$ | 76.00 |
| 10 | 84.00 |

CR-2303
194553
194554
194555
194556

194563
194564
194565
194566
1 rr less
2
3
5

1 or less
2
3
5

| \$52.00 | 1945.57 | 1 or less | \$52.00 |
| :---: | :---: | :---: | :---: |
| 52.00 | 1945.58 | 2 | $55^{\text {5 }}$. 00 |
| 52.00 | 194559 | 3 | 56.00 |
| 92.00 | 194560 | 5 | 92.00 |
|  | 194561 | $71 / 2$ | 92.00 |
|  | 194562 | 10 | 100.00 |
| CR-2305 |  |  |  |
| \$56.00 | 194567 | 1 or less | \$60.00 |
| 60.00 | 194568 | 2 | 60.00 |
| 60.00 | 194569 | 3 | 60.00 |
| 100.00 | 194570 | 5 | 100.00 |
|  | 194571 | $71 / 2$ | 100.00 |
|  | 194578 | 10 | 108.00 |

$\dagger$ Note Carefully - Voltage Variation
All of the above starters are suitable only on circuits where the line voltage is never more than 10 per cent. lower or higher than the values given above.

CR-2302, CR-2303 and CR-2305 Self-starters are designed for use with motor-driven pumps where it is desired to automatically start and stop the motors depending upon a predetermined change in fluid level, fluid pressure or air pressure. They are, however, well suited to start and stop motors by hand control from points remote from the motor.

Delivery F. O. B. Factory.

## CR 9000 G. E. RESISTANCE UNITS



Form P Resistance Units


Form PM Resistance Units


Form PK
Resistance inits

## Type $P$ Resistance Units

In the construction of form I' resistance units, a lory 1 mperature coefficient resistance wire is wund on an asbestos tube making them non-fragik. After being wound the thbe is treated with ab speciat compound forming a couting inside and out, reinforcing the tube and imparting strength and solidity. A porcelain bushing is inserted in each end of the tube, the coating compomd cementing it in place. The unit when thorourhly baked results in a very efficient unit, the eoating boing a good conductor of heat; this produces uniform radiation.

Form P units are extensively used in sumal motor starting and controlling apparatus and for armature and field resistance. They are also used as permancht resistances to protect circuit breaker coils, and as series resistance in signal work, ete. The units are monnted in punched end frames hy means of porcelain bushings which insure good insulation from the frames.

Form PM units aresimilar to the lorm l', exeept that met allushings are ased in place of the poreelain.
The Form Pl' unit is a special type of the lorm P and fisused extensively in connertion with switchboard instruments. A sperial porechain hushing is used in this type and the loats are attached on the insible of the tube. They are enclosed in perforated metal casmgs, watapt then for switchbord mounting, which produes a neat apporance, and at the same time prowides good ventilation and protection.

List Prices and Data Forms P and PM Resistance Units
Capacity Rango Ohms lange Ampere Capacity

List Price
Size A. $5 \frac{1}{2}$ ins. long, 1 in . diameter, capheity: less than 500 olmons, 35 watts; 500 ohms and ahove, 15 watts.



Size B. $7 \frac{1}{2} \mathrm{ins}$. long, 1 in . diameter, capacity: less than 500 ohns, 50 watts; 500 ohms and above, 20 watts.


Size C. $111 / 2$ ins. long, 1 in . diameter, capacite: lese than 500 ohms, 80 watts; 500 ohms and above
30 watts.

From 200 to 450 From 0.63 to $0.421 \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots .$.
From 500 to 1800 From 0.24 to $0.12 \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots . .$.
From 4800 to 5000 From 0.08 to $0.0^{7} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots . .$.
Size D. 11 ins, long, 2 ins, diameter, capacity 175 watts.
From 0.25 to 450 From 26.5 to 0.62 . ......................... . . . . . . . . . . . . . . $\$ 2.1,0$
Size E. 22 ins. long, 2 ins. diameter, capacity wath wh
0.25
53.50

From From 22 to 10.5 ................................................ 2.50
From 10 to 30 From 10 , to 7.2 ........................................................ 2. 00

Size F. $71 / 2$ ins. long, 2 ins. diameter, capacity 11.5 watts.
From 0.25 to 450 From 21.4 to 0.5 ....................................... . . $\$ 1.60$
Note: Type Form PM units are the same as the prices of the Form $\overline{1}$ for the $A, \dot{B}$ and $\dot{C}$ sizes only.
When ordering specify exact ohms and ampere capasity desired.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliverixs write nearest house.


## Pressure and Vacuum Switches

The diaphragm pressurw and vachum switches are designed for the automatic control of elertric motors which drive phans: for hydrulic or pmemmatic water and vateum systems. They are positive in operation, and will open and thas it a predetermined pressure with no danger of the contacts stheking or "freezing."

The bottom of a ain or pan-shaped body casting is closed by a flexible phosphor-bronze diaphragm. The switeh mechannan is monted on top of this casting. As the position of the diaphragm is varied hy the internal pressurs, its motion is commumicated to the switch mechanism which in turn mases the switch contacts to open and elose when certain ranges of movement of the diaphragm are rearhed.

The switeh is of double-pole, quick-break construction and the current carrying parta are exceptionally rugged and are capable of heary overloads. The normal rating is 20 amperes at 110 voits and 10 amperes, 220 volts, either alternating or direct current.

Connecting mables are secured directly to stationary contacts elminating the necessity of floxible connection to movable parts of the switch.

The presure switeh is supported by the $3 / 3$ inch supply pipe, requiring no other lonedet or support.
The vacuum switch is rirovided with is feet for wall mounting.
Both the pressure and yacumm switehes can be provided with either glass or metif covers.
The range of a justment of each switch is given in the tabulation shown buthw. These valves are secured by tightening or locsoning the spring.

Hither glass or motal covers are furnished for all switehes, vacuma or prestare The I, ist Nos. cover switches with metal eovers. If a glass cover is reguired the ordar shombld ruad as followsone CIR 2925 (state var:umm or pressure) swit ch similar to Lisi No. (give No.) exept with glass cover.

## SALIENT FEATURES

A phosphor-bronze diaphragn is used which is practically indestructible.
The current-carrying parts of the double-pole switch are entirdy insulated from the mechanism.
The quick-break feature insures absolute rupture of all ares.
Switch mechanism is pesitive in its action and will not vary with operat ing pressure.
Auxiliary contacts prevent. swit ch contacts from burning.
Switching m oloaniam is totally enclosed.
These switches occany a comparatively small space and weirh very little.

| Lıst No. | *Rating | Standard Adjustment |  | Range of Adjustment |  |  |  | Approx. Shpg. Wt. | Jist <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Xinimum |  | Naximum |  |  |  |
|  |  | Closes | Opens | Closes | Opens | Closes | Opens |  |  |
| 99817 | Low pressure | 15) ibs. | 301 lb . | 5) lbi. | 20 lhs . | 25 ltas | 40 in | 35 | S37.40 |
| !99188 | ${ }^{\text {* }}$, ow presaro | (1) lbs. | 50) 1ts. | 20) lins. | 30) 11s. | (6) 11s. | 31116 | 3.5 | 37.40 |
| 09918 | Mexlimm pressure | 3511 s | 50 lbs . | 20 lins. | 3.7 ths. | 70 lbs . | 85. | 35 | 37.40 |
| 100:381 | Medium pressure | 30 lhs. | $3(0)$ lhes. | 2() lhs. | 40 lbs | (5.5 lbs. | 3\%) lis. | 35 | 37.40 |
| 09819 | Migh pressure. | 90 lhs . | 110 lbs. | 70) lbs. | (10) liss. | 110 lbs. | 1301125. | 35 | 37.40 |
| 191284 | liyh presurre. | 1,0) lbs. | $180 \mathrm{lbs}$. | 130) 1 ls s. | 160 13s. | $1-0 \mathrm{lbs}$ | 210 ilss . | 35 | $4 \mathrm{S}$. |
| 190382 | Vacuum ( 15 ins. of mercury) | $5 \mathrm{ins}$. | 15 ins. | 5 ins. | 15 ins. | $20 \mathrm{ins}$. | 30 ins. | 35 | 55.00 |

[^5]
## Western Electric FLOAT SWITCHES



Single Pole Float-Open Type


Totally Enclosed Float Switch with Cover in Place

## CR-2930 Single Pole Figat Switch

CR-2930 single pole float switches are used for remote control of automatic atarting rheostuts or panels together with the usual accessories, numely, float, chain pulleys and counterweight. for the automatic starting and stopping of motors when it is desired to maintain a predetermined water level on an open tank or reservoir system. The switch contacts are designed for handling pilot circuits for self-starters, or for controlling the main line circuits of sinall motors where the current does not exceed the values given in the table below.

| List No. | Description | Amperes Capacity <br> (A.C. or D.C.) | W'gt. Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 58971 | Single pole | $\left\{\begin{array}{r}15 \text { at } 110 / 125 \text { Volts } \\ 10 \text { at } 220 / 250 \text { Volts } \\ 5 \text { at } 500 / 550 . \text { Volts }\end{array}\right\}$ | 20 | \$14.00 |
| 58972 | Double Pole | $\left\{\begin{array}{l} 20 \text { at } 110 / 125 \text { Volts } \\ 15 \text { at } 200 / 250 \text { Volts } \\ 10 \text { at } 500 / 550 \text { Volts } \end{array}\right\}$ | 45 | 22.00 |

Accessories for Use with the Above Float Switches
ist No.
38973
1 copper cylindrical float; 2 pulleys; 15 feet brass chain; 1 counterweight.
List Price
These copper cylindrical float; 2 pulleys; 15 feet brass chain; 1 comnterweight..................................... $\$ 17$. 60 In this case a CR-2920 pressure governor should be installed.

## CR-2931 Totally Enclosed Float Switches

## For Use as Either Tank or Sump Switches

CR-2931 enclosed switches are weatherproof and are suitable for tank or sump awitches, in the case of the latter, it only being necessary to change the lever or the float from the right to the left side of the switch.

The switches are enclosed in a cast iron case armaged for 11/4inch conduit which enters at the top. The lower half of the case is removable for making connections and inspection.

All sizes are suitable for 30 a mperes, either alternating or direct current, up to 550 volts, when convected in a motor circuit and are also suitable for all control circuits.

To eliminate all arcing and burning of the contacts, the switch is arranged for quick breaking. This snap action is accomplished by means of a counterweight.

| List No. | Form | No. of Po.es | $\underset{\substack{\text { W.bt. } \\ \text { J.bs. }}}{\text { nen }}$ | List Price | Jist No. | Form! | No. of Poles | Wgt. Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 141636 | A | S.P. | 40 | \$46.00 | 141644 | C | S.P. | 75 | 8.56 .00 |
| 141637 | A | I).P. | 40 | 48.00 | 141645 | C | D.P. | 75 | 58.00 |
| 141638 | A | T.P. | 65 | 5800 | 141646 | C | T.P. | 100 | (88.00) |
| 141639 | A | 4 P | 65 | 80.00 | 141647 | C | 4 P | 100 | 70.00 |
| 141640 | B | S.P. | 75 | 52.00 | 141648 | D | S.P. | 65 | i8. 00 |
| 141641 | B | D.P. | 75 | 24.010 | 141649 | D | D.P. | 65 | 60.00 |
| 141642 | B | T.P. | 100 | 64.00 | 141650 | D | T.P. | 90 | 70.00 |
| 141643 | B | 4 P . | 100 | 16.00 | 141651 | D | 4 P . | 90 | 72.00 |

[^6]
# Western Electric FIELD RHEOSTATS <br> For Direct Current Generators <br> CR-8000 AND CR-8001 D.C. FIELD RHEOSTATS <br> For Front and Back of the Board Mounting Plate Type-Hand-Operated 

## CONSTRUCTION

In the construction of CR-800n and CR-8(0)1 ficld rheostats resistance coils of negligible temperature co-efficient are imbedded and held in place in a special cement, which is a particularly good heat conductor and clectrie insulator. As shown by Figure 1, the contact buttons are circular and are spaced a sufficient distance apart to prevent dirt or dust from accumulating and short cireuiting them.


Fis. 1
CR-8000 Field Rheostats for Mounting in Front of Switchboard Pancl

## HANDWHEELS

In order to conform to the present stardard switchoard practice, that is, of having instruments and fittings on the front of the hoard of a black finish, the standard handwheres supplied with these rheostats are of : highly polishod back material, theroy adding greatly to the abmenamme the rheostats, as well as furnishing a bleasing effegt when mounted on the switchboard pance.

A polished brass handwheel can be supplied if necessary.


Fig. 2
(SK-sool Field Rheostats for Mournting on Back of Switchboaral Panel

## DRILLING TEMPLATES

In order to facilitate the drilling of switchboard pancls on which these rheastats are to be mounted, drilling tomplates are always forwarded with the rheostats when they are shipped.


#### Abstract

RESISTANCE The resistance material used in field rheostats is an alloy which has a negligible temperature co-efficient, and which will not disintegrate under constant use. Hence the rheostats maintain constant resistance when in service. Attention is called to the large number of livisions of resistance in this line of field rheostats. It will be noted that the 1 (-inch plates have 35 divisions of resistance, the 12 -inch plates have 50 divisions of reststanee, and the 15 -inch plates have 70 divisions of resistance. The advantages obtained by having a large number of divisions of resistance are evident. that is. the operator can maintain a very even generator voliage or accurately adjust the speed of motors when the rheostats are used for this purpose.

See following page for prices.


# D.C. FIELD RHEOSTATS <br> (CONTINUED) <br> For Direct Current Generators <br> CR-8000 AND CR-8001 D.C. FIELD RHEOSTATS 



|  |  | 3010 | 1 | 5 | 1 | 10 | \$11.00 |  | \$15.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 43620 | 43621 | 240 | 1.25 | . 63 | 1 | 10 | 11.00 |  | 15.00 |
| 43622 | 43623 43625 | 240 200 | 1.5 | . 75 | 1 | 10 | 11.00 |  | 15.00 |
| 43624 | 43625 43627 | 200 150 | $2{ }^{1}$ | $1^{.75}$ | 1 | 10 | 11.00 |  | 15.00 |
| 43626 | 43627 43620 | 100 120 | $\stackrel{2}{2} .5$ | 125 | 1 | 12 | 15.00 |  | 20.00 |
| 43628 | 43629 43631 | 120 100 | 3.3 | 1.5 | 1 | - 12 | 15.00 |  | 20.00 |
| 43630 43632 | 43631 436.33 | 100 75 | 4 | $2{ }^{-}$ | 1 | 12 | 1500 |  | 20.00 |
| 43632 | 436.33 43635 | 65) | 5 | 2.5 | 1 | 15 | 19.00 |  | 24.00 |
| 43634 | $4363 \%$ 43637 | 48 | 6.3 | 3.2 | 1 | 15 | 19.00 |  | 24.00 |
| 43636 | 43639 | 37.5 | 8 | 4 | 2 | 12 | 28.00 |  | 34.00 |
| 43838 43640 | 43637 43641 |  | 10 | i | 2 | 15 | 3400 |  | 38.00 |
| 43640 43642 | $436+1$ 4364.3 | 25 | 12.5 | 6.3 | 2 | 15 | 34.00 |  | 38.00 |
| 43642 43644 | 43645 | 20 | 15 | 7.5 | 3 | 15 | 52.00 |  | 56.00 |
| 43646 | 43647 | 15 | $20)$ | 10 | 4 | 15 | 68.00 |  | 72.00 |
| 43648 | 43649 | 12 | 25 | 12.5 | \% | 15 | 84.00 10000 |  | 92.00 104.00 |
| 43650 | 43651 | 10 | 30 | 15 | 6 | 1.$)$ | 100.00 |  | 104.00 |



The above prices cover rheostats with black polished handwherlo with CR-8001 back of panel field rheostats instead of A polished cast braswhel at anditional list price of $\$ 1320$
the polished black handwheel, at an additional ist price of \$1, DIRECTIONS
Rheostats should be ordered by Yist No. If front of the board mounting is wanted, patl for (:R-Soo0. If back of the board mounting is wanted, call for CR-8(M)I.

Delivery F. O. B. Factory, Schenectady, N. Y. For warchouse deliveries write nearest house.


Large number of sizes standardized.
Rheostats have been desigred for use where it is desired to charge Edison batteries above their normal rate. The resistance is so proportioned that any charging rate from double normal to normal may be obtained.

CR-9200 Battery Charging Rheostats

| I,ist No. | $\begin{gathered} \text { Typ }{ }^{\mu^{2}} \text { of } \\ \text { iflls } \end{gathered}$ | $\underset{\substack{\text { No. of } \\ \text { ens }}}{ }$ | Resistanoe |  | Charging Amperos |  | No. of stips | Ayprox. Nhip. Wt. in 1 )s. | $\begin{aligned} & \text { List } \\ & \text { Pric'e } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | J'0rmantent | 'I'otal | start | Vinish |  |  |  |

FOR CHARGING AT NORMAL RATE ONLY

| 125953 | -rad | 12-18 | 3.6 | 17.0 | 15 | 5 | 15 | 1.14 | \$ 810.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 125054 | I'ud | 1\%-1s | 2.75 | 17.0 | 20 | it | 15) | 140 | 72.100 |
| 125955 | Ifad | 20-28 | 1.85 | 13.0 | 20 | 5 | 15 | 1.10 | 72.00 |
| $125.45 \%$ | Jatad | 20-28 | 1.7 | 9.0 | 25 | S | 1.5 | 1.14) | 78.00 |
| $12595 \%$ | Seind | 3()-36 | . 46 | 4.0 | 30) | 11 | 15 | 180) | (\%6.00) |
| 125958 | Jeard | 3(1)-36 | . 4 | 4.0 | 40 | 111 | 1.5 | 160 | [16.00 |
| 125459 | Sucal | 37-40 | . 34.5 | 2.6 | 30) | 10 | 15 | 171) | 10.0) 0 |
| $1254+(0)$ | Iead | 37-40 | $\therefore 24$ | 2.6 | 40 | 11 | 3 j | 1 MO | 60.00 |
|  | If:ad | 41-44 |  | 1.3 | 311 | 10 | 1.5 | 1(i) | 52.00 |
| $125!+6$ | Exald | 41-44 |  | 1.5 | 41 | 111 | 15 | 1163 | 52.00 |
| 125) +4.03 | 1.and | +1-44 |  | 1.28 | S0 | 12 | 1.5 | 1160 | (0). 00 |
| 125\% 4.4 | lead | 414 |  | 1. ${ }^{1}$ |  | 15 | 11 | $161)$ | 60.00 |
| $125.1(6)$ | Falinon A-4 | 2040 | . | 28 | 30 | $31)$ | 1.5 | 170 | 62.00 |
| 125066 | Frioson A-4 | 4480 |  | 1.7 | 311 | :30) | 1.5 | 150 | 56.00 |
| $1254+6$ | Feli=on A-6 | 2014 | . 64 | 2.0 | 45 | 45 | 15 | 170 | 58.00 |
| 1251968 | Fidison A-6 | 4180 |  | 1.2 | 4.3 | 45 | 15) | 1 (if) | 52.00 |
| 125469 | Fdicon A-8 | 2032 | . 68 | 1.4 | (i) | (1) | 14 | 181 | 72.00 |
| 12.59\% | GJison A-8 | 3fi-44 | .44 | 1.0 | 60 | fil | 14 | 170 | 62.00 |
| 12.50:1 | Edison A-8 | $48 \quad 60$ | , 1. | . 72 | (i) | 10 | 1.1 | 1 (i) | 60.00 |
| 127052 | Folinon A-10 | 20) 32 | . 60 | 1.17 | 75 | 75 | 10 | $1 \times 0$ | 92.00 |
| 12705.3 | FAlison A-10 | 3644 | .36 | . 81 | 75 | 8 | 111 | 180 | 82.00 |
| 127()F4 | Edison A-10 | 48-60 |  | . 60 | 75 | 75 | 111 | 170 | 72.00 |
| 1270515 | Indison A-12 | 20-32 | . 56 | .96 | (1) | 90) | 111 | 185 | 92.00 |
| 1270:6 | Edicon A-12 | 36-44 |  | . 68 | (1) | 910 | 119 | 180 | 82.00 |
| 127057 | Erlison A-12 | $48-60$ |  | 48 | (10) | 110 | 10) | 170 | 74.00 |

FOR CHARGING AT EITHER NORMAL OR DOUBLE NORMAL RATE
Private Garage

| 1346015 | Eaison $A-4$ | 60 |  | . 515 | 60 | 31) | 11 | 1.50 | \$58.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 134606 | Fdison A-6 | 60 |  | . 34 | 90 | 45 | 1.1 | 175 | 58.00 |
| 1341617 | Frlison A-8 | 60 |  | . 26 | 120 | 6) | 10) | 175 | 82,00 |
| 157718 | Edison A-10 | 60 |  | . 28 | 150 | 5 | 14 | 180 | 100,00 |
| 157719 | Frison A-12 | $(6)$ |  | , 25\% | 180 | (11) | 1.) | 180 | 1196.00) |

Public Garage

| 157720 | Fidison A-4, 6, 8 , | 60 |  | . 536 | 180 | 30 | 17 | 190 | \$106.0才 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 134611 | Edison $A-1,6,8$ | 60 |  | . 6.3 | 1213 | 31) | 111 | 200 | 88.00 |
| 149967 | Edisın A-8, L), 12 | 60 |  | , 2(3.) | 180 | (6) | 111 | 180 | 94.00 |
| 157721 | $\mid$ Edisun $\mathrm{A}-10,12$ | 60 |  | . 235 | 180 | 75 | 1.5 | 180 | 114.00 |

[^7]
## C-H. MOTOR STARTERS



No. 9110 A. C. Single Phase Motor Starter A.C. Single Phase Motor Starters
Without Automatic No-voltage Release No. 9110

| A.C. Single Phase Motor Starters Without Automatic No-voltage Release No. 9110 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H.1. | For 25 and 60 Cycle |  |  | For 133 Cycle |  |  |  |
|  | 110 Polts List Price | Style | 220 Volts List Price | Style | 440-5.50 Volts I.ist Price | Style | $\begin{aligned} & \text { I.hs } \\ & \text { Boxed } \end{aligned}$ |
|  | \$20.80 | A | \$24.00 | A | \$28.s0 | B | 50 |
| 2 | 22.40 | A | 24.00 | A | 28.80 | B | 50 |
| 3 | 30.40 | 13 | 24.00 | A | 39.40 | B | 50 |
| 4 | 32.00 | 13 | 32.00 | 13 | 30.40 | I | 50 |
| 5 | 33.60 | 13 | 32.00 | 13 | 32.00 | 13 | 50 |
| $7{ }^{1}$ | 44.80 | C | 35.20 | 13 | 33.60 | I | 50 |
| 10 | 46.40 | C | 36.80 | 13 | 35.20 | B | 50 |
| 121/2 | 51.20 | C | 48.00 | C | 54.40 | CD | 100 |
| 15 | 83.20 | D | 51.20 | C | 56.00 | CD | 100 |
| 20 | 83.20 | I) | (60) 80 | OD | 59.20 | CD | 100 |
| 25 |  |  | 60.80 | (I) | 59.20 | CD | 100 |
| 30 |  | $\cdots$ | 83.20 | $1)$ | 88.00 | D | 125 |
| 35 |  |  | 83.20 | D | 94.40 | D | 12.5 |
| 40 | .... | . | $8: 3.20$ | 1) | 99.20 | D | 125 |

On 25 and 60 cycle starters ;nly the no-voltage release feature can be supplied at the following prices:

| Type A. | \$11.20 list | Type CD. . . . . . . . . . . . . . . . . . . . . . . $\$ 11.20$ list |
| :---: | :---: | :---: |
| Type B | 11.20 list | Type D. . . . . . . . . . . . . . . . . . . . . . . . . . 11.20 iist |
| Type C. | 11.20 list |  |

The motor starting rheostat listed is designed for use with single phase self-startung motors operating on either a 110 volt circuit of 60 or 133 cycles. or or. a 220 volt circuit of the sane frequencies.

The resistance used is of the ventilated tubular type, and is so arranged as to eliminate the effect of inductance and consequently to provide the highest possible power fractor obtainable in starters of this type.
FOR ALTERNATING CURRENT MOTORS

## No. 9110



No. 3110 Speed Regulator. No-Voltage Release
共 Type
D.C. Motor Speed Regulators, with No-voltage Release

No. 3110


Delivery F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

## C-H. SPEED REGULATORS

 FOR ALTERNATING CURRENT MOTORS

6 Inch Speed Regulator


No. 9320 A. C. Polyphase
Motor Speed Regulator

## 6 Inch Speed Regulator-D. C.

These 6-inch Speed Regulators are for use as a means of varying the speed of small motors, such as are now employed for operating small blowers, fans, buffers, adding and copying machines, jewelers' and dentists' lathes and drills, sewing nachines, washing machines, etc.

The operation is by means of a simple sliding lever, seven contacts being provided. If the first contact is an "off" or open point, the motor will be started on the second contact, giving six running positions. Without an "off" point there are seven running positions with six possible speed changes. The resistance is moisture-proof and dust-proof, the resistor wire being wound on a flat porcelain core and imbedded in a special eement.

These devices are also used as field regulators, dimmers for lighting circuits, heating coil regulators, in connection with plating baths, etc.

The limitations in standard design are as follows: Maximum watt capanity, 125. Maximum resistance per step, 150 ohms. Maximum amperes, 10. Maximum voltage of circuit, 250 . Net weight, 3 pounds. Diameter 6 inches. Height of casting $15 / 8$ inches.

Resistances higher than 150 ohms per step furnished at advanced price.
List Price
Each
6-inch Speed Regulator, $2_{0}^{1}$ H.P., $\frac{1}{16}$ H.P., $1^{\dagger}$ H.P., $1 / 8$ H.P., $\frac{1}{1}$ H.P., and $1 / 6$ H.P......... $\$ 3.72$ When ordering sperify size and voltage desired and whether for componnd ur machine type load.

SPEED REGULATORS FOR ALTERNATING CURRENT SLIP RING MOTORS No. 9320


Note: Full load rotor current per ring must not exceed: 6 amperes for plate type or 20 amperes for type (A), for 280 volts; 40 amperes for type (AB), for 320 volts; 75 amperes for type ( $B$ ), for 320 volts; 150 amperes for type (C), for 400 volts.

Delivery: F. O. B. Factory, Milwaukee, Wis. For warehouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS



200 Amperes, 250 Volts, Without Barrier


200 Amperes, 500 Volis, 1)P Inderload

Type C, Form G, Carbon Break-Direct Current-Overload
liecommented cor small panels for motor control, meroury rectifiers, ete.
Single Pole, 500 Volts or Less

| Ampere (apaity | -----Calihration------m |  | $\begin{aligned} & \text { Fron } \\ & \text { Conterled } \\ & \text { on Rase } \end{aligned}$ | liack <br> Connected for $1 t_{2}$ In. or 2 In Panel | List Prise Fach |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Minimum | Maximum |  |  |  |
| 3 | 1.5 | 5 | $39 \times(14)$ | 39911 | \$28.80 |
| 5 | 3 | $\therefore$ | 39090:3 | 3 3917 | $2 \times .80$ |
| 10 | 5 | 1\% | 39907 | 39919 | $2 \times \times 0$ |
| 1i1 | 10 | 25 | $3.5+83$ | 35\%07 | 28.80 |
| $2 \%$ | 1.5 | 40 | 3 4 48 | 35511 | $2 \times .80$ |
| 51 | 25 | 75 | 3 C 491 | 35.515 | 28.80 |
| 100 | 50 | 150 | 35495 | 35.10 | 28.80 |
| ? 61 | 100 | 300 | 3.5499 | 35.523 | 43.20 |
| 3010 | 200 | 450 | 35\%\% 3 | 35527 | 48.00 |
| Double Pole, 500 Volts |  |  |  |  |  |
| 8 | 1.5 | 5 | 3!9! | 39912 | \$45.60 |
| 5 | 3 | 8 | 39904 | 39914 | 45.60 |
| 10 | 5 | 15 | $3090 \times$ | 39920 | 45.60 |
| 15 | 10 | 25 | 33544 | $3 \overline{505}$ | 45.60 |
| 25 | 15 | 40 | 35.180 | 35.512 | 45. (in) |
| 50 | 25 | 75 | 3 S 418 | 35.514 | 45.60 |
| 100 | 50 | 150 | $3 \mathrm{~S}+4 \mathrm{x}$ | 35520 | 45.60 |
| 200 | 100 | 300 | 35.500 | 335524 | 69.60 |
| 30\%) | 200) | 450 | 35501 | 35528 | 76.80 |

Direct Current-Underload
Single Pole, 550 Valts or Less
Double Pole, 550 Volts


Note: Ampere capacity denotes the load that the breaker will carry contimously at 3f) degrees C. rise or less. Underload breakers can be set to trip betwern the minimum limit of 10 per cent and the minimum limit of 20 per cent. of their carrying capacity.

Delivery F. O. B. Factory, Schenectady. N Y. For warehouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS

## Type C, Form G, Carbon Break

ALTERNATING CURRENT-PLAIN SHUNT TRIP
With Circuit Opening Auxiliary Switch
Single Pole, 600 Volts or Less


Direct and Alternating Current Attachments-Auxiliary Switches

| Circuit Closin |  | Circuit Opening |  | ```Combined Circuit Opening and Circuit Closing``` |  | Am. <br> Cap. of Circuit Braker | For Mounting on |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price Each | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price <br> Each |  |  |
| 37.553 | 815010 | 37547 | 86.00 | 37559 | 88.40 | 3-100 | $11+\mathrm{in}$. Buse |
| 37554 | b. 00 | 375.4 | 4,00) | 37560 | S.40 | 3-100 | $11 / 2 \mathrm{in} .1 \mathrm{lancl}$ |
| 37555 | ti. 00 | 37.449 | (i. 00 | 37561 | 8.40 | 3-100 | 2 in. l'ancl |
| 37556 | 6.00 | 37550 | (i. 00 | 37562 | 8.40 | 200-30) | 11/2in. Base |
| 37557 | 6.00 | 37.551 | ti. 00 | 37563 | 8.40 | 200-300 | $11 / 2 \mathrm{in}$. Panel |
| 37558 | 6.00 | 375.52 | (i) 00 | 37564 | 8.40 | 200-300) | 2 in. Janel |

$\dagger$ Shunt Trip Aitachments

List No. Attachment
37545
37546

|  | Description of <br> Circuit Breakers | List |
| ---: | ---: | ---: |
| Ampere |  | Price |
| Capacity | Poles | Each |
| $3-100$ | Single and Double | $\$!.60$ |
| $200-300$ | Single and Double | $\mathbf{9 . 6 0}$ |

## *Under Voltage Release Attachments

| -. Altornating Current- |  | Direct Current- |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | List |  | List | Voltage | Approx. | Jescription | of C'ircuit Breakers- |
| Attach- | l'rice | I, ist | Price | of | Relcasing | Ampere |  |
| ment | Each | No. | Each | Circuit | Voltage | Capacity | Poles |
| 43378 | \$14.40 | 37539 | \$13.20 | 12.5 | 60 | 3-100 | Single and Double |
| 43381 | 14.40 | 3 3 512 | 13.20 | 12.5 | (i) | 200-300 | Single and Double |
| 43379 | 11.80 | 3750 | 15.60) | $2: 0$ | 125 | 3-100 | Single and Double |
| 433382 | 16.80 | 37513 | 15. ${ }^{\text {(i) }}$ | 2.0 | 12:5 | 200-300 | Singie and Double |
| 43:380 | 20. 40 | 37.51 | 19.20 | 500 (6:00) | 250 | 3-100 | Single and Double |
| 43383 | 20.40 | 3754 | 19.20 | 500 (60)0) | 250 | 200-300 | Single and Double |

*Release at one-half rated loal.
$\dagger$ Should be allowed to remain in circuit only momentarily.
Same attachments with either single or double pole breakers.
Only one pole (the right hand from the front) is tripped out by these attachments.
$\dagger \dagger$ List No. and list price includes circuit opening auxiliary switeh for opening shunt coil circuit.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries, write nearest house.

## G. E. CIRCUIT BREAKERS

## Type C, Form G, Carbon Break-Direct Current plain shunt trip, with circuit gening atixiliary switch <br> Single Pole, 550 Volts or Less

| Front | Back ('onnected |
| :---: | :---: |
| Connected | for 112 ln . or |
| on Base | 2 In. Panel |
| 110571 | 110358 |
| 110575 | 110587 |
| 110579 | 110591 |


| Ampere | --Approx | Ship. Wt., Lhs.- | $\underset{\text { Price }}{\text { List }}$ |
| :---: | :---: | :---: | :---: |
| Capacity | On Base | For l'anel | Each |
| 100 | 20 | 12 | \$28.80 |
| 200 | 32 | 20 | 43.20 |
| 300 | 32 | 20 | 48.00 |
| Double Pole, 500 Volts |  |  |  |
| 100 | 25) | 15 | \$45 60 |
| 2010 | 48 | 32 | 69.40 |
| 3110 | 4 | 32 | 76.80 |


| 110572 | 110584 | 100 |
| :---: | :---: | :---: |
| 110576 | 1105゙8 | 210 |
| 110580 | 110592 | 3110 |

## Type C, Form G, Carbon Breaker-Alternating Current

Single Pole, 600 Volts or Less


Triple Pole, 600 Volts, Two Overload Coils Only

| Triple Pole. 600 Volts, 25-40-60 Cycles, One Overload and One Under Voltage Coil |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  | Back |  |
| Front | Connected |  |
| ( onnected | for $11 / 2 \mathrm{l}$. | List |
| On | or 2 ln . | Price |
| Bas | Panel | Each |
| 46274 | 462s:3 | \$100.80 |
| 412275 | $4 t 2 \mathrm{Sat}$ | 100.80 |
| 41527 | 46285 | 100.80 |
| 3 SN 202 | 38220 | 100.80 |
| 3 S 20.3 | 38.21 | 100.80 |
| 38.204 | 3822 | 100.80 |
| 34.205 | 38223 | 100.80 |
| 3 SNOH | 38.29 | 158.40 |
| $38^{\prime 2} 07$ | 362? | 170.40 |

Note: Ampere capacity denotes the load that the brakers will carry eontimunsly at 30 degrees C. rise or less.

Use one overload noil on balanced circuits; two overloal coils on unbalanced "ireuits.
Delivery F. O. B. Factory, Schenectady, N. I. For warehouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS



Single l'ole, Overload, 650 Volts. 500 Amperes


Double Pole, Overload, 250 Volts, 1200 Amperes

## Type C, Form P, Carbon Break

## BACK CONNECTED DIRECT CURRENT-OVERLOAD

Recommenteat for genera! awitchboard work. Muin contuct brushes are protected by curbon and metal secoladaries. Contact uressure adjustable. Each breaker calibrated indivilually and has wide range of calibration, clearly marked. Double pole breakers, rach jole separate handle: triple pole breakets, ona handie for all poles and "trip-free" feature. Contact atuds und blockes drop forged in now pipon.

| - | Single Pole 650 Volts or Less |  |  |  |  | tDouble Pole-250 Volta (One Overload Coil) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Jist No. |  |  |  | . |  |  |  |
| * Anpere | Calıh | tiun | On 11/4 In. | $\text { For } 11 / 2 \text { In. }$ $\text { or } 21 \mathrm{ln} \text {. }$ | List Price | On 11/4 In. | $\begin{aligned} & \text { For } 11 / 2 \text { In. } \\ & \text { or } 2 \text { ln. } \end{aligned}$ | List Price |
| Capaxity | Minimum | Mnxitusa | Base | Panel | Eish | Base | Panel | Each |
| 15 | 10 | 25 | 36206 | 36233 | 857.90 | 36205 | 36232 | \$86.40 |
| 25 | 15 | 45 | 36209 | 36236 | 57.10 | 36208 | 36235 | 86.40 |
| 50 | 25 | 75 | 36212 | 36234 | 57.10 | 36211 | 36238 | 86.40 |
| 100 | 50 | 1.50 | . 36215 | 36242 | 37. 310 | 36214 | 36241 | 86.40 |
| 200 | $10{ }^{\prime}$ | 300 | . 36218 | 36245 | 72.01) | 36217 | 36244 | 108.00 |
| 300 | 200 | 450 | . 36221 | 36248 | 84.(1) | 36220 | 36247 | 132,00 |
| 500 | 306 | 750 | 36224 | 36251 | 110.40 | 36223 | 36250 | 177.60 |
| 600 | 400 | 901 | +113725 | 105731 | 134.40 | +105724 | 105730 | 216.00 |
| 800 | 500 | 1200 | + 36227 | 36254 | 151.20 | +36226 | - 36253 | 228.00 |
| 1000 | 600 | 1500 | +105728 | 105734 | 177.60 | +105727 | 105733 | 266.40 |
| 1200 | 800 | 1800 | + 36230 | 36257 | 204.00 | $\dagger 36229$ | 36256 | 307.20 |

-Double Pole, Double Coil, 250 Volts
List No.

| * Anpere | Calibration |  | tin $11 / 4 \mathrm{In}$. |
| :---: | :---: | :---: | :---: |
| Capacity | Minimum | Maxiznurn | Base |
| 15 | 10 | 25 | 107088 |
| 25 | 15 | 45 | 107089 |
| 50 | 25 | 75 | 107090 |
| 100 | 50 | 150 | 107091 |
| 200 | 100 | 300 | 107092 |
| 300 | 200 | 450 | 107093 |
| 500 | 300 | 750 | 107094 |
| 600 | 400 | 900 | †107095 |
| 800 | 500 | 1200 | †107096 |
| 1000 | 600 | 1500 | $\dagger 107097$ |
| 1200 | 800 | 1800 | †107098 |


| For $11 / 2$ In. | List Price |
| :---: | ---: |
| or 2 In. | Each |
| Panel | 3127.20 |
| 107099 | 127.20 |
| 107100 | 127.20 |
| 107101 | 127.20 |
| 107102 | 156.00 |
| 107103 | 180.00 |
| 107104 | 232.80 |
| 107105 | 280.80 |
| 107106 | 302.40 |
| 107107 | 355.20 |
| 107108 | 408.00 |
| 107109 |  |

## NUTS AND TERMINALS

List prices include complete equipment of nuts and terminals for each stud.

* Load which the breaker will carry continuoualy at 30 degraes C. rise or less.

4 Mounted on $11 / 2$ inch bsse.
$\$$ Double pole, 650 volt breakers, prices on apolication, atating requirements.
Underload breakers may teeset to trip between the limits of 10 per cent. aja 20 per cent. of their rated ampere capacity.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write neareat house.

## G. E. CIRCUIT BREAKERS

# Type C, Form P, Carbon Break-Direct Current-Underload BACK CONNECTED 



Double Pole, 250 Volts or Less

|  |  |  |
| :---: | :---: | ---: |
| On 11/4 In. <br> Base | For 1 $1 / 2$ In. or <br> 2 In. Panel | List Price <br> Each |
| 42075 | 42102 | $\$ 122.40$ |
| 42078 | 421015 | 122.40 |
| 42081 | 42108 | 122.40 |
| 42084 | 42111 | 122.40 |
| 42087 | 42114 | 144.00 |
| 42090 | 42117 | 168.00 |
| 42093 | 42120 | 213.60 |
| 107011 | 107017 | 252.00 |
| 42096 | 42123 | 264.00 |
| 107014 | 107020 | 302.40 |
| 42099 | 42126 | 342.20 |

## Overload and Underload-Direct Current

Single Pole, 650 Volts or Less-Back Connected Calibration_On $11 / 4 \mathrm{In}$ For or 2 In In.
Amp. Cap.

Note: No relays used. Both underload and overload coils are combined with the breakers.

## Direct Current-Plain Shunt Trip

Used with Circuit Closing Relays, Speed Limit Devices, Push Button Control, Etc.

Single Pole, 650 Volts or Less-Back Connected
Amp.
Cap.
100
200
300
500
600
800
1000
1200

| -_-List No.-_-_ |  | List |
| :---: | :---: | :---: |
| On $11 / 4 \mathrm{In}$. Base | For $11 / 21 \mathrm{n}$. or 2 In. Panel | Price Each |
| 107244 | 107268 | \$57.30 |
| 107247 | 107271 | 72.00 |
| 107250 | 107274 | 84.00 |
| 1072.53 | 107277 | 110.40 |
| 107256 | 107280 | 134.10 |
| 107259 | 107283 | 151.20 |
| 107262 | 1072si | 177.30 |
| 107265 | 107289 | 204.70 |

Double Pole, 250 Volts

Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse delivery write nearest house.

S. P. -500 Amperes, 6.50 Volts-Reverse Current

## Direct Current—†Reverse Current-Back Connected

Generally used for proterting gencrators, storage hatteries and like servied.
Reverse current feature does not operate on nverload. Potential moil only in circuit while breaker is being closed, reguires no exriting current in mormal operation.

Is independent of voltage in operation and, consequently, wot affered by low voltage conditions.

| *Ampere <br> ('apacity | Single Pole - 650 Volts or Less |  |  |  | Double Pole-250 Volts |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Calibration |  | List No. |  | Jist Price Whech | 1,ist No. |  | Iist <br> Price <br> Each |
|  |  |  | $\mathrm{On}_{\text {Base }} 1 \frac{1}{\mathrm{t}} \mathrm{In} .$ | $\begin{aligned} & \text { For } 1 \text { la } \operatorname{In} \text {. } \\ & \text { or } 2 \text { In. } \\ & \text { Panel } \end{aligned}$ |  | $\text { On } 11 / 4 \mathrm{In} \text {. }$ | ```For 11/2 In. or 2 ln. Panel``` |  |
|  | Minimum | Maximum |  |  |  |  |  |  |
| 15 |  |  | 107112 | 107145 |  | 107111 | 107144 | \$122.40 |
| 25 |  |  | 107115 | 107148 | (4: . 100 | 107114 | 107147 | 122.40 |
| 50 | 5\% | 20\% | 107118 | 107151 | (13. 80 | . 107117 | 107150 | 122.40 |
| 100 | of | of | 107121 | 107154 | 68.60 | 107120 | 107153 | 122.40 |
| 200 | Rated | lated | 107124 | 1071.37 | 1188.00 | 107123 | 107156 | 144.00 |
| 300 | Ampere | Ampere | 107127 | 107160 | 129.00 | 107126 | 107159 | 168.00 |
| 500 | Capacity | Capacity | 107130 | 107163 | 146.40 | 107129 | 107162 | 213.60 |
| 600 | on | on | $\dagger 107133$ | 107166 | 170.40 | †1071:32 | 107165 | 252.00 |
| 800 | Reversal | Reversal | $\dagger 107136$ | 107169 | 184.26 | $\dagger 107135$ | 117168 | 264.00 |
| 1000 |  |  | $\dagger 107139$ | 1071:2 | 218.90 | $\dagger 107138$ | 107171 | 302.41 |
| 1200 |  |  | $\dagger 107142$ | 107175 | 240.10 | $\dagger 107141$ | 107174 | 343.20 |

## Direct Current- $\ddagger$ Overload and Reverse Current-Back Connected

| 15 | 10 | 25 | 107178 | 10721.1 | \$124.80) | 107177 | 107210 | \$151.20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | 15 | 40 | 107181 | 107214 | 124.80 | 107180 | 107213 | 151.20 |
| 50 | 25 | 75 | 107184 | 107217 | 124.80 | 107183 | 107216 | 151.20 |
| 100 | 50 | 150 | 107187 | 107220 | 124.80 | 107186 | 107219 | 151.20 |
| 200 | 100 | 300 | 107190 | $1072 \times 3$ | 144.00 | 107189 | 107222 | 180.00 |
| 300 | 200 | 450 | 107193 | 1072 ${ }^{\text {a }}$ | 15,8. 10 | 107192 | 107225 | 204.00 |
| 500 | 300 | 750 | 107196 | 105299 | 185. 60 | 107195 | 107228 | 256.80 |
| 600 | 400 | 900 | $\dagger 107199$ | $1072 \times 2$ | 22\%,20 | $\dagger 107198$ | 107231 | 304.80 |
| 800 | 500 | 1200 | $\dagger 107202$ | 107235 | 264.00 | +107201 | 107234 | 338.40 |
| 1000 | 600 | 1500 | $\dagger 107205$ | 107238 | 30 c .40 | $\dagger 107204$ | 107237 | 391.20 |
| 1200 | 800 | 1800 | $\dagger 107208$ | 107241 | 34\%.20 | $\dagger 107207$ | 107240 | 444.00 |

## NUTS AND TERMINALS

List prices include complete equipment of nuts and terminals for cach stud,
*Load which the breaker will carry continuous'y at 30 degrees C. rise or less.
$\dagger$ Mounted on $11 / 2$ inch base.
$\ddagger$ Calibration of reverse current coil is from 5 por cent. to 20 per cent. of rated ampere capacicy on reversal.
$\dagger \dagger$ No overload coil, operates on reversal only.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest bouse.

## G. E. CIRCUIT BREAKERS

## Type C, Form P, Carbon Break



Triple Pole, Overload and Low Voltage Attachment

Back Connected
Alternating Current Overload Single Pole, 650 Volts or Less

| On $11 / 4 \mathrm{In}$. | For $11 / 2$ or 2 In. | List Price |
| :---: | :---: | :---: |
| l base | l'anel | Each |
| 40879 | 40906 | 864.80 |
| 408ぶ2 | 4090) | 64.80 |
| 40885 | 40912 | 64.80 |
| . 40888 | 40915 | (54.80 |
| 40891 | 40918 | 79.20 |
| 40804 | -40921 | 9:3. (3) |
| 4080\% | 40924 | 127.20 |
| *107334 | 107370 | 148.80 |
| * 4090) | 40927 | 168.00 |
| * 107 7.367 | 107:372 | 196.80 |
| * 409003 | 40930 | 216 |

Double Pole, 480 Volts or Less
Triple Pole, Two Overload Coils 650 Volts or Less

| Amp. | $\text { On } 1 \text { lase }$ |  | List Price E.ch | $\begin{gathered} \text { On } 11 / 4 \mathrm{l} \text { In. } \\ \text { lase } \end{gathered}$ | $\text { On } 11 / 2 \text { or } 2 \ln \text { Panel }$ | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 40578 | 40905 | \$9:3. (\%) | 60664 | 60791 | \$172.80 |
| 25 | 40s81 | 40908 | 93.60 | 130603 | 60792 | 172.80 |
| 50 | 40884 | 40911 | 93.60 | cobitix | 60793 | 172.80 |
| 100 | 40887 | 40914 | 923 | 60976 | 60797 | 199.20 |
| 200 | 40890 | 40917 | 120010 | 1077 | 60795 | 216.00 |
| $3!0$ | 40893 | 40920 | 14640 | 6075 | +60796 | 259.20 |
| 500 | 40896 | 4092:3 | 196.80 | 10)779 | 60797 | 357.69 |
| 600 | *107333 | 107369 | 24000 | *114640 | 114644 | 417.60 |
| 800 | * 40x99 | $\dagger+40926$ | 25.00 | * 60780 | $\dagger$ (60798 | 456.00 |
| 800 |  | $\dagger \dagger 40932$ | 252.00 |  | $\dagger \dagger$ 6234\% | 456.00 |
| 1000 | *1073tif | +107373 | 2959 | *114642 | 114646 | 532.80 |
| 1000 |  | $\dagger 1107374$ | 20.5 .20 |  | $\dagger \dagger 114648$ | 532.80 |
| 1300 | * $4090{ }^{2}$ | $\dagger 40929$ | 338.40 | * 60781 | 60799 | 609.60 |
| 1200 | ....... | $\dagger$ †40935 | 3388.40 |  | $\dagger \dagger(22348$ | 609.60 |

Alternating Current-Plain Shunt Trip Back Connected
$\ddagger$ Single Pole, 650 Volts or Less

| 114545 | $\$ 64.80$ | 114520 | 114544 | $\$ 93.60$ |
| ---: | ---: | ---: | ---: | ---: |
| 114548 | 79.20 | 11452.3 | 11454 | 120.00 |
| 114551 | 93.60 | 114526 | 114550 | 146.40 |
| 114554 | 127.20 | 114.529 | 114553 | 196.80 |
| 11.455 | 148.80 | $* 1145.52$ | 114556 | 240.00 |
| 114560 | 168.00 | 114535 | 114559 | 252.00 |
| 114563 | 196.80 | 114.538 | 114552 | 29.50 |
| 114566 | 225.60 | 114541 | 114565 | 338.40 |

Triple Pole, 65 Volts or Less

| Amp. | -_List Nos.--- |  | List Price Each | Amp. | _-_--List Nos.-_-_ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\text { On } 1 \frac{1 / 4}{4} \operatorname{In} .}{\substack{\text { Sese }}}$ | $\begin{gathered} \text { On } 1 \frac{1}{2} \text { or } 2 \ln . \\ \text { l'anel } \end{gathered}$ |  |  | $\begin{gathered} \text { On } 1 \frac{1}{1 / 4} \mathrm{In} . \\ \text { Base } \end{gathered}$ | $\text { On } 1 \frac{1}{\text { P'anel }} \text { or } 2 \ln \text {. }$ | List Price Each |
| 100 | 1146.50 | 114685 | \$158.40 | 600 | * $11+658$ | 114674 | \$357.60 |
| 200 | 114¢.022 | 114658 | 175.20 | 800 | *114660 | 114676 | 369.60 |
| 300 | 1146.54 | 114670 | 216.00 | 1000 | *114662 | 114678 | 432.00 |
| 500 | 114055 | 114672 | 304.80 | 1200 | *114604 | 114680 | 496.80 |

[^8]$\dagger \dagger$ For mounting on 2 inch panel only
operate on any direct current voltage ( 6,50 or less).
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS



Circuit Closing Switch


Combined Circuit Closing and Circuit Opening Switch


Circuit Opening Switch

## Type C, Form P, Carbon Break-Attachments Alternating and Direct Current

Shunt trip and low voltage release attachments where mounted on a standard multiple breaker trip out all poles.

Shunt trip should be comnected in circuit only momentarily.
Low voltages can be comentod in cirenit continuously. Always specify voltage so proper resistance can be supplied. law voltage releases at approximately one-half voltage.
$\dagger$ Shunt Trip Attachment

| Alternating | Diract | Voltage of Circuit | List Price Each | Used with Circuit Breakei: |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List No. of Attachment | List No. of Attachment |  |  | Ampere Capacity | Poles |
| 36267 | $\begin{aligned} & 36267 \\ & 36269 \end{aligned}$ | 650 or less. ti50 or lass. | $\begin{aligned} & \$ 12.00 \\ & 12.00 \end{aligned}$ | $\begin{array}{r} 15-600 \\ 800-1200 \end{array}$ | Single, Double, Triple Single |
| 43371 |  | 650 or leas. | 12.00 | 800-1200 | Single |
|  | 36268 | 250 or less. | 12.00 | 800-1200 | Double |
| 36268 |  | 650 or less. | 12.00 | 800-1200 | Double and Triple |

Approximate shipping weight, 10 pounds. †Should be left in eircuit only momentarily.

| Alternating Current | Direct Current | Voltage of Circuit | **List Price |  | Used with Circuit Breaker |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| **List No. of Attachment | **List No. of Attachment |  | . 1 Iternating Current | Direct Current | Ampere Capacity | Poles |
| 43362 | $3 \overline{6258}$ | 125 | \$19.20 | \$16.80 | 15-600 | Single and Double |
| 43363 | 36259 | 250 | 21.60 | 19.20 | 15-600 | Single and Double |
| 43364 | 36260 | 650 (480)* | 26.40 | 24.00 | 15-600 | Single and Double |
| 43368 | 36264 | 125..... | 19.20 | 18.00 | 800-1200 | Single |
| 43369 | 36265 | 250 | $\underline{21.60)}$ | 20.40 | 800-1200 | Single |
| 43370 | 36266 | 650 (480)* | 26.40 | 25.20 | 800-1200 | Single |
|  | 36261 | 125 |  | 16.80 | 800-1200 | Double |
|  | 36262 | 250 |  | 19.20 | 800-1200 | Double |
| 43365 |  | 125. | 19.20 | .... | 800-1200 | Double and Triple |
| 43366 |  | 250. | 21.60 |  | 800-1200 | Double and Triple |
| 43367 |  | (550 (480)* | 26.40 |  | 800-1200 | Double and Triple |

Approximate shipping weight, 15 pounds.
*For use on alternating current only at 480 volts. Attachments with 650 volt, 480 volt rating adjusted to release at approximately 240 volts. $\ddagger$ Releases at approximately one-half rated voltage. **Include series resiatance for low voltage coil.

Auxiliary Switches


Delivery F. O. B. Factory, Schenectady, N. Y. ror warenouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS



CK-2 Circuit Breaker, 650 Volts, 2000 Amperes


CK Circuit Breaker, 250 Volts, 2000 Amperes

$\dagger$ Type C, Form K—Double Pole, 480 Volts Type C, Form K-2—Double Pole, 650 Volts or Less

|  | 1000 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1500 | 1000 | 3000 | 1912301 (i-4 | \$858. 00 | 191.3311G-4 | \$672. 0 |
| 2000 | 1200 | 4001 | 191233:3 ${ }^{\text {a }}$-4 | 744.00 | $1912313 \mathrm{C}-4$ | +1148.00 |
| 3000 | 1500 | 6000) | 1012:305( -4 | 1032.0) | 1912315(4-4 | 1148.00 |

$4000 \quad 2000$ 10000

+Double pole, two coilbreakers, consist of two single pold overload breakers with mechanical interlock.


Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

## G. E. CIRCUIT BREAKERS DIRECT CURRENT-OVERLOAD


D. P., 2000 Amperes, 250 Volts, Type C., Form K

## Type C, Forms K and K-2, Carbon Break

Type C, Form K-Single Pole, 250 Volts Jist Yis

| An! <br> ('ny)it'- | ('ali | icm | $\begin{aligned} & \text { lor } \\ & \text { Mombtisk } \\ & \text { rin } 2 \text { 111. } \end{aligned}$ | $\begin{gathered} \text { For } \\ \text { N Mutine } \\ \text { ontgln. } \end{gathered}$ | $\begin{aligned} & \text { Liva } \\ & \text { I'riv! } \end{aligned}$ | $\begin{aligned} & \text { For } \\ & \text { Moushing } \\ & \text { wn } 2 \text { In. } \end{aligned}$ | For Mounting <br>  | $\begin{aligned} & \text { Jivet } \\ & \text { Irice } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ty | Nin. | Max. | l'anel | F'ciel | 1\%1号 | Panel | Panel | Hich |
| 1.500 | 1001 | 3000 | 1912301 Cl |  | \$2.32 (10) | 1412311 (1-1 |  | \$2ss. 100 |
| 210\% | 1240 | 4100 | 1912:30:3 ( $:-1$ | - | 321 ( 6 ) | 1912:31:3 (i-1 | - | 3(b). 10) |
| 30) 04 | 150) | tim00 | 1912:30.) ( $i-1$ | . - | 4.50 ( C$)$ | 1912:31.5 (i-1 |  | 50400 |
| 10) (1) | 2000 | 10000 | 1912:307 (i-1 |  | fiot 10 | 1!12:317 (i-1 |  | (6.48.0) 0 |
| 6(\%M) | 2000 | 1.50 mo | 1! 12:309 (i-1 | $1+12: 3 t+1)(i-1$ | sse (m) | 1912:319 (i-1 | 1912:319 G-1 | 948.00 |
| Type C, Form K-Double Pole, 250 Voits |  |  |  |  | Type C $\mathrm{F}_{\text {F }}$ Form K-2-Double Pole, 650 Volts |  |  |  |
| 1500 | 1000 | 3000 | 1!12301 (i-2 | . | \$540. 10 | 1912311 1:-2 |  | \$612.01) |
| 2006 | 1500 | 4000 | 1912302 (i-2 | - | (i8. 00 | -912313 (i-2 |  | 750.00 |
| 30010 | 1200 | (i)do | 191:30.7 (i-2 |  | 948.00 | 1912:315 (i-2 |  | 10.4. ( m |
| $4(000)$ | 20010 | 10060 | 1912:307 (i-2 |  | $12+5 .(\mathrm{m})$ | 1912:317 (i-2 |  | $1344.01)$ |
| 6000 | 2000 | 15000 | 1912309 ( -2 | 1419314) (i-2 | 1824.90 | 1912319 C-2 | 1912319 (-2 | 1944.00) |

## Type C, Form K, Carbon Break-Direct Current Attachments



UNDER VOLTAGE RELEASE ATTACHMENTS
For Usw with Single Pole C K or C K-2

| $-110-125$ | Volts- | -290- | Volts- | -5(6)-600 Volts- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.ist | J.ist | I.ist | I,int | list | list |  |
| No. | Trice | No | Price | No. | Price | Amps. |
| (9)26)(0.2 | S2ti.4) | 2025 ) |  | 202044 | \$31.20 | 1500 |
| 91)2.0\% | 26.40 | 202034: | 28.N0 | 202067 | 31.20 | 200 |
| 91)29tic | 29.40 | 202049 | 28.80 | 202070 | 31.20 | 3000 |
| (1) 以-1 | 26.40 | 20207: | 2x.80 | 202076 | 31.20 | 4000 |
| -020-1 | 2 (i. 40 | 202075 | 28.80 | $202071 i$ | 3120 | 6 mog |
| 540 $210 \%$ | 26.40 | 202978 | 28.80 | 202079 | 31.20 | 8000 |
| C020) | 26.40 | $2020 \%$ : | 29.80 | 20208: | 31.20 | 10000 |
| For use with Double Pole Type C K or CK-2 |  |  |  |  |  |  |
| 2020153 | \$26. 40 | 202084 | S2S. 81 | 2020185 | 831.20 | 1500 |
| Stancti | 26.40 | 202198 | 2980 | 20:208 | 31.20 | 2010 |
| comber | 34. 40 | $\pm 021905$ | 28.80 | 2020:1 | 31.20 | $30 \mathrm{~m})$ |
| 2102002 | 26.40 | 202093 | 28.80 | 202934 | 31.20 | 4100 |
| 202005 | 26.40 | 2020936 | 28.80 | 202097 | 31.20 | 6000 |

SHUNT TRIP ATTACHMENTS
125, 250 or 550 Volts for Use with Type C, Form K or Form K-2

| List |  |
| :---: | :---: |
| N | Ampere:3 |
| 119877 | 1500 |
| 324\%) | 2000 |
| 10451.3 | 3000 |
| 32457 | 4000 |
| 32.45 | 6,090 |
| 3-4.93 | 80, 0 |
| 32.159 | 10000 |

Approx.
Shpg. W t .
in II. Is.
1.5
15
15
15
15
15
15

[^9]
## G. E. OIL BREAK SWITCHES



Type F, Form P3 Oil Break Switch


Cutout


Type F, Form P6 Oil Break Switch

## Types F, Forms P3 and P6 Oil Switches

Type F. Forms P3 and ${ }^{3} 6$ are desiened specially for use in industrial olants in connection with induction mators of capacitips
 600. They itself. When mounted on the spinning frame the switch is operated by a shipper rod. The live parts being entirely enclosed the switches are particularly suitable for use in factories in which the air contains inflammable particles, or where explosive materials are prevalent

The Type F, Form P3 Oil Switch is made non-automatie only , In main these swithers are similar and aifer only in a ew details. These switches are mates in the following capacities:

Capacities. These switches are malle in the following capacities:
Type $F$, form $P$ n 3 non-automatic 600 volts, 50 amperes triple pole and for pole, single throw
Type F ', Form Pb automatic $6 \nmid]$ volta, 50 amperes, triple pole, single throw.
Type F, Form P3 Oil Break Switches
FOR WALL MOUNTING (SPINNING FRAMES, MACHINE TOOLS: ETC.)
Non-automatic (Quick Make and Quick Break)

| Ampere | Non-automatic (Quick Make and Quick Break) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Wt. Poxed | List | List |
|  | Voltage | Rating | **Poles and Throw | in Lbs. | No. | Price |
| ${ }^{\text {Caba }}$ | 600 | Motors of 25 | T. P.S.T | 45 | 64043 | 839.60 |
| 50 | 600 | h.p. or less | 4 P. S. T, | 50 | 64064 | 57.20 |

**Include wooden handle and plate to adapt switch for hand operation. As switches are bo ed with these parts included. no deduction can be made for their omission.

GRAVITY CLOSED, DUST-PROOF CUTOUTS
(Withorst Fuses)
For Use With Type F, Form P3 Non-automatic Oil Switchea
Conduit Drilling

| Amp. | Volt- | Conduit Drinn |  |  |  |  | Package |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Trop |  | Bottom |  | List | Quati | List Price |
| Cap. | age | Poles | (Service) |  |  | Conduit | 43422 | 25 | Sti . 84 |
| 30 | 600 | T. P. | $13 / 8 \mathrm{in}$, for 1 in. |  | in. for 1 din. | Conduit | 58441 | 25 | 9.88 |
| 30 | 600 600 | ${ }_{T}^{4} \mathrm{P}_{\mathbf{P}}$ | 13/4 in. for 13 in. for H in | 2 | in. for 113 l in. | Conduit | 48423 | 25 | 9.12 |

These cutouts take N. E. C. Standard, 600 volt enclosed fuses
Type F, Form P6 Oil Break Switches
FOR WALL MOUNTING (SPINNING FRAMES, MACHINE TOOLS, ETC.)

| Ampere Capacity |  | Calibration |  | Approx. Shpg. Wt. in Lbs. | Quick Rreak Only (Without Quick Make) |  | Quick Mak: and Quick Break |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *Switch | tSorries Coils $\ddagger$ | Min. | Mix. |  | Lis* No. | I.ist Price | $\begin{aligned} & \text { Zist } \\ & \text { Sis. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
|  | 2 | 2 | 6 | 70 | 143104 | \$79.20 | 143117 | 88.580 |
| 50 | 3 | 3 | 9 | 70 | 143105 | 79.20 | 143118 | 85.80 |
| 50 | 4 | 4 | 12 | 70 | 143106 | 79.20 | 143119 | 8.380 8580 |
| 50 | 6 | 6 | 18 | 70 | 143107 | 2) | 143130 | 85.80 |
| 50 | 8 | 8 | 2. | 70 | 143108 | 79.20 | 143121 | 8.5 .80 |
| 50 | 10 | 10 | 30 | 70 | 143109 | 79.20 | 143122 | 8.5 .80 |
| 50 | 12 | 12 | 36 | 70 | 143110 | 79.20 | 143123 143124 | 85.80 85.80 |
|  | 15 | 16 | 48 | 70 | 143171 | 79,20 | 143124 |  |
| 50 | 20 | 20 | 60 | 70 | 143112 | 7920 | 14325 | 85.80 |
| 50 | 25 | 25 | $\%$ | 70 | 143113 | 79.20 | 143126 | 85.80 |
| 50 | 30 | 30 | 90 | 70 | 143114 | 79.20 | 143127 | 88.80 |
| 50 | 40 | 40 | 120 | 70 | 143115 | 79.20 | 1.3128 | 85.80 |
| 50 | 50 | 50 | $1: 0$ | 70 | 143116 | 7920 | 143129 | \$5.80 |

*Load which the switch will carry continuously at 28 degrees $C$. rise or less
Load which the switch will carry continuously at 28 degrees C. rise or less. or less. Coil will carry $2 \overline{0}$ per cent. overload $\dagger$ Load which the series trip c
for 2 hours at 45 degrees C. rise.
tFor use only in connection with three-phase induction motors of 25 horse power or less.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# Western Electric G. E. OIL BREAK SWITCHES 



Form K-20 Oil Switch with Overload and Under Voltage Release

Mail Orders Filled at Prevailing Prices


Form K-20 Oil Switch with Overload Under Voltage Release and Cover for Mounting R-6 Ammeter

## Type F Form K-20 Oil Break Switches

## 2500 VOLTS OR LESS

 Switches are made single throw only and are for monnting on wall, posit or fat surface.

AUTOMATIC (WITH DOUBLE SERIES I.T.L. OVERLOAD TRIP)


| Triple Pole Single Throw |  |  |  |  | Four Pole-Single Throw |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | G.E.Oil | Approx. | List |  | Four Pol | G.F.Oil | Approx. | I,ist |
| Tist | * Ampere | No. 6 | Ship, 10t, | Price | List | * Ampere | No. 6 | Ship. Wt | Price |
| No. | Capacity | in Gals. | in I.1)s. | Each | No. | Capucity | in Gals. | in L.bs. | Each |
| 167368 | 60 | 2 | 130 | 80820 | 167331 | f0) | 3 | 170 | \$101.20 |
| 167369 | 200 | 2 | 183 | 8800 | 167372 | 200 | 3 | 180 | 125.40 |
| 167370 | 300 | 4 | 185 | 127.60 |  | -00 | 3 | 180 | 125.40 |



[^10]
## G. E. OIL BREAK SWITCHES



Type F Form P-10 Oil Switch, 30 Amp., 600 Volt
T.-P. S.-I'. Automatic with I'wo Series I T L Overload Trip Coila

## Type F Form P-10 Oil Switches

## 30 Ampere 600 Volts or Less

FOR INDUCTION MOTORS OF 10 H.P. OR LESS
The Type $F$ form 1 -10 switches are listed triple pole, single throw non-automatic. Automatic with double series inverse time limit overload trip; and plain low-voltage switches.

These switches are small, compact and inexpensiye Mechanical and electrical features are not surpassed by switches of larger size for motor protection. Although made largely from punchings, all parts are rugged and substantial, ensuring long life under severe operating conditions. All live parts are totally enclosed. Frame, oil vessels and calibrating features are practically dustproof. The frame is provided with a lug to take a padlock by which the switch may be locked in the open position.

The mechanism is simple in construction. All parts held by lock washers, they are practically all made from dies so that they are accurately interchangeable and repair parts can be easily installed. The switch frame is arranged to take either open or condit wiring at right hand end of switch.

Automatic switches have series trip cilis from 2 to 30 amperes and calibrating from normal to two times normal. These coils are assembled in pairs in a single piece, magnet frame complete with calibrating tubes and time limit features. These units are interchangeable for coils of all ratings. All coils are calibrated individually. Triple Pole, Single Throw

600 VOLTS OR LESS

| List | Non-Automatic Without Overload Release |  |  | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Switch | Series Coils | Wgt. Lhs. | Each |
| 171040 | 30 | None | 20 | \$17.60 |
|  | Automatic With Double Series I T L Overload Trip |  |  |  |
| 171041 | 30 | 2 | 30 | \$46.20 |
| 171042 | 30 | 3 | 30 | 46.20 |
| 171043 | 30 | 4 | 30 | 46.20 |
| 171044 | 30 | ¢ | 30 | 46.20 |
| 171045 | 30 | 8 | 30 | 46.20 |
| 171046 | 30 | 10 | 30 | 46.20 |
| 171047 | 30 | 12 | 30 | 46.20 |
| 171048 | 30 | 16 | 30 | 46.20 |
| 171049 | 30 |  | 30 | 46.20 |
| 171050 | 30 |  | 30 | 46.20 |
| 171051 | 30 | 30 | 30 | 46.20 |

$\dagger \dagger$ T. P. S. T. Plain Under Voltage Switches

| List | Amp. |  |  | Includes <br> No. | Capacity | Volts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Type F, P-10 Oil Circuit Breaker

Triple Pole, Single Throw, 600 Volts or Less
Under-voltage Breakers With Provision for Protective Plugs, Under-Voltage and Overload

| No. | Amp. Cap. | Plugs | Volts 110 | Cycle | Includes | Wert Lbe | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Transformer |  | Price |
| 178875 | 30 | 1 to 20 |  | $41-6.6$ | None | 25) | \$38.00 |
|  |  |  | (110) | 2\% |  |  |  |
| 177876 | 30 | 1 to 20 | - 2 | 25. 10 - 60 | 191392 | 30 | 46.00 |
|  |  |  | 440 | 25-40-(6) |  |  |  |
|  |  |  |  | 25-40-6i0 |  |  |  |

List No. and List Price does not inchite the protertive plug.
*Load which the switch will carry continuously at 30 deg. C. rise or less, †Auto-Transformer with tap tagged to indicate proper connections for various voltages. $\dagger \dagger$ Release at approximately one-half rated voltage. Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

# G. E. OIL BREAK SWITCHES Type F, Form K-13 Oil Break Switches <br> 3300 VOLTS—HAND OPERATED- 200 AMPERES $\dagger$ 



# G. E. OIL BREAK SWITCHES <br> <br> Type F, Form K-13 Oil Break Switches <br> <br> Type F, Form K-13 Oil Break Switches <br> UNDER-VOLTAGE RELEASE ATTACHMENTS 

A complete line of now under-voltage release attachments is listed helow for voltages up to and including 550 volts. Above 550 volts, use 110 volt attachment with series resistance in secondary of a voltage or potential transformer.

## Plain Under-voltage Operating Levers

The attachments listed are for use with automatic operating levers. Where no overload features are required the left-hand under-voltage attachment for single throw, one coil lever may be used with a special, plain, under-voltage operating lever provided with a tripping togrle for the low-voltage attachment, but otherwise similar to non-automatic mechanism. Plain under-voltage switehes are not listed but prices may be obtained by adding the list price of left hand, under-voltage attachment and transformer, if required, to the list price of a non-automatic (single throw) switch and substituting the plain under-voltage operating lever at the extra list price as per the following table:

## For Substituting Plain Under-voltage Operating Levers


*Under-voltage Release Attachments

| For Single Throw Switch-One Coil Operating Lever Also Plain Under-voltage Operating Lever (Left Hand Only) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Approximate | Left Hand | Right Hand |  |
| Line | Ship. Weight | $\dagger$ List | $\dagger$ List | List |
| Voltage | in I.bs. | No. | No. | Price |
| \$110 | 10 | 137655 | 137659 | \$26.40 |
| 220 | 10 | 137656 | 137660 | 26.40 |
| 440 | 15 | 137657 | 137661 | 30.36 |
| 550 | 15 | 137658 | 137662 | 30.36 |
| For Single Throw Switch--Two Coil Operating Lever |  |  |  |  |
| $\ddagger 110$ | 10 | 137663 | 137667 | \$26.40 |
| 220 | 10 | 137664 | 137668 | 26.40 |
| 410 | 15 | 137665 | 137669 | 30.36 |
| 550 | 15 | 137666 | 137670 | 30.36 |
| $\dagger \dagger$ For Double Throw Switch-One Coil Operating Lever |  |  |  |  |
| $\ddagger 110$ | 10 | 137671 | 137675 | \$26.40 |
| 220 | 10 | 137672 | 137676 | 26.40 |
| 440 | 15 | 137673 | 137677 | 30.36 |
| 550 | 15 | 137674 | 137678 | 30.36 |
| For Double Throw Switch-Two Coil Operating Lever |  |  |  |  |
| $\ddagger 110$ | 10 | 137679 | 137683 | \$26.40 |
| 220 | 10 | 137680 | 137684 | 26.40 |
| 440 | 15 | 137681 | 137685 | 30.36 |
| 550 | 15 | 137682 | 137686 | 30.36 |

*Under-voltage release operates at approximately one-half rated voltage.
$\dagger$ Includes series resistance for under-voltage coil, List No. 115968 for 110 volts, List No. 115967 for 220 volts, List No. 115966 for 440 volts, List No. 115965 for 550 volts.
$\ddagger$ For voltages above 550 , use 110 volt under-voltage with series resistance and suitable voltage or potential transformer.
$\dagger \dagger$ Plain under-voltage operating lever not made for double throw. Use automatic switch with one lowvoltage release or refer for special quotation.

Shunt Resistance
To be used when under-voltage release is operated by being short-circuited (circuit-closing relays or auxiliary switches).

| List |  |  | Ship. Weight | List |
| :---: | :---: | :---: | :---: | :---: |
| 137580 | 110, 220, 450 or 550 | Line Voltage | in ${ }_{5}$ | P4.80 |

## Panels for Mounting

Dull Black Marine Finish With 48 Inch Pipe Supports and Floor Brace

List No. of Panel

- Description

13389916 ins. high, 20 ins. wide, $11 / 2$ ins. thick
13390016 ins. high, 24 ins. wide, $11 / 2$ ins. thick
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

## G. E. OIL BREAK SWITCHES



Triple Pole, Single Throw. K-5 Automatic Oil
Break Switch Remote Control


Triple Pole. Single I'hrow. K-5 Automatic Oil Break Switch Mounted on Panel Pipe Supports

# Oil Break Switches for 600, 4500 and 7500 Volt Alternating Current Service 

## TYPE F, FORM K-5

The Type F, Form K-5 oil break switch is a thoroughly reliable switch of molerate rupturing capacity for use on alternating eurent circuits up to 7500 volts.

It is the result of years of study and experience in the design, manufacture and use of oil break switches, and contains every essential for long and reliable service. It is liberally designed and conservatively rated, simple in construction and operation, made of the best materials, and is economical in initial cost, cost of installation and cost of upkep.

The are incident to opening the cireuit is confined in the oil vessel under oil and cannot involve adjacent apparatus. The circuit is ruptured at the zero point of the wave, reclucing to a minimum the possibility of a surge occurring on the line.

## Capacities

This switch is manle in the following capacities:
600 volr, 300 and 500 amperes, double, triple and four pole, single and double throw. 800 ampere single throw only.

4500 volt, 200 amperes, double, triple and four pole, single and double throw.
7500 volt, 300 and 500 amperes, single, double, triple and four pole, single and double throw.
The double throw switch consists of two single throw units with a common frame and oil vessel. The operating levers are equipped with a simple and positive mechanical interlock so arranged that one switch only can be closed at a time.

## Types

The Type F, Form K-5 oil break switches can be furnished as follows:
Non-automatic-Without overload release.
Automatic-With overload release, with trip coils for connecting to the secondaries of current transformers, up to 7500 volts; or with trip coils for connecting directly in series with the main circuit, up to 2500 volts.

## Oil

For oil break switches we recommend No. 6 transil oil, which is prepared by a special process and is of superior quality because of its resistance to carbonizing and its high flash point.

## Hand-operated Switches Include

Switch complete with oil, cable terminals and insulating sleeves, Operating mechanism except pipe connecting rods, Current transformers (for automatic current transformer trip switches only).

## Solenoid-operated Switches

Solenoid-operating mechanisms can be furnished for operating any of the $\mathrm{K}-\mathrm{j}$ switches. These consist of the ordinary closing and opening solenoids wound for 125,250 or 600 volts direct current, and are operated by suitable control switches and relays.

## G．E．OIL BREAK SWITCHES

## Type F，Form K－5 Oil Break Switches

Hand Operated－Without Overload Fielease－Non－automatic

| J＇oles and＇harow | $\begin{aligned} & \text { Coils } \\ & \text { Coil } \end{aligned}$ | $\underset{(: a p p}{ }$ | Voltage | Operating Mec ${ }^{\text {banism }}$ for Mounting on ${ }^{16}$ In．or 2 In ．Panel |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  <br> switeh om l＇anel |  |  |  |  |  |
|  |  |  |  | Approx shipe $11!$ in l．bs． | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | list Price | Approx． Nhpes． い。 in labs． | $\begin{aligned} & \text { I,ist. } \\ & \text { 太̊o } \end{aligned}$ | $\begin{gathered} \text { List } \\ \text { I'rice } \end{gathered}$ |
| D．P．－s＇r |  | 3011 | 6010 | 160 | 14．7061t，G－19 | S03．72 | 170 | 1870618G－19 | \＄105 21 |
| D．J，－－ |  | ［1） | $60 \%$ | 171） | 15－1111（i－22 | 121.14 | 150 | 187615（i－22 | 13.7 19140 |
| D）1 ${ }^{\text {P }}$－-1 ＇ |  | son | 600 | $1!91$ |  | 16 | 200 |  | 126.8 |
| D．P－－s． |  | 304 | 660 | 170 | 1576011，G－20 | 112．20 | ， 10 | 1570618Ci－23 | 167.04 |
| T．P－s．${ }^{\text {P }}$ |  | 3116 | 60） | $1!0$ | 189616Ga－2． | 103． 61 | 210 |  | 248.16 |
| $\cdots$ ¢－ |  | S00 | 6010 660 | 20 | 1×706！ | 13s．60 | $2: 0$ | 1870618 （ $\mathrm{i}-21$ | 153.12 |
| ＋＇$\quad$ S |  | 301． | 600 fite a | 2.90 | 1s70timi i －2 | 190.08 | 260 | 1870618（i－2 | $2(4.130)$ |
| 4 P |  | 800 | biol | $2(10)$ | 1870tilici－27 | ：360．96 | 270 | 18711618（：－27 | 315.4 K |


| 1），P．－D＇1＇ |  | 300 | 600 | 260 | 187061156－24 | 8174．21 | 270 | 1570tis（i－20 | \＄19．5．30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1）P－1）${ }^{\text {a }}$ |  | 500 | 6611 | 290 | $1470615 c i-31$ | 220.11 | 300 | 1576ils | 242.86 |
| T． P －I． l |  | 3010 | 60 | 2 El | $1 \times 7 \mathrm{Clilic}(\mathrm{i}-29$ | 205 | 29i） |  | 231.08 |
| T．P－I．${ }^{\text {r }}$ |  | 3611 | $\mathrm{fiOO}_{0}$ | 311 |  | $\bigcirc 77.20$ | 320 | 1×7013 ¢ ¢－32 | 2968 |
| 41 －－＇1＇ |  | 300 | 600 | 33010 | 157001 （ $6-30$ | 2.44 .16 | 360 | 15701818（\％－30 | 270.10 |
| 4 p －－ 1 ） T |  | 5ik | 600 | 410 |  | 333．30 | 420 | 1s70ti8（i－3．3 | $35 ; 10$ |


| 1）．${ }^{\text {P／－K．}}$ T． |  | 200 | （i）N | 1．5） | 187061 | \＄！ 11.08 | 1610 | 1870） | \＄105． 6 （） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1）． P － |  | 300 | （60） | ｜ 810 |  | 1013 | 190） | $1871118 \times \sim=13$ | 121.14 |
| 1）． $\mathrm{P}-\mathrm{S}$＇ 1 |  | Sul） | Bill | $1!111$ |  | $1: 32$（M） | 20.3 |  | 141i．5： |
| F．P．\＆＇ 1 |  | 200 | （i）${ }^{\text {（1）}}$ | 1610 | 1－7061 bG－2 | 10．5．6） | 170 | 1870） $\mathbf{1}_{6}^{6}(\mathrm{i}-11$ | 120.12 |
| T．P－K．T |  | 300 | fiol | 19 （1） |  | 120．30 | 201 | 1876ils | 143 48 |
| $\cdots \mathrm{P}$ P－s． T |  | S010 | 600） | $2(1)$ | 1－70 613 （i－8 | 16ic．32 | 210 | 1870ilk | 180 8！ |
| $4 \mathrm{P}-\mathrm{T}$ T |  | 2010 | 600 | 180） |  | $126 i .7$ | 190 |  | 11121 |
| $4 \mathrm{~J}^{\prime}$－ $\mathrm{S}^{\prime}$ |  | ：301） | 600 | 250 | 187061 \％G－6 | 142 R | 260 | 18701515（i－15 | 176 |
| 4 P ¢ |  | ． 500 | fiom | 24i） |  | 209 K | 270 | 1870n） 18 （i－1 | 22 4 ＋1） |


| J．1＇，－1）．${ }^{\circ}$ |  | 2010 | 33010 | 2501 | 187061 1 1 （ 10 | \＄170．28 | $\underline{2} 60$ | 187（fi） 8 （ -1 | \＄192．72 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1）．1＇－1）． 1 ＇ |  | ： 310 | 3：300 | 200） |  | 119．4．11 | 310 | 187Mil8（i－4 | 216.18 |
| 1），P－1）．＇1 |  | 5010 | ：330） | 300 |  | 2333 fi | 310 |  | 256.08 |
| T，I＇，－I）．T＇ |  | 2011 | 33001 | 270 | 1476）${ }^{\text {a }}$（ $1-11$ | 195． 34 | 2N0 | 1＊7いtisci－2 | 217.40 |
| 小．J＂－1）．T |  | ：30） | 3300 | 310 |  | 23：3 61 | 320 | 18701618（1－5 | 256.18 |
| $\cdots, \mathrm{J}-1)$＋ |  | S（1） | 33301 | 320 | 1－70 1150 | －it（0） | 330 |  | 314.11 |
| $\left.4 \mathrm{I}^{2}-1\right) . \mathrm{T}$ |  | $2(10)$ | 33015 | 3201 | 147016ici－12 | 231819 | 3.31 |  | $253+1$ |
| 4 P I）．T |  | ：310） | 3301 | 400 | 1870；113（ -15 | 263．80 | 410 |  | 3116 |
| 41 I） 1 － |  | S（1） | 3300） | 420 | 1570616 | 3ti．n． 61 | 431 | 1870818C－9 | 3ヶ4．0n |

## OVERLOAD ATTACHMENTS

| Tist No． | Number of Coils |  | Kating | $\begin{aligned} & \text { list } \\ & \text { l'rice } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| $1912361 \mathrm{Ci}-1$ | 1 | 12 voolts，D．C |  | \＆ 110 ． t |
| 191236il ${ }^{\text {a }}$－2 | ！ | 2130 volts．1）C＊ |  | 10.56 |
| 1912361（：－ 3 | 1 | 1101125 volts，I）．（ |  | 10． 26 |
| 19123til（i－4 | 1 | 220 250 volta I）．（ |  | 10． 10.5 |
| 1912：361 $\mathrm{Ca}-5$ | 1 | 4．4）volts，A．C |  | 10.56 |
| 191231；1（i－6 | 1 | 220 volts，A．C． |  | 10.54 |
| 19123361（ $1-7$ | 1 | 110 volts，A．C |  | 10．56 |
|  | 1 | 5 ammere A．C i ：mmperc，$A$ ． |  | 1056 |
| $191234 i 2(i-2$ $19123 i 2$ | 1 | 4 amperc，A．C 5 ismpere．A．C |  | 15．45 |
| $191231 i^{2}(i-3$ $1!12332(i-1$ | 2 | \％innpere．A．C |  | 18．4s |
| $1912: 362$ C -5 | 3 | 5 ampere．A．C． |  | 26.40 |
| 1912：362C：6 | 3 | 4 ampere．A．C |  | 26.40 |

The overload attachment does not include furrent transformer



Delivery F O IS Factory，Schenectady，X Y．For warehotse deliveries write nearest house．

## G．E．OIL BREAK SWITCHES

TYPE FK－5
Hand Operated－Without Overload Release－Non－Automatic
OPERATING MECHANISM FOR MOUNTING ON $11 / 2$ INCH OR 2 INCH PANEL

|  | Ampere |  | $\qquad$ Remote Control <br> Switeh for Monnting on I＇ipe Framework |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| Polen and |  |  | Slipe Wit |  | J．ist |  | ISist |
| ＇I＇hrow | （＇apsurity | Voltage | in 1．1ss． |  | No． |  | I＇rice |
| J．P．－s．T． | 2010 | 1500 | 2331 |  |  |  | \＄124，3ti |
| 1）．1＇－s． T ． | $3(1)$ | 75013 | 270 |  | 1870317（i－t |  | 145．20 |
| I）I．－T． | 500 | 75010 | 280 |  |  |  | 1 15＊． 9 \％ |
| ＇I＇，I＇，－＇I． | $2(0)$ | 45013 | $2.41)$ |  | 1870177（i－2 |  | 143．88 |
| ＇I＇1＇－ーが， | 3 CO | 7．0（0） | 2 2 019 |  | 1870617（i－5 |  | 1137 ． 174 |
|  | 510 | 7500 | $40!$ |  | 1870117（：－x |  | 20，3．28 |
| 41 －T． | 210 | 4500 | 270 |  | 187以117（\％－3 |  | 163）．（is |
| 4 P －－ | $3(4)$ | 7500 | 3301 |  | 1870¢17（i－t |  | 2011.94 |
| ＋1 ${ }^{\prime}$－-1. | 500 | 7504 | 3411 |  | 1870．17（\％－4） |  | $248.11 i$ |
| 1）．1－1）．T． | 2010 | 4500 | 3301 |  |  |  | 241.54 |
| 1）13－1）T． | 300 | 7 F （\％） | 380 |  |  |  | 24.5 .38 |
| 1）．1＇－1）．T． | 510 | 750 N | $3!0$ |  | 187（4）17（i－16 |  | 310.4 （1） |
| T．I＇－1．${ }^{\text {I＇}}$ ． | 200 | 4 Sm | 310 |  | 1870617 -11 |  | 2157 |
| T．P－1）．T． | 300 | $75(\mathrm{k})$ | 390 |  | 187（M17 ${ }^{\text {1 }}$－14 |  | ：314． 312 |
| T P．－I）．T． | 500 | 7500 | 400 |  | 187Mil7（i－17 |  | $34+8.25$ |
| ＋P．－D．T． | 20） | 450 k | 390 |  | 187（0） 7 （i－12 |  | 302\％．28 |
| 41.10. | 360 | 7500 | 470 |  | 18706177（i－15） |  | 355． 08 |
| ＋1．－I）．T． | 500 | 7500 | 480 |  | 1870617（i－1s |  | 4366.92 |
|  | OIL | CIRCUIT | BREAKER PA | NELS |  | st Prime |  |
| List No． | Description | I＇hrow | Size in Inchos | הHpg．W＊t． | D．B．NI．${ }^{*}$ ．s． | N゙．13．S： | R M |
| \I－113675．5 | Son－antomatio | is | $16 \times 20 \times 1{ }^{12}$ | 1（M） | $\$ 20.114$ | \＄30． 34 | \＄34．32 |
| \} 1 －1134735  | Non－aintomatio | 1） | $16 \times 24 \times 1{ }^{1}$ | 130 | 31.68 | 333．（1） | $34 ; .41 ;$ |
| M－1136755 | Inst．ov゙erlcal withont L．V．R， | is | $16 \times 20 \times 11 / 2$ | $1(\mathrm{M})$ | 29.04 | （3）－36 | $3-1.32$ |
| \1－1133755 |  | 1） | $16 \times 24 \times 112$ | 1，30 | 31.68 | 33.30 | $34 \%$ ． 94 |
| \1－1136755 ${ }^{\text {a }}$ | Inst．overload with 1．V．R． | I） | $16 \times 20 \times 11 / 2$ $16 \times 2.4 \times 11 /$ | 100 130 | 31.68 3.182 | 33.00 35.64 | 34 i .917 39.160 |
| M -11367755 <br> $P^{3}-1604858$ | Time limit overload | 1） | 16x2＋81／1／2 | 130 180 | 3．4．32 | 35． 64 50.40 | 39.60 134.158 |
| P－160－4858 | without J．V．R． | I） | $36 \times 24 \times 1 \frac{1}{2}$ | 210 | （62．64 | 15i．130 | 7＊．${ }^{\text {（1）}}$ |
| $\mathrm{P}-1604858$ | Tinue limitowerloud with I．V．lR． | R．$\left\{\begin{array}{l}\text { S }\end{array}\right.$ | $36 \times 20 \times 11 / 2$ | 180 | 59.40 | 6．2． 68 | （i9．04； |
| P－1604858 | Tinue himit oserlond with L．F．IR． | ． 1 ） | $36 \times 24 \times 1$ ！${ }^{\frac{1}{2}}$ | 210 | 64.68 | 68.64 | 75.24 |

PANELS FOR MOUNTING REMOTE CONTROL
Type TK 5 Oil Circuit Breakers on Pipe Framework
Non－automatic or Automatic with One，Two or Three Trip Coils，
But Without Provision for Overload Relay or Under Voltage Release

| $\begin{aligned} & \text { List No. } \\ & I^{2}-1603490 \\ & I^{2}-1603+90 \end{aligned}$ | Size in Inches$1 \times 16 \times 11 / 7$$1 \times 20 \times 11 / 2$ | $\begin{gathered} \text { Throw } \\ \text { is } \\ \text { 1) } \end{gathered}$ | $\underset{160}{\text { Shpg. W. }}$ | －List Jrioe |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | I）．B．M．M S． | N． 13 S． | 13．V．M |
|  |  |  |  | \＄03， 36 | \＄14． 68 | \＄6\％．6．4 |
|  |  |  | 190 | 76．50 | 77.88 | 81.84 |
| Automatic With One or Two Trip Coils and Under Voltage Release But Without Provision for Overload Relay |  |  |  |  |  |  |
| P－1603490 | $16 \times 16 \times 11 / 2$ | $s$ | 160 | \＄15if．00 | 867.32 | \＄72．f0 |
| $\mathrm{P}^{2}-1603490$ | $1 \mathrm{x}=0 \times 11 / 2$ | I） | 190 | 79.20 | 80.52 | 84.48 |
| Automatic With Three Trip Coils and Under－voltage Release But Without Provision for Overload Relay |  |  |  |  |  |  |
| P－1603490 | $16 \times 20 \times 11 / 2$ | S | 100 | 873．92 | 875.24 | \＄79．20 |
| P－1603490 | $16 \times 24 \times 11 / 2$ | I） | 220 | 81.84 | 83.16 | 88.44 |
| Automatic With One，Two or Three Trip Coils and Overload Relay， But Without Provision for Under．Voltage Relaese |  |  |  |  |  |  |
| P－1603490 | $30 \times 1$ ¢ $11 / \frac{1}{3}$ | S | 230 | 879． 20 | 881.84 | 888.44 |
| P－1603490 | $36 \times 20 \times 1 \frac{1}{2}$ | I） | 250 | 87.12 | 91.08 | 9ti． 36 |
| Automatic With One or Two Trip Coils Overload Relays and Under－voltage Release |  |  |  |  |  |  |
| P－1603490 | $36 \times 17 \times 1{ }^{1 / 2}$ | S | 230 | \＄81．84 | \＄N4．48 | 891.08 |
| P－1603490 | $36 \times 20 \times 11 / 2$ | 1） | 250 | 91.08 | 95.04 | 101.64 |
| Automatic With Three Trip Coils，Overload Relay and Under－voltage Release |  |  |  |  |  |  |
| P－1603490 | $36 \times 20 \times 11 / 2$ | S | 250 | 88.4 .48 | \＄88． 44 | \＄93．72 |
| P－1603490 | $36 \times 2.4 \times 11 / 2$ | I） | 270 | 93.72 | 97.68 | 104.28 |

## Tripping Current Transformers

This transformer has been developed for tripping oil circuit breakers，for Type FK－5 switclies as listed above．
4500 VOLTS OR LESS－25－125 CYCLES

| List | Amp．Cap． |  | Approx． Shpg．Wrt． | I．ist | List | A mp． |  | Approx． Shpe．Wt． | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． | Prim． | Ratio | I．bs． | Jrice | No． | Cap． | Ratio | I．bs． | Price |
| 233201 | 5 | 1－1 | 27 | \＄20．40 | 233242 | 10） | 20－1 | 27 | \＄20．40 |
| 2：33232 | 10 | $2-1$ | 27 | 20.40 | 233243 | 125 | 25－1 | 27 | 21.60 |
| 2：33933 | 12．5 | 2．5－1 | 27 | 211.40 | $2332+4$ | 1.01 | 30－1 | 27 | 21.60 |
| 23323 4 | 15 | 3－1 | 27 | 20.10 | 2332.45 | 2010 | 40）－1 | 27 | 21.60 |
| 23：3035 | 20 | 41 | 27 | 20.40 | 23：3246 | 2 Fil | $50-1$ | 27 | 22.80 |
| 23：323S | 25 | 51 | 27 | $2(1)$ | 23.32 .47 | 3010 | （i）－ 1 | 27 | 22.80 |
| 23：3237 | 36 | f 1 | $\bigcirc 7$ | 20.10 | $23: 3248$ | 4111 | 80 －1 | ；30 | 24.0 |
| 23：3238 | 40 | 8－1 | 27 | 20.411 | 23：324 | $5(\mathrm{H})$ | 110－1 | 31） | 24.00 |
| 2：332：39 | 50 | 10－1 | 27 | $20.71)$ | 2333250 | （io） | 120－1 | 30） | 26.40 |
| 2333810 | （i） | 12－1 | 27 | 211.41 | 233251 | 800 | 160－1 | 30 | 26.40 |
| 2332.11 | 80） | 16－1 | 27 | 20.40 |  |  |  |  |  |

## G. E. ALTERNATING CURRENT RELAYS



P-Q Instantaneous Circuit Closing


P-Q Inverse Time Limit Circuit Closing


PrQ 3 Inverse Time Limit Circuit Opening

# Alternating Current Relays <br> SINGLE POLE-OVERLOAD For Use with Current Transfomers Having 5 Ampere Secondaries 

All relays are made from the same general parts, consequenfly any type relay can be radily changed into another type.

These relays are made in single pole units only and replace types $\mathrm{l}^{\prime}$. F . and $\mathrm{l}^{\prime}$. Ca.
The cover for the relay is provided with a large glass ryindow so that casual inspection can he made without removing cover from relay.

The relay is made dustproof, not only with resport ta fhe upper portion, but alsis with respect to the moil and calibrating details, all slots are filled ant the calibrating tube is provided with a slutter which when turned completely prevents the entrance of formign matter. After relay is adjusted this loeking feature automatically returns to the locked position. In the older types of relays a wrench was required for locking parts.

For Mounting on 13/2 or 2 Inch Panels


Current transformers not included in price.
Delivery F. O. B. Factory, Schenectady, N. I. For warehouse deliveries write nearest house.


Type R, Form B-2


Type R, Form B-3

## Direct Current Reverse Current Relays

## Type R, Form B-2

The Type R, Form 13-2 Reverse Current Relay is designed for mounting on eirenit breaker studs. It consists of a horseshee magnet with a shunt wound armature pivoted between its poles. The magnet is mounted on the current-carrying stud of the eircuit breaker between the back of the panel and the first contact or supporting nut, and is placed in a vertical position.

The contacts are insulated from the magnet, permitting the use of an auxiliary circuit for the tripping device, independent of the eirchit controlled by the circuit loreaker. This is highly desirable on (iof) volt systems where a reli thie low voltage auxiliary source is available.

## Type R, Form B-3

These relays are for the same purpose and porform the same functions as the Type R, Form 13-2, Reverse Current ledays, and they are similar in their method of operation.

Being for smaller capacity service, a coil instead of the stud is used to furnish a field for the armature.

# Instantaneous-Single Pole--Circuit Closing (Normally Open) (No Covers) <br> Type R, Form B-2 

| tList |  | *Ampere | Operates on Reversal | Circuit Breaker | Shipping Weicht | List Prica |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Volts | Capacity | Anperes | Stud in Ins. | L.bs. | Each |
| 43162 | 125 | 800 | 200 | 118 | 20 | \$105. 60 |
| 102816 | $1 \because 5$ | 1000 | 200 | $1!$ | 20 | 105.60 |
| 4314i3 | 125 | 1200 | 200 | $11 / 4$ | 20 | 105.60 |
| 6.1813 | 125 | 1500 | 200 | 112 | 20 | 105.60 |
| 434161 | $1 \because 5$ | 2000 | 200 | $13 / 4$ | 20 | 105.60 |
| 64814 | 125 | 3000 | 200 | 2 | 20 | 105.60 |
| 43165 | 185 | 4000 | 200 | 212 | 20 | 105. 60 |
| 102868 | 125 | 5000 | 200 | 23.4 | 20 | 105. 60 |
| 43466 | 185 | (10)0 | 200 | 31. | 90 | 105. ${ }^{\text {(i0 }}$ |
| 64819 | $1: 5$ | 81000 | 200 | 4 | 20 | 105.60 |
| 43467 | 250 | 800 | 200 | 1188 | 21 | 105. 50 |
| 102869 | $2: 0$ | 1010 | 200 | 119 | 20 | 105.60 |
| 43468 | 250 | 1200 | 200 | 114 | 20 | 103. 60 |
| 6481.5 | $2: 0$ | 1510 | 200 | $11 /$ | 20 | 105.60 |
| 43.169 | 20 | 2000 | 200 | 13 | 21 | 105.60 |
| 6.4816 | 250 | 30010 | 200 | ? | 20 | 105.60 |
| 43470 | 20 | 4010 | 200 | 212 | 20 | 105.60 |
| 102870 | $2 \cdot 0$ | 5010 | 200 | 234 | $\cdots$ | 105.60 |
| 43471 | 2:0) | (10)0 | 200 | 319 | 20 | 105.60 |
| 64820 | 250 | SOOO | 200 | 4 | 20 | 105.60 |
| 43472 | 5\%) | 800 | 200 | 118 | 3 | 105.60 |
| 102871 | 5.0) | 1000 | 200 | $11 / 4$ | 2) | 105.60 |
| 43473 | $5 \%$ | 1200 | $\because 00$ | $11 /$ | 20 | 105.60 |
| 64817 | 50 | 1500 | 200 | 112 | 29 | 105.60 |
| 43174 | 530 | 2000 | 200 | $13 / 4$ | 211 | 105.60 |
| 64818 | 550 | 3000 | 240 | $\stackrel{\square}{2}$ | 20 | 105.60 |
| 43475 | $5 \%$ | 4000 | 200 | 23 | 2 | 10.50 |
| 1028:2 | $5: 0$ | 5000 | 90 | $23 / 4$ | $\because$ | 105.60 |
| 43176 | 550 | 10000 | 200 | 314 | 20 | 105.60 |
| 64821 | 550 | 8000 | 200 | 4 | 20 | 105.60 |

*Load which the relay will carry contimuonsly at 30 degrees (C. rise or less.
$\dagger$ Proper series resistance for potential circuit is included.
Delivery F. O. B. Factory, Schenectady, N. Y. For warhonse deliveries write nearest house.
G. E. RELAYS
D.C. Reverse Current for Circuit Breakers

Instantaneous-Single Pole-Circuit Closing (Normally Open)
(No Covers)
Type R, Form B-3

| List <br> No. | Volts | Ampere Capacity | Calibration <br> Operates on Reversal Amperes | Size of <br> Circuit Breaker Stud in Ins. | Shipping Weight l.bs. | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 43441 | 125 | 15 | 4 | $3 \%$ | 15 | \$77.88 |
| 43442 | 12\% | 25 | 6 | 38 | 1.5 | 77.88 |
| 102858 | 125 | 40 | 10 | ${ }^{3} 8$ | 1.5 | 80).52 |
| 43443 | 125 | 50 | 12 | 38 | 15 | (1). 52 |
| 102859 | 125 | 75 | 20 | 38 | 15 | 80.52 |
| $43+44$ | 125 | 100 | 25 | 38 | 1.5 | 80.52 |
| 43445 | 125 | 200 | 50 | 12 | 15 | 80.52 |
| 43446 | 125 | 300 | 75 | 58 | 15 | 80. 52 |
| 43447 | 125 | 500 | 125 | 7\% | 1.5 | 80.52 |
| 102860 | 125 | (i)0) | 150 | 1 | 15 | 88.44 |
| 43148 | 2.60 | 15 | 4 | 38 | 15 | 77.85 |
| 43449 | 250 | 25 | 6 | 38 | 1.5 | 7\%.88 |
| 102861 | 250 | 40 | 10 | ${ }^{3} 8$ | 1.5 | 80.52 |
| 43450 | 250 | 50 | 12 | $3 / 8$ | 15 | 80.52 |
| 102862 | 250 | 75 | 20 | 3,8 | 1.5 | 80.52 |
| 43451 | 250 | 100 | 25 | $3 \%$ | 15 | 80.52 |
| 43452 | 250 | 200 | 50 | 1/2 | 1.5 | 80. 52 |
| 43453 | 2.01 | 3010 | 75 | 5,8 | 1.5 | 81.52 |
| 43454 | 2\%) | 500 | 125 | 7/8 | 1.5 | (1).,52 |
| 102863 | 250 | (i)0 | 1.00 | 7/8 | 1.5 | 84.44 |
| 43455 | 650) | 15 | 4 | \% | 15 | 77.88 |
| 43456 | 6.50 | 25 | ( | \% | 1.5 | 77.88 |
| 102864 | (io) | 40 | 10 | 38 | 1.5 | 81.52 |
| 43457 | 6.90 | 50 | 12 | 3.8 | 15 | 80.52 |
| 102865 | 6.50 | 75 | 20 | 38 | 1.5 | 80.52 |
| 43458 | 6.50 | 100 | 25 | $3 / 8$ | 15 | 80.52 |
| 43459 | 650 | 200 | 50 | 12 | 1.5 | 8(1).52 |
| 43460 | (6,0) | 300 | 75 | 58 | 1.5 | 81). 52 |
| 43461 | 650 | 500 | 12\% | 7/8 | 15 | 80.52 |
| 102866 | 6.50 | (i0) | 150) | 1 | 15 | $8 \times .44$ |

## Direct Current-Overload--Low Tension

single pole circuit closing two contact
600 Volts or Less
Instantaneous
lnverse Time

| $\begin{gathered} \hline \text { Type P } \\ \text { Form } \\ \text { B-2.5 } \\ \text { List No. } \\ \hline \end{gathered}$ | Amp. Capacity | Calibration |  | Shpg Wgt. | List <br> Price <br> Each | Type P'Form ('25)ListNe.Ne | Amp. <br> Capacity | Calibration |  | Shpg. <br> Wigt. | Iist <br> Price <br> Eacl |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Min. | Max. |  |  |  |  | Min. | Max. |  |  |
| $64 \times 02$ | 15 | 10 | 25 | 20 | \$26. 10 | 1028:31 | 1.5 | 10 | 2.5 | 20 | 840.4 |
| 64803 | 25 | 1.5 | 40 | 20 | 27.72 | 102 $\times 132$ | 25 | 15 | 40 | 20 | 42.24 |
| (i4804 | 40 | 20 | 60 | 20 | 27.72 | 102833 | 40 | 20 | 10 | 20 | $42.2-$ |
| 64805 | 50 | 25 | 70 | 20 | 27.72 | 102834 | 30 | 2.5 | 75 | 20 | 42.21 |
| 64806 | 75 | 40 | 125 | 20 | $2-7 \cdot 3$ | 102835 | 75 | 40 | 12.5 | 20 | 42.21 |
| 64807 | 100 | 50 | 150 | 20 | 27.72 | 102536 | 100 | 50 | 150 | 20 | 42.24 |
| 120990 | 1.50 | 75 | 225 | 20 | 39.60 | 120902 | 1.50 | 75 | 2.5 | 20 | 52.80 |
| (i4)08 | 200 | 100 | 300 | 20 | 39.60 | 102 C 5 | 200 | 100 | 300 | 20 | 52. 80 |
| 64809 | 310 | 1:0) | 450 | 20 | $39.10)$ | 102N38 | 300 | 1.50 | 4.50 | 20 | 52.80 |
| 120991 | 400 | 200 | 600 | 30 | 12.24 | 120003 | 400 | 200 | (10) | 30 | 55.11 |
| 6.4810 | 500 | 251 | 750 | 30 | $4 \cdot 2.21$ | $10 \geq 2 \times 39$ | 500 | 2.0 | 750 | 30 | 25. 54 |
| 102829 | 600 | 300 | 900 | 30 | 59.40 | 102S-40 | (i) () | 300 | 90 | 30 | 72.60 |
| 64811 | 800 | 400 | 1200 | 35 | 59.10 | 102¢ 41 | 800 | 100 | 1200 | 35 |  |
| 1028830 | 1000 | 500 | 1500 | 35 | 66.00 | 102812 | 1050 | 500 | 1500 | 35 | 79.20 |
| 64812 | 1200 | 800 | 1800 | 3.5 | 71.28 | 102843 | $120{ }^{\circ}$ | 800 | 1800 | 35 | 84.48 |

[^11]
## G. E. RELAYS



Type P. Form Fio
Circuit Closing Relay


Type P, Form B-45
Solencid Control Relay With Support

## Alternating Current Relays-Low Voltage <br> INSTANTANEOUS--TYPEP, FORM F10 CIRCUIT-CLOSING TWO CONTACT 600 VOLTS OR LESS FOR MOUNTING ON FRONT OF PANEL

The contacts of this relay are simiar to those of circuit-closing overload relass except that they are inverted. These relays are connected directly acruss the line with proper resistance in spries with the relay coil. As long as the potential is normal the contact cone is held above the contacts. When the potential falls lowlow one-half normal the core and plunger rod drop and close the contact. This relay does not pick up its own plunger. The plunger rod is pushed up by hand after the potential circuit is established. I.ow-voltage relays are generally used in connection with a low-voltage release or shmt trip coil on an oil switch or a circuir breaher. They are used in conpection with motor-booster sets to prevent a disastrous speed of the booster which might result from the loss of alternating current power. lhey are also sometimes used for indicating purposes.

DOUBLE POLE
SINGLE POLE

|  | SINGLE | LE |  |  | U | LE POL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ipprox. Shpy. |  |  |  |  | rox. Sl |  |
| List |  | Wit. in | List | List |  |  | Wt. in | List |
| No. | Volts | Lbs. | Price | No. |  | oirs | I.bs. | Price |
| 102819 | 110 (125) | 10 | \$26.40 | 102824 | 110 | (12.) | 15 | \$42.24 |
| 102820 | 210 | 10 | 26.40 | 302825 | 210 |  | 15 | 42.24 |
| 102821 | 370 | 10 | 29.14 | 102-26 | 370 |  | 15 | 50.16 |
| 102822 | 480 | 10 | 29.14 | 102827 | +50 |  | 15 | 50.16 |
| 102823 | 600 | 10 | 29.14 | 102828 | t00 |  | 15 | 50, 16 |

List

## *OVERLOAD-LOW TENSION SERIES

Single Pole-Circuit-closing-Two Contact 600 Volts or Less-Back Connected for Mounting on Front of Panel


## Direct Current Relays

## SOLENOID CONTROL-TYPE P, FORM B-45

Single-Pole-circuit Closing-600 Volts or Less-For Use with Solenoid Operated Oil Switches and Circuit Breakers

Mounting. The support furnisied is soarranged that it may bemontod on flat surface or on vertical or horizontal pipe.
Construction. The 13-1, is sinular to :he B-10 exrept that tho break is lamen and more tapid. it flexible leal is providul between the movable contact armand irs support, insuring positive competion. Tho jelaty can be operated by means of the insulated button.

Contacts. Copper contants only are furnished and will control circuits of 150 amperess at $1: 5$ volts, T5 amperes at 250 volts and 25 amperes at 600 volts. Laelays will operate positively at one half of rated boltage.

| List * ${ }^{*}$ | Voltage of Control Cirruit | $\begin{aligned} & \text { For } \\ & \text { Mounting } \\ & \text { on } \end{aligned}$ | Cirmit | Approx. ship. Wit. in I.bs. | list Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ligasts | ${ }^{\text {cher }}$ | Panclor 1 lín. | fircist | 20 | \$21.60 |
| 175 | 2.50 | vertical or hori- | Oric | 20 | 24.30 |
| 177900 | 600 | zontal pipe. |  | 20 | 24.71 |

*list No. iurludas yoke for $1^{11}$ ínch pipe mounting For flat surface motatiog customer will substitute proper length bolts.

Prices on reverse phase, reverse zurrent and series overload relave low voltage and signal relays aent upon request.
Delivery F.O. B. Factors, Schejectady, N. Y. For warenouse deliveries write pearest house.

GARTON-DANIELS LIGHTNING ARRESTERS


N-1. 50092


No. 50088


No. $500 \times 9$


No. $500^{9} 1$

## Alternating Current Types

Garton-Daniels Alternating ('urrent, Arresters are furnished according to practically the same specifications applying to the direct current arresters listed on following page. They combine the well recognized prineiples of a small air gap, a low series resist anere and a circuit-breaker; these three features in renthination giving an arrester unsurpassed in points of efficiency, relisbility and curability.

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | Type | Voltage | Description | Dimensions Inches | Net Weight | Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 300 | T | lip to 350 | Iron covered | $83.631 / 2$ | $\because \mathrm{lb}$. 10 oxs. | 33.60 |
| 50014 | DF | Up to 350) | Station | $81 / 2 \times 3 \times 3$ | $23 / 4 \mathrm{lbs}$. | 7.68 |
| 50016 | DF' | Up to 350 | Iron covered | $121 / 2 \times 6 \times 4$ | $111 / 8 \mathrm{lbs}$. | 9.36 |
| 50015 | DF | Up to 350 | Wood covered | $131 / 2 \times 7 \times 6$ | $163 / 4 \mathrm{lbs}$. | 7.68 |
| 50017 | Fll | 350) 10 1,200 | Station | 101/2x $3^{5} / 8 \times 3$ | $48 / 4 \mathrm{lbs}$. | 8.40 |
| 50018 | FII | 350 to 1,200 | Iron covered | $141 / 8 \times 1 / 2 \times 41 / 2$ | 153/4 lbs. | 9.84 |
| 50019 | FH | $350)$ to 1,200 | Wood covered | $111 / 2 \times 7 \times 61 / 4$ | $83 / 4 \mathrm{lbs}$. | S. 40 |
| 50020 | CH | 1,200 to 2,500 | Station | $14 \times 31 / 2 \times 33$ | $63 / 4 \mathrm{lts}$. | 10. 56 |
| 50021 | CE | 1,200 to 2,5(0) | Iron covered | $1197 / 8 \times 6 \times 5$ | 21 its | 12.00 |
| 50022 | CF | 1,200 to 2,50 | Wood covered | $19 \times 71 / 2 \times 71 / 4$ | $121 / 2 \mathrm{lbs}$. | 10.56 |
| 50088 | CE-2 | 1,200 to 2,500 | Station type | $11 \times 43 / 4 \times 31 / 8$ | 8 libs. | 10.56 |
| 50083 | CE-2 | 1,200 to 2,500) | Wood covered | $18 \times 81 / 46114$ | $131 / 2 \mathrm{lbs}$. | 11). 56 |
| 50,329 | F-2S | $2,500-3 \mathrm{ph}$. $Y$ | Station type | $143 / 8 \times 43 / 4 \times 31 / 8$ | $111 / 2 \mathrm{lbs}$. | 12.00 |
| 50330 | F-2S | 2,500-3ph. Y | Wood covered | $201 / 2 \times 81 / 4 \times 61 / 4$ | $153 / 4 \mathrm{lts}$. | 12.00 |
| 50091 | F-2 | 2.500 to 3,500 | Station type | $143 / 8 \times 43 / 4 \times 31 / 8$ | $111 / 2 \mathrm{lbs}$. | 12.00 |
| 50092 | F-2 | 2,500 to 3,500 | Wood covered | $201 / 2 \times 81 / 4 \times 614$ | 153/4 lus. | 12.00 |
| 50093 | CF-2 | 3,500 to 5,000 | Station | $34 \times 8 \times 67 / 8$ | $261 / 2 \mathrm{its}$. | 22.32 |
| 50094 | CF-2 | 3,500 to 5,000 | Wood covered | $33 \times 13 \times 15 \frac{1}{2}$ | 49 lths. | 22.32 |
| 50095 | F-2 | 5,000 to 6,600 | Station | $39^{3} / 4 \times \times 171 / 2$ | 41 lbs . | 2×. 56 |
| 50096 | F-2 | 5,000 to 6,601) | Wood covered | $38 \times 13 \times 151 / 2$ | 55 ltse. | $2 \times .56$ |
| 50442 | F-2S | *6,600 8. ph. | Station Type | $561 / 2 \times \times 171 / 2$ | 58 llos. | 46.92 |
| 50443 | F-2S | *6,600 s. ph. | Wood Covered | $565 / 8 \times 13 \times 151 / 2$ | 69 lıe. | 46.92 |
| 50097 | CF-2 | 6,600 to 7,500 | Station | $48 \times \times \times 171 / 2$ | 46 Itrs. | 43.68 |
| 50098 | CF-2 | 6,600 to 7,500 | Wood covered | $49 \times 13 \times 151 / 2$ | 59 lhs. | 43.68 |
| 50099 | F-2 | 7,500 to 8,510 | Station | $561 / 2 \times 8 \times 171 / 2$ | 58 He. | 46.92 |
| 50100 | F-2 | 7,500 to 8,500 | Wood covered | $565 / 8 \times 13 \times 151 / 2$ | 691 Ms. | 46.92 |
| 50101 | F-2 | 8,500 ta 10,0010 | Station | $73 \times 8 \times 18$ | 71 ll s. | 58.32 |
| 50102 | F-2 | 8,500 to 10,000 | Wood covered | $71 \times 13 \times 151 / 2$ | 93 lis. | 58. 32 |
| 50103. | F-2 | 10,000 to 12,500 | Station | $89 \times 8 \times 18$ | 89 liss. | 73.08 |
| 50104 | F-2 | 10,000 to 12,500 | Wood covered | $871 / 2 \times 13 \times 151 / 2$ | 116 hrs | 73.08 |
| 50105. | F-2 | 12,500 to 15,00) | Station | $106 \times 8 \times 18$ | 106 lis. | 88.68 |
| 50106. | F-2 | 12,500 te 15,000) | Wood covered | $104 \times 13 \times 151 / 2$ | 139 llis. | 85.68 |
| 50107 | F-2 | 15,000 to 17,510 | Station | $122 \times 8 \times 18$ | 123 lis. | 106. 80 |
| 50108. | F-2 | 17,500 to 20,000 | Station | 139 8 $8 \times 18$ | 140 Its. | 120.00 |

## Alternating Current Arc Arresters

| $50020 \ldots \ldots \ldots$ | CE |
| :--- | :--- |
| $50021 \ldots \ldots \ldots$ | CE |
| $50022 \ldots \ldots$ | CE |
| $50091 \ldots \ldots$ | $\mathrm{~F}^{\prime}-2$ |
| $50092 \ldots \ldots$ | F-2 |
| $50093 \ldots \ldots$ | CE-2 |
| $50094 \ldots \ldots$. | CE-2 |

Up to 2,500
Up to 2,500
2,50 to 2,500
2,500 to 3,500
2,500 to 3,5100
3,500 to 5,000
3,500 to 5,000
Station
Iron Covered
Wood Covered
Station
Wood Covered
Station
Wood Covered

## GARTON-DANIELS LIGHTNING ARRESTERS



No. 5001:


No. 50011


No. 50401


No. 50400

## Direct Current Types

Direct current arresters, station type, are furnished with highly polished and lacquered metal work. Pole or car arresters have a dipped metal finish, but aside from this, are the same as the station type. Pole and car arresters are furnished in either wooden or iron covers, as required. Iron covers are, however, not furnished on the Types EII, EI and EJJ arsesters. Both covers are of standard design, fitted with insulated bushings for the leading-in wires and the arrester carefully insulated from the cover.

| List Ne. | Type | Voltage | Description | Limensions Inches | Wt. Lbs. | List <br> l'rice Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50914 | DF | Up to 350 | Station type | $81 / 2 \times 3 \times 3$ | 23/4 | \$7.68 |
| $50 \times 16$ | 1)F | Up to 3.50 | Iron covered | $121 / 2 \times 6 \times 4$ | 111/8 | 9.36 |
| 50015 | 1) F | Tp to 3.50 | Wood covered | $131 / 2 \times 7 \times 6$ | 63 | 7.68 |
| 501339 | EG | 350 to 750 | Station type | $97 / 8 \times 35 \times 3$ | $41 / 2$ | 10.08 |
| 50040 | F (1 | 350 to 750 | Iron covered | $131 / 2 \times 61 / 2 \times 41 / 2$ | 131/2 | 11.52 |
| 50041 | EG | 350 to 750 | Wood covered | $1412 \times 7 \times 61 / 4$ | 81/2 | 10.08 |
| 11779 | FG | 350 to 750 | Iron car | $131 / 2 \times 61 / 2 \times 41 / 2$ | 131/2 | 11.52 |
| 11780 | E( ${ }^{\text {a }}$ | 350 to 750 | Wood car | $14 \times 7 \times 61 / 4$ | $81 / 2$ | 10.08 |
| 50938 | FH | 750 to 13109 | Station | $19 \times 41 / 2 \times 31 / 8$ | $111 / 2$ | 20.16 |
| 50339 | EH | 750 to 1300 | Wood car | $251 / 4 \times 83 / 4 \times 73 / 4$ | 211 | 20.16 20.16 |
| 50400. | EII | 7 FiO to 1300 | Wood covered | $211 / 2 \times 101 / 2 \times 63 / 4$ | 211/2 | 20.16 |
| 50401 . | El | 1300 to 1500 | Station | $19 \times 41 / 2 \times 31 / 8$ | $111 / 2$ | 23.04 |
| 50402 . | EI | 1300 to 1500 | Wood car | $251 / 4 \times 83 / 4 \times 73 / 4$ | 21 | 23.04 |
| 50403. | EI | 1300 to 1500 | Wood covered | $211 / 2 \times 101 / 2 \times 63 / 4$ | $211 / 2$ | 23.04 |
| 50404. | E.J | 1500 to 1800 | Station | $19 \times 41 / 2 \times 31 / 8$ | 111/2 | 24.48 |
| 5040\%. | EJ | 1500 to 1800 | Wood car | $251 / 4 \times 83 / 4 \times 73 / 4$ | 21 | 24.48 |
| 50406. | EJ | 1500 to 1800 | Wood covered | $211 / 2 \times 101 / 2 \times 63 / 4$ | $211 / 2$ | 24.48 |
| 50426. | E15 | 1800 to 2400 | Station | $49 \times 8 \times 171 / 2$ | 45. | 46.08 |
| 50427 . | EK | 18010 to 2400 | Wood Covered | $49 \times 13 \times 151 / 2$ | 58 | 46.08 |

## Direct Current Arc Arresters

Siandard types of Garton-Danits Arc Circuit Lightning Arresters are listed below. Theze will meet practically all standard conditions. Arrestrers for higher voltages, or for special conditions, can be furnished to order.

## Description and List Prices

| List No o | Type | Voltage of Circuit | Description | Net Weight Each | Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50077 . | BD | Up to 4000 | Station type | $63 / 4 \mathrm{lbs}$. | \$12.68 |
| 50 )78. | $B D$ | Tp to 4000 | Wood covered | $121 / 2 \mathrm{lbs}$. | 12.86 |
| 50073. | BD | 4000 to 6000 | Station type | 20 lbs. | 31.68 |
| 50074. | BD | 4000 to 6000 | Wood covered | $261 / 2 \mathrm{lbs}$. | 31.68 |

## GARTON-DANIELS LIGHTNING ARRESTERS



Panel Board for 600 Volt I). C. Railway Service. Front View


Panel Board for 2500 Volt A. C. Service Front View


Side View of 2500 Volt A. C. Panel Board Showing Supporting Insulators

## Panel Board Types

Garton-Daniels Panel Board Arresters are especially designed for the protection of electrical machinery, either A. C. or D. C., where lightning conditions are unusually's severe.

The line or feeder runs to the upper choke coil terminal while to the lower choke coil terminal is connected the feeder from the apparatus to be protected.

The upper lightning arrester unit is connected on the line side of the first choke coil; each of the other two bring connected ahead of the other coils. These units are suppliesl with a common ground, the connectors being run in back of the two lower units as ean be seen in the illustrations.

As to the operation of this arrester, assume that a charge has been set free on the line. The first choke coil chokes back most of this and discharges it over the first arrester unit. The leakage charge through the first choke coil must, as can be seen, pass two other choke coils before it can get into the apparatus. Almost perfect lightning protection therefore may be expected on apparatus protected with these panel board arresters.

These panel board arresters are designed especially for the protection of apparatus up to 6600 volts A. C., up to 2500 volts I. C., railway, and up to 6000 volts D. C., are, and are furnished in any ampere capacity for voltages within this range.

They are made in double and triple type, one of either type being necessary for the protection of each wire rumning into or from the apparatus to be protected. They are furnished regularly for station use only, as operating companies usually desire to build small arrester houses to house them for cutside installations.

Station panel boards are mounted on heavy impregnated oak frames and are furnished complete with insulators for their installation. The arrester units are furnished with highly polished and lacquered metal work. Choke coils are of copper, black enameled and baked.

## DIRECTIONS FOR ORDERING

In ordering Garton-Daniels Panel Board Lightning Arresters, is is necessary that the following informa-
be given: tion be given:

Type desired-Double or triple.
Class of circuit-D. C. or A. C. If D. C., whether grounded or ungrounded, single, two or three wire. If A. C., whether single, two or three phase; two, three or four wire grounded or ungrounded.

Voltage of circuit.
Amperes per wire in D. C. work or per phase in A. C. work.
Size of wire or cable for which terminals are to he provided, and number of terminals for heavy capacity circuits.

List Prices. For estimating purposes only, an approximate list price may be obtained on GartonDaniels Panel Board Arresters by adding together the list prices of the arrester units suited for the voltagof circuit (two units for double type, three for triple type), the list price of suitable capacity, AF or AMF choke coils, and adding to this sum $\$ 20.00$. The list price so obtained will be approximate, and is subject
to regular discounts.

## GARTON-DANIELS CHOKE COILS



Type S Choke Coil


AMF Choke Coil


Car Choke Coil

## Standard Types

Choke coils regularly carried in stock are listed below. Coils of higher ampere capacity than these will te furnished to order. In ordering choke coils always give the following information: manufacturer's number, eapacity in amperse, size of wire or cable for which terminals are to be provided, number and size of termitals on each end when ordering type AMF coils, mounting, standard or special.

| Description and List Prices |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Type | Capacity | Dimensions in Inches | Net Weight Each | List <br> Price Each |
| 50042 | S | 10 Amp. | Diam. $65 / 8 \times 21 / 2$ | 4 lbs. | \$4.32 |
| 50043 | S | 20 Amp. | Diam. 65/8x $21 / 2$ | 4 lbs. | 5.76 |
| 5004 年 | S | 30 Amp. | Diam. $65 / 8 \times 21 / 2$ | 4 lbs. | 6.92 |
| 50045 | S | 40 Amp . | Diam. $65 / 8 \times 21 / 2$ | 4 lbs. | 8.08 |
| 50046 | S | 50 Amp. | Diam. $81 / 8 \times 3 \frac{7}{16}$ | $91 / 4 \mathrm{lbs}$. | 9.60 |
| 50047 | S | 100 Amp. | ${ }^{\text {D }}$ Diam. $81 / 8 \times 3 \frac{7}{16}$ | $91 / 4 \mathrm{lbs}$. | 10.20 |
| 50048 | S | 125 Amp. | Diam. $81 / 8 \times 3 \frac{7}{16}$ | $91 / 4 \mathrm{lbs}$. | 10.80 |
| 50019 | S | 175 Amp. | Diam. $95 / 8 \times 3 \frac{9}{16}$ | $16 \% / 4 \mathrm{lbs}$. | 12.09 |
| 50050 | S | 225 Amp. | Diam. $95 / 8 \times 3 \frac{9}{16}$ | 161/4lbs. | 12.60 |
| 50051 | S | 260 Amp. | Diam. $95 / 8 \times 3 \frac{9}{16}$ | $16 \% / 4 \mathrm{lbs}$. | 13.20 |
| 11781 | Car | 75 Amp. | 101/2 $\times 43 / 8 \times 43 / 4$ | $83 / 4 \mathrm{lbs}$. | 3.40 |
| 11782 | Car | 125 Amp. | $101 / 2 \times 45 / 8 \times 43 / 4$ | 10 lbs . | 9.32 |
| 11783 | Car | 150 Amp. | 101/2× $43 / 8 \times 5$ | $103 / 4 \mathrm{lbs}$. | 10.20 |
| 11784 | Car | 175 Amp. | 101/2 $\times 43 / 8 \times 5$ | $11 / 2 \mathrm{lbs}$. | 11.12 |
| 1178.3 | Car | 200 Amp. | $101 / 2 \times 43 / 8 \times 5$ | $121 / 4 \mathrm{lbs}$. | 12.00 |
| 50052 | AF | 50 Amp . | 101/2× $43 / 8 \times 5$ | $81 / 2 \mathrm{lbs}$. | 11.88 |
| 500:53 | AF | 125 Amp. | 101/2 $\times 43 / 8 \times 5$ | $81 / 2 \mathrm{lbs}$. | 13.20 |
| 50034 | AF | 160 Amp. | $12 \times 5 \times 5$ | 11 lbs. | 13.80 |
| 5005.7 | AF | 200 Amp. | $12 \times 5 \times 5$ | 111/2 lbs. | 14.28 |
| 500:55 | AF | 250 Amp . | $12 \times 5 \times 5$ | $121 / 4 \mathrm{lbs}$. | 14.52 |
| 50057 | AF | 325 Amp. | $5 \times 151 / 2 \times 45 / 8$ | $151 / 2 \mathrm{lbs}$. | 15.84 |
| 50058 | AT | 400 Amp . | $5 \times 16 \times 4 \frac{17}{16}$ | 183/4 lbs. | 22.44 |
| 50059 | AF | 500 Amp. | $5 \times 163 / 8 \times 4 \frac{15}{16}$ | $211 / 4 \mathrm{lbs}$. | 33.00 |
| 50090 | AMF | 600 Amp. | $10 \times 17 \times 45 / 8$ | $333 / 4 \mathrm{lbs}$ | 35.64 |
| 50001 | AMF | 800 Amp . | $10 \times 181 / 2 \times 4 \frac{12}{16}$ | 3734 lbs . | 42.24 |
| 50062 | AMF | 1,000 Amp. | $10 \times 207 / 8 \times 4 \frac{15}{16}$ | 483/4 lbs | 59.40 |
| 50063 | AMF | 1,200 Ainp. | $12 \times 22 \times 45 / 8$ | $651 / 2 \mathrm{lbs}$. | 66.00 |
| 50064 | AMF | 1,500 Amp. | $12 \times 22 \times 4 \frac{15}{16}$ | 72. | 80.52 |
| 50065 | AMF | 1,600 Amp. | $14 \times 23 \times 4 \frac{11}{16}$ | $893 / 4 \mathrm{lbs}$ | 89.76 |
| 50065 | $A M F$ | 2,000 Amp. | $14 \times 23 \times 4 \frac{18}{18}$ | 102 lbs | 126.72 |

## GARTON-DANIELS CHOKE COILS



## Garton-Daniels Choke Coils

Type L choke coils, as illustrated above, are designed for indoor service. The Type LU choke coils are of the underhung type and are designed particularly for outdoor service. The Type II choke coils are of the well-known "hour glass" type and are for indoor service. Type llU choke coils are of the underhung type and are designed particularly for outdoor service.

All types of choke coils listed are made with a base of channel iron, into which iron pins are riveted and insulators cemented to these pins support iron caps, which in turn support the terminal blocks and coil proper. Channel bases in all types are drilled with ${ }^{[6}$ inch holes in each end; the coil may so be mounted on any flat supporting member by bolts or lags; or ly the use of pipe clamps described and listed in following pages they may be readily supported by piping.

| List | Type | Voltage | Caparity Amperes | List Price Each | List No. | Type |  | Capacity Amperes | Iist Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50445 | I | Up to 3000 | 50 | \$20.40 | 5048:3 | Lup | 3000 to fition | Amperes 100 |  |
| 50446 |  | Up to 3000 | 100 | 21.60 | 50484 | Lid | 33000 to 3 difit) | 100 500 | \$36.00 |
| 50447 | 1. | Up to 3000 | 150 | 22.80 | 50485 | LU | 3000 to (itiox) | 500 | 39.60 |
| 50448 | L | Up to 3000 | 200 | 24.00 | 50486 | LU | 3000 to (10\%) | 800 | 43.20 48.00 |
| 50449 | I. | Up to 3000 | 250 | 25.20 | 50491 | LU | 6600 to 13200 | 100 | 48.00 36.00 |
| 50450 | 1 | Up to 3000 | 300 | 27.60 | 50492 | LU | 6600 to 13200 | 200 | 36.00 39.60 |
| 50452 | 1 | Up to 3000 | 400 | 30.00 | 50493 | IU | 6600 to 13320 | 300 | 43.20 |
| $504 \overline{5} 3$ | L | Up to 3000 | 500 600 | 33.60 37.20 | 5049.4 50498 | LU | 6600 to 13200 | 400 | 46.80 |
| 50454 | I, | Up io 3000 | 800 | 43.20 | 50499 | LU | 13200 to 23000 | 100 | 42.00 |
| 50455 | 1. | Up to 3000 | 1000 | 55.20 | 50500 | LU | 13200 to 233000 | 200 | 45.60 |
| 50456 | 1 | Up to 3000 | $12(\%)$ | 68.40 | 50503 | LU | 23000 to 35000 | 100 | 49.20 48.00 |
| 50469 | 1. | 3000 to 6600 | 50 | 26.40 | 50504 | LU | 23000 to 35000 | 200 | 48.00 54 |
| 50470 | 1. | 3000 to 6600 | 100 | 28.80 | 50505 | H | Up to 6600 | 50 | 58.00 <br> 28.80 <br> 8 |
| 50471 50472 | 1. | 3000 to 6600 | 150 | 30.00 | 50503 | H | Up to 6600 | 100 | 31.20 |
| 50473 | ${ }_{1}$ | 3000 to 6600 | 200 | 31.20 | 50.507 | II | Up to 6600 | 150 | 32.40 |
| 50474 | L | 3000 to 6600 | 300 400 | 33.60 36.00 | 50508 50509 | ${ }_{H}$ | Up to 6600 | 200 | 33.60 |
| 50475 | 1. | 3000 to 6600 | 500 | 39.60 | 50510 | H |  | 300 | 36.00 |
| 50476 | 1 | 3000 to 6600 | 600 | 43.20 | 50511 | H | Up to 66600 | 400 500 | 37.60 |
| 50477 | , | 3000 to 8600 | 800 | 48.00 | 50519 | H | 6600 to 13200 | 50 | ${ }^{43} \mathbf{4 3}$ |
| 50487 | L | 6600 to 13200 | 100 | 36.00 | 50520 | H | 6600 to 13200 | 100 | 42.00 |
| 50489 | I, | 6600 6600 to to 132200 | 200 300 | ${ }^{39} 420$ | 50521 | H | 6600 to 13200 | 200 | 45.60 |
| 50490 | 1. | 6600 to 13200 | 400 | 46.80 | ${ }_{50523}$ | ${ }_{\mathrm{H}}^{1}$ | 6600 to 13200 | 300 | 48.80 |
| 50495 | I | 13200 to 23000 | 100 | 42.00 | 50529 | ${ }_{\mathrm{H}}^{\mathrm{H}}$ | 6600 13200 to 132000 23000 | 400 | 50.40 |
| 50496 | 1 | 13200 to 23000 | 200 | 45.60 | 50530 | H | 13200 to 23000 | 200 | 49.40 49.20 |
| 50497 | I | 13200 to 23000 | 300 | 49.20 | 50531 | H | 13200 to 23000 | 300 | 52.80 |
| 50501 | L | 23000 to 35000 |  | 48.00 | 50535 | H | 23000 to 35000 | 100 | 51.60 |
| 50502 | ${ }_{\text {L }}$ | 23000 to 35000 | 200 | 54.00 | 50536 | H | 23000 to 35000 | 200 | 57.60 |
| 50459 | ITU | Up to 3000 | 100 | 22.4 | ${ }_{50513}$ | HIT | Up to 6600 | 50 | 28.80 |
| 50459 | LU | Up to 3000 | 150 | 22.80 | ${ }_{50514}$ | $\mathrm{HU}^{\text {Hu}}$ | Up to 6fion | 100 | $31.20)$ |
| 50460 | LU | Up to 3000 | 200 | 24.00 | 50515 | HU |  | 150 200 | 32.40 |
| 50461 | 10 | Up to 3000 | 250 | 25.20 | 50516 | HU | Lp to 6600 | 300 | 33.60 36.00 |
| 50462 | ${ }_{10}^{10}$ | Up to 3000 | 300 | 27.60 | 50517 | HU | Tp to 6600 | 400 | 39.60 |
| 50463 | LU | Up to 3000 | 400 | 30.00 | 50518 | MU | Tod to 6600 | 500 | 43.20 |
| 50465 | LU | Up to 300\% | 600 | 33.60 37 | 50524 50525 | $\stackrel{\mathrm{HU}}{\text { He }}$ | 6600 to 13200 | 50 | 38.40 |
| 50466 | LU | Up to 3000 | 800 | 43.20 | 50526 | HU | G6iot to 13200 | 100 200 | 42.00 |
| 50467 | LU | Up to 3000 | 1000 | 55.20 | 50527 | HU | 6600 to 133200 | 300 | 46.80 |
| 50468 | LU | Up to 3000 | 1200 | 68.40 | 50528 | HU | 6600 to 132000 | 400 | 50.40 |
| 50478 | LU | 3000 to 6600 | 50 | 26.40 | 50532 | IU | 13200 to 23000 | 100 | 44.40 |
| 50480 | IU | 3000 to 6600 | 170 | 28.80 300 | 50533 5053 | $\xrightarrow{\mathrm{HU}}$ | 13200 to 23000 13200 to 230000 | 200 | 49.20 |
| 50481 | LU | 3000 to 660\% | 200 | 31.20 | 50537 | HU | 23000 to 350000 | 300 100 | 52.80 |
| 50482 | LII | 3000 to 6600 | 300 | 33.60 | 50538 | HU | 233000 to 35000 | 200 | 57.60 |

## Directions for Ordering

In ordering choke coils and disconnecting switches it is necessary to give the following information in order that the coils may exactly meet requirements.

List number; voltage; capacity in anperes; size of wire or calble for which terminals are to be provided; number and size of terminals on each end when ordering Type AMIF and high voltage coils; mountingstandard or special, and drillings in base, if other than standard drillings are required.

## GARTON-DANIELS GROUND FITTINGS AND ARRESTER HANGERS



Garton-Daniels Ground Fittings

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Drilled for Wire | Dimensions in Inches | Net Wit. Each | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| For Three-Quarter Inch (3/4in.) Pipe |  |  |  |  |  |
| 50079 | Brass (tal | No. 4 or i solid | $1 \times 13 / 4 \times 11 \times 2$ | 5 oz . | \$0.56 |
| 50.128 | 1hass ( | No. 0 cahle or solid | $1 \times 2 \times 11 / 2$ | (; 0z. | . 56 |
| 50429 | Ibrase ( ap ) | $1 / 4 \mathrm{in}$. cable | $1 \times 2 \times 11 / 2$ | 6 nz . | .56 .48 |
| 50080 | 1rass ( 0 mpling. | No. 4 or 6 solid |  | 5 <br> 6 nz <br> 8. | 48 |
| 50430 | 13rass Coupling. . . . . . . . | No. 0 cable or solid |  | $\begin{aligned} & 6 \mathrm{oz} . \\ & 8 \mathrm{oz} . \end{aligned}$ | . 56 |
| 50081 50431 | Malk ${ }^{\text {able Point (oxtornal typ) }}$ Malleable Joint (internal type). |  | $33 / 2 \times 1 \frac{9}{16} \times 1{ }^{3} 6$ $=3 / 4 \times 1 \times 1$ | $\begin{aligned} & 8 \mathrm{oz} . \\ & 7 \mathrm{oz} . \end{aligned}$ | 56 48 |
| 42292 | ( ialvanized Pipe Tre....... |  | Standard $3 / 4 \mathrm{in}$. | 10 oz . | 20 |
| 50440 | Calvanized lipe Coupling. |  | Standard $3 / 4 \mathrm{in}$. $12 \times 12 \times 3 / 4$ | 911 | 1.20 |

For One lnch (1 in.) Pipe

| 50483 | Lrass C'ip | No. 4 or 6 solid | $1 \times 21 / 8 \times 13 / 4$ | 602. | \$0.68 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50433 | Irass (ap) | No. 0 calule or solirl | $1 \times 21 / 4 \times 13 / 4$ | 7 oz . | . 68 |
| 50434 | lrass ('ap | $1 / 4 \mathrm{in}$. cable | $1 \times 21 / 4 \times 13 / 4$ | 7 oz . | 68 |
| 50435 | 13rass Coupling | No. 4 or 6 solid | $1 \frac{1}{1} \frac{1}{6} \times 2 \frac{1}{16} \times 13 / 4$ | oz. | 6 |
| 50436 | 13rass Coupling | No. 0 cable or solid | $1 \frac{1}{16} \times \times 2 \frac{3}{16} \times 13 / 4$ | 8 oz . | 60 |
| 50437 | Malleable Point (external type) |  | $33,4 \times 1 \frac{1}{16} \times 1 \frac{16}{16}$ | 13 oz . | 68 |
| 50.438 | Mralleable Point (internal type) |  | $31 / 4 \times 13 / 8 \times 13 / 8$ | 11 oz . | . 60 |
| 50439 | ( ${ }^{\text {alvanized l'ipe Tre. . . . . }}$ |  | Standard 1 in . |  | 2 |
| 50441 | Galvanized lipe Coupling |  | Standard 1 in . |  |  |

BONDS, CONNECTORS, *POLE BANDS, GROUND WIRE DISCONNECTORS
35 Type P4A Bond, No. 0 IS \& S Cable, $1 / 2 \mathrm{in}$. terminal
per 100
per 100
each
$\$ 79.20$
36 Type O5A Jond, No. 0 B \& S Solid, $1 / 2$ in. terminal.
each
67.20
$1234 i$ (Ylindrical Wire Connector for No. 4 or 6 B \& $S$ Solid
each
12344 (ylindrical Wire Connector for No. 0 B \& S Solid.
er doz
50331 Iron Pole Band for $65 / 8 \mathrm{in}$. pole per doz.
per doz.
50333 Iron Pole Band for $8 \frac{5}{8} \mathrm{in}$. pole
each
14 (iround Wire Disconnect or for No. 4 or
*Pole Bands inelude pole band brackets for attanding to the regular wook or iron eovers.
*Pole Bands inelude pole band brackets for attalding to the regular wood or iron covers


Style A


Style B


Style C


Style D


Style E

Garton-Daniels Lightning Arrester Hangers

## List No.

## Description

List Price Each
List No. Style A Hanger, $31 / 4$ or $31 / 2 \mathrm{in}$., single arm, made from iron strap $11 / 2 \times \frac{3}{32} \mathrm{in}$.
50421 Style
50422 Style B Iranger, $31 / 4$ or $31 / 2 \mathrm{in}$, single arm, made from iron strap $11 / 2 \times \frac{3}{32} \mathrm{in}$.
50422 Style B Ilanger, $31 / 4$ or $31 / 2 \mathrm{in}$., single arm, made from iron strap $11 / 2 \times \frac{3}{3^{3}} \mathrm{in}$.

50424 Style D Hanger, double arm, made from iron strap $1 \times \frac{3}{3^{2}}$ in. .
50425 Style E Hanger, double arm, made from iron strap $1 \times \frac{3}{32}$ in60


The line of Keystone lightning arresters-"the expulsion arrester"-are designed principally for the protection of transformers and similar apparatus.

These arresters combine in a marked degree the desirable features of low first, cost, ease and cheapmess of installation, ease of inspection and very desirable operating characteristics. They are not at all designed to supplant or supersede the standard (iarton-I aniels light ning arresters, which arresters are recommended for use in protecting important insta'lations of line and station apparatus.

The expulsion arrester fills the demand for an inexpensive arrester, an arrester that is self-contained, that is easy to install and inspeet, that is suall enough to be installed direetly on the transformer pole without crowding and that will give efficinut lightning proteretion.

Types $N$ and NS neutral arresters listed below are designed for proteeting the neutral wire of transformersinstalled on grounded neutral circuits, where the neut ral wire is grounded only at power or sul)-station, and not cead grounded at the transformer installation. They are of the self-contained type, consisting of non-areing metal clectrobes separatet hy a small air gap, the whole being enclosed in a glazed porcelaing body. The type $N$ arrester is suphicd with an iron band which slips ovor the arrester body, so allowing same to be aftached to the cross arm or other supporting means. The type NS arrester is designed to be hung directly from the line wire. Maximum height of either type is $25 / 8$ inches; width, $31 / 4$ inches.

| List Ne. | Description | Mfrs. List Each | W. E. List Each |
| :---: | :---: | :---: | :---: |
| 50633 | Type FX, Form 1 arrester, 1200 to 2500 volis A.C. | \$6.50 | \$7.80 |
| 50633 | Type lix, Form 2 arrester, 2500 to 3500 volts A C. | 7.80 | 9.31 |
| $51033 \%$ | Type 1UX, Form 3 arrester, 2.500 volt 2 and 3 phase | 7.80 | $9 . .36$ |
| 50640 | Type IEX, Form 4 arrester, $3.5(0)$ to 5000 volts A.C. | 14.50 | 17.40 |
| 50641 | Type EX, Form 5 arrester, $500 \%$ to 6000 volts A.(\% | 18.00 | 21.40 |
| 50742 | Type N neutral arrester for cross arm mounting. | 1.50 | 1.80 |
| 50 m 43 | Tybe NS neutral arrester for line suspension. | 1.45 | 1.74 |


| Dimensions of Expulsion Type Lightning Arresters |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | A | B | C | D | E | F | G | Net Wt. |
| No. | Inches | Inches | Inches | Inches | Inches | Inches | Inches | Each |
| 50639 | 103/4 | 278 | $21 / 8$ | 53.4 | 25/8 | 41/8 | 43/4 | 7 |
| 50133 | $113 \%$ | $27 / 8$ | 218 | $6^{3} 8$ | 25\% | $41 / 8$ | 433 | $71 / 4$ |
| 506315 | 113/8 | $27 \%$ | $2!18$ | 638 | 25/8 | $41 / 8$ | $43 / 4$ | $71 / 4$ |
| $50+40$ | $2097 / 8$ | $61 / 4$ | 18 | 41/8 | $41 / 2$ |  | , | $22^{*}$ |
| 50641 | $271 / 2$ | $61 / 4$ | 18 | $41 / 8$ | $41 / 2$ |  |  | 221/2 |

## G. F. EXPULSION FUSES


'Single Pole Fuse Hlock for 2500 Volts


Single Pole Fuse Block for 7500 Volts

# Expulsion Fuse Holders and Fuses 

Type T, Form D-3

The TD-3 expulsion fuse is a simple and effective device for operating on overload and short circuit conditions.

Capacities 100 and 200 amperes 2500 and 7500 volts.
This fuse holder consists of a heavy insulated metal bulh or explosion chamber into which is serewed a fiber tube. At each end ace contact blades and accessible binding screws for the fuse, the lower binding screw being carried on the screw plug in the "breech" of the explosion chamber.

The fuse proper which passes through the tube and bulh is made of comparatively small cross section at the lower end, to insure rupturing inside the bulb. The explosion and sudden expansion of gases expels the are and fused metal and effectively opens the circuit.

These fuses are assembled in the form of complete fuse blocks, single, double and triple-pole, both 2500 and 7500 volts, and four-pole for 2500 volts.

The clips for the 2500 volt fuse holders are mounted directly on marble base of panel, while those for the 7500 volt holders are mounted on one piece porcelain insulators, which in turn are mounted on slate base or panel.

Barriers are provided for the double, triple and four-pole fuse blocks on bises.
Single pole elements complete with contact clips, but without bases, are listed separately for vanel mounting. The necessary harriers are also listed in the same way.

100 Amperes, 2500 Volt Fuse Blocks

| No. of Poles | Mounted | Barriers | Front Connected |  | Eack Connected |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | List <br> No. | List Price Each | List <br> No. | List Price Each |
| 1 | On Base. | Without | 59443 | \$22.44 | 59447 | \$23.76 |
| 2 | On Base. | With | 59444 | 51.48 | 59448 | 54.12 |
| 3 | On lase. | With | 59445 | 80.52 | 59449 | 84.48 |
| 4 | On Base. | With | 59446 | 109.56 | 59450 | 113.52 |
| 1 | For Panel | Without | ..... | ...... | 59451 | 15.84 |
| 200 Amperes, 2500 Volt Fuse Blocks |  |  |  |  |  |  |
| 1 | On Base | Without | 59452 | \$29.04 | 59456 | \$31.68 |
| 2 | On Base. | With | 59453 | 69. ${ }^{(6)}$ | 59457 | 75.24 |
| 3 | On Base. | With | 59454 | 109.56 | 59458 | 116.16 |
| 4 | On liase. | With | 59455 | 147.84 | 59459 | 155.76 |
| 1 | For Panel | Without | ..... | . ..... | 59460 | 23.76 |
| 100 Amperes, 7500 Volt Fuse Blocks |  |  |  |  |  |  |
| 1 | On Base. | Without | 59461 | \$29.04 | 59464 | \$33.00 |
| 2 | On Base. | With | 59462 | 69.96 | 59465 | 77.88 |
| 3 | On Base. | With | 59463 | 105.60 | 59466 | 121.44 |
| 1 | For Panel | Without |  |  | 59467 | 27.72 |
| 200 Amperes, 7500 Volt Fuse Blocks |  |  |  |  |  |  |
|  | On Base. | Without | 59468 | \$38.28 | 59471 | \$63. 56 |
| 2 | On Base. | With | 59469 | 87.12 | 59472 | 99.00 |
| 3 | On Base. | With | 59470 | 135.96 | 59473 | 151.80 |
| 1 | For Panel. | Without |  |  | 59474 | 34.32 |

[^12]
## G. E. EXPULSION FUSE HOLDERS

| Separate Holders-Without Fuses |  |  |  | Single Barriers for Fuse Blocks |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Type | m D-3 | List Price |  |  | ng of Fuse | ock | List Price |
| List No. | Volts | Amperes | Each | List No. | Volts | Amperes | Material | Each |
| 50475 | 2500 | 100 | \$9.24 | 75935 | 2500 | 100 | Marble | \$10.56 |
| 50476 | 2500 | 200 | 15. 84 | 75036 | 2500 | 900 | Marble | 13.20 |
| 59477 | 7500 | 100) | 10.56 | 75937 | 7500 | 100 | Slate | 10.56 |
| 59478 | 7500 | 200 | 17.16 | 70938 | 7500 | 200 | Slate | 10. 56 |

Prices on fuse holders 22,000 to 110,000 volts on application.

## Operating Hooks for Expulsion Fuses

The fuse holder may be easily removed from the clip by means of a suitable operating hook, which should always be used, thus eliminating danger to the operator.
lating of Fuse Holder


Fuses are of special metal and have tubular asbestos coverings.
The ampere rating given is the normal carrying capacity of the fuse, and is about 60 per cent. of the load at which it will rupture.

# Fuse Holders, Complete with Fuses Type T, Form D 2 <br> For Use with Potential Transformer Fuse Blocks 

Distance Between

| Fuse Holders |  |  | Distance Between |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Used with fuse blocks listed above, also wi | Contact ( l (ip |  |  |
| List | Includes Fuse |  | potential transformers having fuse clips | Centers in | Approx. Ship. | List |
| No. | List No. | Volts | on transformer terminals | Inches | Wt. ir. Lb. | Price |
| 121100 | 121101 | (600 | On transformer | 5 | 3 | \$3.30) |
| 121074 | 121076 | ${ }^{6} 600$ | Separate mounting. | $83 / 4$ | 5 | 3.96 |
| 121074 | 121076 | 15000 | Separate mounting. | $83 / 4$ | 5 | 3.96 |
| 121075 | 121077 | 15000 | On transformer. | $111 / 2$ | 5 | 4.62 |
| 121075 | 121077 | 22000 | Transformer or separate | 111/2 | 5 | 4.62 |
| 121075 | 121077 | 35000 | Transformer or separate | 111/2 | 10 | 4.62 |
| 60519 | 121078 | 45000 | Transformer or separate | 24 | 10 | 10.56 |
| 60519 | 121078 | 70000 | Transformer or separate | 2. | 15 | 10.515 |

Note: Fuse holders with fuse are included in List No. and List lrice of fuse blocks.

## FUSES-WITH ASBESTOS COVERING

T-D-2 fuses 3300 to 15000 volts are recommended on systems of 2000 K . W. capacity und below. Ahove 15,000 volts the T-D-2 is suitable for $10,000 \mathrm{~K} . \mathrm{W}$. capacity and below.

| List |  | Length in | For Use in Fuse Holder | List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Volts | Inches | List No. | Price |
| 121101 | *6600 | 9 | 121100 | \$0.14 |
| 121076 | $\dagger 6600$ | 131/4 | 121074 | . 14 |
| 121076 | $\dagger 15000$ | 131/4 | 121074 | 14 |
| 121077 | *15000 | 16 | 121075 | . 14 |
| 121077 | 22000 | 16 | 121075 | 14 |
| 121077 | 35000 | 16 | 121075 | 14 |
| 121078 | 45000 | 30 | 60519 | 20 |
| 121078 | 70000 | 30 | 60519 | 20 |
|  |  | Clips |  |  |
| List No. |  | sed on |  | List Price |
| 60577 | Front connected fuse blo Back connected fuse blo | ial transto |  | \$0.26 |
|  | Ope | Handlin | olders |  |
| 112426 | 6600-15000 volts. |  |  | \$22.44 |
| 60521 | 22000-35000 volts. |  |  | 31.68 |
| 112427 | 45000-75000 volts . . . |  |  | 34.32 |

Fuse hooks should always be used in removing or replacing fuse holders to avoid danger to operator.
Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

## WESTON INSTRUMENTS

MODEL 1 PORTABLE


Model 1 Voltmeter and Millivoltmeter


Model 1 Ammeter and Milliammeter

Model 1 DC Voltmeter

| List No. | Range in Volts | No. of Scale )ivisions | Value of Each Scale Division in Volts | Readable to | $\begin{gathered} \text { W.E. E. } \\ \text { List } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 150 | 1:00 | 1 | 1/10 of a volt | \$110.00 |
| *2 | 150 | 150 | 1 | $1 / 10$ of a volt | 115.00 |
|  |  |  |  | $1 / 10$ of a volt | 150.00 |
| *31/2 | $\bigcirc$ | 150 | 1501 | 1/50) of a volt | 150.00 |
|  | ? 150 |  |  | $1 / 10$ of a vollt | 150.00 |
| * 4 | 1 15 | 150 | 1/10 | $1 / 100$ of a volt | 150.00 |
|  | ? 300 |  | $\stackrel{2}{1}$ | $1 / 5$ of a volt | 155.00 |
| * $4_{5}{ }^{1 / 2}$ | (150) | 150 | 1 | $1 / 10$ of a molt | 155.00 |
| ${ }_{*}^{*}{ }_{6}$ | 300 450 | 150 | 2 | 1/5 of a volt | 130.00 130.00 |
| ${ }^{*} 7$ | 6,00) | 120 | - | 1/2 of a volt | 130.00 |
| 7 | ( 600 ) |  | 4 | $1 / 2$ of a volt | 160.00 |
| *9 | -150. | 15\%) | 1 | $1 / 10$ of a volt | 160.00 |
|  | 1750 ) |  | 5 | $1 / 2$ of a volt | 160.00 |
| * $91 / 2$ | -150) | 150) | 1 | $1 / 10$ of a volt | 160.00 160 |
|  | is600; |  | 4 | $1 / 2$ of a volt | 160.00 |
| ${ }^{*} 10$ | 300 | 150 | 2 | $1 / 5$ of a volt | 160.00 |
| ${ }^{*} 11$ | 750 | 150 | 5 | $1 / 2$ of a volt | 140.00 |

*With contare keys. Any of the above with reversing key, price, extra, \$5.00.
When reversing key is applied, contact key is omitted.
Prices for instruments with ranges other than those listed will be the same for those of the next higher range.

Model 1 DC Ammeter
These instruments are extremely compact and will be found very servicable for rapid work. To provide sufficient carrying capacity for the self-contained shunts, it has been found necessary to make them in three sizes, the main difference being in the arrangement of the binding posts,

| 1 | 5 amp . | 100 | 1/20 amp. | 1/200 of an ampere | \$130.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 15 amp . | 150) | $1 / 10$ amp. | $1 / 100$ of an ampere | 130.00 |
| 3 | 2.5 amp). | 100) | 1/4 amp. | 1/40 of an ampere | 130.00 |
| 4 | F) аmp. | 100 | 1/2 amp. | 1/20 of an ampere | 130.00 |
| 5 | 100 amp . | 100 | 1 amp. | 1/10 of am ampere | 140.00 |
| 6 | 150 amp. | 1:0 | amp. | $1 / 10$ of an ampere | 150.00 |
| 7 | 20) amp, | 100 | 2 amp. | $1 / 5$ of an ampere | 160.00 |
| 8 | 250 anp. | 12.5 | 2 amp. | $1 / 5$ of an ampere | 160.00 |
| 9 | 300 amp. | 1.50 | 2 amp. | 1/5 of an ampere | 160.00 |
| 10 | 400 amp. | 80 | 5 amp. | $1 / 2$ of an ampere | 180.00 |
| 11 | 500 amp. | 100 | ampl. | $1 / 2$ of an ampere | 180.00 |

## Direct-Reading Mil-Ammeters, Model 1

| 0 | 150 mil . | 150) | 1 mil. | 1/10) of a milliampere | \$100.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 300 mil. | 150 | 2 mil. | 1/5 of at milliampere | 100.00 |
| 2 | (6)0 mil. | 1.0 | 4 mil. | $2 / 5$ of a milliampere | 100.00 |
| 3 | 1000 mil. | 100 | 10 mil. | 1 of a milliampere | 100.00 |
| 4 | 1500 mil . | 150 | 10 mil. | 1 of a milliampere | 110.00 |
| 5 | 500 mil . | 100) | \% mil. | 1/20 of a milliampere | 120.00 |
| 6 |  | 100 | $\left\{\begin{array}{l}1 / 2 \\ 5 \\ 5 \\ 1 / 10\end{array}\right.$ mil. mil.$\}$ | 1/100 of a milliampere | 120.00 |

No. 7 Same range and capecity as No. 6, but is suppled with a small resistance box or multipler, having 2 coils. When this is connceterl in series with the instrument hinding posts narked 10, the lower scale naty be read directly in volts, a full scale deflection being secured with 10 or 100 volts, accoruing to the eoil of the multipler used
Delivery F. O. B. Newark, Ni. J. For warchouse deliveries write nearest house.


Model 1 Millivoltmeter


## Alloy Shunts

## Weston Standard Portable Millivoltmeters, Model 1, For Direct Current

These instruments may be arranged for use with alloy shunts for ampere measurements at an adrlitional cost of $\$ 10$.
W.E.
List $\quad$ List Price
No. - Description Each

1 lange, 0 to 20 millivolts, 100 divisions, cach representing 0.2 of a millivolt, readable to 0.02 of a millivolt
$\$ 100.00$
2 Range 10 to 0 to 10 millivolts, zero center, 100 divisions, carh representing 0.2 of a millivolt, readable to 0.02 of a millivolt
100.00

3 Dubble range, 10 to 0 to 10 and 100 to 0 to 100 millivolts, zero enter, 100 divisions, supplied with contact key, by the use of whin either range may be emploved
110.00

4 Double range, 0 to 20 and 0 to 200 millivolts, 3 binding posts, 10 divisions, earh ropresenting eithor 0.2 of a millivolt or 2 millivolts, aceording to range used

## Weston Patent Alloy Shunts

For Use with Portable Standard Millivoltmeter Model No. 1, for Direct Current
'lhese shunts can be supplied in two or more ranges combined in one case, as indieated in priee list below.

| Shunts with Single Range |  | Shunts with 2 Ranges Combined in One Case |  | Shunts with 3 or More Ranges Combined in One Case |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ranre in Amperes | $\begin{aligned} & \text { W. E. List Price } \\ & \text { *Each } \end{aligned}$ | Range in Amperes | W.E. Zist Price *Each | Ranges in Amperes | W. L. List Price *Each |
| 1 | \$20.00 | 5 and 1 | \$40.00 | 15-3-0.75 | \$60.00 |
| 3 | $25 .(0)$ | 10 amd | 45.10 | 15-3-1.5 | 60.00 |
| 5 | 30.00 | 15 am 1 5 | 50.00 | 30-1.5-1.5 | 70.00 |
| 10 | 30.00 | 15 and is | 50.00 | 3(-15-3 | 70.00 |
| 1.5 | 30.00 | 30 amd 3 | 50.00 | 30-15-5 5-1 5 | 95.00 |
| 2.5 | 35.00 | 40 and 4 | $50.00)$ | $50-5-0.5$ | 80.00 |
| 30 | 40.00 | 50 and $\overline{5}$ | (00.00) | 50-10-1 | 80.00 |
| 50 | 45.10 | 75 and 15 | 70.00 | 50-20-5-0.5 | 110.00 |
| 75 | 51.00 | 100 and 10 | 80.00 | 75-15-1.5 | 85.00 |
| 100 | (i0.00 | 150 amd 15 | 8.500 | 10-10-1 | 90.00 |
| 1.50 | (5i5.00) | 150 amm 30 | 90.00 | 100-20-2 | $90 .(1)$ |
| 200 | 70.00 | 200 and 20 | (5.00) | 100-50-20-2 | $120 .(1)$ |
| 2.50 | 75.00 | 300 and 150 | 105.00 | 10(-50)-20-10-5-1 | 140.00 |
| 300 | 80.00 | 300 and 30 | 110.00 | 151-15-1.5 | $100 .(1)$ |
| 400 | (10.0) | 300 and 150 | 120.00 | 150-15-1.5-. 15 | 120.00 |
| 5101 | 100.00 | $410) \mathrm{antl} 40$ | 120.00 | 1:0-75-15 | 110.00 |
| (i0) | 110.00 | 400 and 200 | 130.00 | 150) $75-15-1.5$ | 130.00 |
| 7.0 | 120.00 | 500 and 50 | 125.60 | 150-7.5-15-1.5-0.75 | 140.00 |
| 80 | 130.00 | \%00 ame 100 | 130.00 | 200-20-2 | 110.00 |
| 1000 | 160.0) | $\therefore 00$ and 200 | 130.00 | 200-100-10 | 120.00 |
| 1500 | 2 (30.0) | 600 and 60 | 130.00 | $3(\mathrm{c})-15-1.5$ | 120.00 |
| 2000 | $350.00)$ | (600 ami 300 | 160.00 | 300-30-3 | 120.00 |
|  |  | 750 and 300 1000 and 500 | 180.00 280.00 | 300-75-15 | 130.00 |

Above prices include adjustment between millivoltmeter and shunts.

## Multipliers for Model 1, Standard Portable Voltmeters

## For Direct Current

Multiphers are resistance boxes, the coils in which are highly insulated, and are adjusted so that the readings of the instrument inzer he multiplied by any desired eonstant. Multipliers are usually constructed so that the indications of the ponte- multipliad by $2,5,10, ~ 50$ or 50 , will give the potential of the circuit.

Model 1 standard portable voltmeters, prices on application.
*Delivery F. O. B. Factory, Newark, N. For wareh•ouse deliveries write nearest house.

# WESTON INS'TRUMENTS Model 45 and 56 Direct Current Portables 



## Model 45 Portable

These instruments are designed to meet the demand for a low-priced voltmeter or anmeter of sufficient accuracy for station work and general testing. The movement in this type of instrument is completely enclosed in an iron ease (which protects it in a large measure from stray magnetic fields), securely fastened in a wooden earrying box. This box is provided with a hinged cover, which protects the seade and binding posts.

| -Model 45 D.C. Voltmeters- |  |  |
| :---: | :---: | :---: |
| Range | Value of Each | W. E. |
| in | Scale Divi- | List |
| Voits | sion in Volts | Price Each |
| 0 to 3 | 0.02 | \$02.50 |
| 0 to 5 | 0.05 | 62.50 |
| 0 to 15 | 0.1 | 62.50 |
| 0 to 150 | 1 | 73.76 |
| 0 to 300 | 2 | 81.26 |
| 0 to 600 | 5 | 87.50 |
| 0 to 750 | S | 92.50 |

Double-scale voltmeters in this type will be furnished, when desired, at the price of $\$ 12.50$ additional to the list price of the highest range for each step.

| Range | Value of Each | W. E. | Range | Value of Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in Amperes | Scale Division in Amps | List <br> Price Fach | in Am- | Scale Divi- | List |
| 0 to 1.5 | 0.01 | \$62.50 | 0 to 200 | 2 | \$70.00 |
| 0 to 5 | 0.5 | 62.50 | 0 to 250 | 2 | 70.62 |
| 0 to 15 | 0.1 | 62.50 | 0 to 300 | 2 | 70.62 |
| 0 to 25 | 0.2 | 62.50 | 0 to 400 | 5 | 71.26 |
| 0 to 50 | 0.5 | 63.76 | 0 to 500 | 5 | 73.76 |
| 0 to 100 | 1 | 66.26 | () to 600 | 5 | 76.26 |
| 0 to 150 | 1 | 67.50 | 0 to 750 | 5 | 78.76 |

For all ranges above 25 amperes these instruments consist of millivoltmeters adjusted with external station type shunts to read direct in amperes.

Two or more shunts may be used, with each instrument. Sizes over 750 amperes. Prices on application.
In selecting shunts of different range for use in connection with one instrument should be considered that the higher ranges must be even multiples of the lower one in order to suit the same scade on the instrument.

## Model 56 Portable Duplex Instruments

These Duplex Instruments consist of a voltmeter and ammeter combined in one case. The case is of highly finished natural cherry, has a strongly hinged cover, and serves as a carrying box. All connections are made by means of binding-posts inside of the case. These posts are plainly marked, showing their polarity, and to which side of the instrument they are connected.

These instruments are regularly supplied with a single-range valtmeter and a single-range ammeter; they will be supplied, however, with either 2 voltmeter movements or 2 ammeter movements of like or different ranges, if so desired. The voltmeter side may be obtained with a double range at a slight increase in cost. The ammeter is furnished only in single ranges up to 100 amperes with a self-contained shunt but if multiple or higher ranges are desired they can be obtained by the use of external shunts.

These instruments will be found serviceable for all ordinary testing in which a greater degree of accuracy than 1 per cent. is not desired.

Range in
Volts
75
150
300
450
600
750

| $5,15,25,50$, |  |
| :---: | :---: |
| 100 or 150 | 200 or 250 |
| $\$ 112.50$ | $\$ 120.00$ |
| 118.76 | 126.26 |
| $12 . .00$ | 132.50 |
| 131.26 | 138.76 |
| 137.50 | 145.00 |
| 150.00 | 157.42 |

Range in Amperes-

| 200 or 250 | 300 | 400 | 500 |
| ---: | :---: | ---: | ---: |
| $\$ 120.00$ | $\$ 120.62$ | $\$ 121.26$ | $\$ 122.50$ |
| 126.26 | 126.88 | 127.50 | 130.00 |
| 132.50 | 133.12 | 133.76 | 136.26 |
| 138.76 | 139.38 | 140.00 | 142.50 |
| 145.00 | 145.62 | 146.26 | 148.76 |
| 157.42 | 158.12 | 153.76 | 161.26 |

If the voltmeter is desired with a double range, add $\$ 7.50$ to the list price for higher range. Specify voltage desired in ordering.
Delivery: F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


Single Range Voltmeter


Double Range Voltmeter


Triple Ráge Voltmeter


Single Range Ammeter


Double Range Ammeter

## WESTON MINIATURE PRECISION INSTRUMENTS

For Direct Current
Model 280-Portable Instruments
These instruments.are all the same size and can be carricd in an ordinary coat pocket. They are made in a great many varieties of ranges and are admirably adapted to all kinds of commercial and experimental testing that falls within their limits of $\mathrm{c} . \mathrm{m}$. f. and current.

SINGLE RANGE MILLI-VOLTMETERS

| Volts | $\ddagger$ W.E. List <br> Price <br> Each | Volts | $\ddagger$ W.E. List Price Each | Volts | $\ddagger$ W.E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\dagger 50$ | \$31.26 | $\dagger 120$ | \$31.26 | $\dagger 300$ | \$31.26 |
| $\dagger 60$ | 31.26 | $\dagger 130$ | 31.26 | $\dagger 400$ | 31.26 |
| $\dagger 75$ | 31.26 | $\dagger 150$ | 31.26 | $\dagger 500$ | 31.26 |
| $\dagger 80$ | 31.26 | $\dagger 200$ | 31.26 | $\dagger 600$ | 31.26 |
| $\dagger 100$ | 31.26 | $\dagger 250$ | 31.26 | $\dagger 750$ | 31.26 |

SINGLE RANGE VOLTMETERS

| 1 | $\$ 31.26$ | 7.5 | $\$ 31.26$ | 50 | $\$ 31.26$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 1.2 | 31.26 | 8 | 31.26 | 60 | 31.26 |
| 1.5 | 31.26 | 10 | 31.26 | 75 | 31.26 |
| 2 | 31.26 | 12 | 31.26 | 80 | 31.26 |
| 2.5 | 31.26 | 15 | 31.26 | 100 | 31.26 |
| 3 | 31.26 | 20 | 31.26 | 120 | 31.26 |
| 4 | 31.26 | 25 | 31.26 | 130 | 31.26 |
| 5 | 31.26 | 30 | 31.26 | 150 | 31.26 |
| 6 | 31.26 | 40 | 31.26 |  |  |

DOUBLE RANGE VOLTMETERS

| $20-2$ | $\$ 36.26$ | $30-3$ | $\$ 36.26$ | $80-8$ | $\$ 36.26$ |
| :--- | ---: | :--- | ---: | :---: | ---: |
| $20-8$ | 36.26 | $50-2.5$ | 36.26 | $100-10$ | 36.26 |
| $25-2.5$ | 36.26 | $50-5$ | 36.26 | $150-15$ | 36.26 |

TRIPLE RANGE VOLTMETERS

| $25-10-2.5$ | $\$ 41.26$ | $40-20-4$ | $\$ 41.26$ | $80-20-4$ | $\$ 41.26$ |
| :--- | ---: | :--- | :--- | :--- | ---: |
| $30-3-1.5$ | 41.26 | $50-5-2.5$ | 41.26 | $100-25-2.5$ | 41.26 |
| $30-6-3$ | 41.26 | $50-25-5$ | 41.26 | $150-15-1.5$ | 41.26 |
| $30-15-3$ | 41.26 | $50-25-10$ | 41.26 | $150-15-3$ | 41.26 |

SINGLE RANGE MIL-AMMETERS

| * 50 | \$31.26 | *120 | \$31.26 | *300 | $\$ 31.26$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| * 60 | 31.26 | *130 | 31.26 | *400 | 31.26 |
| * 75 | 31.26 | *150 | 31.26 | *500 | 31.24 |
| * 80 | 31.26 | *200 | 31.26 | *600 | 31.26 |
| *100 | 31.26 | *250 | 31.26 | *750 | 31.20 |
| SINGLE RANGE AMMETERS |  |  |  |  |  |
| 1 | \$31.26 | 4 | \$31.26 | 12 | \$31.26 |
| 1.2 | 31.26 | 5 | 31.26 | 15 | 31.26 |
| 1.5 | 31.26 | 6 | 31.26 | 20 | 31.26 |
| 2 | 31.26 | 7.5 | 31.26 | 25 | 31.26 |
| 2.5 | 31.25 | 8 | 31.26 | 30 | 31.26 |
| 3 | 31.26 | 10 | 31.26 |  |  |

DOUBLE RANGE AMMETERS

| $1-0.1$ | $\$ 36.26$ | $8-2$ | $\$ 36.26$ | $25-2.5$ | $\$ 36.26$ |
| :---: | :---: | :---: | :---: | :--- | ---: |
| $2.5-0.25$ | 36.26 | $10-1$ | 36.26 | $25-5$ | 36.26 |
| $5-0.1$ | 36.26 | $15-1.5$ | 36.26 | $30-3$ | 36.26 |
| $5-0.5$ | 36.26 | $20-2$ | 36.26 |  |  |



Triple Range Ammeter

## TRIPLE RANGE AMMETERS

| $5-2.5-0.25$ | $\$ 41.26$ | $20-4-2$ | $\$ 41.26$ | $30-3-1.5$ | $\$ 41.26$ |
| :--- | :---: | :--- | :---: | :--- | ---: |
| $10-1-0.1$ | 41.26 | $20-8-2$ | 41.26 | $30-6-3$ | 41.26 |
| $10-1-0.5$ | 41.26 | $25-2.5-0.5$ | 41.26 | $30-15-3$ | 41.26 |
| $10-2.5-1$ | 41.26 | $25-5-2.5$ | 41.26 | $15-3-1.5$ | 41.26 |
| $15-3-0.150$ | 41.26 | $25-10-2.5$ | 41.26 |  |  |
|  |  | $25-10-5$ | 41.26 |  |  |

$\dagger$ Milli-volts. *Milli-amperes.
$\ddagger$ Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

Dimensions.-Vertical, 4.6 inches; horizontal, 4.4 inches; depth, 1.5 inches.

# WESTON INSTRUMENTS Models 370 and 310 (Portable) 



Model 370, Dimen. $8 \times 103 / 4 \times 5 \times 4$ ins. Scale Length $51 / 4$ ins.

## A.C. AND D.C. AMMETERS

These instruments are electro-lynamometer ammeters, and may be used with equal accuracy on either direct current circuits or on alternating current circuits of any frequency up to 133 cycles per second and of any wave form.

They are contained in polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs., and the dimensions are $8 \times 101 / 4 \times 5 \frac{3}{4}$ inches over all.

They will be found particularly useful as transfer instruments from direct to alternating current and for checking electro-magnetic (movable iron) or induction type instruments, or for all measurements of current where very high accuracy is desired.

|  | Model 310 |  | that is, the scale value in watts is $20 \%$ of the number of volt amperes applied. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maxim | Capacity <br> s. | - | t Ranges |  |  |
| Maximum | Fields in | Fields in | Fields in | Fields in | Number of | W. E. List |
| Volts | Series | Multiple | Series | Multiple | Scale Lines | Each Price |
| 150/75 | 0.5 | 1 | 15/7. 5 | 30/15 | 150 | \$200.00 |
| 150/75 | 1 | 2 | 30/15 | b0/30 | 150 | 200.00 |
| 150/75 | 2.5 | 5 | 75/37.5 | 150/75 | 150 | 200.00 |
| 150/75 | 5 | 10 | 1:50/75 | 300/150 | 150 | 200.00 |
| 150/75 | 10 | 20 | - 300/150 | ti00/300 | 150 | 212.50 |
| 150/75 | 20 | 40 | 600/300 | 1200/600 | 150 | 212.50 |
| 150/75 | 50 | 100 | 1500/750 | $3000 / 1500$ | 150 | 212.50 |


| Single Range <br> Milli-amperes. | Approx. Res <br> in Ohms |
| :--- | :---: |
| 15 | 1400 |
| 90 | 720 |
| 30 | 350 |
| 50 | 167 |
| 75 | 50 |



Model 310
Maximum Capacity
in Amps.

MODEL 370-MILLI-AMMETERS

| W. E. List | Single Range | Approx, Res. | W. E. List |
| :--- | :---: | :---: | ---: |
| Price Each | Milli-amperes | in Ohms | Price Each |
| $\$ 168.76$ | 100 | 26.5 | $\$ 168.76$ |
| 168.76 | 150 | 19.5 | 168.76 |
| 168.76 | 200 | 7.5 | 168.76 |
| 118.76 | 300 | 3.2 | 168.76 |
| 168.76 | 000 | 1.2 | 168.76 |
|  |  | 750 | 0.9 |
|  |  |  |  |

## MODEL 370-AMMETERS

1)ouble Range
Anpures
$2-1$

| W. E. List | Double Range | W. E. List |
| ---: | :---: | ---: |
| Price Lach | Amperes | Price Each |
| $\$ 187.50$ | $5-21 / 2$ | $\$ 187.50$ |
|  | $10-5$ | 187.50 |

## SPECIAL MODEL 310 WATTMETERS FOR VERY LOW POWER FACTORS

For measurements in circuits where the power factor is very low such as core losses in transformers, a special line of Weston wattmeters has been designed, giving full scale deflection for $20 \%$ power factor that is, the scale value in watts is $20 \%$ of the number of volt amperes applied.

## WESTON SINGLE. PHASE PORTABLE A.C. AND D.C. WATTMETER MODEL 310

These instruments represent the latest development in electro-dynamometer wattmeters and embody many characteristies hitherto considered unattainable in instruments of this class.

They are contained in highly polished mahogany boxes, provided with carrying handles, locks and covers equipped with slip hinges. The weight is approximately 11 lbs., and the dimensions are $8 \times 101 / 4 \times 53 / 4$ inches over all.

## Scales

The scales are $51 / 4$ inches long, are uniform throughout their entire length, and are provided with mirrors to prevent parallax mirrors.

The pointers are of the Weston triangular truss type with knife edges, and are equipped with simple zero setting devices controlled from the outside of the case.

## Ranges

Double ranges for both the current and voltage circuits are provided. The double current, range feature is obtained by connecting the two field coil sections either in series or in multiple by means of links and binding serews, conveniently located on the top of the instrument. These links are provided with handles to facilitate their manipulation, and are slotted, making it unnecessary to remove them entirely each time the range is changed. The double voltage ranges are controlled by means of independent binding posts.

As cach instrument has a number of ranges, a scale cannot be made which is readable with equal facility for all ranges. In each case however, a scale is provided which gives 1,2 or 5 units per division for the range marked, and simple multiplying factors for the other ranges.

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

## WESTON INSTRUMENTS

Model 310 (Continued)

Portable Wattmeters
D.C. and A.C. Single Phase

| Volts |  | Ampere |  |  |  | *W:att Ranges |  |  | $\begin{aligned} & \text { Mifr } \\ & \substack{\text { Mist } \\ \text { Price }} \end{aligned}$ | $\begin{aligned} & \text { WE. } \\ & \text { List. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Normal |  | Maximum |  | $\begin{gathered} \text { Field Coils } \\ \text { in } \\ \text { Series } \end{gathered}$ | $\begin{aligned} & \text { Field Coils } \\ & \text { in } \\ & \text { Multiple } \end{aligned}$ |  |  |  |
|  |  | Series | Multiple | Series | Multiple |  |  |  |  |  |
| Normal <br> Maximum | $\begin{aligned} & 100 / 50 . \\ & 150 / 75 . \end{aligned}$ | 1 | 2 | 2 | 1 | 100/50 | $2010 / 100$ | 1190 | \$70. 00 | \$175.00 |
|  |  | 2.5 | 5 | 5 | 10 | $251 / 123$ | 50,0, 230 | 125 | 70.(1) | 175.(0) |
|  |  | 5 | 111 | 111 | 20 | 500/250 | 1006, 500 | 100 | 70.00 | 175. 09 |
|  |  | 110 | 20 | 20 | 40 | 1/.5 K.W. | 2/1 K.N. | 100 | 71. (6) | 175.00 |
|  |  | 20 | 411 | 40 | 80 | 2/1 K.W. | 4/2 K.W. | 100 | 75.100 | 187. 50 |
|  |  | 36 | (i0) | (i0) | 120 | 3/1.5 1.W | 6)3 К.W. | 150 | 75.00 | 187.50 |
|  |  | 50 | 100 | 75 | 150 | $5 / 2.5 \mathrm{~K} . \mathrm{W}$. | 10/5 $\mathrm{L} . \mathrm{w}$ | 100 | $75 .(4)$ | 187.510 |
| Normal <br> Maximum | $\begin{aligned} & 150 / 75 . \\ & 250 / 125 . \end{aligned}$ | 1 | 2 | 2 | ${ }^{4}$ | 1.50/75 | $300 / 150$ | 150 | 70.00 | 175.00 |
|  |  | $\because .5$ | 5 |  | 10 | $375 / 187.5$ | 7501/375 | 150 | 70.00 | 175.00 |
|  |  | 5 | 10 | 10 | 20 | ${ }^{7} 50 / 38.5 \mathrm{~F}$ | 1500750 | 150 | 70.00 | 175.00 |
|  |  | 10 | 20 | 20) | 10 | 1.5/.75 K.W. | $3 / 1.5 \mathrm{~K} . \mathrm{W}$. | 150 | $70 .(4)$ | 17.50 |
|  |  | 20 | 410 | 41 | 80 | $3 / 1.5 \mathrm{~K} . \mathrm{W}$. | (6,3 K. W. | 150 | 75.00 | 187.50 |
|  |  | 30 | 69 | (6) | 120 | 5/2.5 K.W. | 10/5 K.V. | 100 | 75.(0) | 187.50 |
|  |  | 50 | 100 | 75 | 150 | 7.5/3.75 K.W. | 15/7.5 K.W. | 150 | 75.00 | 187.50 |
| Normal <br> Maximum | 200/100. . <br> 300/150. . | 1 | $\stackrel{2}{2}$ | 2 |  | 200/100 | 400/200 | 100 | 75.00 | 187.50 |
|  |  | 5 | 5 | 5 | 10 | 500/250 | 1000) 500 | 100 | $75 .(6)$ | 187.50 |
|  |  | 5 | 10 | 10 | 20 | $1 / .5$ K.W. | 2/1 K.W. | 100 | 75.(0) | 187. 50 |
|  |  | 10 | 20 | 20 | 40 | $2 / 1$ K.W. | $4{ }^{4} \mathrm{~K}$ W. | 100 | 75.(0) | 187.50 |
|  |  | 20) | 40 | 40 | so | 4/2 K.W. | 8/4 K.W | 100 | 80.(0) | $2(13)$ ( $\times 10$ |
|  |  | 30 | 60 | 60 | 120 | 6/3 KW. | 12/6 J.W | 120 | 80.0) | $2000.10)$ |
|  |  | 50 | 100 | 75 | 150 | 10/. K.W. | $20,10 \mathrm{~K} . \mathrm{W}$. | 100 | 80.06 | 200.00 |
| Normal <br> Maximum | $\begin{aligned} & 300 / 150 \\ & 450 / 250 \end{aligned}$ | 1 | $\stackrel{2}{5}$ | $\stackrel{2}{2}$ | 4 | 300/150 | (\%) $1 / 300$ | 150 | 75.01 | 187.50) |
|  |  | 2.5 | - |  | 10 | ${ }^{750} 375$ | ${ }^{15001750}$ | 150 | 75, (0) | 187.50 |
|  |  |  | 10 | 10 | 20 | 1.5.75 W. | 3/3.5 K.W. | 150 | 75.(0) | 187. 50 |
|  |  | 10 | 20 | $\because 0$ | 411 | 31.5 W | (3) K.W | 150 | 75.(1) | 187. 510 |
|  |  | 20 | 40 | 40 | 80 | 6/3 K.W | 12,6 K.V. | 120 | $80 .(0)$ | 2000.010 |
|  |  | 30 | (i, | 60 | 120 | 105 K.W | 20/10 K.W | 100 | 8(1). (x) | 2 (1). (10) |
|  |  | 50 | 100 | 75 | $1.0)$ | 1,7,7.5 K.W | 30/15 K.W | 150 | 80.00 | 2(1).(0) |
| Normal <br> Maximum | $\begin{aligned} & 500 / 100 \ldots \\ & 600 / 150 . \end{aligned}$ |  |  |  | 4 | 500)/109 | 1000 200 | 100 | 8\%. (0) | 212.50 |
|  |  | 2.5 | 5 | 5 | 10 | 1250/250 | 2 E 0100 | 125 | 85.10 | 212.50 |
|  |  | 5 | 10 | 10 | 20 | $2006 / 503$ | $5010 / 1000$ | 100 | 85. (0) | 212.50 |
|  |  | 10 | 20 | 20 | 40 | 5/1 k.w. | 10) 2 K.W. | 100 | 8.5 .00 | 212.80 |
|  |  | 20 | 40 | 41 | 8) | 10/2 K.W. | $20 / 4 \mathrm{~K} . \mathrm{W}$. | 100 | (10.(1) | 225. (6) |
|  |  | 30 | 60 | (i1) | 120 | 15/3 K.W. | 30/6 K.W. | 150 | (10.(1) | $225.0 \%$ |
|  |  | 53 | 100 | 7.5 | 150 | $2 \mathrm{i} / 5 \mathrm{k} . \mathrm{W}$. | 50/10 K.W. | 100 | 90.04 | 225.00 |
| Normal <br> Maximum | $\begin{aligned} & c 00 / 150 . \\ & 675 / 250 . \end{aligned}$ |  |  |  | 1 | (600) 150 | 1200/300 | 150 | 87.50 | 218.76 |
|  |  | 2.5 | 5 | 5 | 111 | $1.501 / 37.5$ | 3000750 | 150 | 87.510 | 218.76 |
|  |  |  | 110 | 10 | 211 | $3.75 \mathrm{~K} . \mathrm{W}$. | 6/3.5 K.W. | 150 | 87.50 | 218.76 |
|  |  | 10 | 20 | 20 | 411 | 6/1.5 K.W. | 12,3 K.W. | 150) | 87. 511 | 218.76 |
|  |  | 20 | 40 | 40 | 81 | 12/3 k.W. |  | 120 | 92.511 | 2:31.36 |
|  |  | 30 | (ii) | $6: 10$ | 120 | $20^{2} / 5$ K.W. | 40) 10 K.W' | 100 | 92. 511 | 231.26 |
|  |  | 50 | 100 | 75 | 150 | 30,7.5 K.W. | 60/15 K.W. | 150 | 92.51) | 2:31.26 |
| Normal <br> Maximum | 600/300. <br> $675 / 450$. |  | 2 | 2 | 4 | $600 / 300$ | 1200/600 | 120 | 87.50 | 218.76 |
|  |  | $\frac{2}{5} 5$ | 5 | 10 | 10 | 1.5/7.5 K. W. | $3 / 1.5 \mathrm{~K}$ W. | 150 150 | 87.30 | ${ }_{218}^{218.76}$ |
|  |  |  | 10 | 10 | 40 | ${ }_{6 / 3}^{3 / 1} 5$ K.w. |  | 150 | 87.50 | 218.76 |
|  |  | 20 | 40 | 40 | 88 | 12/6 6 K.W. | 124 ${ }_{2} 12 \mathrm{~K}$ W. | 120 | 97. 97 | 218.78 |
|  |  | 30 | (6i) | 60 | 120 | $20 / 10 \mathrm{k} . \mathrm{W}$. | (1)/20 K.W. | 100 | 92.50 | 231.26 |
|  |  | 50 | 100 | 75 | 150 | $31 / 15 \mathrm{~K} . \mathrm{W}$. | 60/30 K.W. | 150 | 92.50 | 231.26 |
| Normal <br> Maximum | $\begin{aligned} & 750 / 150 \ldots \\ & 750 / 250 . \end{aligned}$ |  |  |  |  | 750/150 | 1500/300 | 150 | 90. (1) | 225.00 |
|  |  | 2.5 | 5 | 5 | 10 | 1875/375 | 37501750 | 150 | 90.101 | $225.01)$ |
|  |  |  | 10 | 10 | 20 | 3750/750 | $7500 / 1500$ | 150 | 90.00 | 225.00 |
|  |  | 10 | 20 | 20 | 40 | 7.5/1.5 K.W. | $15 / 3 \mathrm{~K} . \mathrm{W}$. | 150 | 903.(0) | $\underline{225.010}$ |
|  |  | 20 | 40 | 40 | s0) | $15 / 3 \mathrm{~K} . \mathrm{W}$. | $30 / 6 \mathrm{~K} . \mathrm{W}$. | 150 | $95 .(6)$ | 237.50 |
|  |  | 30 | fio | 60 | 120 | 25/5 K.W. | $50 / 10 \mathrm{~K} . \mathrm{W}$ | 100 | $95 .(6)$ | 237.50 |
|  |  | 50 | 100 | 75 | 150 | 37.5/7.5 K.W. | 75/15 K.W. | 150 | 93. (r) | 2378.51 |
| Normal <br> Maximum | $\begin{aligned} & 750 / 300 \\ & 750 / 450 \end{aligned}$ |  |  |  |  | 750/300 | 1500/600 | 150 | 90.00 | 225.00 |
|  |  | 2.5 | 5 | 15 | 10 | $2000 / 800$ | $4(101) / 1600$ <br> 7500 | 160 | 99.00 | 225.00 |
|  |  |  | 10 | 10 | 20 | 3750/1500 | $7500 / 3000$ | 150 | 90.00 | 225.010 |
|  |  | 10 | 20 | 20 | 40 | 7.5/3 K.W. | 15/6 k. W. | 150 | 90.09 | 225.00 |
|  |  | 20 | 40 | 40 | 80 | 15/6 k.W. | $30 / 12 \mathrm{~K} . \mathrm{W}$. | 150 | 95.00 | 237.50 |
|  |  | 30 50 | 60 100 | ${ }_{7}^{60}$ | 1120 | $37.5 / 15 \mathrm{~K} . \mathrm{W}$. | ${ }^{50} 50 / 20 \mathrm{~K} . \mathrm{W}$. | 100 150 | ${ }^{95} \mathbf{9 5}$ | 237.50 237 |
|  |  |  | 100 | 7.5 | 13. | 37.s/. $\mathrm{k} . \mathrm{W}$. | 7., | 150 | 95.00 | 237.50 |

*Ranges not marked K.W. read in watts.
Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

## WESTON INSTRUMENTS



Model 329

## Scales

These scales are uniform throughout ther entire length, and are $51 / 4$ inches long.

The pointers are equipped with simple gero setting devices, and are of the Weston triangular truss type with knifo edges. 'Jo prevent parallax errors mirrors are provided.

## Portable Polyphase Wattmeter Model 329

The weight is approximately $17 \frac{1}{2}$ lhs. Dimensions are $91 / 2 \times 10^{1} \frac{1}{2} \times 8 \frac{1}{16}$ indeboverall.

*Ranges not marked Ki.W. read in watts.
Deliviry I'. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


Model 155 Voltmeter

# Western Electric <br> Western Electric WESTON INSTRUMENTS 

Models 155 and 11


Model 155 Ammeter


Model 11 Voltmete:

## Model 155 Portable-For Alternating Current

These instruments are of the Weston electro-magnetic type. The indications of these Weston instruments are accurate within $1 / 2$ per cent independent of changes in temperature, frequency or wave form throughout the range of commercial practice. The scales are open and fairly uniform throughout about $4 / 5$ of the total range of deflection; therefore, the accuracy of reading within the working rame is greater than it would be with a uniform scale. The indications are also dead heat and will instantly and accurately follow every change in the value of the quantity being measured. Voltmeters are provided with contact keys.

| Voltmeters |  | Ammeters |  | Mil-Ammeters |  | Double Ranges |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range |  | Kange |  |  | List | IRange |  | lange |  |  | List |
| in | List | in | List | Mil- | Price | in | List | in | I,ist | Mil- | Price |
| Volts | Price | Amps. | Price | Amps. | Each | Volts | Price | Amps. | Price | Amps. | Each |
| 30 | \$46.26 | 1 | \$44.38 | 75 | \$44.38 | 300/150 | \$68.76 | 100 | 843.76 |  |  |
| 50 | 46.26 | $\because$ | 43.76 | 150 | 44.38 | 600/310 | 81.26 | 150 | 45.00 | $\ldots$ |  |
| 75 | 46.26 | 3 | 42.50 | $\because 50$ | 44.38 | ti00/150 | 81.26 | 200 | 46.26 | ... |  |
| 125 | 46.26 | 5 | 42.50 | :00 | 44.33 | 750/300 | 87.50 | 250 | 46.88 |  |  |
| 150 | 46.26 | 10 | 42.50 | (600) | 44.38 | 750/150 | 87.50 | 300 | 47.50 |  |  |
| 300 | 52.26 | 15 | 42.30 | 7.50 | 44.38 |  |  |  |  |  |  |
| 500 | 66.26 | 25 | 42.30 |  |  |  | Tri | ple Ra | ges |  |  |
| 600 | 68.76 | 50 | 43.76 |  |  | (600,300 150 | \$93.76 | 400 |  |  |  |
| 750) | 75.00 | 75 | 43.76 |  |  | 750/300/150 | 100.00 | 500 | 57.50 |  |  |

Leather carryirg cases $\$ 10.62$ to $\$ 13.12$ extra.
Illuminated Dial Station D. C. Voltmeters, Model 11

| Range Volts | Value <br> of Each Scale Division in Volts | List <br> Price <br> Each | Range in Volts | Value of Each Scale Division in Volts | List <br> Price <br> Each | Range in in Volts | Value <br> * Each Scale Division inVolts | List <br> Price <br> Each | $\begin{aligned} & \text { Range } \\ & \text { in } \\ & \text { Volts } \end{aligned}$ | Value of Each Scale Divison in Volts | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 125 | 1 | \$165.00 | 750 | 5 | \$178.20 | 3250 | 2. | \$308.00 | 6500 | 50 | \$205.00 |
| 150 | 1 | 167.20 | 1000 | 10 | 2:0.00 | 3500 | 25 | 330.00 | 7000 | 50 | 210.00 |
| 180 | 2 | 169.40 | 1500 | 10 | 212.00 | 4000 | 50 | 352.00 | 7500 | 50 | 220.00 |
| 250 | 2 | 171.60 | 2000 | 20 | 264.00 | 4500 | 50 | 374.00 | 8000 | 100 | 230.00 |
| 300 | 2 | 173.80 | $2: 500$ | 20 | 286.00 | 5000 | 50 | 396.00 | 9000 | 100 | 250.00 |
| 600 | 5 | 176.00 | 3000 | 25 | 297.00 | 6000 | 50 | 429.00 | 10000 | 100 | 275.00 |

Standard, finish, dead black japan, specify on order if flush or front mounting is required

## Illuminated Dial Station D. C. Ammeter, Model No. 11

Illuminated dial station ammeters. Model 11 without shunts. . . . . . . . . . . . . . . W. E. List $\$ 168.30$
ONE OF THE FOLLOWING SHUNTS SHOULD BE ORDERED FOR EACH AMMETER

| Rating <br> in <br> Amps. | $\begin{gathered} \hline \text { List Price } \\ \text { Shunts } \\ \text { Alone } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Rating } \\ \text { in } \\ \text { Amperes } \\ \hline \end{gathered}$ | List Irice Shunts Alone | $\begin{aligned} & \text { Rating } \\ & \text { in } \\ & \text { Amperes } \end{aligned}$ | $\begin{gathered} \text { List Price } \\ \text { Shunts } \\ \text { Alone } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Rating } \\ \text { in } \\ \text { Amperes } \end{gathered}$ | List Price Shunts Alone | $\begin{gathered} \text { Rating } \\ \text { in } \\ \text { Anperes } \end{gathered}$ | List Pric Shunts Alone |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 200 | \$ti. 60 | 500 | 89 \% | 1200 | \$18.70 | 3000 | \$49.50 | 51000 | \$99.00 |
| 250 | 6.60 | (i0) | 12.10 | $1: 500$ | 31.36 | 80.00 | 55.10 | 6000 | 115.50 |
| 300 | 7.16 | 750 | 14.30 | 2000 | 41.26 | 4000 | 136.00 | 7000 | 132.00 |
| 400 | 7.70 | 1000 | 18.00 | 2500 | 44.50 | 4500 | 83.50 | 8000 | 165.00 |
|  |  |  |  |  |  |  |  | 10000 | 198.00 |

Delivery F. (). B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


Model 57 Voltmeter Diameter 9.5 inches

## Model 57 Station Ammeters and Voltmeters

These instruments are made in three patterns. Regular, for front of board connertion. Back connertion, in which the binding-posts are carried through to the rear of the switchborarl. Finsh typ, in which atange isprovided for the front, allowing the entire boty of the instrument to pass throurh for combertion in the rear of the swithboard.

The cases of these instruments are regularly supplied in No. 11 dead black japan tinish.
Model 57 D. C. Ammeters

| Range in | Value of Each Scale I)ivision | W. I.. I.ist Price | $\begin{aligned} & \text { lkange } \\ & \text { in } \end{aligned}$ | Value of Earhsirale Division | W. E . Tist Price | $\underset{\text { in }}{\text { Range }}$ | Value of Each Scale Jivision | $\begin{aligned} & \text { W. E. } \\ & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Anperes | in Amperes | Each | Auperes | in Amperes | liach | A mperes | in Volts | Each |
| 1 | 0.02 | \$62. 50 | 1:0 | 2 | \$166. 26 | ti00 | 10 | \$76. 26 |
| 5 | 0.1 | 62. 510 | 150 | 2 | 67.50 | 750 | 10 | 78.76 |
| 10 | 0.2 | (i2.50) | 200 | 5 | 70.01 | 1000 | 20 | 81.26 |
| 15 | 0.2 | (52. 510 | 2:01) | 5 | 70.62 | 1200 | 20 | 83.76 |
| 25 | 0.5 | 62.511 | 300 | 5 | 70. 10 | 1500 | 20 | 98.12 |
| 50 | , | $6{ }^{63} .76$ | 410 | 10 | 71.26 | 2000 | 50 | 109.36 |
| 75 | 1 | (55.01) | 510 | 10 | 61.30 | 2500 | 50 | 113.12 |

The lower ranges up to 7.5 anperes are woli-contained, the shunts being an integral part of the instrument. For ranges ahove 75 amperes the shme is debachable, and sulstantially the same as that for the ilhminated-dial instruments, excepting that when specially ordered these instrancots will be furnished selfecontained for ranges up to 200 amperes.

## Model 57 D. C. Voltmeters

| Range | Value of Each siale | W. E. list | laange | Value of Fach siale | W. E. List | Range | Value of Each Seale | W.E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| in | Division | Prion | in | Itis-ision | Price | in | Division | Price |
| Volts | in Volts | Hach | Volts | in Volts | J:ach | Volts | in Volts | Each |
| 3 | 0.05 | \$152.in | 50 | 1.0 | 800.26 | 250 | 5 | \$78.7i |
| 6 | 0.01 | 1i2. 50 | 75 | 1.0 | ti8. 12 | 300 | 5 | 81.26 |
| 15 | 0.2 | (i2. Cl | 1:30 | 2 | 70.18 | 400) | 10 | 87.50 |
| 25 | 0.5 | 65.00 | 150 | 2 | 73.76 | 750 | 16 | 92.50 |

## Model 24 Station Ammeters and Voltmeters

Model 24 Self-contained Ammeters


Model 24 Voltmeters

|  | Model 24 <br> Value of Ears |
| :--- | :---: |
| Range in | Seale Inivision |

W. E.
List Price
Fach
$\$ 38.76$
38.76
39.38
40.00
40.00
40.00
40.00
40.00
41.26
42.50
48.76
51.26
66.26
$t$ Price
Fach
838.71
38.76
38.76
39.48
40.00
40.00
40.00
40.00
40.00
41.26
42.50
48.76
51.26
66.26

These ammeters are rekularly furnisherd with internal shunts up to and ind
They bowever will be furnision with internal shans when sperified on order.

## Model 252 Voltmeter and Ammeters

Model No. 252 direct current voltmeter and ammeters are the same instruments as the model 24. excent heing mounted in a drawn steel case of the same size and design as the alternating curent instruments. It las a case diameter of 7 , ${ }^{3}$ incbes, projection of $37 / 8$ inches, and scale length of $5 \frac{1}{4}$ inclies

| Voltmeters |  |  |  | W.F. |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Volts | Iist Irice | Wmpere | W. F. | Ammeters | Ampere |

NOTE 1: Voltmeters are provided with external registors for ciccutis in execas of 300 volts.
Nore 2: All ammeters are furnished with a millivolmater adjusted for use with external shunte only. Prices for lower or higher ranges will be quoted upon request.

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

# WESTON INSTRUMENTS 

## Models 159 and 160 Direct Current



Model 159 Diameter 71/4 inches. Model 160
Diameter 9 $1 / 2$ inches

## ECLIPSE VOLTMETERS AND AMMETERS

These instruments were given the designation "lidlipse" to distinguish them from the well known moving coil Weston instruments. The designation is also very appopriate as these new instruments represent a distinet advance in the art of instrument design. They belong to the "soft-iron" or "electromagnetie" type, and yet they have none of the many disadvantages and crrors commonly associated with instruments of this class. They possess a degree of accuracy and genoral clectrical excellence hitherto wholly unknown, and heretofore deemed impossible of attaimment with this type of instrument, and aresubstantially unaffected by temperature changes, whether lue to changes in the room temperature, or to the heating effect of the current tirough the instrument. Furthermore, the hysteresis or lag error is entirely negligible at the working part of the scale. This last attainment is unprecedented. Eclipse instruments are made in two models, namely: Model 160 and 159 , the only difference being in the dimensions.
$\left.\begin{array}{c|c|c|c}\hline \text { Modet } & \begin{array}{c}\text { Liameter } \\ \text { Inches }\end{array} & \begin{array}{c}\text { Depth } \\ \text { Inches }\end{array} & \begin{array}{c}\text { Length of Scale } \\ \text { Inches }\end{array} \\ \hline 160 & 9.56 \\ 159 & 7.25\end{array}\right)$

ECLIPSE MODEL 159 AMMETERS
Note: This moded does not indicate polarity.

## ECLIPSE MODEL 160 AMMETERS

Nore: This model does not show polarity.

| Range in Amperes | List Price Fach | Range in Ampreres | List Price Each |
| :---: | :---: | :---: | :---: |
| 1 | \$30.00 | , | ふら, 76 |
| 2 | 30.00 | 2 | \%3.76 |
| 3 | 29.38 | 3 | 39.12 |
| 5 | 28.76 | 5 | 33.30 |
| 10 | 28.76 | 10 | 37.30 |
| 15 | 28.76 | 15 | 37.50 |
| 25 | 28.76 | 25 | 37 |
| 50 | 31.26 | 50 | 40.00 |
| 75 | 31.26 | 75 | 40.00 |
| 100 | 30.50 | 100 | 41.26 |
| 1.00 | 30.50 | 150 | 41.26 |
| 200 | 33.76 | 200 | 42.50 |
| 250 | 33.00 | 250 | 43.76 |
| 300 | 36.26 | 300 | 45.00 |
| 400 | 37.50 | 400 | 46.26 |
| 500 | 4) 00 | 500 | $4 \times .76$ |

## ECLIPSE MODEL 159 VOLTMETERS

Note: This model does not indicat: polarity.

ECLIPSE MODEL 160 VOLTMETERS
Nute: 'This moklol docs not show polarity.

| Rance in Volts | List Price Each | Range in Volts | List I'rice Each |
| :---: | :---: | :---: | :---: |
| 75 | \$30.00 | 75 | \$40.00 |
| 13.5 | 30.00 | 12.5 | 40.00 |
| 150 | 30.00 | 150 | 40). 00 |
| 300 | 346.26 | 300 | $4{ }^{4.50}$ |
| 500 | 40. 00 | 5010 | 51. 26 |
| (00) | +2, 50 | 600 | 53.76 |
| 760 | 45.00 | 750 | 244.26 |

Voltmeters with a range above 150 volts are provided with external resistances.

Voltmeters with a range above 300 volts are provided with external resistances.

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


No. 273 Ammeter


No. 271 Ammeter

## WESTON INSTRUMENTS

## Models 273, 271 and 269

DIRECT CURRENT


No. 269 Voltmeter


No. 269 Ammeter

The Weston Direct Current Switchboard "Fiun-shaperl" Models 26a, 271 and 273 , herewith briefly described, differ radically in form and apperance from the preceding Weston Round l:attern switchboard Motels.

They possess many important features that will immediately commend them to switehbard and panclboard mandeathress and to users in gomerad.

Attertion will first he directed to the fant that they constitute a grmup of instruments similar in shate but graden as to size, thus enabling a purchaser to casily seleet the model best suited to the refuimements

Then it will be ohserved that:
(a) They have pemarkably long, open and legible seales (the longest ever atitaimed in instruments. of their sizo);
(b) They are untuatly attractive in apmearanere;
(c) 'They are eompact in size;
(d) 'Their projeetion from the faes of the switehbored is notiesably slight.

That they likewise deserve special consideration from the standpoints of performance in sorvice and mechanical am eleefrical workmanship and design.

Every detail of design and construetion has heren most carefully and conseientionsly stmbiod for the purpose of obtaining the highest possible desgree of precision ronsistent with darability and reliability.

All parts are made strictly to gauge, thas assuring a miformly hish standard of jroduct.
No. 273 AMMETER

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Width Inches | Height Inches | Scale Length lnches | $\left\lvert\, \begin{array}{r}\text { W. F. } \\ \text { List Price } \\ \text { Each }\end{array}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 273 | Wh, tor and including 2in) amperes, extornal shunt. . . . . . . . . . . . . | $0^{3)_{16}}$ | $7 \frac{18}{32}$ | 71/4 | \$56.26 |

No. 273 VOLTMETER

| $2 \overline{73}$ | T 1 to and induding 150 volts, self-contained | $9^{\text {² }} 16$ | $7 \frac{13}{32}$ | 71/4 | (62.50) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 273 | From 1.0) volis to 300 volts, selfeeontained. . | 9316 | $7{ }^{133}$ | 714 | 70 (1) |
| 273 | From 300 volts to (00) volts (external resistance box used). | $9{ }^{15}$ | $8 \frac{13}{32}$ | $71 / 4$ | 82.50 |
| 27.3 | From thto volts to 750 volts (external resistanme box used). | 9) ${ }^{\text {伯 }}$ | $7 \frac{13}{818}$ | 71/1 | 8780 |

No. 271 AMMETER


## No. 271 VOLTMETER

| 271 | I'is to and including 150 volts, self-contained | 718 | $11^{1 / 4}$ | 513/4 | 40. 010 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 271 | From 150 volts to 300 volts, self-contained | 778 | 61/4 | $53 / 4$ | 4s. 76 |
| 271 | From 2100 to 600 volts (external resistance box used). | 778 | (61/4 | 5 5 3/4 | (11.26 |
| 271 | From 600 to 750 volts (extermal resistance box used). | 7788 | (31/4 | 53/4 | $66^{6} .21$; |

## No. 269 AMMETER

| 269 | L'p to 50 amperes, self-contained only. | 55/8 | $4{ }^{7}$ | 4 | 32.50 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 269 | Esternal shunt type up to and inchuding 150 amperes. | 55 | $4{ }^{6}$ | 4 | 316.24 |

## No. 269 VOLTMETER

| 269 | [is to and including 180 volts, solferontained. | 5 5 5 | $4 \%$ | 4 | 333.76 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 269 | From 1.0) volts to 300 volts, indusive, selferematamed. | -3\% | $t^{7} 16$ | 4 | +1.26 |

These instruments can be fumished in higher ranges when used with external shonts. 'To obtain the price deduct the price of the shunt from the price of the instrument as listed above and add to this the price of the shunt of the range desired. For price of shunt see listing elsewhere.

Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


Model 267 Voltmeter Front View


Model 267 Voltimeter Rear View


Mindel 267 Ammeter Front View


Mudel 267 Ammeter Rear View


Model 268 Volt-Ammeter Front View


Model 268 Volt-Anzmeter
Rear View

## WESTON MINIATURE PRECISION INSTRUMENTS

## For Direct Current <br> Model 267 Switchboard Voltmeters, Ammeters and Mil-Ammeters

This group of instruments consists of a variety of ranges of small switchboard ammeters and voltmeters suitable for use in small isolated lighting plants, small power plants, signal systems, hattery charging panels and for all kinds of service where small switchboard indicating instruments are needed.

## MODEL 267 SWITCHBOARD VOLTMETERS

| Range | *List l’rico bach | Range | *List Irice Each | Range | *List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | \$24.16 | 7.5 | \$24.16 | 50 | \$24.16 |
| 1.2 | 24.16 | 8 | 24.16 | 60 | 24.16 |
| 1.5 | 24.16 | 10 | 24.16 | 75 | 24.16 |
| 2 | 24.16 | 12 | 24.16 | 80 | 24.16 |
| 2.5 | 24.16 | 15 | 24.16 | 100 | 24.16 |
| 3 | 24.16 | 20 | 24.16 | 120 | 24.16 |
| - 4 | 24.16 | 25 | 24.16 | 130 | 24.16 |
| 5 | 24.16 | 30 | 24.16 | 150 | 24.16 |
| is | 24.16 | 40 | 24.16 |  |  |

MODEL 267 SWITCHBOARD AMMETERS

| 1 | $\$ 24.16$ | 4 | 524.16 | 12 | 824.16 |
| :--- | ---: | :---: | :---: | :--- | :--- |
| 1.2 | 24.16 | 5 | 24.16 | 15 | 24.16 |
| 1.5 | 24.16 | 6 | 24.16 | 20 | 24.16 |
| 2 | 24.16 | 7.5 | 24.16 | 25 | 24.16 |
| 3.5 | 24.16 | 8 | 24.16 | 30 | 24.16 |
| 3 | 24.16 | 10 | 24.16 |  |  |

## MODEL 267 MIL-AMMETERS

Nore: For higher ampere readings the Model 267 will be furnished as a milli-voltmeter adjusted to external shunts. Information and prices relative to such instruments will be supplied upon application.

Dimensions.-Vertical, 3.35 inches; horizontal, 4.1 inches; depth, 1.1 inches.

## MODEL 268 SWITCHBOARD VOLT-AMMETERS

These instruments are adapted for use in electrolytic work, charging and discharging small storage batteries, and for service in connection with directcurrent ignition systems for gats and gasoline engines, and in all classes of work in which a single instrument is necessary for inclicating either potential difference or current.

| Range |  | *List Price Each | Range |  | *List Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Volts | Amperes |  | Volts | Amperes |  |
| 10-()-15 | 10-0-15 | \$36.80 | 5-0-15 | 10-0-30 | \$36. 80 |
| 10-0-15 | 2-0-3 | 36.80 | 5-0-10 | $5-0-10$ | 36.80 |
| 10-0-15 | 20-0-30 | 36.80 | 10-0-20 | $2-0-4$ | 36.80 |
| 7.5-0-15 | 7.5-0-15 | 36.80 | 5-()-10 | 1-0-2 | 36.80 |
| 7.5-0-15 | 15-0-30 | 36.80 | 5-()-10 | 10-0-20 | 36.80 |
| $7.5-()-15$ | 1.5-0-3 | 36.80 | 10-0-20 | 5-0-10 | 36.80 |
| $1.5-0-3$ | 7. 5 -0-15 | 36.80 | 10-0-20 | 1-0-2 | 36.80 |
| 5)-6)-15 | 1-()-3 | 36.80 | 10-0-20 | 10-0-20 | 36.80 |

Dimensions.-Vertical, 4.25 inches; horizontal, 4.2 inches; depth, 1.35 inches.
*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

# WESTON INSTRUMENTS <br> MODELS 354, 301 AND 280 



Model 354 Surface Type


Model 354 Flush Type


Model 311 Zero-Left Ammeter

## Model 354 Direct Current Ammeter

These ammeters are furnished with three styles of cases, i.e., (1st.) flush type with wide flange to be screwed directly to the cowl or dash board. (2d) front projeeting type with back connecting studs serving the dual function of providing a means of making electrical conneetions and securing the instrument in position (3d) flush type narrow flange which is secured in position by means of a special clamp.
Range Amperes
$1(0-1)-10$
$15-0-15$
$20-0-20$
$30-()-30$

Mrrs. List Price Fach
*W. E.
334
10-()-10
$\$ 4.25$
List Price
354
20-0-20
4.25
$\$ 1.38$
354
$30-()-30$
4.25
6.38
4.25
6.38

## Model 301 Miniature Voltmeters and Ammeters

These instruments are especially designed for installation in automobiles. They are reliable, accurate and scrviceable for measuring the voltage and rate of charge or discharge of batteries.

Note: Made in two standard finishes, full nickel or dall black.
*W. E.

| List No. |  |  | Diameter |  | Scale | Mfrs. List | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mounting <br> Front | Case 2.750 | Depth | Length $235$ | Price Each | Price |
| :301 | Ammoter or Voltmeter. | Mush | 3.250 | 1.171 | 2.35 | 6.00 | 13.80 |

('an be furnished in any of the ranges as follows:


## Weston Model 280 Garage Testing Instrument



Model 280
Garage Testing Instrument

This instrument is adjusted for ranges of 30 and 3 volts and 100 millivolts, and is provided with externad shunts of 3, 30 and 300 ampere rating for use in current measurements.

| List |  | Mirs. List | *W. E. |
| :---: | :---: | :---: | :---: |
| No. |  | Price Each | Price |
| 280 | Garage testing instrument. | \$22.50 | \$56. 26 |
|  | Leather carrying case. | 2.75 | 6.88 |

*Delivery F. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.

## WESTON INSTRUMENTS

## MODELS I67, 343, 216 AND 368



Model 167 Direct Current and Single Phase Wattmeter

| 100 to 1:50 Volts |  |  |  | 200 to 300 Volts |  |  | 400 to 600 Volts |  |  | 600 to 750 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ampere |  | Scale | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |  | Scale | $\begin{aligned} & \text { list } \\ & \text { Price } \end{aligned}$ |  | Scale | $\begin{array}{r} \text { List } \\ \text { Price } \end{array}$ |  | Scale | List Price |
| 1 | 1:0 | watts | 8110.00 | 300 | watts | \$123.20 | 0) | watts | \$134.20 | 750 | watts | 147.40 |
| 2 | 300 | watts | 110.04 | (i0) | watts | 123.20 | 1.5) | kilowatts | 1:34.20 | 1. | 5 kilowat ts | 147.40 |
| 5 | 500 | watts | 110.00 | 1 | kilowatt | 123.20 | 2 | kilowatts | 134.20 |  | 5 kilowatts | 147.40 |
| 5 | 750 | watts | 110.00 | 1.5 | 5 kilowatts | 123.20 | 3 | kilowatt: | 134.20 | 4 | kilowatts | 147.40 |
| 10 | 1 | kilowatt | $110 .(0)$ | 2 | kilowatts | 123.20 | 4 | kilowatts | 1:34.20 | 5 | kilowatts | 147.40 |
| 10 | 1.5 | kilowatt. | 110.00 | 3 | kilowatts | 123.20 | 6 | kilowatts | 134.20 | 7. | 5 kilowatts | 1.47 .40 |
| $\because 0$ | 2 | kilowatts | 110.00) | 6 | kilowat ts | 123.20 | 8 | kilowatts | 1:34.20 | 11 | kilowatts | 147.40 |
| 20 | 3 | kilowatts | 110.00 | 7.5 | 5 kilowatts | 123.20 | 12 | kilowatts | 1:34.20 | 15 | kilowatts | 147.40 |
| 50 | 5 | kilowatts | 110.00) | 10 | kilowatts | 123.20 | 20 | kilowatts | 1:34.20 | 25 | kilowatts | 147.40 |
| 50 | 7.5 | kilowatts | 110.00 | 1.) | kilowatts | 123.20 | 30 | kilowatts | 134.20 | 40 | kilowatts | 147.40 |
| 100 | 10 | kilowatts | 123.20 | 20 | kilowatts | 134.20 | 40 | kilowatts | 147.40 | 50 | kilowatts | 165.00 |
| 100 | 15 | kilowatts | $123.20 \mid$ | 30 | kilowatts | 134.20 | (i) | kilowatts | 147.40) | 75 | kilowatts | 165.00 |

The morlel No. 343 differs from model No, 107 only in the diameter of case, the length of pointer and scale. Its diameter is $7 \frac{11}{16}$ inchos, projector is $37 / 8$ inehes and scale length is $51 / 4$ inches. It can be furnished for the same potentials and current ranges as the model No. 167 at List price of $\$ 16.50$ less than corresponding model No. 167.

# Model 216 Polyphase Wattmeter <br> Semi-flush or Full Front Case <br> Two Phase or Three Phase 

| 110 to 150 Volts |  |  |  | 200 to 330 Volts |  |  | 400 to 600 Volts |  |  | 600 to 750 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ampere |  | Scale | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |  | Scale | List Price |  | Scale | List Price |  | Scale | List Price |
| 5 | 1 | kilowatts | \$154.00 | 2 | kilowatts | \$165. 00 | 4 | kilowatts | \$176.00 | 5 | kilowatts | \$187.00 |
| 5 | 1.5 | kilowatts | 154.00 | 3 | kilowatts | 165.00 | 6 | kilowatts | 176.00 | 7.5 | 5 kilowatts | 187.00 |
| 10 | 2 | kilowatts | 154.00 | 4 | kilowatts | 165.00 | 8 | kilowatts | 176.00 | 10 | kilowatts | 187.00 |
| 10 | 3 | kilowatts | 154.00 | 6 | kilowatis | 165. 00 | 12 | kilowatts | 176.00 | 15 | kilowatts | 187.00 |
| 20 | 4 | kilowatts | 154.00 |  |  |  |  |  |  |  |  |  |
| 20 | 6 | kilowatts | 154.00 | 8 | kilowatts | 105.00 | 20 | kilowatts | 176.00 | 20 | kilowatts | 187.00 |
| 20 | 7.5 | kilowatts | 154.00 | 12 | kilowatts | 165.00 | 30 | kilowatts | 176.00 | 30 | kilowatts | 187.00 |
| 50 | 10 | kilowatts | 154.00 | 20 | kilowatts | 165.00 | 40 | kilowatts | 176.00 | 50 | kilowatts | 187.00 |
| 50 | 15 | kilowatts | 154.00 | 30 | kilowatts | 165.00 | 60 | kilowatts | 176.00 | 75 | kilowatts | 187.00 |
| 100 | 20 | kilowatts | 16i5. 00 | 40 | kilowatts | 176.00 | 80 | kilowatts | 187.00 | 100 | kilowatts | 198.00 |
| 100 | 30 | kilowatts | 16:5.00 | 60 | kilowatts | 176.000 | 120 | kilowatts | 187.00 | 15\% | kilowatts | 198.00 |

[^13]
## WESTON INSTRUMENTS



## Model 215 Power-factor Meter

By virtue of a novel mode of const ruction, the Weston power-factor meter has been rendered practically perfect in its operation. Wrom $2 / 10$ load to full load it indicates the true phase angle to within 1 per cent. independent of any variable conditions found on ordinary commercial cireuits. Polyphase power-factor meters may be used on any commercial frequency. Single phase meters require a phase-splitting device and, therefore, must be calibrated for the frequency at which they are to operate. The following ranges are regularly carried in stock: 25, 40, 50, 60, 125 and 133 eyeles per second. I'olyphase power-factor meters are arranged for the following systems; two phase three wire, and three phase three wire for balanced loads. Meters above 150 volt range are equipped with external resistance box. All meters have the same kind of seade, reading from 0.50 lag to 0.50 lead. Special seales for power-factors as low as 0.30 may be had at slight extra cost. This instrument may also be arranged as a sine or cosine meter.

Two phase four wire meters are made for circuits up to 300 volts only. For circuits higher than 300 volts, use two phase three wire, 110 volt instrument with two potential transformers.

Polyphase instruments are made for balanced load only.
100 to 150 Volts Self-contained
200 to $\mathbf{3 0 0}$ Volts with External Resistance

| Amperes | List Price Polyphase | List Price Single Phase | Amperes | List Price Polyphase | List I'rice Single Phase |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | \$121.00 | \$143.00 | 5 | \$132.00 | \$154.00 |
| 10 | 121.00 | 143.00 | 10 | 132.00 | 154.00 |
| 20 | 132.00 | 154.00 | 20 | $143 .(0)$ | 16.5 .00 |
| 50 | 132.00 | 154.00 | 50 | 143.00 | 165.00 |
| 100 | 143.00 | 165.00 | 100 | 154.00 | 176.00 |
| 400 to 600 Volts with External Resistance |  |  | 600 to 750 Volts with External Resistance |  |  |
| 5 | \$154.00 | \$176.00 | 5 | \$165.00 | \$187.00 |
| 10 | 154.00 | 176.00 | 10 | 165.00 | 187.00 |
| 20 | 165. 00 | 187.00 | 20 | 176.00 | 108.00 |
| 50 | 165.00 | 187.00 | 50 | 176.00 | 198.00 |
| 100 | 176.00 | 198.00 | 100 | 187.00 | 209.00 |

Morlel No. 356 Power-factor meter differs from Motel No. 215 only in the dimensions of case, length of pointer and seale. It has a diameter of $7 \frac{11}{16}$ inches, projection is $37 / 8$ inches, and scale length $51 / 4$ inches. It is furnished in the same capacities as the Model No. 215 at a list price of $\$ 16.50$ less than the corresponding range in the No. 215 model.

## Model 214 Frequency Meters

These instruments are of a new type. Their indications are practically independent of changes of temperature, voltage and wave form, such as nay be encountered in the commercial circuits of to-day. Standard meters are made for one voltage, 100 to 125 volts. For 220 volt service add $\$ 11.00$, and for voltage ranges outside of this potential transformers must be used. Every frequency meter is provided with an external box which contains reactors and resistors.


Model No. 355 frequency meter differs only from Model No. 214 in the diameter of case, length of pointer and the seale. It has a diameter of $7 \frac{11}{16}$ inches, projection of $37 / 8$ inches, and a length of $51 / 4$ inches. It is furnished in the same capacity as the Model No. $21 \pm$ at a list price of $\$ 16.50$ less than the corresponding rauge in the Model No. 214. It can be furnished for a 220 volt circuit at $\$ 11.00$ list.

Delivery I'. O. B. Factory, Newark, N. J. For warehouse deliveries write nearest house.


Model 226
Synchroscope

WESTON INSTRUMENTS
MODELS 226. 151, 156


Model 151


Model 156

## Model 226 Synchroscope

This synchroscope is of a distinctly new type. It consists of a phase angle indicator mounted with its pointer behind a ground glass srale and illuminated by a small synchronizing lamp installed behind the pointer and connected to synchronized light. A difference in frequency between two machines causes the pointer to swing back and forth, but owing to the fact that the lamp is lighted only half the time, the pointer is seen only during every other swing, and thus appears to rotate continuously in one direction. When the machines have the same frequeney, but are out of phase, the pointer comes to rest at one side or the other of the middle of the seale. Perfect synchronism is indicated by the pointer remaining at rest in the middle of the scale with the lamp lightel.

The pointer is only visible when the synchronizing lamp is lighted. The indications of the instrument are absolutely infallible.

Every synchroscope includes a lamp transformer, a condenser and a resistor mounted in a separate box. These instruments are made only for one voltage ( 100 to 125 volts), and when used for other voltages they must be operated with potential transformers. The instruments can be calibrated for any frequency.
Description

Marde for 110 to 125 volts and any commercial frequency up to 1.50 cycles. Specify the voltage
and frequency in every case
$\$ 137.50$

## Models 151 and 156 Voltmeters and Ammeters

Voltmeters with a range above 300 volts are provided with external resistance coil.
Every ammeter is tested before shipment for insulation with 4,600 volts for one minute.
The "ase of each ammeter is provilded with a "ground terminal," which must (in order to insure safety to the user) be comnected to earth when the potential difference of circuits excects 200 volts. When properly erected, the ammeters are perfectly safe for use on circuts operating on a potential difference of 2,300 volts, but must be used with transformers on circuits of higher potential difference.

Transformers must be used on all circuits carrying over 500 amperes, and we recommend a value of 5 amperes for the secondary, and will ealibrate the instrument so that it will be direct reading. These instruments are made in two models. which differ only in dimensions.

| Model | Diameter, Inches 9) $\frac{9}{16}$ |  | Depth, Inches $3 \frac{5}{32}$ | Model156 | Diameter, Inches $71 / 4$ |  | Depth, Inches $3 \frac{5}{32}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| -_- Madel 151 A.C. Voltmeters-_ Model 156 A.C. Voltmeters - - - - - - |  |  |  |  |  |  |  |
| Range in Volts | List Price Each | Range in Volts | List l'rice Each |  | Range in Volts | List l'rice Each | Range in Volts | List I'rice Each |
| 75 | \$46.26 | 500 | \$66.26 | 75 | \$36.26 | 500 | \$48.76 |
| 125 | 46.26 | 600 | 68.76 | 125 | 36.26 | (60) | 52.50 |
| 150 | 46.88 | 750 | 75.00 | 150 | 36.88 | 750 | 58.76 |
| :300) | 56.26 |  |  | 300 | 46.26 |  |  |

Voltmeters above 150 volts provided with external resistances.

| Range in Amperes | List Price Each | $\begin{gathered} \text { lange } \\ \text { in Amperes } \end{gathered}$ | List Price Each | Range in Amperes | $\begin{gathered} \text { List Price } \\ \text { Fach } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Range } \\ & \text { in Amperes } \end{aligned}$ | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | \$44.3\% | 50 | \$43.76 | 1 | \$35.00 | 50 | \$34.38 |
| 2 | 43.76 | 75 | 43.76 | 2 | 34.38 | 7.5 | 34.38 |
| 3 | 42.50 | 100 | 43.76 | 3 | 33.74 | 100 | 34.38 |
| 5 | 42.50 | 150 | 45.00 | 5 | 33.74 | 150 | 35.62 |
| 10 | 42.50 | 200 | 46.26 | 10 | 33.74 | 200 | 36.88 |
| 15 | 42.50 | 250 | 46.88 | 15 | 33.74 | 250 | 37.50 |
| 20 | 42.50 | 300 | 47.50 | 20 | 33.74 | 300 | 38.76 |
| 25 | 42.50 | 400 | 47.50 | 25 | 33.74 | 400 | 41.26 |
| 30 | 42.50 | 500 | 50.00 | 30 | 33.74 | 500 | 43.76 |
| 40 | 43.76 |  |  | 40 | 34.38 |  |  |

Model 2(00 Alternating Current Voltmeters and Ammeters differ from Model 151 only in the diamm eter of ease, in length of pointer and scale. It has a case dianceter of $7 \frac{1}{16}$ inches, projection of $37 / 8$ inches, and scale of $51 / 4$ inches. Ammeters are intended for use with eurrent transformers and are furnished in the 5 ampere size only. Delivery I.O. 1B. Faxtory, Newark, N.J. For warehouse deliveries write nearest house.


The most important consideration for Central Stations as regards the question of what watthour meter to use on their lines should be aceuracy, expense of maintenance and testing and initial cost.

The line of meters herein described has been developed and perfected with these points in view.

# Western Electric WATTHOUR METERS 

Alternating Current<br>SINGLE PHASE-HOUSE TYPE

## TYPE I-14

The Type I-14 single phase wathour meter operates on the induction principle, so that there are no moving electrical contacts. It is built in self contained sizes of from is to 300 amperts, 2 wire, 5 to lin) amperes, 3 wire, 100 to 600 volts, and for all standard froquenoies. The adoption of this moter as standard by many of the largest eentral stations indicates a universal appreciation of the superiority of this type.

Mechanical Construction. The hase, including the terminal chamber, is formed by a eentral iron casting which also scrves as a housing for the meter and supports the complete motor clement, damping magnets, bearings and registering mechanism. This construction gives a compact meter with all parts readily accossible and practically eliminates the possibility of getting out of aligment during shipment.

Terminals. 5 to 75 amperes. Four lurass terminals are permanentliy moulded in a non-combustible insulating eompound, thus providing excellent insulation and preventing accidental short circuits across the terminals. The leads enter from the bottom. In two-wire meters, both sides of the line pass through the meter, while in three-wire meters both "outers" pass through, and the potential coil is connected across these "outers." The cover of the terminal ehamber is of punched drawn steel, hinged at the upper left hand corner, so that it swings down out of the way when conmeetions are being made, but cannot become cletached from the meter. It $i$; held in the elosed position by a serew though the upper right hand corner and sealed by a wire through the serew and a projecting lug on the cover. The terminal chamber contains, in addition to the terminals, two holes for the lower supporting serews, so that when the meter is in place, the lower screws are always under soal. I testing loop is alse eontained in the ehamber. By means of this test loop, the potential circuit of the meter may be opened, and any number of meters may be tested in series.

100 to 300 amperes. The larger currents dealt with in the 100 to 300 ampere sizes necessitate a somewhat different construetion of torminal chamber, although these larger sizes all possess the notable features mentioned under 5 to 75 amperes, i.e., separately sealed terminal chumber, lower supporting screws under seal and test loop. See dimensions page elsewhere.

Covers. The Type I-14 meter may be furnished with metal or glass covers; the metal cover is, however, the most popular type. This is of drawn sheet metal and cylindrical in shape, with glass covered openings for reading the register and observing the rotation of the disc. Livery precaution is taken to render the cover absolutely dust-proof, a gasket being used where the cover rests on the frame, and the glass is deeply embedded in putty and held by a punched frame. The cover is held in place by two seal pins and wing nuts and sealed by passing a seal wire through the wing nuts and pins. A heavy iron back plate is held in place by two screws in the 5 to 75 ampere meters entering from the front of the central casting. Access to these screws may be had only when the cover is removed.

# Western Electric WATTHOUR METERS (Continued) 

Alternating Current

Register. The register is of the four dial type and consists essentially of two parts rigidly fastened together. The ontire mechanism is fastened to the base by two screws and can be removed or replaced vory roudily. A mierometer adjustmont is provided for the mesh of the worm on the disk shaft with the worm wheel. This mesh, and in fact the entire registar mechanism, is visible when cover is removed. The small number of moving parts contained in the register reduces friction to a minimum. All registea: read direct in kilowatt-hours. When necessary, however, a dial face multiplier of 10 or a multuple of 10 may be used.

Rotating Element and Bearings. The rotating element is an aluminum disk rigidly fastened to a vertical shaft by means of a die-rast hub. A worm is machined in the upper part of the shaft, which transmits the shaft motion to the register mechanism.

The lower bearing is of high grade selected sapphire, cupped and polished and mounted in a brass serew which is readily acecssible for removing, permitting a close examination. No adjustment is required to replace this bearing when once removed.

The pivot used is standard for all watthour meters, and is made from a high grade hardened steel wire.

The top bearing is formed by a flexible steel wire mounted in a removable or aljustable brass plug. The wire extends down into a thin washer mounted in a recess in the top of the shaft.

Electrical Element. The magnetic circuit is in two sections, rigidly fastoned together by two punehed iron roinforcing plates. Thore are two current poles and one potential pole. The entire element is held in position inside the base by three screws, and is readily accessible. The removal of the back plate exposes the complete cloetrical clement to view without any aljustments.

Finish. All meters are finished in dull black japan.

## Damping Magnets and Full Load Adjustment.

The permanent magnet, which regulates the sped of the disk, consists of two individual magnets mounter in a brass shoe, which is supported by a shelf on the main casting and clamped to it by two serews. The full load adjustment is obtained by means of a mierometer serew having right and left hand threads. One end of this serew threads into a boss on the main casting and the other into the magnet shoe projecting through the latter just below the jaws of the magnet. Turning the serew one way draws the magnets in and thereby deereases the speed of the disk, and vice versa.

Light Load Adjustment. The light load adjustment is ohtained by moving a metal punching laterally under the potential pole across the path of the potential flux. This lateral movement is accomplished hy means of a knurled slotted thumbserew at the right hand side facing the meter, giving micrometer adjustment. The plate is clamped to the base by two screws, which can be reached from the front of meter after cover is removed.

Performance Characteristics. The characteristic curve of the Type I-14 meter, between light and full loud, approaches very nearly a straight line.

Overload. The series coils are very liberally rated, so that meters of from 5 to 25 ampere capacity will carry for any length of time 200 to 250 per cent. of their normal rating, without affecting their calibration, The larger meters can be op crated safely on loads $u_{i}$ ) to 50 per cent. above normal.

# Western Electric WATTHOUR METERS (Continued) 

Alternating Current

Voltage. The Type I-14 meter is practically unaffected by variation in voltage of 10 per cent. above or below the marked voltage.

Frequency and Wave Form. The small changes in frequencies ordinarily experiencel on light in circuits have practically no effect on the accuracy of the meter, nor dues the difference in wave form of stanclard generators.

Temperature. Installations where meter will be subjected to wide variations in temperature should be avoided, but under ordinary conditions, meters are very little affected. All meters are adjusted at the factory for $20^{\circ} \mathrm{C}$.

Power Factor. All I-14 meters are corrected for low power factor, so that variations in power factor have no appreciable effect on the accuracy of the meter.

Creeping. Two holes punched in the disk at diametrically opposite points eliminate creeping under all ordinary conditions.

Stray Fields and Short Circuits. The inherent design of the I- 14 meter renders it capable of withstanding the effects of heavy short circuits without injury or impairment of accuracy.

## Single-phase Watthour Meters

TYPE I-14
Front Connected, Metal Cover, Dull Black Finish
Self Contained

| Amps. | 40-133 Cycles |  |  |  |  | 25-30 Cycles |  |  |  |  | Net Weight Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 110 Volts |  | 220 Volts |  |  | 110 Volts |  | List No. 2 Wire | 220 Volts |  |  |
|  | List No. | List Price | $\begin{aligned} & \hline \text { List No. } \\ & 2 \text { Wire } \end{aligned}$ | $\left\|\begin{array}{c} \text { List No. } \\ 3 \text { Wire } \end{array}\right\|$ | List Price | List No. | List Price |  | List No. 3 Wire | List Price |  |
| 5 | 151942 | \$16.25 | $15195^{\circ} 2$ | 15196 | \$18.25 | 152860 | \$17.25 | 152870 | 152880 | \$19.25 | 8.7 |
| 10 | 151943 | 19.00 | 151953 | 151963 | 21.00 | 152861 | 20.00 | 152871 | 152881 | 22.00 | 8.7 |
| 15 | 151944 | 21.50 | 151054 | 15196 | 23.50 | 152862 | 22.50 | 152872 | 152882 | 24.50 | 8.7 |
| 25 | 1510.15 | 26.00 | 151955 | 151965 | 28.50 | 152863 | 27.00 | 152873 | 152883 | 29.50 | 8.7 |
| 50 | 151946 | 35.50 | 151950 | 151960 | 38.50 | 152864 | 36.50 | 152874 | 152884 | 39.50 | 10.4 |
| 75 | 151047 | 41.00 | 151957 | 151967 | 44.00 | 152865 | 42.00 | 152875 | 152885 | 45.00 | 10.4 |
| 100 | 1519.88 | 45.00 | 151958 | 151968 | 48.00 | 152866 | 46.00 | 152876 | 152886 | 49.00 | 14.75 |
| 150 | 151049 | 48.50 | 151959 | 151969 | 52.00 | 152867 | 49.50 | 152877 | 152887 | 53.00 | 14.75 |
| *200 | 151995 | 50.00 | 151960 |  | 54.00 | 152868 | 51.00 | 152878 |  | 55.00 | 16. |
| *300) | 151951 | 51.00 | 151961 |  | 55.00 | 152869 | 52.00 | 152879 |  | 50.00 | 16. |

*Three wire not furnished in these sizes.

## Meters for Use With Instrument Transformers

| List No. | Amperes | Volts | Cycles | Wire | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 188640 | 5 | 110 | 25-30 | 2 | \$22.00 |
| 188641 | 5 | 110 | 40-133 | 2 | 21.00 |
| 188642 | 5 | 220 | 25-30 | 2 and $3 \dagger$ | 24.00 |
| 188613 | 5 | 220 | 40-133 | 2 and $3 \dagger$ | 23.00 |
| 188644 | 5 | 220 | 25-30 | $3 \dagger$ | 24.00 |
| 188645 | 5 | 220 | 40-133 | $3 \dagger$ | 23.00 |

## APPROXIMATE SHIPPING WEIGHTS IN POUNDS

| APPROXIMATE SHIPPING WEIGHTS IN POUNDS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 5 to 25 | 50 to 75 | 100 to 150 | 200 to 300 |
|  | Amperes | Amperes | Amperes | Amperes |
| Packed one in a box | 1.5 | 17 | 32 | 35 |
| Packed two in a box | 27 | 30 | 65 | 67 |
| Packed four in a box | 44 | 55 | 95 |  |
| Packed eight in a box | 84 |  |  |  |
| Delivery F. O. 13. | liveries | te neares | house. |  |

## IMPORTANT

Always specify the frequency of the circuit on which the meter is to be userl.
All metcrs listed above may be used on circuits the voltage of which is not more than 10 above or below the rated voltage of the meter. When ordering meters for voltages outside of these limits the normal operating voltage must be specified.

All meters listed above under "Self Contained" require no transformers.
When the current to be metered exceels the maximum listed above current transformers are necessary, or when the voltage of the circuit is more than 600 both current and potential transformers are necessary. In such cases meters for use on the secondary of transformers should be ordered by List No. and rating as listed under "Meters for use with Transformers." These List Nos. cover the meter only and do not include transformers. Transformers should be ordered separately by List No. and rating.
$\dagger$ lor 3 -wire transformer rated circuits for use with double primary single secondary current transformors, the "-wire meter List No. $1886+3$ or $1881 ; 43$ is used. For 3 -wire tranformer rated circuits for use with two single primary current transformers, the 3 -wire meter List No. 188644 or $188645^{\circ}$ is used.

# Western Electric WATTHOUR METERS Switchboard Types <br> Alternating Current 



Single-phase, Watthour Meter, TYpe IS-4


Side View of Meter, Cover Removed

## Meter with Cover Removed

The Type 1S-4 Switchboard Watthour Meter is a modification of the $\mathrm{I}-14$, the difference being principally in the mechanical construction.

Base. A cast iron base sapports the frame, which carries all the component parts of the meter. It is supported and held to the hoard by three bolts, the lower ones being the terminal studs for the series winding.

Terminals. There are four terminal studs, two current and two potential. The terminals are so arranged that a test moter can be connocted in series with the current coil, or the meter can be entirely isolated from the rireuit and serarate exeitation provided, without interrupting the circuit or going back of the board.

Adjustments. The fill load and light load adjustments are identical with those of the lype $1-14$ meter.

Cover and Finish. The cover is of cast iron and is finished in dull black and capmer. The front surface of the cover is pohbled and the raised porfions around the edge and openings are of polished copper.

## Type IS-4

BACK CONNECTED, METAL COVER, DULL BLACK FINISH, SELF-CONTAINED

## 25-133 Cycles Two-Wire

| Ampures | $\xrightarrow{-110 ~ V o l t s-\cdots-}$ |  | - 220 Volts- |  | 440 F (olts | 550 Volts | 550) Volts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. | Isist Price | List No. | List Price | List No. | List No. | List Price |
|  | 187698 | \$50.00) | 187706 | \$5.2. 00 | 187714 | 187722 | \$62.00 |
| 10 | 187609 | 53.00 | 187707 | 55.00 | 187715 | 187723 | (65.00) |
| 15 | 187700 | 56.00 | 187708 | 58.00 | 187716 | 187724 | 68.00 |
| 25 | 187501 | 60.00 | 187709 | (62.0) | 187717 | 187725 | 72.00 |
| 50 | 187702 | 68.00 | 187710 | 70.00 | 187718 | 187756 | 79.50 |
| 75 | 187503 | 72.50 | 187711 | 74.50 | 187719 | 187727 | 84.50 |
| 100 | 187704 | 75.50 | 187712 | 77.50 | 187720 | 187728 | 88.00 |
| 150) | 187705 | 79.00 | 187713 | 8100 | 187721 | 187729 | 91.00 |
| METERS FOR USE WITH TRANSFORMERS |  |  |  |  |  |  |  |
| 5 | 187730 | \$50.00 | 187731 | \$52.00 | 187732 | 187733 | \$62.00 |

Always state frequency of circuit when ordering.
Meters listed above may be used on circuits, the voltage of which is not more than 10 per cent. above or helow the rated voltage of the meter. When ordering meters for voltages ontside of these limits, the normal oprating voltage must be specifed.

Neters listed above as Solf-Contained Meters do not require transformers. When the currents to be metercd exceed 150 amperes, current transformers are necessary, When the voltage of the circuit is more than ting both current and motential transformers are necessary. In such cases meters for use on the secondary uf transformers should beordered, and should be designated by list number and rating asi listed under "Nleters For I'se With Transformers." These list numbers cover the mefer only and do not include transformers. Transformers shouki be ordered separately hy list number and rating.

# Western Electric WATTHOUR METERS <br> Alternating Current 

TYPE DS-6-POLYPHASE WATTHOUR METERS
FOR THREE-PHASE THREE-WIRE, TWO-PHASE THREE-AND FOUR-WIRE CIRCUITS 25-133 CYCLES BACK CONNECTED, METAL COVER, DULL BLACK FINISH

| 110 Volts |  |  |  | 220 Volts |  |  | 440 Volts |  | 550 Voits |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { W. } \\ & \text { L } \\ & \stackrel{0}{E} \\ & E \end{aligned}$ | List <br> No. | $\left\lvert\, \begin{gathered} \text { K W. } \\ \text { Cuparity } \\ \text { Non-Ind } \\ \text { Loads } \\ \text { Motor } \\ \text { Hat. } \\ \text { IRang } \\ \text { annd } \\ \text { Phase } \end{gathered}\right.$ | List Price | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | List I'rice | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | List No. | そ. $\mathbf{W}$ <br> Capacity <br> Non-Ind <br> Loads <br> Motor H.P. <br> Rating 2 and 3 Phase | List Price 440 or 550 Volts |
| 5 | 187734 | 1 | 872.50 | 187742 | $\because$ | \$79.50) | 187750) | 4 | 187758 | 5 | \$89.50 |
| 10 | 187735 | 2 | 77.00 | 187743 | 4 | 84.(0) | 187751 | 8 | 157759 | 10 | 94.50 |
| 15 | 187736 | 3 | 81.50 | 18774. | ti | 88.0410 | 18.752 | 12 | 187760 | 15 | 99.00 |
| 25 | 187737 | 5 | 88.50 | 187745 | 10 | 95.019 | 187753 | 20 | 187761 | 25 | 106.50 |
| 50 | 187738 | 10 | 102.10 | 18774 + | 20 | 108.80 | 18775 | 41 | 187762 | 50 | 121.50 |
| 75 | 187739 | 15 | 112.00 | 187747 | :30 | 119.00 | 187555 | 60 | 187763 | 75 | 132.50 |
| 100 | 187740 | 20 | 120.(0) | 187748 | 411 | 128.(6) | 187750 | (1) | 187764 | 100 | 142.00 |
| 150 | 187741 | 30 | 136.50 | 187749 | (ii) | 144.010 | 18.757 | 124 | 187765 | 150 | 16i\%.00 |

METERS FOR USE WITH INSTRUMENT TRANSFORMERS


Type DS-6
FOR FOUR-WIRE THREE-PHASE CIRCUITS ONLY 25-133 Cycles
BACK CONNECTED, METAL COVER, DULL BLACK FINISH


# Direct Current Watthour Meters 

Types C-6 and C-7
FRONT CONNECTED, METAL COVER, JAPAN FINISH
Type C-6

| $\begin{gathered} \text { Type C-6 } \\ 106 \text { to } 120 \text { Volts } \end{gathered}$ |  |  | Type C-6 <br> 212 to 240 Volts, 3 Wire |  |  | Type C-6212 to 240 Volts, 2 Wire |  |  |  | $\begin{gathered} \text { Type C-7 } \\ 500 \text { to } 600 \text { Volts, } 2 \text { Wire } \end{gathered}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| I,ist |  | List | I.ist |  | $\begin{aligned} & \text { I.ist } \\ & \text { Price } \end{aligned}$ |  |  |  |  |  |  |  |  |
| No. | Amperas |  |  | Amperes |  | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | Capalcity | $\begin{aligned} & \text { Am- } \\ & \text { peres } \end{aligned}$ | 1.1st <br> Price | No. | $\begin{aligned} & \text { Capa- } \\ & \text { city } \end{aligned}$ | $\begin{aligned} & \text { Am- } \\ & \text { peres } \end{aligned}$ | J'rice |
| 37594 | 15 | $\$ 34.10$ 36.36 | 37604 37605 | $\stackrel{5}{10}$ | $\$ 38.50$ 44.00 | 37614 | 11/4 | 5 | \$38. 50 | 376124 | 21/2 | 5 | \$ 29.50 |
| 37596 | 1.5 | 40.40 | 37606 | 15 | 51.70 | 37615 | 2 | 10 | 44.00 | 37625 | 5 | 10 | 57.20 |
| 37597 | 25 | 48.40 | 37607 | 25 | 59.40 | 37616 | $31 / 2$ | 15 | 51.70 | 37626 | $71 / 2$ | 15 | 66.00 |
| 37598 | 50 | (i3. 80 | $3760 \times$ | 50 | 78. 10 | 37617 | 7 | 25 | 59.40 | 37627 | 15 | 25 | 77.00 |
| 37599 | 75 | 79.20 | 37609 | 75 | 86.90 | 37618 | 15 | 50 | 75.36 | 37628 | 30 | 50 | 93.50 |
| 37600 | 100 | 93.50 | 37 (il) | 100 | 1113.40 | $37+119$ | 20 | 75 | 81.40 | 37629 | 50 | 75 | 110.00 |
| 37601 | 150 | 108.90 | 37611 | 1910 | 133.10 | 3760 | 25 | 100 | 95.70 | 37630 | 60 | 100 | 126.50 |
| 37602 | 300 | 138.60 | 37612 | 300 | 182.60 | 37651 | 40 | 150 | 123.20 | 37631 | 16) | 150 | 159.50 |
| 37603 | 600 | 198.00 |  |  |  | 37602 | 81 | 300 | 1:38.40 | 37632 | 200 | 300 | 2199.00 |
|  |  |  |  |  |  | 3762 | 160 | 600 | 220.100 | 376;33 | 400 | 600 | 286.00 |

[^14]Type 1)-6
Polyphase Watthour Meter


Type 1)-6
Meter With Cover Removed


Type IP-5
Singlephase Prepayment Watthour Meter

DULL BLACK FINISH

| 110 Volts |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 艺 } \\ & \text { 若 } \\ & \text { Z } \end{aligned}$ | $\frac{\text { Tist }}{\frac{\text { 3-Wirt }}{3-\text { Phant }}}$ | No. $\begin{aligned} & \text { t-Wire } \\ & \text { 2-Plats } \end{aligned}$ | K.W. Caparity Non-Ind Ioads or Motor H.P. Rating 2and Phase | $\begin{aligned} & \text { liset } \\ & \text { Price } \end{aligned}$ |
| 5 | 1720\% | 172307 | 1 | 85\% (\%) |
| 10 | 172456 | 17230* | 2 | 5 K .010 |
| 15 | 172257 | 172309 | 3 | (ii). 010 |
| 2.5 | 1732.58 | 172310 | 5 | (i3.00 |
| 51 | 172259 | 172.311 | 10 | 71.00 |
| 75 | 172260 | 172312 | 15 | 78.(1) |
| 100 | 172261 | 172313 | 20 | 83.60 |
| 150 | 172262 | 172314 | 30 | 92.00 |



## Western Electric WATTHOUR METERS Type D-6 For Three and Two-phase Circuits 25 to 133 Cycles <br> FRONT CONNECTED, METAL OR GLASS COVER, Type D-6 For Three and Two-phase Circuits

| $\square$ | 1792x | 172323 | + | \$76.00 |
| :---: | :---: | :---: | :---: | :---: |
| 10 | 1720x2 | 17\%324 | 8 | 78.00) |
| 1.7 | 172283 | 172325 | 12 | $80 .(0)$ |
| 2.3 | 172288 | 172326 | 20 | 84.00 |
| ai) | 17225 | 172327 | 40 | $92 .(0)$ |
| $7{ }^{\text {a }}$ | 172286 | 17932\% | 60 | 93.00 |
| 100 | 172:87 | 172393 | 80 | 105. (0) |
| 150 | 17228* | 172330 | 120 | 112.00 |

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

| $\begin{aligned} & \text { J.ist } \\ & \text { Nu. } \end{aligned}$ | Amperes | Volts | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amperes | Volts | $\begin{aligned} & \text { List } \\ & \text { Priee } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1886\%3:3 | 5 | 110 | \$56.00 | 15863\% | 5 | 440 | \$76.00 |
| 188634 | 5 | 240 | (i2.01) | 18563i3t | 5 | 5.50 | 76.00 |


| $\begin{aligned} & \text { D } \\ & 2 \\ & 2 \\ & 2 \\ & 0 \\ & \vdots \\ & \hline \end{aligned}$ | 220 Volts Delta, 127 Volts Y |  |  | 440 Volts Delta, 254 Volts $Y$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | k.W. <br> Capacity Con- Ind Jonad ur Motor H.P. <br> Rating | $\begin{aligned} & \text { J.ist } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { linst } \\ & \text { No. } \end{aligned}$ | k.W. Caparity Non-Ind. lond or Motor H. ${ }^{\text {P }}$ Rating | Jist <br> Price |
| 5 | 172625 | 2 | \$62.00 | 172631 | 4 | \$76.00 |
| 10 | 179636 | 4 | 64.00 | $17263^{3} 2$ | 8 | 78.00 |
| 15 | 1726:7 | i | 6tic. 00 | 172438 | 12 | $80.0{ }^{\circ}$ |
| 25 | $17262 \times$ | 10 | 69.1 HI | 17263! | 20 | 84.00 |
| 30 | 172029) | 20 | 7 F (\%) | 17263.5 | 40 | 92.00 |
| 75 | 1726:30 | 30 | $85 .(0)$ | 1720339 | 60 | 99.00 |





## Single-phase Prepayment Watthour Meters

The Type IP-5 Propaymont Meter rontaing the standard electrienl element of the Type I-1 4 Meter with a prepayment niechanism. The erediting and switching mechnisms are mounted at the top of the moter and the coin box is a compartment at the bottom. The terminals are in a surparately sealed compartmont at the top, the line wires entering and leaving at the sides. The supporting srrews are sealed. A back eover plate, similar to that in the standard I-14 Meter, closes the eloment chamber. A coin chute conducts the eoin from the slot down through the meter chamber into a roreptaclo. Removing tho meter eover provides acress to the meter only and does not open the roin receptacle. Thr rate gearimp is very simple and mas br easily ehanged when it is desired to make a change in the rate of charge

Quarter dollars are used in the desice and advanee payment can be made to the extent of twenty coins.

40-133 CYCLES
FRONT CONNECTED, METAL COVER, DULL BLACK FINISH

|  | TWO WIRE |  |  |  | THREE WIRE 220 Volts |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 110 Volts |  | 220 Volts |  |  |  |
|  | $\begin{aligned} & \text { List } \\ & \mathbf{N}_{\mathrm{o}} . \end{aligned}$ | $\begin{gathered} \text { I.ist } \\ \text { I'rice } \end{gathered}$ | $\begin{aligned} & \hline \text { Iist } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Priee } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Iist } \\ & \text { Price } \end{aligned}$ |
| 5 | 192440 | 851.25 | 1928 14 | \$38.25 | 192848 | \$53.25 |
| 10 | $1928+1$ | 54. (10) | 192845 | iff. (x) | 192849 | 56.00 |
| 1.7 | 1928 42 | 5ti.5n | 1928+6 | 58.50) | 192850 | 58.50 |

These meters may be used on circuits the voltage of which is not more than 10 per cent, above or below the rated voltage of the meter. When ordering meters for voltages outside of these limits, the normal operating voltage must be spreified.

## SANGAMO AMPERE-HOUR METERS



Standard 「үре MS Ampere-Hour Meter


Type MS Ampere-Hour Mefer with Current Indicator

## Type MS Ampere-Hour Meter <br> For Use with Storage Batteries in Every Service

With one of these meters installow, the storage battery user can determine instantly the condition of the battery. and is is of vital importance that an instrment of the type be used, as is resulisin: Increased dife of battery; higher oprating efficimey of battery, insurance arginst absolnte discbarge of battery, protection against short circuits on hattery, insurance against overeharging battery.

Construction. Anong the principal features of the type NiS ampere hour meter are its compactness
 a cluck or a sine dometer. It is not injured by the severe shocis or jars incident to operation in automobiles.

All meters in capacity from i.s to (i) anperes inclusive have internal shunts, exvept those for use on gasoline cars with self-starter eystems, in which case a 40 ampere meter, having a small oxternal shunt, is employed. This permits the remoral of the meter at any time without interrupting the bat ery circuit. All meters of 80 and 100 smpere capacity have external shunts.
Meters may be furnished with back comecting studs or hottom connceting straps.
Application. The reguler type Ms' meter is to be recommended for electric velicles, isulated plants, signal hatteries, ete, where separate ammeters are arailable for measuring the charging or fligeharging current. The moter is furnishod with a red hand stamped "Empty," which can be set at any desired point as a guide by the user. It also has an insulated contare point at zero, or full elarge point, which is closed by a platinum tip on the indicating hand, thus operating a circuis breaker or signat device when the battery is fully charged. Similar contacts may he located the the user to signal certain points in the discharge.

The type Mis meter with the current indicator is especiall, for self-siarting systems where no ammeter is used. The eurrent indicator shows whether the hatery is charging, discharging or float where the ampereter is
dial indicating the conditior of the batters. dial indicating the conditior of the battery. If aceurate current measurement is desired, a standard Weston


Characteristic Load Curve of the MS Ampere-Hour tepe $3: 5$ auto meter is recommended to be used with the regular type AS ampere hour meter.

|  | ${ }_{\text {List }}^{\text {Urice }}$ | List, Price With Current |
| :---: | :---: | :---: |
| Amperes | liegular | Indicator |
| 15 | \&26.50 | \$29.00 |
| 30 | 28.50 | 31.00 |
| 10 | $30 .(0)$ | 33.50 |
| 0 | 32.00 | 34.25 |
| ¢0 | 35.00 | 39.00 |
| 1 (1) | 36.50 | 42.50 |
|  |  | List |
|  |  | Price |
| Cine additional fixed contact. <br> Compensation for high discharge rates (any capacity). |  | \%tes \$1.00 |
| Externai shunts, 30 to 60 amperes with 2 ft . leads. $\qquad$ |  |  |
|  |  |  |
| Thermo | 10 volts | 1. 50 |
| Special dials (to cover cost of engraving), |  |  |



Model E

Models E, EA and ER

Models "E and FA" meters are of the series type and are made for capacities as shown in the price list. They develop a driving torque or power of not less than 1,00 millineter grams, thus continued aecuracy is assured. The model " E ". meters are also made with astatic field coils and armature in sizes including 25 amperes and larger and when this feature is wanted, please specify model "EA."

Model "ER" is of the shunted type and is provided with a shumt that is comnected in series in the main feeder or line and having fexible cables that comect it with the field coils of the meter. This arrangement allows only a portion of the main current from the cireuit to pass threugh the field coils of the model "ER" and for this rason it adapts itself most admirahly for heavy currents and we are prepared to furnish it for any capacity up to and including 30,000 amperes at either $110,2: 0$ or 500 volts. The armature in the model "EL" is slightly different from the armature employed in the other series type moxlels. Its form resembles that of a squirrel case instead of the coils being wound around the armature the same as is practiced in the building of a form wound armature for dynamos, and for this reason repairs to the armature are easily taken care of and made at small expense.
MODELS E AND EA

| Amperes | $\dagger 110$ to 125 volts 2 Wire |  | $\begin{aligned} & \dagger 220 \text { to } 250 \text { Volts } \\ & 2 \text { Wire } \end{aligned}$ |  | $\begin{aligned} & \dagger 500 \text { to } 600 \text { Volts } \\ & 2 \text { Wire } \end{aligned}$ |  | $\begin{gathered} \dagger 220 \text { to } 250 \text { Volts } \\ 3 \text { Wire } \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | *List Price |  | *List Price |  | *List I'rice |  | *List Price |  |
|  | Model 1: | Morlel EA | Sodel 15 | Momiel EA | Model E | Montel FiA | Model fe | Model lich |
| 5 | 831.25 |  | 536.25 |  | \$46.25 |  | \$36.25 |  |
| 10 | 34.00 |  | 10.00 |  | 51.50 |  | 40.00 |  |
| 1.3 | 38.50 |  | 47.25 30.00 | 862.00 | 60.50 71.50 | \$79.(0) | 4.2.00 | \$92.00 |
| 25 | 45.00 58.25 | $\$ 51.00$ $(85.00$ | 96.00 | 877.00 | 88.00 | 0 | 71.50 | 79.00 |
| 75 | 75.00 | 84.00 | 4. 00 | 97.00 | 104.50 | 115.00 | (13.30 | 10:3.0) |
| 100 | 90.00 | 101.00 | 132.50 | 11:3.00 | 120.00 | $1: 32.00$ | 110.0) | 121.00 |
| $1: 0$ | 102.50 | 114.00 | 118.00 | 130.00 | 132.50 | 1410.00 | 126.00 | 139.0 () |
| 200 | 115.00 | 128.00 | 135.00 | 149.00 | 155.00 | 171.00 | 150.00 | 165.00 |
| 300 | 130.00 | 144.00 | 150.00 | 166.00 | 180.00 | 199.00 | 175.00 | 193.0) |
| 400 | 150.00 | 168.00 | 170.00 | 187.00 | 195.00 | 21.100 |  |  |
| 500 | 170.00 | 190.00 | 190.00 210.00 | 210.00 23100 | 205.00 220.00 | 236.00 243.00 |  |  |

MODEL ER

| 100 | \$17.5.00 | \$185. 00 | \$200.00 | S2.35.00 |
| :---: | :---: | :---: | :---: | :---: |
| 150 | 180.00 | 190.00 | 205.00 | 250.00 |
| $2(1)$ | 185. 010 | $\cdots 00.00$ | 215.00 | 265.00 |
| 300 | $19 \% .00$ | $\underline{215.00}$ | 23.51500 | 315.00 |
| 400 500 | 205. 215 | 230.00 | 24.00 | $32 \overline{50}$ |
| 600 | 22.300 | 23.3.00 | $2: 0.00$ | 34.500 |
| 800 | 230.00 | 215.00 | 255.00 | 360.00 |
| 1000 | 23.5 . 00 | 250.00 | 26.5 .00 | 370.00 |
| 120) | 24.500 | 25.00 | 27.00 | 390.00 |
| 1500 | 250.00 | 265.00 | 250.00 | 400 |
| 2000 | 2453.100 | 280.00 | 995.00 | 430.00 |
| 2500 | 280.00 | 205.00 | 310.00 | 460.00 |
| 3000 | 295.0 | 315.00 | 32.500 | 490.00 |
| 4000 | 325.00 | 34.5 .00 | 360.00 | 550.00 |
| 5000 | 370.00 | $3!10.00$ | 400.00 | (63) . 00 |

The Model ER Watthour Meter is of the shumted type.
The prives listed inclule, for each meter, one set of 5 -foot shunt cables, one shunt for the 2-wire, and two shunts for the 3 -wire meter.

When cables in excess of of feet are required and specified, the following net extra prices will be charged.
TOTAL LENGTH-SHUNT TO METER:

| TOTAL LENGTH-SHUNT TO METER: |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6 ft . | \$2.50 | 12 ft | \$16.00 | 18 ft . | \$31.00 |
| 8 ft . | (i. 60 | 14 ft | 20.00 | 20 ft . | 37.00 |
| 10 ft . | 10.00 | $1!$ ft | 25.00 | 25 ft . | 55.00 |

$\dagger$ Specify normal voltage of circuit when ordering.
*Delivery F. O. B. Factory, Lafayette, Ind. For warehouse deliveries write nearest house.


Model FR

## Models FR and R

Model "FR" meters are of the shunted type and include sizes from 100 to 20,000 amperes. They have their internal metal parts finished in frosted nickel and are provided with a sheet metal cover having an all glass window in the front only. The cover is given three coats of white enamel on the inside, bat the back support and internal mechanism are finished similar to the house type meters. The outside of the case and back support are enameded in plain black whieh is neat and durable.

All model " $R$ " watthour meters are of the shunted type. They are provided with a neat all plate glass cover, the front of the back support and the magnet shelf are finished in white enamel; the ficld coils and magnets are finished in hard rubber black and the rest of the meehanism will be finished in polished copper, polisherl niekel or hard rubberblack and nickel combination. The latter finish will be furnished unless otherwise advised.

Buth the model "FIR and 13 " meters are provided with 5-foot cables as a standard length, for additional kengths
soe prices below. see prices below.

| Anlperes | $\dagger 110$ to 125 Volts 2 Wire |  | $\dagger 220$ to 250 Volts 2 Wire |  | $\dagger 500$ to 600 Volts 2 Wire |  | $\dagger 220$ to 250 Volts 3 Wire |  | $\dagger 440$ to 500 Volts 3 Wire |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | *List l'rice |  | *List Irice |  | * List Prico |  | *List Irice |  | *List I'rice |  |
|  | Model FIR | Model ] | Model FR | Medel IR | Mcdel FR | Model R | Morlel TR | Moilel IR | Model FR | Morlel IR |
| 100 1.00 | 8144.00 148.00 | 8152.00 15600 | \$152.00 | \$160.00 | \$160.00 | \$168.00 | \$190.00 | $820+.00$ | $820+.00$ | \$212.00 |
| 100 200 | 148.00 152.00 | 156.00 16000 | 15600 | 164.00 | 164.0) | 17\%.00 | 208.00 | 21600 | 2160 | 224.00 |
| 200 300 | 152.08 160.0 | 160.00 168.00 | 164.60 17600 | 172.00 | 172.00 | 180.00 | 220.00 | 22S. 00 | 228.0!) | 236.00 |
| 400 | 16is. (A) | 176.00 | $18+00$ | 184.00 192.00 | 1840 | 102.00 | 2.44 .00 | 25:2.00 | 25.2 .00 | 280.00 |
| 500 | 176.(0) | 154.010 | 18S 00 | 192.0 196.00 | 102.00 $108 .(0)$ | 200.00 .20100 | 260.00 | 260.00 | 268.00 | 276.00 |
| (60) | 144.(0) | 192. 10 | 192.0) | 200.00 | 196.00 -200.00 | 201.00 208.00 | 268.00) | $27 . i$ (1) ${ }^{2}$ | 276.00 | $28 \pm .00$ |
| $8(1)$ | 102. (0) | 200.09 | 200.00 | $20 \times .00$ |  | 208.00 216.00 | 28-2.09 | 292. 00 | 292.00 | 300.(0) |
| 1000 | 2000.10 | 208.010 | 20100 | 212.00 | 212.0i) | 216.00 220.00 | $29+j$ (0) 304 300 | 3019 3190 | 304.00 | .312.00 |
| 1200 | 20, 4.0 | 212.00 | 20800 | 216.00 | 211.00 | 220.00 2929 | 304.00 30000 | 312.00 3080 | 312.00 | 320.00 |
| 1500 | 212.00 | 220.00 | 216.00 | 224.00 | 29.00 | 2:32.00 | 320.00 328.00 | :328.00 | $32 \mathrm{N.00}$ | 336.00 |
| 2000 | 28.10 | 236.010 | 230200 | 240.00 | 210.00 | 248.00 | 328.00 35200 | $336.00)$ $3+3000$ | $331 i .00$ | 344.00 |
| 2 SO 0 | 2310.08 | 244.00 | 21000 | 24800 | 2 L 200 | 25\% 00 | 302.00 | $3+60.00$ 381.00 | 3680.00 | 368.00 |
| 3000 | 252.(4) | 260.10 | 256500 | 265.00 | 20.4 .00 | 27200 | .400. 010 | 381.00 408.00 | 384.00 408.00 | 392.00 |
| 4000 | 276.00 | 284.00 | 280.00 | 2SS.00 | 2xS.00 | 29ti.00 | 4.18.00 | $45^{6} 000$ | 40.8 .00 450.00 | 416.00 $46+00$ |
| 5000 | 312.00 | 320.00 | 316 i .00 | 324.00 | 324.00 | 332. 10 | $516 i .10$ | 166.00 521.00 | 456.00 504.00 | $46 \pm .00$ |
| gra) | 31.4 .00 | 352.00 | $35 \% 00$ | 3600 00 | 3150.00) | 368.00 | 588.00 | 521.00 5960.00 | 524.00 5964.00 | $\begin{aligned} & 532.010 \\ & 634.00 \end{aligned}$ |
| 8000 10000 | $3 \times 1.09$ | 399.60 | 393000 | 400.00 | 400.00 | 408.00 | lifi. 010 | 6iz. 00 | 1969.00 $672 .(10)$ | 604.00 680.00 |
| 10000 $120(0)$ | 42.1 .00 412.100 | 482.00 | +32.00 | 440.00 | -140.00 | 4.15 .00 | 7.10 .00 | 744.00 | 7世木(0) | 756.00 |
| 15000 | 4120.00 520.00 | 5is2 | 472.00 | 488.00 | 180.00 -31900 | 49000 | 816.00 | 840.00 | 824.00 | 832.00 |
| 20000 | 565.00 | 712.00 | 580.00 |  | SiSt ESS O | 5.56.00 736.00 | 8040.00 1000.00 | 98.00 1160.00 | $\begin{array}{r} 901.00 \\ 1008.00 \end{array}$ | $\begin{array}{r} 996.00 \\ 1172.00 \end{array}$ |

# Net Extra Cost of Shunt Cables 

(In excess of $\overline{5}$ fect)

| For Models "FR', and " $R$ " Meters |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\underset{6}{\text { Length }}$ | Net Extra $\$ 1.25$ | Length <br> 19 | Net Extra | Length | Net Extra |
| 8 | 3.30 | 14 | 88.00 | 15 | \$15.80 |
| 10 | 5.00 | 16 | 10.00 | 20 | 19.50 |

Hipecify normal voltaue of erreit when ordering.
*I divery F. (). I3. Fatetory Lafayette, Ind. For warehouse deliveries write nearest bouse.

# DUNCAN WATTHOUR METERS 

## DIRECT CURRENT

Models F and HC



Model $\mathbf{F}$


Model IIC

Model $F$ meters are of the scries type and include sizes from 100 amperes to 600 anperes 2 wire, and from 100 amperes to $3(0)$ amperes, 3 wire.

MODEL F

| Amperes | $\left\lvert\, \begin{gathered} \dagger 110 \text { to } 125 \\ \text { Volts } \\ \text { 2 Wire } \\ \text { *List Price } \end{gathered}\right.$ | $\begin{gathered} \dagger 220 \text { to } 250 \\ \text { Volts } \\ \text { 2 Wire } \\ \text { *List Price } \end{gathered}$ | $\left\|\begin{array}{c} \dagger 500 \text { to } 600 \\ \text { Volts } \\ \text { 2 Wire } \\ * \text { List lrice } \end{array}\right\|$ | $\left\|\begin{array}{c} \dot{\dagger} 220 \text { to } 250 \\ \text { Volts } \\ 3 \text { Wire } \\ \text { *List Price } \end{array}\right\|$ | $\begin{gathered} \text { '440 to } 590 \\ \text { Volts } \\ 3 \text { Wire } \\ \text { *List Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 101 | \$101.60 | \$112.00 | \$124.6) | \$144.00 | 8152.00 |
| 1.00 | 112.00 | 123.20 | 134.40 | 1150.00 | 168.0) |
| 200 | 120.00 | 1:34.40 | 148.00 | 172.00 | 180.00 |
| 300 | 133.00 | 146.40 | 162.40 | 192.00 | 188.00 |
| 400 | 144.00 | 154.00 | 172.00 | $\bigcirc 16.00$ | 200.00 |
| 500 | 156.00 | 1664.40 | 122.40 | 2336.00 | 29400 |
| (\%)0 | 16i6.40 | 17ヶ.40 | 188.00 |  |  |

triperify normal voltage or circuit when ordering.

## Model HC

This meter involves the same theory of operation as all Duncan commutator tyje direct eurrent wathour metors. The current upon entering the meter is controlled hy the erlindrical switch at the rear, and the spring eontacts resting against it opreate to arrange the windings of the series field coils for the difforent lowls. It the top of the meter and immediately behind the dial is situated the series binding posts, and the handle for the controller swateh. Attached to this handle is a marked index which shows the eapacity in amperes, and the setting of this index for any desired lowd is the simplest operation possible. 'There is also provided a knife switeh arrangement for short-cireniting the series field coils of the meter, and is used when changing the load so as to avoid opening the work circuit. "The clial is the "fly-hack" type as is found in stop watches which allows the meter man to start off from zero with every test.

A heat switch is provided by the use of which much time is saved and the instrument rendered more acourate. liy pressing down this switch and giving it a slight turn to hold it in place, the armature of the standard is quickly brought up to operating temperature, thus climinating errors clue to the temperature coefficient of eopper.

Shipping weight 45 pounds.

| Amperes | Volts | ${ }^{*}$ List Prico |
| :---: | :---: | :---: |
| 1-2-5-10-25-50 | 110 | \$170.00 |
| 1-2-5-10-25-60 | 20 | 180.00 |
| 1-2-5-10-25-50 | 500 | 190.00 |
| 1-2-5-10-2.5-50 | 110-220 | 200.00 |
| $1-2-5-10-25-50$ | 110-500 | 206.00 |
| 1-2-5-10-25-50 | 220-500 | 210.00 |
| 1-2-5-10-25-50 | 110-220-500 | 220.00 |
| 5-10-25-50-100 | 110 | 206.00 |
| 5-10-25-50-100 | 220 | 200.00 |
| 5-10-25-50-100 | 500 | 210.00 |
| 5-10-25-5) $0-100$ | 110-220 | 220.00 |
| $5-10-25-50-100$ | 110-500 | 226.00 |
| 5-10-25-50-100 | 290-500 | 230.00 |
| 5-10-25-50-100 | 110-2:20-500 | 240.00 |

${ }^{*}$ Delivery li. O. 13. Lafayette, Ind. For warchouse deliveries write nearest house.

## ELECTRICAL TESTING INSTRUMENTS



Government Standard Testing Set


Porrable Plug Set

## Government Standard Testing Set

Government Standarl Testing sot, mate in strict acordane with the rigid recpurements of the Vhited States Navy Sperifications 1-T-2. A high-grade type of "Plag-ln" sot.

13at tery ennsists of di silper chloride edts.
Bridge values in the $A$ and 13 arms, $1,10,100,1000$, and coils are acourate to 1 . 20 of 1 per cent.
Rheostat on the derale plan, with 10 eoils in each decade, of the values of unts, teme, hundreds and thousands.

| List |  | *List l'rice |
| :---: | :---: | :---: |
| No. |  | Each |
| T-2070 | Peerless G. S. alecule portable treting set | \$2:38.00 |
| T-2085 | Carrying rase of sole leather, with shoulderstrap. | 25. 50 |

## Peerless Portable Plug Set

Bridge coils in A arm of the values of $1,10,100$, accurate to $1 / 20$ of 1 per cent. Bridge coils in 13 arm of the values of 10,100 and 1000 , accurate to $1 / 20$ of 1 per eent. Bridge arms reversible.

Rheorat eoils are of units, tens, hundreds and thousands, and are of the multiples of $1,2,2,5$ of coth denomination, a total of 11,000 ohns, and by using the 1 to 1000 ratio on the bridge, gives a range of 11 megohms in single ohm steps. Accuracy of the rheostat coils $1 / 10$ of 1 per cent.
lrovision for outside battery, in ease higher E. M. F. is required than that furnisied in the colls in the set.

This yet is especially designed for ease in reading. The bridge is at the top, out of the way of the tester, and the plugs ane in vertical columns, begiming with the thousands at the left hand side and followed by the hundreds, tens and units, so that when balance is obtained one reads the value of the resistanee pluggeol out, the same as reading a column of figures.

The finishe of this set is the same as the l'eerless Switch Dial Set.
Weight, $71 / 2$ pounds. Size, $8 \frac{1}{2}$ inches $\mathrm{x} 51 / 2$ inches x 6 inches.

| List |  | *List Price |
| :---: | :---: | :---: |
| No. |  | Each |
| T-2010 | Peerless plug type testing set | \$1.44.00 |
| T-2016 | Sole leather carrying case for $\Gamma$-2010. | 19.20 |
| T-20.40 | Folding tripol for supporting T-2010 in street. | 24.00 |

*Delivery F. O. I. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.


Advance Voltmeter


Eldredge Voltmeter


No. 100.5 -Voltmeter


Model 1012-Flush Type

## BATTERY METERS

## Pocket Voltmeters and Voltammeters

These instruments an be used on either pimary or storage batterios.
'lhe ease is heavily niekelded and the connerting posts have non-removable nuts.

| $t$ |  | List I |
| :---: | :---: | :---: |
| No. |  | Fach |
| \%20594 | () to 3 volts "Adveinme". | 89.90 |
| - | 0 to 6 volts "Advante". | 9.90 |
| :3050 | () 1010 volts "Alvance" | 10.80 |
| : $2 \times 317$ | 0 fo 1is volts "Alvance" | 11.70 |
| : 2 2-59 | 0 to 20 volts "Advance". | 11.70 |
| : 3 | 0 to 25 volts "Alvaner" | 12.60 |
|  | 0 to 30 volts "Advance" | 12.60 |
| :3030 0 | 0 to 3 volts "Pdramige". | 7.0 |
| 32302 | 1) to 8 volts, 0 to 30 am |  |
|  | - Advan |  |

## Western Electric Pocket Meters

These moters have the smallest possible nomber of working parts and are therefor teast liable to get out of order. The hand comes to an instant and positive stop without vihration, giving a guick reading and saving the battery. Will work in either direction of rurrent.

| $\begin{aligned} & I i_{*} t \\ & \mathrm{Sin}_{1} \end{aligned}$ | Type | IRange | Dia- | list Price Farach |
| :---: | :---: | :---: | :---: | :---: |
| $\overline{10}{ }^{2}$ | Smmatur | to 35 atılıs. | 2 Biths | \$2.0) |
| 100.3 | Volt-atnmetar | () to 3.5 ampsi-0) to |  | 2. 150 |
| 1005 | Voltmeter | 0 tol0 volts | 2 L j1. | 2. 20 |
| 1007 | Coil testerr | () to 1.5 am as. | 2 ins | 3. (1) |
| 110) | ('oil tuster ${ }_{\text {and }}$ ( | () tu 30 ampre () 101.5 ampus. | \% inse | 3. 40 |

## Automobile Type Instruments

With the rapidly inereasing use of electrie sturting and lighting equipments in commertion with automohiles and motor boats, it is evident that an indicating ammeter of a size and type suitable for dashbard mounting is an absolute necessity for determining the proper opration of the generator, storage ballery, ete.
besigned primarily for this purpose, the outstanding features are simplieity, ruggednoss and areuracy.
Automobile supply jobbers, dealers, garges, etc., will find this line highly moofitable as every antomobile or motor boat owner is at prospertive eustomer, The demand is alrealy large and steadily inereasing.

## DIMENSIONS

## Model 1012-Flush Type

Case diameter, 21ヶ́inches.
Flange diameter, $2^{3}{ }_{4}$ inches.
Model 1013 -Front Type
(ase diameter, $21 / 8$ inches.

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ,ist |  | Stal. | Lnit | Mirs. | IV. E. |
| No. | Type | Pkg. | Pkg. | List | Irice |
| 1012 | Ammeter |  | 10 | S3.50 | \$4.188 |
| 1111:3 | Ammeter | i) | 10) | 3.50 | 4.68 |

Niandard finish, dull black enamel. Nickel optional.


Advance Volt-ammeter


No. 100.3-Volt-ammeter


No. 1002-Ammeter


Model 101.3-Front 'Type


No. 2538


No. 2535

No. 2533


No. 2521



No. 2537


No. 2534


Frankel's Test Clips
No. Tin Each

25:1 The Standard Test, C'lip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $80.7(1$


253:3 The Helpful Test Clip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
25:34 The Relinhle Test Clip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 70
2530 1he Special Test Clip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 .
2535 'The Lifticient 'Test Clip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 90


## Universal Test Clips

Time savers in any cocetrial work requiring quiek temporary comection-.
May be used over and orer again. Suggested for us' with test scts, with voltmeters, on shop testing deviees, by telephone linemen as a helix elip, hy meter departments, by railway signad inspectors, in colloge and commercial laboratories, on motor and transformer test floors and in motion picture projection work.


# Western Electric LOW VOLTAGE DIRECT CURRENT GENERATORS 

32 TO 42 VOLTS-NORMAL RATING 35 VOLTS<br>FOR BELT DRIVE



Type SD Generator Typical of 175. 250 and 500 Watts

Type 13 Generator. Typical of 700 Watt to 2430 Waft Sizes

## Western Electric Generators

The Western Electric Types SD and $B$ gonerators are ospecially designed for use with farm lighting plant outfita. They are used to charge the storage batteries of the lighting plant, and are furnished with a rheostat to control a charging curront so that the storage batteries will be charged at the correct charging rate. The generators are furnished with a pulley for belting to a gas, gasoline or kerosene engine and a sliding base for adjusting the bilt tonsion.

Although these gencrators are dosigned particularly for this class of servied, they have incorporated in their design and construction the same mochanical and olertrical primephes that charaterize Western Electric gencrators of all sizes. The amount of copper and iron used in their comstruction is carcfully ganged with the dea of ohtaining a maximum of power with a minimum of hat.

Every recent improvement has beon incorporated in their design. 'ITheir construction is axeredingly simple; they are easy to operate and remuire wey little attention while in servier.

The parts that refuire any attention, such as the commutator, the brushes and the barmas are readily accessible for inspertion.

| Watts | $\begin{aligned} & \text { Speed } \\ & \text { R.P.M. } \end{aligned}$ | ],ist Prices |  |  | Ship. <br> Wigt. <br> in <br> l.bs. | Amp. liull J.oad | $\begin{gathered} \text { Efficienc! } \\ \text { Full } \\ \text { Lood } \end{gathered}$ | 1'uley Jimensions Inches |  | Type and jirame |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | (ienerator with 1'ulley Base and Rheostat | Allowances |  |  |  |  |  |  |  |
|  |  |  | Base | Pulley |  |  |  | Diameter | Belt <br> Width |  |
| 175 | 18(0) | \$88. () | \$2.20 | \$1.10 | 42 | 5.0 | 69. 0 | 21.6 | 11/4 | S]-254 |
| 250 | 1800 | 99.00 | 2.20 | 1.10 | 50 | 7.14 | 70.0 | 212 | 11/4 | S1)-256 |
| 500 | 1800) | 121.10 | 2.20 | 1.10 | 100 | 14.3 | 70.0 | $31 / 2$ | $13 / 4$ | SD-266 |
| 700 | 20(0) | 154.00 | 2.20 | 1.10 | 100 | 20.0 | 73.5 | 3 | 13/4 | B-A |
| 1050 | 2000 | 165.00 | 2.20 | 1.10 | 110 | 30.0 | 74.5 | 316 | 2 | B-13 |
| 1250 | 2000 | 176.10 | 2.20 | 1.10 | 110 | 35.7 | 74.5 | $3^{1}$ | 2 | B-B |
| 1500 | 2000 | 231.00 | 3.30 | 1.10 | 200 | 42.8 | $7(i)$ | 4 | 216 | B-C |
| 2000 | 2006 | 242.00 | :3.30 | 1.10 | 200 | 57.2 | 78.0 | 1 | $21 \%$ | 13-C |

Generators will carry full rated load continuously with a temperature rise son any fart mot to exceed 45 degrees Centigrade.

500,700 and 1050 watt generators ean be shiphed from stock.
Delivery F. O. B. Ft. Wayne; Ind.

## 32 VOLT POWER AND LIGHT OUTFITS Hand Regulated (Belt Connected)



## Typical "B" Type 32 Volt Western Electric Power and Light Outfit

in atditione outfits consist of a gencrator, power hoard and a storage battery. The abuve illustration shows aldition a gas engine, belt and batery rack. of 500 watt, $7(0)$ watt and 1050 watt capaicitics. The power bourd is erquiped with a volts. switch and also fuses. They come in two sizes. used with the 500 watt generator. The large size known as a " 1 " " kype power board, is used with the is watt and 1050 watt generators.

The storage battery consists of sixtecn somed glass jar cells. They are shipped iully charged and are therefore very easy to install. There are three sizes of hatteries used, viz., 50 ampere hour, 90 and are
hour, and 180 ampere hour.

The 50 ampere hour hattery is used in very small homes where it is desired to burn only a few lights. This size battery is also used in demonstrating outfits, in whicl cuse it is mounted in rubber jars instead of
glass jars.

The 90 ampere hour battery is used in the aymage farm and is large enough to light the house and barns. Thall motor devices and will operyate aned elect trie irunger farms and will light the house and barns, will run Our mater devices and will operate an electric irun.
Our batteries are all rated on the standard' ' 8 hour normal' charge and discharge rate which bas been the aceepted standard of all prominent battery manufaeturers for the past twenty years.
Any good engine will operate these outfits. We can furnish an air cooled or water cooled gasoline or kerosene engine. $A 11 / 2$ horse power ©ngine is needed tod drive the $5(f)$ watt generator and a 3 horse power
engine is needed to drive the $7(10)$ watt or 1000 watt generators.

COMPLETE LIST OF "A AND B" TYPE OUTFITS

| *Type and Size | Normal 8 Hour Rating |  | App. Shipping Weirghts |  | East of | Rockies | West of Rockies |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Charging | Capacity | Outfit | Outfit |  |  |  |  |
|  | Rate | 16 ('el's | Only | Complete | Outfit | Uutfit | Outhit | Outfit |
|  | Amperes | Watt Hours | Pounds | Pounds | Only | Complete | Only | Complete |
| 5. -5 () | 6 | 150 | 5011 | 850 | \$490 | \$ 8150 | \$550 | \$730 |
| $5 \mathrm{~A}-90$ | 11 | 2700 | 925 | 1300 | 540 | 770 | 670 | 850 |
| 7B-90 | 11 | 2700 | 10011 | 1600 | (0) | 1000 | 810 |  |
| 73-180 | 22 | 540) | 1250 | 1900 | 880 | 1190 | 1010 | 11330 |
| 10B-90 | 11 | 2700 | 1000 | 1600 | 780 | 1030 | 840 |  |
| 1013-180 | 22 | 5400 | 1250 | 1900 | 910 | 1220 | 1040 | 1360 |

## F. O. B. Wrestern Electric Warehouses

Note.-In Outfit Only consists of a genarator with pulley, power hoard and storage battery; and Outfit Complete includes also engine, belt and trattery rack.

* Explanation of code numbers: The first, figure expresses capacity of generator in hundreds of watts. The letter indicates the type of power boart. "The last figure expresses the capacity of tie battery in ampere hours ( 8 hour rating). Thus " $5 \mathrm{~A}-90$ " means a 500 watt generator, an " $A$ " type power board, and
a 90 anpere hour hattery.


## 32 Volt Power and Light Outfits Automatic Regulator (Belt Connected)



## Typical "R" Type 32 Volt Western Electric Power and Light Outfit

Hhese ontfits consist of a generator, antomatio regulatom and a stumge battery. The above illustration shows in addition an was mquile. belt and battery rack.

The genreator is a sperial split fiedd machine giving a voltage of 3 a to 40 volts. They come in three sizes of 510 watts. 700 watts anil 1000 watts (eapacity

The autmatic regulator is a deviee which sem ves the same purpose as the power horard described on


 passing from the gemerator into the battery, and when hem latery is fully charged. omly a small amment of curnont is passing from the generator into the battery. This antomatio regulator gives the battery what is known as "ib tipering charge."

The sturage hatiery consists of sixtern sealed glase jar cells. Thev are shipped fully charged and we
 homs and 180 amjere hemr.

The 50 ampere hour battery is used in wery sumall homes where it is itwired to hurn onty a few lights. This we of battery is also used in demonstrating outlits in which calse it is mounterl in rublior jars insuad of Liblis jars.

The ! a ampere hour batery is used in the average farm and is large enough to light the homs and harms.
The iso ampere hour battery is used on the harger farms and will light the homse and barns, will ran smath motor devies and will operate an elertrie iron.

Our batteries are all rated on the stamdard "x hour normal" charge and dischatre rate whid has heent ther anerpoted standard of all prominent battery manufacturers for the past twomy yens.

 engian is needed to drive the 700 watt or 1000 watt generators.

| $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { Size } \end{aligned}$ | COMPLETE LIST OF "R' TYPE OUTFITS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ('apacity 16 ('alls | Outfit Only O | Outfit Cumplete | East of Rockies |  | Outfit Only | rockies <br> Cretfit <br> Complete |
|  | Watt lours | Lhs. | Labs. |  |  |  |  |
| 5R-.011 | 1, \% | (111) | N(1)1 | SiP0 | \$700 | Sim) | S.60 |
| らR- 90 | 2700 | 8.50 | 1250 | 120 | 810 | 70 | (6) |
| ¢R-(\%) | 2700 | S.3) | 1500 | 730 | 10:0 | 810 | 11.10 |
| 7R-180 | 5100 | 11.01 | 1800 | 910 | 12? 0 | 1010 | $10 \% 1$ |
| 10に-90 | 2700 | 850 | 1500 | 750 | 1000 | 8\%O | 1190 |
| 1012-180 | 5100 | 1150 | 1800 | 9) 10 | 12.0 | 1080 | 18.0 |

Fotr: An Outfit Only ernsists of a generator with pulley, antumatic regulator panel and sturake hattery; an Outfit Complete ineludes also engine, belt and batitery rack.

## 32 VOLT POWER AND LIGHT OUTFITS Direct Connected



## Direct Connected 32 Volt Western Electric Power and Light Set

 desired.
 at a speed of approximately 1000 revolntams.

 the hattery can be given an overeharge whenever desired.

The fued supply tank is momed in the hase of the sed.
 run simply to produce power to drixe some other dover, such as a line shaft, pump, ote. Such a conmertion is made to the sot he means of a bell: appined th the palley monted on the generator end of the main shaft.
 fore very easy to install. There are two sizes of batteries used, wiz, on ampere homeand wompere hour.

 motor devices, and will operate an clectrie iron.

Our hatteries are all rated on the standart "S bour normal" charge and discharge rato which has hern the acerepted standard of all prominent bathery manafiactarers for the past twenty years.


Nute: 'The set consists of the engine, gencrator send panel, all mounted fowether on sub base as shown above, the outfit indules also the stomere battery

* Explanation of Code Namber: The first fiqure indieates the eaparity of the encricrator in humdreds of watts. 'lhe lett designates the combination of engine, generator and power panel. The last figure represents the capacity of the storage battery.


## 110 VOLT POWER AND LIGHT OUTFITS Hand Regulated (Belt Connected)



## Typical "D" Type 110 Volt Western Electric Power and Light Outfit

This outfit is very simple, as it involves only a standard three bearing fly wheel generator and a simple pow ror board. The above picture also shows a gasoline engine and a belt.

In the sumaller sizes these are the logical outfits to install in the summer contage or camp where light is wanted only for a few hours a day, or to use where there is available a source of cheap and constant power such as a waterfall.

In the larger sizes this type of outfit admirably meets the requiren.ents of mills, factories or institutions having a source of constant power such as a steam or gas engine or a waterfall.

The advantages of the "D" type outfit are its low cost, and its simplicity. Not heing equipped with a storage battery, current is available only when the generator is operating. This is not an objectionable feature where 24 hour service is not required or where the outfit is not in use the year round. Where water or other constant power is used, the generator may be run eontinuously, thus giving 24 hour service.

The generator used in outfits furnished without boittery is the Western Electric Type ML direct current generator. It has three bearings, and is provided with a heavy fly wheel, which reduces the variations in speed, clue to irregular action of the gas engine to a point where there is no interference with the constancy of the illumination. This generator is also compound wound. The compound winding helps to maintain on steady voltage when the demand for power and light varies.

The power hoard is equipped with voltmeter, ammeter, rheostat and serviee switch. A complete instruction book for installing and operating the plant is included with the power board.

## COMPLETE LIST OF "D" TYPE OUTFITS

| *Type and Size | ('apacity of (ienerator in $\mathrm{k} . \mathrm{W}$. | Size of Power Board | Size of Engine 11.P. | -Shipping Weights |  | Outfit Only | Outfit <br> Complete |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Outfit Only | Outfit <br> Completo |  |  |
|  |  | D-30 | 3 | 410 | 985 | \$384.00 | \$6in . 00 |
| 2:1) | 21\% | $\mathrm{D}-30$ | 5 | 600 | $1+20$ | 464.00 | 870.00 1730.00 |
| 601) | 6 | 1)-60 | 12 | 900 | 3250 | 59 OH | 1730.00 |
| 1001) | 10 | D) -100 | 20 | 1770 | 6170 | 980.00 | 2994.00 |
| 1601) | 16 | 1)-160 | 25 | 2530 | 7530 | 1254.c0 | 3628.00 |

F. O. I3. pints of manufacture.

Nore: An outfit only consists of a generator and power board. An outfit complete includes also a gasoline engine and ab belt.
*Pxplanation of Code No: The first figure exproses capacity of generator in hundreds of watts, and the letter indicates the type of power board. Thus a 601) means a both) watt (i.e. $6 \mathrm{~K} . \mathrm{NF}^{\circ}$.) generator, and a D type power board.

## 110 VOLT POWER AND LIGHT OUTFITS Hand Regulated (Belt Connected)



## Typical "CF'' Type 110 Volt Western Electric Power and Light Outfit

This outfit consists of a standard two bearing generator, a power board with charging resistance panel and a 56 cell sealed glass jar battery.

This outfit meets all the conditions desired by almost every consumer of electric current, being especially designed to fit the requirements of progressive farmers, the up-to-date country estate or the store, theatre or home in towns not served by a central station.

By running the engine for only, a few hours a day, continuous service may be had because the energy of the generator isstored up in the battery ready for instant use whether or not the generator itself is running.

Plenty of brilliant light is available at all times to illuminate the homes, outbuildings and grounds, and current to run fans, vacuum cleaners, washing machines, electric irons, cream separators, etc., is ready at the touch of a finger to serve the owner.

The generator used in outfits furnished with storage battery is a Western Electric Type M L direct current generator. It is a two bearing generator, as the variations in speed will not show on the lights when a storage battery is used. It is also shunt wound, as the battery steadies the voltage when the demand for power and light varies.

The power board is equipped with voltmeter, ammeter rheostat. contactor, necessary fuses and switches. also a battery charging resistance. A complete instruction book for installing and operating the plant is included with the power board.

A storage battery consisting of 56 sealed glass jar cells is used with this outfit. These batteries come fully charged ready for use.

The capacity of the storage battery for a given installation will depend upon the service required and the method of operating the plant.

Where it is desired to be able to operate only one or two lights for a few minutes at a time when the engine is not running, the smallest size of battery will be sufficient. By calculating the number of lamps or other devices which may be operated and the aggregate length of time which they must be supplied from the battery without giving it a fresh charge, a battery of suitable capacity can be sleected from the sizes listed.

The Western Electric Company rates its batteries on the standard "8 hour normal" charge and discharge rate which has been the standard accepted by all prominent battery manufacturers for the past twenty years.

COMPLETE LIST OF "CF" TYPE OUTFITS

| *Type and Size | Capacity of Generator in K. W. | Size of Power Board | Size of Battery 56 Cells | Size of Engine H.P. | Shipping Weight |  | --List Price--_ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Outfit | Outfit | Outfit | Outfit |
|  |  |  |  |  | Only, lhs. | Complete, lbs. | Only | Complete |
| 15CF-50 | 11/2 | CF30 | WEC50 | 3 | 2125 | 2850 | \$1140 | \$1470 |
| $25 \mathrm{CF}-90$ | $21 / 2$ | CF30 | WEC90 | 5 | 3100 | 4100 | 1488 | 1940 |
| 60CF-180 | 6 | CF50 | WECis0 | 12 | 4300 | 6875 | 2200 | 3400 |
| 100CF-270 | 10 | CF100 | WEC270 | 20 | 6100 | 10700 | 3290 | 5350 |
| 160CF-360 | 16 | Cl 200 | WEC336) | 25 | 7550 | 12300 | 4280 | 6700 |

F. O. B. Points of Manufacture.

Note: An Outfit Only consists of a generator, power board and 56 cells sealed battery; an Outfit Complete includes also a gasoline engine, belt and battery rack as shown above.
*Explanation of code number: The first figure indicates the capacity of the generator in hundreds of watts. The letters "CF" designate the type of power hoard. The last figure represents the capacity of the storage batteries. Thus " $60 \mathrm{CF}-180$ " means a 6000 watt (i.e., $6 \mathrm{~K} . \mathrm{W}$.) generator, CF power board and 180 ampere hour battery.

## 110 VOLT POWER AND LIGHT OUTFITS Hand Regulated (Belt Connected)



## Typical "CFE" Type 110 Volt Western Electric Power and Light Outfit

This ontfit consints of at stimdard two bearing generator, a power bemed with charging resistance pancl


This outfit difters from the "CP" type only in that it has a 62 cell hattery with 8 enunter cells and a "CFE" power board. This equipment insures a practically constant voltage at all times, giving lamus a uniform brilliance and as smewhat longer life. Fiur moving pieture theatres, lontels and institutions this outfit is all that could bo desierel.

The generator used in this outfit is a Wiostern Flecefre type MI direct current generator. It is a fwobearing generather the variations in syered will mot show on the lights when a starage battery is used. It is also, shunt woud as the battery steulies the valtage when the demand for power and light varies.

The puwer havid is cymipped with voltmeterammeter, rhenstat, contactor, neeessary fus's and swite hes, also a battery charging resistance panel, and a counter cell swhed panel.

The couiter cell switelh consists of a tadial arma equipperl with a trailing resistance which rotates in an are on 9 live contarts and 8 dead contacts. The eunnections are su arranged that there is to interruption in the lighting circont, when passing from one contact to the next contact.

A comphete instruction brok for installing and operating the pant is incluled with the power hoard.
 this onffit. These hatteries conse fully ehareed ready for use.

The caparity of he storage battery fur a given installation will depend upon the service required and the methend of operating the plant.

Where it is dovired to be ahle to onerate only one or two lights for a few minutes at a time when the engine is mot ruming, the smallest size of hattery will be sufficient. By ealeulating the namber of lamps wh other teviress which may heoperated and the aguregate lenget of time which they must be suppliod from the hattery without giving it a fresh charge, a battery of suitable capacity can be sclected from the sizes listerl.

The Wesstern Electric Company rates its batteries on the standard " 8 hour normal" charge and discharge rate which has been the stimidard acceptel ha all prominent hattery manufacturens for the past wenty years.

COMPLETE LIST OF "CFE" TYPE OUTFITS

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *Type | Capacity | Size of | $\begin{aligned} & \text { Size of Battery } \\ & 62 \text { Colls } \end{aligned}$ | Size of | ng | Weight-- |  |  |
| and Size | (ienterator k. II. | Power | and 8 counter Colls | Eugine | Outfit Only | Gulfit Complete | Outfit | Outfit |
| 15CH\%-50 | 112 | (15\%) | WE(i.0) | 3 |  | 3350 ll ¢ | \$1320 | § $16 \overline{50}$ ) |
| 25 ( FFicm | 21 20 | (FIP30) | W上:90 | 5 | 3s(\%) lls. | 47.00 llss . | 1700 | $21+10$ |
| (fi)( PW-180 | ${ }^{6}$ | ('Ferio) | WEGiso | 1.3 | 5200 lhs . | 7-50) 16s. | $2 . \overline{3} 30$ | 3740 |
| 1 (\%) (1ए $\mathrm{E}-270$ | 10 | ( Frelex | W1:C270 | 20 | -200 lls. | 118.501 lm : | 3370 | 5*(i0 |
| Hiocres-3ifo | 16 | (FW2\% | W上C:360 | 25 | 8900 lis. | 14200 lbs. | 4880 | 7350 |

F\% (). 13. pointa of mamufartur".
Nork: An Outfit Only comsisis of a gencration, power board and a battery of fie sealed colls and 8 sealed counter cells, An Outfit Complete inchudes also a kasoline engine, belt and battery racks as shown ahove. *xplanation of Code Xumber: The first figare indicates the capacity of the generator in hundreds of watts. The letters "C1E" designate the type of power board. The last figure represents the capacity of the stnrage hatteries. Thus "60CFE-180" means a (if00 watt (i.e., 6 K . W.) generator, a "CF" power board with "E" counter cell panel and a 180 ampere hour battery.

## STORAGE BATTERIES FOR POWER AND LIGHT OUTFITS



Assembled Storage Battery (16 Cells)

These Western Electric hatteries are of the pasted plate type, mounted in glass jars. They are of the sealed-in type, that is, the tops of the cells are sealed and then fully charged at the factory and shipped wht with the electrolyte in the cells ready for service.

These batteries are designed mochanieally and chemieally to give long life and lie free from trouble. The ingredients employed are as pure as it is possibie to obtain them, and the supply of raw material is constantly being inspected and tested to detert any deviation from this high stambard.

In the nake-up of the grid, which is the skoleton of the positive and negative plates, there are numerons features which are peculiar to our type of construction. In the first place, the grid is cast with a solid framework on all four sides, and at the same time has crossed members which. instead of following the nsual practice of being horizontal, are diagonal in position. This gives the grid a gratly increased power for resisting any tendency to buckle.

This design of grid makes it possible to so proportion the vertical members as to get more active material in a givengricl. The construction of the diagonal and vertical members of the grid are such that the artive material locks itsolf around the two sides of the fins which are cast in the grid for the purpose. This is a very groat advantage on both the positive and negative plates in that it keeps the active material where it should be, and on the negative plates prevents hulging, and thereby preserves the life of the battery.

Throughout the entire design "ruggedness" has been the watehwor!.

COMPLETE LIST OF SEALED GLASS JAR BATTERIES

| $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { S:Z3 } \end{aligned}$ | Normal 8 Hour Ratings |  | Capacity 56 (ells | -Single Cell - |  | - 16 Cells- |  | - 56 ('ells- |  | 62 Cells and 8 C'ounter C'ells |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | C'arging | ('upacity |  |  |  |  |  |  |  |  |  |
|  | Rate | 16 ( 'ells |  | Weight | List | Weight | List | Weight | List | Weight | List |
|  | Amperes | Watt llis. | Watt Ilrs. | Lbs. | Price | Lbs. | Price | l.bs. | Price | Lebs. | Price |
| *WER-\%0 | 6 | -1500 |  |  | S14.00 | 208 | S220 |  |  |  |  |
| WEC-50 | 6 | 1:500 | 5500 | 23 | 14.40 | 470 | 230 | 1700 | \$714 | 2100 | \$876 |
| WLS(-75 | 9 | $2 \cdot 50$ | 8350 | 25 | 17.40 | 520 | 278 | 1800 | 898 | 2300 | 1092 |
| WEG-90 | 11 | 2700 | 9000 | 32 | 20.80 | 717 | 332 | 2500 | 994 | 3100 | 1200 |
| W'EC,-135 | 16 | 40.50 | 14650 | 3 i | 25.80 | 788 | 412 | 2800 | 1380 | 3400 | 1658 |
| WJC(180) | 22 | 5400 | 119500 | 49 | 32.40 | 919\% | 518 | 3500 | 1620 | 43300 | 1948 |
| W ${ }^{\text {chere25 }}$ | 28 | 6750 | 2.4750 | 5is | 37.40 | 1085 | (i)0) | 3700 | 2010 | 4 HOO | 2390 |
| W1:Cr-270 | 35 | 8100 | 29700 | (is | 54.00 | 1310 | S64 | +600 | $\because 358$ | 5600 | 2820 |
| WECT-31\% | 39 | 9150 | 34150 | 72 | (i). 010 | 1380) | 992 | 4800 | 2652 | 5900 | 3178 |
| Wl:G-360 | 45 | 10800 | 39600 | 84 | 6.8 .00 | 156 | 1088 | 5500 | 2984 | 6700 | 3582 |

A Syringe 11 ydrometer supplied with every set of 16 cells.
Delivery F. O. B. Newark, N. J.


## Tungar Rectifier

The Western Electric Tungar Rectifier offers one of the most satisfactory and efficient means for charging storage batteries from an alternating current circuit. The simplicity of the rectifier is one of its prominent features. It requires no auxiliary starting device-simply screw the Exison plug provided into any lighting socket, connect the batteries to the battery leads and the operation of charging automatically begins. There are no moving parts, nothing to keep oiled, so that the rectifier is absolutely clean and free from grease and oil.

The light weight of the rectifier is another of its advantages. The smaller sets may be hung on a nail, and all sizes ean be mounted on a small shelf, so that they do not require any floor or bench space.

The Two and Six Ampere Size. ( $71 / 2$ to 15 Volts.) 'The two ampere size will charge, from a 115 volt 60 cycle circuit, 3 lead battery cells at 2 amperes; 6 cells at about 1 ampere, and 8 ceils at abont 0.75 amperss, and an intermediate number of cells in proportion. The cost of charging a 3 cell battery at 10 cents a K.W. hour for current, including the slight cost for tube renewals, is about 1 cent per hour, or 15 cents for an orlinarily complete charge.

They are the only type of rectifier to recommend and to use for charging batteries used for:


The Western Electric 6 Ampere, 75 Volts Tungar Rectifier

Lighting Systems
UsedOn:
Motorcycles Bicycles Motorboats Carriages

Ignition Systems On:
Automobilcz
Stationary gas engines
Tractors

Batteries for:
Miners' lamps
Dentists' lamps
Exit lights
Burglar alarm
systems
Railroad signals

Fire gongs, call bolls, buzzers, telephones, experimental apparatus in public schook, factories, offices, hospitals, laboratories, ctc.

The Six Ampere Size. ( 75 volts.) The six ampere size possesses the same important characteristics as the smaller type, but is particularly designed for commercial use in garages where automobile starting and lighting batteries are to be charged. The watt capacity of this set is 450 watts. No bulb life is guaranteed, but experience has shown that a bulb will last at least 500 to 600 hours.

## 105/125 VOLTS, 60 CYCLE ALTERNATING CURRENT CIRCUITS Complete Portable Rectifiers


*This bulb to be used with Nos. 195529 and 198646 only. **'This bulb to be used with Nos. 195530 and 198647 only. ${ }^{* * * T h i s ~ b u l b ~ t o ~ b e ~ u s e d ~ w i t h ~ N o s . ~} 179492$ and 198648 only. $\ddagger$ In lots of one.

Delivery F. O. B. Schenectady, N. Y. For warehouse deliveries write nearest house.

## MULTIPLE MERCURY RECTIFIERS



Front
Stan 'ard Battery-Charging Rectifier


With Instruments Without Instruments


Front


Rear

Standard Battery-charging Set, 60-140 Cycles WITH INSTRUMENTS

| List No. | I.C. <br> Amp. | Range D.'. Volts | A.C. <br> Volts | List No. Rectifier Tube | Volt Meter Scale | $\begin{aligned} & \text { Am- } \\ & \text { meter } \\ & \text { Scale } \end{aligned}$ | Cells <br> Lead <br> Battery | Cells Edison Battery | Approx. Ship. Weight | List Price One Tube Only |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 148216 | 10 | $\left\{\begin{array}{l}10-75 \\ 20-75\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220\end{array}\right\}$ | 40949 | 75 | 15 | $\left\{\begin{array}{r}5-30 \\ 10-30\end{array}\right.$ | $\left.\begin{array}{r}7-40 \\ 14-40\end{array}\right\}$ | 530 | \$467.50 |
| 148218 | 30 | $\left\{\begin{array}{l}10-75 \\ 20-75\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220\end{array}\right\}$ | 40955 | 75 | 40 | $\left\{\begin{array}{r}5-30 \\ 10-30\end{array}\right.$ | $\left.\begin{array}{r}7-40 \\ 14-40\end{array}\right\}$ | 500 | 691.90 |
| 148220 | 50 | $\left\{\begin{array}{l}10-75 \\ 20-75\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220\end{array}\right\}$ | 47409 | 75 | 60 | $\left\{\begin{array}{r}5-30 \\ 10-30\end{array}\right.$ | $\left.\begin{array}{r}7-40 \\ 14-40\end{array}\right\}$ | 660 | Stil.90 |
| 148221 | 10 | $\left\{\begin{array}{l}10-100 \\ 20-120\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220 \\ 110\end{array}\right\}$ | 40949 | 120 | 15 | $\left\{\begin{array}{r}5-38 \\ 10-16\end{array}\right.$ | $\left.\begin{array}{r}7-54 \\ 14-65\end{array}\right\}$ | 2).30 | 467.80 |
| 148203 | 30 | $\left\{\begin{array}{l}10-100 \\ =0-120\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220\end{array}\right\}$ | 40955 | 120 | 40 | $\left\{\begin{array}{r}5-38 \\ 10-46\end{array}\right.$ | $\left.\begin{array}{r}7-54 \\ 14-65\end{array}\right\}$ | 590 | (191.90) |
| 148225 | 5) | $\left\{\begin{array}{l}10-10) \\ 20-120\end{array}\right.$ | 110 220 | 47409 | 120 | 60 | $\left\{\begin{array}{r}5-38 \\ 10-46\end{array}\right.$ | $\left.\begin{array}{r}7-54 \\ 14-65\end{array}\right\}$ | 600 | 861.90 |
| 148220 | 10 | -5-17\% | 220 | 40950 | 175 | 15 | 32-68 | 54-95 | 530 | 523.60 |
| 148228 | 30 | 75-17\% | 220 | 40956 | 175 | 40 | 32-6\% | 54-95 | 590 | 727.60 |
| 148230 | 50 | 75-175 | 220 | 119431 | 175 | 60 | 32-68 | $5+-95$ | 600 | $8: 14.20$ |

WITHOUT INSTRUMENTS

| 148:31 | 10 | $\left\{\begin{array}{l}10-1109 \\ 20-150 \\ 00-110\end{array}\right.$ | 110 220 | 40949 |  |  | $\left\{\begin{array}{c}5-38 \\ 10-56\end{array}\right.$ | $\left.\begin{array}{c}7-54 \\ 14-80\end{array}\right\}$ | 530 | \$421.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1482:33 | 30 | $\left\{\begin{array}{l}10-1100 \\ 80\end{array}\right.$ | $110\}$ | 4095:5 |  |  | $\left\{\begin{array}{c}5-38 \\ 10-56\end{array}\right.$ | (5-54) | 590 | 6.00 |
| 1482.3 | 5 | $\left(\begin{array}{l}(20-150 \\ (10-110)\end{array}\right.$ | 220) | 47409 |  | $\cdot$ | $\left\{\begin{array}{r}10-56 \\ 5-38\end{array}\right.$ | $1+-80)$ $7-54$ | 690 | S 00 |
| 148235 | 50 | ( $20-150$ | $220\}$ | 47409 |  |  | $\{10-5$ ¢ | 1+80) | 660 | 16.00 |
| 148236 | 10 | 75-17.5 | 220 | 40950 |  |  | 32-68 | 54-95 | 530 | 477.70 |
| 148238 | 30 | 75-175 | 220 | 40956 |  |  | 32-68 | $54-95$ | 590 | (981.70 |
| 148240 | 50 | 75-150 | 220 | 119431 |  |  | 32-68 | $54-05$ | 686 | 848.30 |

## Battery-charging Sets, 25-60 Cycles

| 115683 | 8-30 | $\left\{\begin{array}{l}15-4.5 \\ 15-7.5\end{array}\right.$ | $\left.\begin{array}{l}110 \\ 220\end{array}\right\}$ | 40955 | 75 | 40 | $\left\{\begin{array}{r}8-17 \\ 22-28\end{array}\right.$ | $\left.\begin{array}{rrr}9 & 25 \\ 38 & 10 \\ 08\end{array}\right\}$ | (34) | 8xis. 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 115685 | 8-30 | $\left\{\begin{array}{l}15-45 \\ 15-120\end{array}\right.$ | 110) 20 | 40955 | 120 | 40 | $\left\{\begin{array}{r}8-17 \\ 22-46\end{array}\right.$ | $9-25$ <br> $38-64$ | 640 | 855.30 |
| 115691 | 15-50 | $\left\{\begin{array}{l}15-45 \\ 45-75\end{array}\right.$ | $110)$ | 47409 | 75 | 60 | $\left\{\begin{array}{r}8-17 \\ 22-28\end{array}\right.$ | $\begin{array}{r} 9-25 \\ 38-40 \end{array}$ | 720) | 1072.70 |
| 11.5693 | 15-50 | $\left\{\begin{array}{l}15-4.5 \\ 45-120\end{array}\right.$ | 110 2201 | 47409 | 120 | 60 | $\left\{\begin{array}{r} 8-17 \\ 22-46 \end{array}\right.$ | $\begin{array}{r} 9-25 \\ 38-61 \end{array}$ | 720 | 1072.70 |

## For Moving Picture Machines

VOLTAGE: 45, 70 DIRECT CURRENT AND 110, 220 ALTERNATING CURRENT

| List <br> No. | $\begin{gathered} \text { D.C. } \\ \text { Araps. } \end{gathered}$ | List No. Fiect. Tube | Am- meter Scale | Shpg. Weight | List Price Each | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { D.C. } \\ & \text { Amps. } \end{aligned}$ | List No. Rect. Tube | Am- <br> meter <br> Siale | Shpg. <br> Weight | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{172008}$ | 30 | 40958 | * | 425 | \$552.50 | 159704 | 330 | 40958 | ${ }^{*}$ | 42.5 | \$690.20 |
| 172699 | 30 | 40958 | 60 | 425 | 576.30 | 172705 | 30 | 40.958 | B) | 425 | 714.00 |
| 195669 | 80 | 47409 | * | 550 | 816.00 | 195673 | 50 | 47409 | * | 550 | 1020.00 |
| 19567) | 30 | 47449 | 60 | 550 | 839.80 | 195674 | 50 | 47409 | 60 | 550 | 1143.80 |

*List prices include one tube only.

## PACKARD AUTOMOBILE CABLES <br> For High and Low Tension Ignition

Packard Cahle is constructed soas to withstand the continuous presence of heat, grease and oils. These are the arch-enemies of rubber in all forms. These cables are hermetically sealed from every deteriorating influence.


Combination High Tension Cable
This cahle is sutable for all forms of severe high tension service. Color is Packard brown with double red striping.

## Combination High Tension Magneto Cable

This cable is designad for magnetos with small terminal. Color is Packard brown with double rerl striping.


## Plain High Tension Cable

This cable has four (4) layers hiphest grande rubber. Made for those who desire a plain, unprotected cable. Color, naturab rubter gray.

## Combination Low Tension Cable, 1-Strand

This cable is standard for all kinds of low tension service. Color is Packard brown with double red striping.


Combination Low Tension Cable 2-Strand
This cable is round in form and is particularly adapted to single and two cylinder engines. Replaces two single cables. Colors of conductors are red and black; completed cable is l'ackard brown with double

Combination Low Tension Cable, 3-Strand
This is an excellent eable for two erlimher engines; also for wiring a double set of batteries. Mande with fillorsoas to be round inform. Colors of conductors are red, black, green; completed cathe is backard brown with double red striping.

## For Electric Lighting and Starting Systems

While good ignition cable is important and nee'ssary to the successful working of any car, yet the wiring of electric lighting and stirting systems is even more important. The reasons are as follows: 1st. The cables are concealed and in inaceessible places. 2 l . They are subjected to more abrasion and vibration. 3 l . They are exposed to more dust, water and mud. 4th. Possible danage to storage batteries. 5th. Danger by fire due to short-circuits.

I'ackard lighting Cables are made after the general st yle and of the same construction that characterizes Packard Ignition (ables. Fach single conductor is protected by a double braid and the usual Packard finish. These single conduetors are then stranded and made round in cross-sections by filling material. The assembly is then covered by a double brad of characterist ic brown with double red striping and finished in the usual namer. These cables are as small in diameter as is consistent with absolute reliability.

This cable is recommended for wiring tail-lamps. Color is l'ackard brown, with double red striping.
Combination Lighting Cable No. 14, 2-Strand
This is a roumb form cable and is recommended for wiring tail-lamps. Color of conductors is red and black. ('ompleted cable is l'ackard brown with double red striping.

Combination Lighting Cable No. 12, 1-Strand
This cable is recommended for wiring side and head-lamps. Color is l'ackard brown with double red striping.


Combination Lighting Cable No. 12, 2-Strand
This cable is recommended for wiring shle and heal-lamps. Made with filler so as to be round form. It is at popular she and size. Color of conductors is red and black. Completed cable is Packard brown with double red striping.

## Combination Lighting Cable No. 10, 1-Strand

This cable is recommended for wiring from generator to battery and from battery to switehes. Also for wiring large head lamps. Color is l'ackard brown with double red striping.

## Combination Lighting Cable No. 10, 2-Strand

This is a round form cahle: :und is recommended for wiring from generator to battery and from battery to switches. Also used to wire headi-lanns which are of large size. Color of conductors is red and black. Completed cable is l'ackard brown with double red striping.

Prices on application.

## CHAMPION SPARK PLUGS



A－15

## CHAMPION＂$X$＂

Adopted low the Fiord Motor（＇o．as standand erpupment on Forsel （ats situee 1911 ．
The following is quoted from the in－ struction book in cach lood car：
＂There is nothing to be matimed by exprori－ menting with differint makes of jums．The make of phogs with whieh Ford whines aro erruipped when ther icace the factory are lest tulapod to the rem quinments of our motor．
Mfrs：List． w．Wi list．


AA－13．$\frac{1}{2} \mathrm{in}$ $\mathrm{A}-43,7 \mathrm{~s}-18$

CHAMPION
＂Studebaker＂for Studebaker Cars
Rorommended for Hee int：

| Allon | Liberty |
| :---: | :---: |
| Auburn | Nitchell |
| I Bert | I＇aige－I）etroit． |
| bilym | Stxern |
| （irant | Spablding |
| ． lordan | Stewart |

Aml tractors，farm， stationatre amd marine
 arel is $1 \times$ phus is used．



A－44，7，-18

## CHAMPION

＂Maxwell＂for Max－ well Cars
The Maxwrll fatotr． ernipment wher．

Ilas the well known patonted comper ashess tow Laskot comstruetion which dows mot allow any motal to touch the shoulaters of the porec－ shand
latin．
Mirs．Tist．．．．．\＄1．10


CHAMPION
＂Heavy Duty＂for Dodge Cars
Rorommombed for use ill：
Abりrrson Japmomita Ifriscoe Itu－kson
（row－ にi：ur
Fillhart Mr－larlat bilmar Mentore Jranklin

（；－4．3，7／8－18


J－1 3in．＂O＂给in．

## CHAMPION＂O＂

 For Overland CarsThe Overland far－ tory equipnent plus． Fisprcially rerom－ mended to moret the reanirements of the Wyerland motor bleo recommended for tract－ ors，farm，stationary marine engines，and all automobiles whore a stimdard 16 inch plug is useel．

Mirs．List．．．．．\＄1．（10） IV．V\％．I．ist．．．． 1 ．

## CHAMPION

Two Piece
＂Heavy Stone＇
Recommemded for use in：

Austin Srutz Fiat Lomomoblila Citse White
Marmon
and hems．servien trurks and iractors．
13－13， 16 in．Mfrs．List ．．．．$\leqslant 1.00$ $13-43$, Metric W．F．List ．．．． 1.22


A－23，Long 3，in． A－34．Extrat lons la in．

## CHAMPION ＂Long＇＂for Reo Cars

liwonumender！for the lico car，and other automobiles ant en－ gimes rewniring a long type of pluy．Extra lonk extension for the Metz car．

CHAMPION
＂Buick＂for Buick and Chevrolet Cars

Hitr long shell，eon－ ical percelain．The lony shell allows the sjark to ignite witdin the eylinder instead of in a pocket as occurs whin the ordinary type of plug is used．

Mfrs．I．ist．．．．．\＄1．0 W．E．Jist．．．． 1.02


Mfrs．lint
1.01 W．J．Jist．．．．．1． 2

11－1．3，$\frac{1 / 2}{} \mathrm{in}$ ．W．Ji．List．．．．． 1 ．（io） 11－43，7，8－18 II－6．3，Metrin

CHAMPION
＂Aeroplane＂
Surrially eonstructed for all tyers of aror－ platome and motor－ curles．

Not affered by heat or oil conditions．

Mfrs．list．．．．．\＄1．（M）
W．l＇．list．．．． 1.22

JA－4．8，\％－18 W．H．List．．．．．1．02


Champion Minute Spars Plug Cleaner
Cleaner．The quick and easy way to clean spark plugs，simply fill glass tube half full of gasoline，acrew the plug into hushing and shatie vigorously．

## "THE PUBLIC SAFETY SIGNAL"

The Klaxnn line is the only absolutely complete line of automohile warniug signals on the market, There is a gemuine kitaxon for curry purpose, every preforence and every purse. The lilaxon quadity, the Klavon note, the kilaxon guarante and the Klaxon depmodability permanently insure Naxon of its position as leader in the field of safety signals.

All standard Klaxons aro finished in the durable "Klaxon black (rnamel."

This smart finish reguires no polishing or attention whatever.

## Advertising Frame



Display Stand

Electric Klaxons can be operatod from dry colls or storige batteries. "They are regularly woum for (i volts. Cor sperial voltages up to 21 volts mo ext ra charge is mate.

Display stants, frames, signs, printed matter or other valuable sales helps furnished free of charge with small orders for Klaxoms.


Klaxon 3
A hand-nperated safety signal of the same quality and effiriency as the electricaliy-operatend instruments. Horizontalpush rol.

Mfr. List Price $\$ 4.20$.
W. E. List Price $\$ 0.30$


$$
\text { Klaxon } 3 \mathrm{~V}
$$

Vertical push rod. In every other respeet the same: as Klavon 3.

Mfr. 1,ist Price $\$ 4.20$.
W. li. Ioist Price sio.30).


## Klaxon 3 M.C.

Same as Klaxion 3 but constructed with short projector for notorcycle use. liurnished with handle bar, frame or tank hrackets.

Mfr. List Price $\$ 3.04$.
W. F. List I'rice \$0.91.


Klaxon 3 V-M.C.
Same as Klavon 3 V , but eonstructed with short projecetor for motorcyde use. Furnished with handlebar, frame or tank brackets.

Mfr. list Price \$3.94.
W. E. List Price $\$ 5.91$.


Klaxon 20 L
The finest automohile warning signal marle. P'onetrating tome. remarkable construction. Needs practically no attention whatever.

Mfr. List Price \$20.25.
W. L. List l'rice \$39.38.


Klaxon 20 S
Same mechanical construction thronghont as the Klaxon 20 J. The short projecotor makes practically no difference in tone.

Mir List l'rice \$26.2\%.
W. I\%. List Jrice \$3!9.38.


Klaxon 20 Deck
K゙lawn 20 I , with swivel bracket. Constructed for installation on automobile running boards or for yachts amb motorbonts.

Mir. List Price \$28.88.
W, E. List Price $\$ 43.32$.


## Klaxon 6

Slightly smaller in size than the Kilaxon 12. Its construetion is the crowning result of yours of experience in building guality signals.

Mfr. List Price $\$ 7.3 \mathrm{j}$.
W. E. List Price \$11.03.


## Klaxon 6 Deck

Klaxon 6 with swivel bracket. Constructed for installation on autonatic rumning buards or for yawhts and motorhoats.

Mfr. List Price \$s.93.
W. E. List I'rice \$13.40.


Klaxon 12 L
As efficient as the Klaxon 20. Constructed for underhood installation.

Mfr, List Price \$14.70.
W. E. List Price $\$ 22.0$ ).


## Klaxon 12 S

Sume mochanical construction throughout as the Klaxon 12 I . The short projector makes practieally no difference in tone.

Mifr. List Price \$17.00.
IV. E. List Price $\$ 25.50$.


Industrial Klaxon Type "S" (Short l'rojector)



Industrial Klaxon Type "W"' (Weatherproof Model)


Industrial Klason Type "WS" (We:atherproof Short Projector)


Industrial Klaxon
Type "WL""
(Weatherproof
Long Projector)

The Kiaxon must not be considered merely as an autonobile horn. Its field as a signal for industria uses is practically unlimited. Thousands are in service. The demand is constantly growing.

1. In Factories the Klaxon is the most efficient signal that can he procured. Its powerfulpenetrating note cuts through all machinery noises-no mat ter how loud-even where the old-fashioned gong cannot be heard more than a fow feretaway. Under less noisy rombitions, one Klaxon can do the work of a number of gongs, thus eutting the cost of both apparatus and wiring.

The Klaxon note is different. It cannot be eonfused with any other soumd. It always gets instunt attention. Klaxons can be used to meet requirenments:
a. As Fire Alarms in connection with any fire alarm system-not only in factories, but in hotels, schools, apartment houses and mublic buikdings.
b. As Code Signals to call employeds to nearest telophone on office, operated manually by switch or by automatic calling device.
c. As Time Signals for starting and stopping work.
(It is often possible to use one Klaxon installation for all above purposes.)
d. As Power House and Engine Room Signal.
e. On Cranes, Derricks and other moving machinery.
f. To Replace Telephone Bells (using relay across bell cutting in Kiaxon on power circuit or local battery).
2. In Mines and Quarries for time signals, blast signals, elevator signals, etc.
3. On Street Corners for Fire department traffic warning of approach of fire apparatus and also in connection with police call systems. Now in successfinl use in a number of cities.
4. On Railroads at signal towers and on drawbridges.
5. As Burglar Alarms in houses, banks and stores.

Important. Klaxons are not designed for continuous operation in one blast for long periods of time nor can they be dependeal ipon to carry more than a quarter of a mile out of doors under the most adverse weather conditions. Under all circunstances they must be operated by a spring or switch or contact maker.

Orders. In order to guarantee perfectly satisfactory service it is necessary to report the eonditions under which the instrument is to be operated. Therefore on all orders note the following: (1) voltage the instrunent will reecive (if A.C. the number of cycles). (2) Conditions under which operated, i. e., approximate length of each hlast, length of silent period between blasts, number of blasts per day. (3) Purpose for which used.

Installation. Faxians are usually instadled on circuits in multiple. Special instruments ean be furnished for series operation if clesired voltage at instrument must he withins per cent of normal rating of instrument. Industrial Klaxons conform to the requirements of the National Board of Fire linderwriters. They are enameled standard fire red, have special brackets and are fitted with serew terminals.

The $W$ or weatherproof instruments are designed for outdoor use and all comections are enclosed The bottoms of the instruments are bell-tipped, for conduit, and the instruments are absolutely weather proof. Standard windings are for 6 volts $\mathrm{D} . 〕$. Additional list charge is made for windings above 21 volts.


## BENJAMIN INDUSTRIAL SIGNALS

## National Electrical Code Standard

Benjamin Industrial Signals have a peoular, penotrating tone pitch, which make them be far the most effective form of Audible Signal for Industrial use. The following is a partial list of places where
they should be used.


No. 8.32611


No. 8.326A


No. 8152L


No. 8355 A


No. 8152S


No. 8346 H

## SPECIFIC USES FOR BENJAMIN INDUSTRIAL SICNALS

1. Factory signals; sumerintendent's and formann's malls. 2. Sign ling the oproning and closing hours of labor. 3. Tchlitile or warning; for water tank Ievels, steam or gas pressures, sprinklor systems, etc. 4. Telephone signals in cmpine roons. \%. Fire alarms. f. Audible signals in connection with polire systems. 7. Burglaralarms. 8. For Contral Stations. 9. Fraflie warnings for stredt crosings. 10. lailrom crossing signals. 11. Mine signals. 12. Sitrect car signals. 13. Marine signals.

## WHY BENJAMIN INDUSTRAIL SIGNALS ARE BETTER THAN WHISTLES OR BELLS

1. Corle signaling is more readily obtained. 2. Thery have greater volume of tome. 3. Tone is distinguishable ovar all other sounds. t. They are more durably ennstructerl. $\overline{5}$. lionst most is less than that of gool bell. 6, Maintomane is less than that for any other form of signal.

## DIRECT CURRENT SIGNALS

These D. C. signals are intended for use on multiple arrangement only, but may, under certain special conditions, be furnished for serics operation. They may be employed sucersfitly on cirmits carrying a voltage as high as 2.00 volts, J). (". Whan six or eight signals are to be used on one system no Jower voltage that 30 volts, 1). ('. should he userl.

No. 8:32tht is arranged with rast hatk cover for ${ }^{1}$ 2-inch pipe ommection, using a one-piere drawn hrase projecolor. It shombl be momated serurely on a firm foundation in order for ohtain the best result:
1.ist No. Type Connection Standard Mirs. W. F..


Sirmal No. $8321 i-1$ is the sume as No. S32ti-IF, except that it is intenteol for interior use onls, and is not watherproof. This signal will be rguipped with succial 14 tinch conical projoctor for extra volume and depth of tone, at an advance of $52.4+$ in list price.
8320 - 1 Iteays service Open wiring 110D.C. $\$ 10.00 \$ 16.20$

## ALTERNATING CURRENT SIGNALS

These signals may be operated sueressfully under practically all commorcial conditions on multiple or sories cirmuts, or in comertion with vibrator or signal sitroke gongs or other electrical signal equipment. When this signal is used in connertion with other eleotrical devices, special windings are usied to allow passage of sufficient current to operate the other devioes on the same line. A 20 per rent. or 25 per cont. variation in voltage will in to wise affoct the working of the signals. Whatherpoof casings are recommended when signal is to be used outside.

| 8152-I | Factory | Open wiring | 110. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 835.)-. 1 | Factory | Open wiring | 110 A. | 7.30 |  |
| S15\%-s | Weatherproof | Open wiring | 110 A. | 10.00 | 16. |
| 834i-11 | Weatherproof | $\frac{1}{2} \mathrm{in}$, conduit | 110 A. | 10.00 | 16. |

Signals Nos. SL:2-I, and 8:3+6-Jf will be equiperd with special 1 -ineh projector for extrat volume and depth of tome, at $\$ 2.44$ advance in Iist price.

Signals for sperial voltage, up to amd including 250) volta, A. C., furnished at no advance in prier.

## INDUSTRIAL SIGNALS FOR FIRE ALARMS

Nos. Stin-A and $8361-\mathrm{A}$ are samestyle as illust ration No. 8346-H finished red. These signals operate with $A$. (\% and I). (\%. current as shown in the listings below:

[^15]
# BENJAMIN INDUSTRIAL SIGNALS 

## Naticnal Electrical Code Standard <br> TELECODE RELAY

In factories, mines, quarries, foundriez, boat works, or wherever the wowes neessary in industry rise to great volume, the ordinary telephone hell is ineffective. Here the Telecode Relay and Industrial signal is a necessity.

The Telecorle Relay makes it possible to greatly increase the efficiency of the tellephone system ly substituting for an ineffoctive bell the distinctive, powerfal tome of the Indistrial Nignal.

The Telceode liclay may be equipard fur opration on topephone circuits, utilizing either A.C. or D.C., as their ringing energy. If for opration on standard telephone circuits, the rolay is womd by resistance as is standard practire in the telophone industry, and in ordering kindly sperifiy the resistance of the telephone bells on the telephone system whre the relay is to be installed. If the relay is to be used in conjunction with an intorcommunicating telophone system, utilizing D. (\% for its rimging emergy, suceify the voltage of the ringing curvent, The carrving caparity at the contacts of this relay are two lndustrial Signals when the latter are energized iron a 110 -volt lighting circuit, current.
Sist No. Descriphion
S:311R Thende Jrentay, comple with pressed sted
Mfrs. W. F.


## MASTER RELAY PANELS

Master Relay Panels are arranged for use with the Benjamin Industrial Signals as a circuit-closing means, controlling the high voltage current to the industrial signals. The reday is of earlon contact type, arranged with primary ofening switch, test bution and four sets of binding posts for distribution of the varous incomine cirenits. The equipment is mounted on a sulbstantial slate base, fomeased in a shect staed box equipped with lock.

| List ${ }^{\text {\% }}$, | Type | Magnet Winding | List Price List P |
| :---: | :---: | :---: | :---: |
| 8:3010; | 1).C.only | 2, 4 or (i volts | \$20) $100 \$ 32$ |
| 8301-D | D.C. only | Special | 210034 |

Mastor relay panels arranged for operation from A.C. circuits will be furnisher at the same list priec.

## MINE BUZZERS

Iteavy Duty Mine I3u\%zers are weatherproof signals for use under severe conditions of serviee where great volume of the is mot desired. The tone, however, hasapenhiar pitch, making them extremely effective as audible signals. These signals are furnished arranged with two types of easing, one for eonduit installations and the other for use with open wiring. This type is same as illustration $8296-1$ ), but with lead wires.
Standard Mirs. W. E.

| Jist No. | Type | Connection | Voitage List Price List Price |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8-991) | D. $\%$. | Open wiring | 110 | \$1.0) | \$9.72 |
| 820.9 d | A.C. | ()pen wiring | 110 | 5.00 | 8.10 |
| 8317, | 1).C. | \%-inch conmbit, | 110 | 9.00 | 14.58 |
| 8:9931 | A.C. | 1/2-inch eonduit | 110 | 9.00 | 14.58 |

## MARINE BUZZERS

The Sperial Marine Type Buzzer is designed with the idea in view of supplying an audible signal which will withatand the action of the seas atmosphere and produce a strong volume of tome of distinctive tone pitch. This signal is armaged for $1 /$-inch $^{\text {pipe connection, bulkheal }}$ mounting. Construction is such as to make this device durable under most severe operating conditions.

Mfrs. W. E.

List No.
S'399MI
8347M

Type
Marine A.C.
Marine 1). $\%$.

Connection 1 -inch conduit 1/2-inch eondiut

|  | Mfrs. | W. F. |
| :---: | :---: | :---: |
| Voltage List Price I |  |  |
| 110 | $\$ 9.00$ | $\$ 14.58$ |
| 110 | 9.00 | 14.58 |

## OFFICE AND FACTORY BUZZERS

These signals are effective for oflices, stock romons, shiphing romus, etce The meehanisme are the same as those used in the standard Alne signals, but are not arranged with weatherprof casing.

| Jist No. | Type | Standard Viltage | List Fricel | st l'rice |
| :---: | :---: | :---: | :---: | :---: |
| 83060) | 1). C . | 110 | Sis. (h) | \$8. 10 |
| 82974 | A.C. | 110 | $4 .(4)$ | 6. 18 |
| 8:970 | A. ${ }^{\text {c }}$ |  | 5. 00 | 8.10 |

sist
8297 A A.C. A. ${ }^{-}$. 110
5. $00 \quad 8.10$
*For higher voltages to and including 2(i0) volts $\lambda .(\%$
NOTli: All Alternating Current Bumars may be wound for voltages as high as 260 volis A. $\%$

Direct Current Bumars are not intemien for use on circuits over 130 volts 1).C. unless used in series with extmand rewistance

## EVEREADY STORAGE BATTERIES



Automobile Starting Types


Delivery F. O. B. Factory, Long Ialand City, N. Y. For warehouse deliveriea write nearest house.

## EVEREADY STORAGE BATTERIES



Automobile Lighting Types


Ignition Type

Automobile Lighting Type
6 VOLT

| List No. | Battery Capacity (per Single Full Charge) |  |  |  |  |  |  |  | Outside Dimensions Ins. |  |  | Wt. <br> Lbs. | Lise Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ampere Hours, Continuous Discharge at |  |  |  | Hours Continuous Burning with Total Iamp Load of |  |  |  |  |  |  |  |  |
|  | 1 | 3 | 5 | 10 | 6 C.P. | LxC.I' |  |  |  |  |  |  |  |
|  | A mpere 1) 18 charge Rate | Ampere Discharge Rate | Ampere Discharge Rate | Ampere <br> Dis- <br> charge <br> Rate | $\begin{gathered} 1 \\ \text { Ampere } \\ \text { Dis- } \\ \text { charge } \\ \text { Rath } \end{gathered}$ | $\begin{gathered} 3 \\ \text { Ampere } \\ \text { Dis- } \\ \text { charge } \\ \text { Rate } \end{gathered}$ | 5 <br> Ampere Discharge Rate | 10 <br> Ampere Discharge Rate | Iscngth | Width | 1F، $\mathrm{i}_{6} \mathrm{ht}$ |  |  |
| 6I-40R | 70 | 50 | 40 |  | 70 | 17 | 8 |  | $\left\{\begin{array}{l}63 / \\ 68\end{array}\right.$ | 7 | 87/8 | 30 | \$32 0: |
| $6 \mathrm{I}_{\text {-50I }}$ | 90 | 60 | 50 | 40 | 90 | 20 |  |  | ) 81 | $7{ }_{1}^{18}$ | 877 |  |  |
| 6L-50H | 90 | 60 | 50 | 40 | 90 | 20 | 10 | 4 | \{ $81 \%$ | $5^{1 / 8}$ | $10 \%$ | 39 | 38.99 |
| 61.-60R | 110 | 81 | 70 | 60 | 110 | 27 | 14 | 6 | $\left\{\begin{array}{l}98 \% \\ 938\end{array}\right.$ | ${ }_{5}{ }^{\text {卨 }}$ | 87\% | 43 | 39.86 |
| 6 L -80R | 130 | 111 | 90 |  |  |  |  |  | , 10 年 | 71 | 87 |  |  |
| 6 L .80 H | 130 | 111 | 90 | 80 | 130 | 37 | 18 | 8 | , $10 \frac{18}{16}$ | 5\%\% | $10 \%$ | 53 | 46.79 |
| 61.100R | 150 | 125 | 110 | 100 | 150 | 42 | 22 | 10 | 122 | 7 5 5 | 87/8 | 60 | 53.72 |
| $\left.\begin{array}{l}6 \mathrm{~L}-120 \mathrm{I} \\ 6 \mathrm{~L}-120 \mathrm{I}\end{array}\right\}$ | 180 | 150 | 135 | 120 | 180 | 50 | 27 | 12 | ? $\mathbf{H} 43 / 8$ | 7\% | 87\% | 71 | 00,65 |

## Ignition Types

This type of battery is made especisilly for gas engine ignition and for use with Magneto Dual Starting Systems.

FURNISHED IN WOODEN BOXES WITH INTERIOR RUBBER JARS

| I.ist <br> No. | Volts | Ampere IIour Capacity At |  | wt <br> Lbs. | Outside Dimensions Ins. |  |  | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 5 Arupere Discharge Rate | $\begin{gathered} \text { 1 A mpere } \\ \text { Discharge } \\ \text { lizive } \end{gathered}$ |  | Length | Width | Height |  |
| 4IG-60 | 4 | 35 | 60 | 1.4 | 418 | F ${ }^{\text {7 }}$ | $87 / 8$ | \$20.79 |
| 6IC-40 | 6 | 20 | 40 | 16 | $4 \%$ | 71 | $87 \%$ | 24.26 |
| 6IG-60 | 6 | 35 | 50 | 26 | 51. | 7 \% | 87/8 | 27.72 |
| filGedo | 6 | 45 | so | 30 | $63 /$ | 7 \% | $87 / 8$ | 32.06 |
| 819-60 | 8 | 35 | 60 | 32 | $6 \frac{18}{4}$ | $7 \frac{1}{18}$ | 87\% | 34.65 |

The difference between the IG and V Type Ignition Batteries lies only in the method of assembly, the capacities being equal. Instead of a one-piece compartment jar as used in the V' Type, the IG contains individual jars incased in wooden box, similar to construction of the regular Lighting and Starting Types, includiag "feet construction" of the plates, not used in V Type batteries.

On account of difference in dimensions, be sure to syecify whether I(G) or $\mathfrak{V}$ type should be supplied.
Delivery F. O. B. Faetory Long Island City, N. Y. For warehouse deliveries write nearest house.

## DRY BATTERIES

## For Intermittent Service



Hiue Label Regular


Blue Label Combination Screw Top


Blue Label
Straight
Screw lop

## Blue Bell Cells

BLUE LABEL
This battery is particularly recommended for telephone transmitter work, to meet the needs of a reliable, highly effiedent and long-lived cell. It is fumished in three styles of tops: standard hinding post top, combination serew top and binding post and straight serew top. The two hatter types are for use in l'atterson Battery Sets.

| List | *Sizes of |  | Wt. per | Std. | Std. Pleg. |  | Price-- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Zinc Cans | Description | Cell | Pkg. | Lus. | Rach | P'er Bbl. $\ddagger$ |
| $34038.3 \dagger$ | $21 / 2 \times 6$ ins. | Standard binding post top.. . . | 2 lbs. | 125 | $3(1)$ Ihs. | 80.70 | \$10.00 |
| 340384 | $21 / 2 \times 6$ ins. | (Combinat ion serew top and binding post | 2 lbs. | 125 | 300 His. | . 78 | 70.00 |
| 340385 | $.21 / 2 \times 6 \mathrm{ins}$. | Serew top, (no binding poots) | $2 \mathrm{lbs}$. | 125 | 300 lbs . | .76 | 67.50 |



Red Label Regular Round Carton


Red Label Regular Square Carton


Red Label Combination
Screw T'op


Red Label
Straight
Screw Top

## Red Label Blue Bell Cells

## RED LABEL

This cell is designed for a wide range of service; it is a general purpose battery that may be successfully used for all classes of intermittent service, such as door bell anmunciators, railway train dispatching, ignition, atc. 'The two latter types are for use in Patterson Battery Sets.

| Li | Siz | Description | Wt. per Cell | Std. Phg. | Std. Pkg. Lbs. | --Iist Price- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Zinc Cans |  |  |  |  | Each | Per Bbl. |
| 340386 | $21 / 2 \times 6$ ins. | St andard binding post top(round carton) | 2 lbs . | 125 | 300 lbs. | \%. 70 | \$62.50 |
| 340380 | $21 / 2 \times 6$ ins. | Stiudard binding post (square carton). | 2 lbs . | 125 | 300 lbs . | . 70 | 62.50 |
| 340387 | $21 / 2 \times 6$ ins | Combination screw top and binding post | 2 lbs. | 125 | 300 lbs | 78 | 72.50 |
| 1038 | $21 / 2 \times$ | Screw top (no bindin | 2 lb | 125 | 300 | 76 | 70.00 |

* Add 1 inch to the height of cells having extended carbon plugs, and $1 / 2$ inch for other styles of connection.
$\dagger$ Note: Fahnestock clips will, be furnished when specified without extra charge.
$\ddagger$ Delivery F. O. B. Cleveland, Cincinnati, Brooklyn and New York. For warehouse deliveries write nearest house.


## DRY BATTERIES

For Intermittent Service



Columbia Cells

## RECTANGULAR TYPES

| List | Orer-all Dimensions |
| :---: | :---: |
| No. | * Not Including Comnections |
| R-I | $1 \times 1{ }^{1} 2 \times 31$ ins. |
| R-2 | $1 \times 13.4 \times 31 / 1 \mathrm{mas}$ |
| 12-3 | 11 ¢ $\times 1{ }^{16} \times 31 / 4$ ins. |
| 12-5 | $11 \times 2!\times 4$ ins. |
| R-6 |  |
| R-7 | $11 / 2 \times 2 \times 43 / \mathrm{ins}$. |
| 12-8 | 15/8 $\times 21 / 2 \times 4780$. |
| R-10 | $13 / 4 \times 21 / 4 \times 53,8$ ins. |
| 1-11 |  |
| 1-12 | $21 / 4 \times 23 / 4 \times 61 / 2 \mathrm{ins}$. |
| 12-347 | $3 \times 4 \times 7$ ins. |
| Duplex | (33/4 $\times 518 \times 25 / 8 \mathrm{ins}$. |


| Wright pre Cell | Wright Lbs. per 100 Packed | Std. Pkg. Bbl. | Staj. Pkg. | $\ddagger$ Iist Price |
| :---: | :---: | :---: | :---: | :---: |
| 7 \%\%. | $5{ }^{5} 5$ | ${ }_{40 \%}$ | 210 | bach |
| $8190 \%$ | 6 | 400 | 230 | \$1.60 |
| $81 / 108$. | 62 | 400 | 2:30 | (i) |
| 14120\% | 115 | 300 | $2!95$ | 70 |
| $123{ }^{1} 80$. | 100 | 300 | 265 | 70 |
| 1 lt .3 cm | 145 | 250 | 290 | 70 |
| 1 ll . 10 (0\%. | 197 | 200 | 350 | 80 |
| $13 / 115 \mathrm{~s}$. | 217 | 150 | 450 | 80 |
| -12 $11 \times$ | $2 \mathrm{S8}$ | 125 | 340 | 90 |
| $31 / 2$ lhs. | 390 | 100 | 375 | 1.10 |
| ( $7^{\prime}$ ¢ lbs. | 754 | 50 | 370 | 3.00 |
| 4 th ¢ | 480) | 50 | 240 | 1.40 |

*Ald ${ }^{3}$ inch to heright for tolal height to inchade commetions.

Types le-11 to $\mathrm{R}-3.17$ will he furnished with fahmestuck conmectors when so ordered.

|  |  | TYPE |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List | Size of | Weight | Weight İbs. | $\ddagger$ Jist Price |
| $\mathrm{NO}_{\text {No. }}$ |  | per ('ell | per 100 Packed | Fach |



| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size of Zine ('ans |
| :---: | :---: |
| (j) |  |
| (1) |  |
| 8 | $31 / 2 \times 8 \mathrm{ln}$ 。 |
| 8 |  |



REGULAR TYPES

| Description | $\begin{aligned} & \text { Wt. per } \\ & \text { cell } \end{aligned}$ | Std. Pkg. |
| :---: | :---: | :---: |
| (ohumbia Rorl Mabul | $2!$ !n. | 12\% |
| (chumbia Lgnitor | 2 lln \% | 125 |
| Colmutuia Red Labol | 5 lbs | 50 |
| Columbial lgaitor | 5 lbs . | 50 |



| Miscellaneous Cells |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 340413 | 21, | ${ }^{1900}$ | lugular | $2 \mathrm{lls}$. | 125 | 300 | \$0.70 | \$60. 00 |
| 340414 341416 |  | Rapid Jire | Prition | 211 s . | 12.5 | 300 | ${ }^{8} .70$ | \$62 50 |
| 340:8.4. | $216 \times 6$ ins | (1i-up | lyngutir | $\frac{2}{2} \mathrm{lln}$ ¢ | 12.5 | 300 300 | 70 | 6i.) 010 |
|  |  | Fvereaty | Ignition | 2ls. | 125 | 300 | 70 | 62.50 |
|  |  |  | ry F | Cle |  |  | and |  |


"IIot Shot" Battery

| Jist <br> No. | Voltage | Ieng'h | Wudth |
| :---: | :---: | :---: | :---: |
| 1:31 | $4{ }^{4}$ | 8 | 23.1 |
| 1411 | 1 | $10^{5}$ | $\cdots 3$. |
| $1+12$ | 1 | $55^{3}$ | 53, |
| 2061 | 3 | $10^{5 \%}$ | 23. |
| $\dagger$ t.mis | $7{ }^{1}$ | 129 | $\because 3$ |
| 226 | 3 | $5{ }^{3}$ | 53 |
| 15) | 712 | 1314 | 23. |
| 1502 | 72 | 8 | 5 |
| 1 lit 1 | 9 | 15 | 23. |
| 16it2 | 9 | 8 | $5{ }^{3}$ |
| 2:3131 | $41 / 2$ | $15^{3}$ | 234 |
| 23:32 | -1/2 | 8 | $5{ }_{5}^{3}$ |
| 2.162 | $($ | 105/8 | 53 |
| 426 | 3 | 105/9 | 53\% |
| 20\%2 | $7{ }^{1}$ | 13! | $5{ }_{5} 5^{3}$ |
| 5262 | 3 | 1:31/ | $5{ }_{5}{ }^{3} 8$ |
| 2616 | 9 | $15^{3}$ | $55^{3} 8$ |
| 2 taim | $!!$ | $105 / 8$ | $81 / 8$ |
| 3412 | 4 | $1.53 / 4$ | $55^{3} 8$ |
| 3413 | t | $10^{5}$ ¢ | 81\% |

## COLUMBIA "HOT SHOT"

BATTERY
The Columbia "IIot, Shot" is a unit battery containing from 3 to 10 sperially made cells connected in eombinations to meet all r"quirements from 416 valts to 9 volts.

The battery is designed especially for automobile ignition, for clectric horns, for notor boat and was chgine ignition, for operat ing carriage elect ric lamps, for mine signals, for honschokl serviec, and for electric toys-in fact, for every plate where a roliabledry battery is nerded. The List No. designates the numher of cells and method of eonnecting thent. The first figare designates the number of sets of cells ant if more than one, these sets are connerted in multiple; the second mumber, the number of colls in serios; the third number, the size of the eedis, and the last number shows whether cells are arranget in one or two rows. Nif. 21 tie means two sets of ichls in multiple, four eells in series in rach set, and number fi wells, two rows.

| Height | Wepight I.h: Each | Std. l kg . | Strl. Pkg Weight Lus. | * ist <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: |
| $7^{1 / 2}$ | 1 | $3 \%$ | 315 | \$2. 22 |
| 71 | 9 | 25 | 290 | 2.96 |
| 716 | 9 | 2.5 | 290 | 2.94 |
| 713 | (1) | 25 | 2910 | 2.93 |
| 71 | 11 | 21 | 2 St | 4.00 |
| $7{ }^{7}$ | () | 2.) | 2910 | 2.96 |
| 7 | 11 | 20 | 2 Sc | 3.70 |
| 7 | 11 | 20 | 274 | 3.70 |
| 71 | 13 | 17 | 2!) | 4.44 |
| $7 \%$ | $1: 3$ | 17 | 2910 | 4.44 |
| 712 | $1: 3$ | 17 | 2! 0 | 4.44 |
| 71 | 13 | 17 | 290 | 4.44 |
| 31. | 18 | 12 | $2 \times 0$ | 5.92 |
| 71 | 1s | 12 | $\cdots$ | 5.92 |
| 71 | 2 | 9 | 25 | 7.40 |
| 713 | 22 | 9 | 2 m | 7.40 |
| 71 |  | 7 | 235 | 8.88 |
| $71 / 2$ |  | 7 | 235 | 8.sis |
| $71 / 2$ |  | 7 | 23: | 8.xs |
| $71 / 2$ | . | 7 | 2:3\% | 8.85 |




Multiple Battery

## $\dagger$ Multiple Batteries

The Columbia multiple battery is a unit propusition. Only two comeretions have to be made. Inside the hormetically sealed box the eedls ate separated by wooden pieces and then are held in phace and entircly covered by a solid, wat erproof insulating compound, which absolutely prevents any motion of the soparate cells. The connections are mot tempenarily made to the binding posis by light wires, but are permanently soldered copper strip, So that the resistance hetween carh pair of cells is practically nothing. This battery represents the latest developments in primary battery manufature, and conbiness maxinum efficiency and reliability with simplicity:

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Voltage | Metad ('ase |  | Wrond case | Metal Case Word Case $\quad$ Eist Price |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| 116 | (i) | 11 | $\times 3 \times 83,4$ | 1154 $1^{5} 3^{3} 4 \times 8$ | 16 | 14 | \$3.20 |
| 226 | 3 | 11 | $\times 3 \times 83$ | $1180 \times 338 \times 8$ | 16 | 14 | 3.20 |
| 241 | (i) | 11 | $\times 510 \times 83 / 4$ | 115\% 11068 | 25 | 22 | 6. 60 |
| 421; | 3 | 11 | ※51, $\times 8.8$ | 11580619x8 | 2.5 | 22 | 6.40 |
| 314 | 4 | 11 | $\times 818 \times 83$ |  | 37 | 31 | 9.60 |
| 436 | $4^{1} \frac{1}{2}$ | 11 | $\therefore 81 / 8 \times 83 / 4$ | $1158 \times 8.5 \times 8$ | 37 | 31 | 9.60 |
| 264 | 9 | 11 | $\mathrm{x} 81 / 8 \times 83 / 8$ |  | 37 | 31 | 9.60 |
| 15\% | $7{ }^{1}$ |  | $\times 3 \times 83$ | 141/t $\times 3 \times 3 \times 8$ | 17 | 16 | 4.00 |
| 254 | $71 / 2$ |  | $\times 512 \times 83 / 4$ | 141/1961每×8 | 31 | 28 | 8.00 |
| \%26; | 3 | 13 | $\times 51 / 2 \times 8$ | 141/4 $\times 61 / 8 \times 8$ | 31 | 28 | 8.00 |
| 350 | 716 | 13 | $\times 8{ }^{1} 8 \times 834$ | $111 \% \times 8{ }^{5}$ | 50 | 44 | 12.00 |
| 536 | $41 \%$ |  | x 81 ¢ $\times 83 / 4$ | 1115 $\times 8.8 \times 8$ | 50 | 44 | 12.00 |
| 16ij | 9 |  | $\times 51 / 2 \times 83 / 1$ | 85/6x $618 \times 8$ | 21 | 18 | 4.80 |
| 329 | 3 |  | x $51 / 2 \times 83$ | 8-6x 61988 | $\stackrel{20}{0}$ | 18 | 4.80 |
| 2315 | 4\% |  | x $51.2 \times 8$. |  | 20 | 18 | 4.80 |

[^16]

Model B-4
Skeleton Strip Type


Model A-4 Solid Ilard Rubber Strip Type

## Series Strip Types-Models and B

Models A and B Strip Type Patterson Battery Sets are the simplest and lowest price outfits made.
Strip Type (outfits are used in large quantity, but admittedly are not as desirable as sted box and steel cabinet outfits, for up-to-date battery installations should be enclosed.

Strip Type Outfits are regularly furnished with strap hinges, so that the same may be conveniently mounted on a side wall; by removing hinges they may be mounted solid on ceiling or on umber side of a shelf.

Strip Type Outfits have antomatic bridges in receptacles, which permit renewal of battery without opening of circuit or interrupting service cluring the operation.

Circuit wires after unce being connected to terminals of the holder never have to be disconnected or reconnected.

Loose connections and broken wires are absolutely impossible.
Contacts are positive and of ample carrying capacity.
Installation or remewal of battery is foolproof; no technical knowledge is refuirm, for batteries when screwed into the receptacles automatically make all connections.

Model ISStrip' I'ype Outfits are sectional, so that at any time an additional unit or unit amat be inserted, if at any time a higher voltage outfit is desired.

Model A Strip 'Cype Ontits are similar to Model B, but are not sectional; they are mate of solid hard rubber in place of skeleton type like the Model 13 .

In both Model A and 13 Patterson Battery Sets screw cups are renewable, so in case of injury to a cup a new cup can be readily inserted at the expense of a few cents.

If Strip 'Type Sets are ordered for multiple work it should be so specified at the time of ordering, so that automatic bridging device may be onitted, as antomatic bridges are not desimable for multiple work.

A and B Holders are regularly made in all sizes from 2 cell up to 12 cell. Larger sizes to order at proportionate advance.

Ntrip Type Patterson Battery Sets are packed in individual corrugated cartons, neatly labeled, for shelf stock.

| List No. |  | MODEL B STRIP TYPE, SKELETON <br> No. Cells Capacity | Size, Inches | Price Each, No Batteries |
| :---: | :---: | :---: | :---: | :---: |
| B-2 | 2 in row |  | $81 / 2 \times 3 \times 2$ | \$4.08 |
| 13-3 | 3 in row. |  | 111/2x3x2 | 6.12 |
| B-4 | 4 in row |  | 141/2×3×2 | 8.16 |
| BS-4 | 4 in 2 rows of 2. |  | $815 \times 6 \times 2$ | 8.16 |
| 13-5 | 5 in row. |  | 1719 $\times 3 \times 2$ | 10.20 |
| B-6 | 6 in row. |  | $2016 \times 3 \times 2$ | 12.2. |
| BS-6 | 6 in 2 rows of 3. |  | 111年×6x2 | 12.24 |
| 1-8 | 8 in row. |  | $2615 \times 3 \times 2$ | 16.32 |
| BS-8 | 8 in 2 rows of 4 |  | $141 / 2 \times 15 \times 2$ | 16.32 |
| BM | Middle section b | Sectional Units tery holder unit. . . . . . . . . . . |  | \$2.0t |
| BZ | Zinc terminal end | section. |  | 2.04 |
| BC | Carbon terminal | I section. |  | 2.04 |

MODEL A STRIP TYPE, SOLID HARD RUBBER

| A-2 | 2 in row | $816 \times 3 \times 2$ | \$7.34 |
| :---: | :---: | :---: | :---: |
| A-3 | 3 in row | 1112x3x2 | 11.02 |
| A-4 | 4 in row | $14 \frac{1}{3} \mathrm{x}$ 人 2 | 14.68 |
| AS-4 | 4 in 2 rows of 2 | 816x6x | 14.68 |
| A-5 | 5 in row. | $1759 \times 3 \times 2$ | 18.36 |
| A-6 | 6 in row | $201 / 2 \times 3 \times 2$ | 22.04 |
| AS-6 | 6 in 2 rows of 3 | 1116x6x2 | 22.04 |

No battery cells are inchuded in the above prices; Patterson-Columbia Cells extra.
Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

# PATTERSON BATTERY SETS 

SERIES STEEL BOX TYPE-MODEL BB



Model B13-4. Open
Front Dropped, Top Raised to Screw in Cells

Model BB nutfits eonsist of the standard Model 13 series type strip, mounted in a pressed steel case, finished in black japan, with substantial padlork and two keys. These outfits are suital:le for all installation where the current requirements are not so heavy as to make desirable the use of the multiple service outfits.

Morlel Bl 3 ontfits have self-locking rases in addition to the padlock, the front abtomatically lorking under the top flange when pushed up into position.

Stationary binding post torminals for cireuit wires are mounted on harkboard of box; on same base are mountod the knife switch jaws with which copper bhales, carried by holders, make contact when cells are screwed into hokler, antomatically dropping into place. Insulated bushings are set in back for introduction of circuit wires. Metal cleats hold box la inoh from wall, giving ample spare for running of circuit wires.

B13 hattory sets are rogilarly made in all sizes from 2 cell up to 12 cell; sumerial sizes to order.

| List No. | Battery <br> Holder No. | Operative Voltage | 1nitial Amp. <br> ('apacity | Outside Dinumsions- |  |  | * List I'rice Each Without Batteries |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Height | Weidth | 1)epth |  |
| BB-2 | B-2 | 2 | 25 | Sins. | 101/2 ins. | $11^{1} 2$ ins. | 89.60 |
| 1313-3 | 13-3 | 3 | 25 | 8 ins. | 131 年 | $131 / 2$ ins. | 12.48 |
| 1313-4 | B-4 | 4 | 25 | S ins. | 1615 ins. | (6) 12 ins. | 15.3i |
| 1313-5 | 13-5 | 5 | 25 | $x$ ins. | $19^{1 / 2}$ ins. | (6) $1 / 2 \mathrm{ins}$. | 18.72 |
| 1313-6 | B-i | 6 | 25 | $x$ ins. | 2215 ins. | $61 / 2 \mathrm{ins}$. | 22.08 |
| 1313-8. | B-8 | 8 | 25 | 8 ins. | $2 \mathrm{~s} 1 / 2 \mathrm{tas}$ | $61 / 2 \mathrm{ins}$. | 28.48 |
| 1313-10 | B-10 | 10 | 25 | S ins. | $34^{1 / 2}$ ins. | $101 / 2 \mathrm{ins}$. | 34.88 |
| 1313-12 | 13-12 | 12 | ? | 8 ins. | 40) 1 ins. | $61 / 2 \mathrm{ins}$. | 41.28 |

## SERIES SIDE WALL TYPE-MODEL BR

Model BR outfits are designed for side wall installations. They consist of a standard Nodel 13 series type strip, with the addition of a metal faced


Model BR-4 backboard on which stationary binding post temimals for cireuit wires are mountel. On the same base are momed the knife switch jaws with which enpper blades, carried by holders, make contact when cells are serewed in, and holder is dropped into place.

Automatic bridge in each cell receptacle permits the removal of one or more cells from the set without opening the cireait, and also provides a quick test for a weak cell without ammeter.

Model BR hathery holders are regularly made in all sizes from 2 eell up to 12 cell; special sizes to orter.

If at "split-up" of either of the above battery sets is desired, provision can be made for this if specified in advance. For every "split" 3 ineloes evtra width is required. For example, 3 cedls may be required for "talking" circuit of an interior telophone system, 6 cells for "ringing" cirenit or for ammunciators, bells, ete., or it total of 9 colls in the battery set. When so specified, this or any "split-circuit" arrangement can be furnished.

| List <br> No. | Battery Holder No. | Operative Voltage | Initial Amp. Capacity | - Outside Dimensions |  |  | *List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Height | Width | 1)epth |  |
| 13R-2 | B-2 | 2 | 25 | $6 \mathrm{ins}$. | 816 ins. | $33 / 4$ ins. | \$7.20 |
| 1312-3 | B-3 | 3 | 25 | (f) ins. | 11\% ins. | 33 ins. | 9.76 |
| 3R-4. | B-4 | 4 | 25 | 6 ins. | $141 / 2 \mathrm{ins}$ | $33 / 4$ ins. | 12.32 |
| 1312-5 | B-5 | 5 | 25 | (6) ins. | $171 / 2 \mathrm{ins}$ | 33, ins. | 15. 04 |
| 13R-6. | B-6 | 6 | 25 | 6 ins. | $201 / 2 \mathrm{ins}$ | $33 / 4 \mathrm{ins}$ | 17.60 |
| 13R-8. | B-8 | 8 | 2.5 | 6 ins. | $26^{1} \frac{1}{2} \mathrm{ins}$ | $3^{3} 4 \mathrm{ins}$. | 23.72 |
| 13R-10 | B-10 | 10 | 25 | 6 ins. | 321 名 ins | : $33, \mathrm{ins}$. | 27.84 |
| 1312-12 | B-12 | 12 | 25) | 6 ins. | 3812 ins . | $33 / 4$ ins. | 32.96 |

No battery cells are included in above priees. Patterson Columbia ('olls, extra.
Solid harel rubber Model A strips in place of skeleton will be furmished, when ordered, at an advance of \$1.80 list per cell-unit.
*Delivery F. O. B. New York City. For warehouse deliveries write ncarest house.

# EDISON PRIMARY BATTERIES 

## Their Use in Telephone Service



Typical of EIDSON TYPE 202 or 302 Four Cell Battery in Tray Side View


EDISON' TYPE 202 or 302 Four Cell Battery in Tray End View

EDISON primary cells are made up in capacities from 150 to 600 ampere hours. They are suitable for circuits in which the flow of current is either continuous or intermittent; there is no deterioration while the battery is idle and no attention required between renewal periods.

Type 202: This cell is made up with a rectangular heat resisting glass jar, porcelain cover and regular 200) ampere hour element, electrolyte and oil. The rectangular jar allows the cells to be assembled compactly in a tray of various units as shown in accompanying illustration, which is furnisherl for four, five or six cells at a small additional cost. While the Type 302 cells will render gool service on any telephone talking circuit, they are particularly suitable for intercommunicating telephone systems, railway way stations and single transmitters generally.

Type 302: This cell is made up with the regular 300 ampere-hour element, electrolyte and oil. The permanent parts are identical with Type 202 cell, excepting that the jar is one-half inch higher than the Type 202 jar. This is the lowest priced 300 ampere-hour cell in glass jar. It is recommended for intercommunicating telephone systems, small private branch exchanges, etc.

The Type 403 cell has a capacity of 400 ampere hours; the jar is porcelain, cylindrical in shape and is furnished with Type 400 element electrolyte and oil. This is the lowest pricel 400 ampere hour cell, the jar' being less expensive than those furnished with other cells of same capacity, but the current producing material is identical. For telephone transmitter circuits or similar service requiring a comparatively low discharge rate, and where the battery is not exposed to low temperatures the Type 403 is equal in efficiency to any of the 400 ampere hour cells.

The Type 403 cell is recommendel for transmitter service in Local Battery Telephone Exchanges, Small Common Battery Telephone Systems, Private Branch Exchanges, Train Dispatehers' Offices, etc., also for Telephone Interrupters or Pole Changers, Supervisory Lamps, Trunk Line Relays, etc.

The Type 502 cell has a capacity of 500 ampere hours; it has a rectangular heat resisting glass jar and Type 500 element, electrolyte and oil. This cell is suitiale for the same purposes for which the Type 40.3 is recommended. The shape of the cell is an item of importance when space is limited. The glass jar makess easy the task of inspecting, and as the approach of exhaustion is indicated by holes appearing in the zincs a convenient method for examining the plates is desirable.

The Type 505 cell has a capacity of 500 ampere hours; it has a round heat resisting glass jar and round cover, but in other respects is identical with the Type 502 cell.

# Primary Batteries and Renewals 

EDISON TYPE 202

## Capacity 200 Ampere-hours



Type 202 Cell
fist No.
340371
340372
Complete cell with rectangular heat resisting glass jar Price340372 Complete renewal$\$ 7.30$
Complete ranal. ..... 4.06
Renewal Parts
340373 Zinc Oxide, assembled ..... $\$ 3.78$
310374 Can Canstic soda ..... 48
340375 Bottle Special Battery ()il ..... 18
Separate Parts
310376 Heat resisting glass jar, rectangular. ..... $\$ 2.80$
310:377 Porcelain cover ..... 90
340:378 Set wing nuts and washer. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . per cell ..... 50
340535 Tray for two cells. . . .................. $61 / 2 \times 111 / 2 \times 8$ ins. ..... 4.32
10536 Tray for three cells. . . . . . . . . . . . . . . . $61 / 2 \times 11 \frac{1}{2} \times 12$ ins. ..... 4.86
340379 Tray for four eells. . . . . . . . . . . . . . . . $61 / 2 \times 111 / 2 \times 151 / 2$ ins. ..... 5.40
340380
340381 Tray for six cells. $61 / 2 \times 111 / 2 \times 191 / 4 \mathrm{ins}$. ..... 5.94 $61 / 2 \times 111 / 2 \times 23$ ins. ..... 6.48

Size over all, $31 / 2 \times 6 \times 113 / 4$. Jar only, inside $27 / 8 \times 51 / 4 \times 91 / 2$ List

## EDISON PRIMARY BATTERIES AND RENEWALS

# 200 HOUR-AMPERE TYPES-CONTINUED 

TYPE 206


Type No. 206
List
No.
34000
34000

340000
340000
34000
A
cylind
C

List
No.
Size over all, $53 / 4 \times 9$ inches. Jar only, inside dimension $5 \times 71 / 2$ inches.
Description
List Price
Each
340000 Complete Cell with Porcelain Jar and Hollow IRubber Gasket Ring. . . . . . . . $\$ \mathbf{\$ 6 . 3 0}$
340001 Complete Renewal
4.06

Renewal Parts
340002 Zinc-Oxide, assembled $\$ 3.70$
340003 One Can Caustic Soda .48
340004 One Bottle Special Battery Oil. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 18
Adapted for motor boats. Use five cells for single cylinder; six cells for multiple cylinder, make-and-break engines. Use eight cells for jump-spark.

Cover is fitted with a hollow rubber gasket to prevent splashing.
TYPE 208
List
Size over all, $6 \times 9$ inches. Jar only, inside dimension $5 \times 71 / 2$ inches. No. Description List Price
340007 Complete Cell with Porcelain Jar. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 5.94$
340008 Complete Renewal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4.06
Renewal Parts
340002 Zinc-Oxide, assembled. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 82.38
340003 One Can Caustic Soda.
340004 One Bottle Special Battery Oil
18
Adapted for stationary gas or gasoline engines, small motors, burglar alarms, bell systems, program and self-winding clocks, annunciators, electric time stamps, mine signals, intercommunicating telephone systems, talking circuits for way station telephones in railway train dispatching systems, etc.

Use five cells for stationary engines having make-and-break ignition. Use eight cells for stationary engines having jump-spark ignition.

## 300 Ampere-Hour Types



Type No. 252


Type No. 255

TYPE 252
Size over all, $31 / 4 \times 6 \times 121 / 2$ inches. Jar only, inside dimension $27 / 8 \times 51 / 1 \times 10$ inches.

| List No. | Description | List Price Each |
| :---: | :---: | :---: |
| 340539 | Complete cell, with heat resisting glass jar | \$7.66 |
| 340540 | Complete renewal. . | 4.42 |

## Renewal Parts

340012 Zinc-oxide, assembled.. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 4.14$
340013 One can Caustic Soda

For stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, intercommunicating telephone systems, fire alarms, etc.

## TYPE 255

Size over all, $63 / 4 \times 10 \frac{1}{4}$ inches. Jar only, inside dimension $6 \times 8$ inches.
340010 Complete cell, with heat resisting glass jar. . . . . . . . . . . . . . . . . . . . . . . 87.66
340011 Complete renewal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4.42

## Renewal Parts

54

Adapted for stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, intercommunicating telephone systems, auxiliary fire alarm circuits, etc.

# EDISON PRIMARY BATTERIES AND RENEWALS <br> 400 Ampere-hour Types 



Type No. 402


I'ype No. 403


Size over all $63 / 4 \times 121 / 2$ inches. Jar only, inside dimensions $6 \times 101 / 2$ inches.
W. E. List


## TYPE 402

Size over all $53 / 8 \times 63 / 8 \times 123 / 4$ inches. Jar only, inside dimension $5 \times 6 \times 101 / 2$ inches.
List

## TYPE 403

Size over all $7 \frac{1}{2} \times 103 / 4$ inches. Jar only, inside dimension $65 / 8 \times 83 / 4$ inches.


## Renewal Parts

340020 Zinc-oxide, assembled. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 72
$\begin{array}{ll}310262 & \text { One can Canstic Soda. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } 18 \\ 340263\end{array}$
For railway crossing signals, mine signals, fire alarms, burglar alarms. program and solf-winding clocks, small common battery telephone exchanges, private branch exchanges, intercommunicating telephones, pole changers, supervisory lamps, trunk line relays, telephone train dispatchers' talking circuits, etc.

## TYPE 404

Size over all $7 \times 111 / 2$ inches.


Type No. 404

Size over all 7 x11/2

|  |  | W. E.List |
| :---: | :---: | :---: |
| List |  | Price |
| No. | Description | Each |
| 310268 | Complete cell, with barrel shape heat resisting glass jar | \$10.00 |
| 3.10019 | Complete renewal. | 5.68 |
| Renewal Parts |  |  |
| 310020 | Zinc-oxide. | \$5.40 |
| : 3 (0)20 | One can Caustic Soda | . 72 |
| 310263 | One bottle Special Battery Oil. | 18 |
| Suitable for all purposes for which Types 401 and 403 are recommended. It is |  |  |
| to extr <br> than gl | me cold is fully as good as Type 401. The jar has great ss jars with straight sides. | strength |

# EDISON PRIMARY BATTERIES AND RENEWALS 500 Ampere-hour Types 

## TYPE 501



## Type 501-Glass

Type 502



## Renewal Parts

340544 Zinc-Oxide, assembled.
$\$ 6.22$
$\$ 6.22$
34054 \% One can caustic soda
34054 \% One can caustic soda .....
84 .....
84 .....  18
340546 One bottle special battery oil
340546 One bottle special battery oil

For railway signals, crossing bells, battery motors, telephone train dispatchers'
ing circuits, ete. talking circuits, ete,

## TYPE 502

Size over all, $53 / 8 \times 63 / 8 \times 121 / 4$ inches. Jar only, inside $5 \times 6 \times 101 / 2$ inches.

| ${ }_{\text {List }}$ |  | W. E. List |
| :---: | :---: | :---: |
|  | Description | Each |
| 340547 | Complete cell, with rectangular heat resisting glass jar. |  |
| 340548 | Complete renewal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . | $6.48$ |
|  | Renewal Parts |  |
| 340544 | Zinc-Oxide, assembled. |  |
| 340545 | One can caustic soda. | 6.22 |
| 340546 | One bottle special battery oil | . 84 |

Recommended for railway signals, crossing bells, battery motors, and especially for talking circuits in dispatchers' offices, for electro-mechanical interlocking plants and for automatic signals.

The advantage of the rectangular jar is that a greater number of cells may be housed in a given spare than is possible with round jars.

## TYPE 504

Size over all $7 \times 111 / 2$ inches.


## Renewal Parts


340540 One bottle special battery oil. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 18
Suitable for all purposes for which type 501 is recommended. It is more efficient because of better location of plates, and when not exposed to extreme cold is fully as good as type 501. The jar has greater mechanical strength than glass jars with
straight sides.

## R. S. A. SIGNAL CELL

Types. 501 and 504 conform to Railway Signal Association Specifications for copper-oxide, zine and soda primary battery, known as IRSA Signal Cell.

# PRIMARY BATTERIES AND RENEWALS Edison Cells-Old Types 

TYPE Q

Size over all, $6 \times 9$ inches. Jar only, inside dimension $5 \times 7 / 1 / 2$ inches.
Capacity, 150 Ampere-hours List
List ..... Price
Description No. ..... Each
340289 Complete Cell with Porcelain Jar. ..... $\$ 5.94$
340290 Complete Renewal ..... 3.00
Renewal Parts
3402911 Copper-Oxide Plate ..... $\$ 1.50$
$34(02922$ Zinc Plates (each \$0.6t) ..... 1.20
3402931 can Caustic Soda .....  48
3402941 bottle Special Battery Oil .....  18
Type 0

Adapted for stationary gas and gasoline engines, smali motors, burglar alarms, bell systems, mine signals, intercommunicating telephone systems, etc.

Note: Type 208 Cell is recommended in preference to Type Q because of higher efficiency, greater capacity, lower maintenance cost, and better construction.

Type ( Cells, when exhausted, may be converted into Type 208 Cells by securing Type 200 renewals with Type 208 covers and nuts, and discarding the old Type $\mathbb{Q}$ covers and frames with the exhausted elements.

## TYPE RR

Size over all, $71 / 2 \times 103 / 4$ inches. Jar only, inside dimension $65 / 8 \times 83 / 4$ inches


Type RR


Type VP Capacity, 300 Ampere-hours List
List Price

No. Description Each
340295 Complete Cell, with Porcelain Jar. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 8.92$
340290 Complete Renewal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4.60

## Renewal Parts

3402971 Copper-Oxide Plate. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 82.50
3402982 Zinc llates (each $\$ 1.0 .7$ ). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.10
3402991 can Caustic Soda. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 72
3403001 bottle Special Battery Oil. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 18
Adapted for stationary gas engines, railroad crossing signals, mine signals, electroplating, fire alarms, burglar alarms, small common battery and private branch telephone exchanges, intercommunicating telephone systems, telephone interrupters, supervisory lamps, trunk line relays, etc.

Note:'Types 403,302 or 305 are recommended in preference to Type RR, because of higher efficiency, greater capacity, lower maintenance cost and better construction.

Type RlR Cells, when exhausted, may be converted into Type 403 Cells by securing Type 400 renewals with Type 403 covers and nuts and discarding the old type $1 R R$ covers and frames with exhausted elements.

## TYPE VP

Capacity 150 Ampere-hours List

| List | Capacity 150 Ampere-hours | List <br> Price |
| :---: | :---: | ---: |
| No. | Deseription | Each |
| 340287 | Complete cell, with porcelain jar. . . . . . . . . . . . . . . . . . . . . . . . . . | $\$ 6.48$ |

340287 Complete cell, with porcelain jar. . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 6.48$
340288 Complete renewal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3.30

## Renewal Parts

340283 One Copper-Oxide Plate. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.50
$\begin{array}{ll}340284 & \text { One double Zinc Plate. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } 48 \\ 340285 & \text { One can Canstic Soda. . . . . . . . . . . . . }\end{array}$
$\begin{array}{ll}340285 & \text { One can Canstic Soda. . . . . Öil. } \\ 340286\end{array}$
340286 One bottle Special Battery Oil. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 18
Adapted for marine motor ignition.
Note: Type 206 is recommended in preference to Type VP because of higher efficiency, greater capacity, lower maintenance cost, and better construction.

Type VP Cell may be converted into Type 206 by securing Type 200 renewals with Type 206 covers and nuts.

## PRIMARY BATTERIES AND RENEWALS



Type W

## Edison Cells-Old Types

TYPE W
Size over all $73 / 4 \times 15$ inches. Jar only, inside dimension $7 \times 13 \frac{1}{2}$ inches.
Capacity 600 Ampere-hours List
List
No.
340310 Complete Cell with Heat Resisting Glass Jar. . . . . . . . . . . . . . . . . . $\$ 17.56$
340311 Complete Renewal.
8.10

## Renewal Parts

340312 Two Copper-Oxide Plates (each \$2.25)
$\$ 4.50$
340313 Two Zinc Plates (each \$1.50)
340314 One can Caustic Soda.
1.20

340315 One bottle Special Battery Oil24

Adapted for battery motors, dental engines, light electro-cautery work, X-Ray, wireless telegraph coils, telephone interrupters, small common battery and private branch exchange telephone switchboards, supervisory lights, trunk line relays, talking circuits, etc.

Complete Summary of Edison F'rimary Batteries, Renewals and Plates

| $\begin{gathered} \text { Type } \\ \text { of } \\ \text { Cell } \end{gathered}$ | Amper Capa-Caps- | $\begin{aligned} & \text { Com- } \\ & \text { plete } \\ & \text { Cell } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Com- } \\ \text { plete } \\ \text { Renewal } \end{gathered}$ | $\begin{gathered} \text { Zinc- } \\ \text { Oxide } \\ \text { Assemhled } \end{gathered}$ | Une Charge <br> Copprr- <br> Oxide <br> Plate or <br> Plates | One <br> Charge <br> Zinc <br> Plate or <br> Plates | $\begin{gathered} \text { One } \\ \text { Can } \\ \text { Caustic } \end{gathered}$ | One Special Oil | Round Porc. Jar | Round Resist Glass Jar | Rect- annuular Heat Re- sisting Glass Jar |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 202 Glass | 200 | \$7.30 | 84.06 | 83.78 |  | $\ldots$ | \$0.48 | \$0.18 |  |  | 82.80 |
| 206 Pore. | 200 | 6.30 | 4.06 | 3.78 | $\cdots$ |  | . 48 | . 18 | \$1.80 | $\cdots$ | $\cdots$ |
| 207 Steel | 200 | 9.18 | 4.06 4.06 | 3.78 |  |  | . 48 | . 18 |  |  |  |
| ${ }_{252}^{208}$ Porc. | ${ }_{300}^{200}$ | 5.94 7.66 | 4.06 4.06 | 3.78 4.14 | $\ldots$ | $\cdots$ | . 58 | . 18 | 1.80 |  | 3.00 |
| 255 Glass | 300 | 7.66 | 4.06 | 4.14 |  | .... | . 54 | . 18 |  | \$3.00 |  |
| 401 Glass | 400 | 10. 26 | 5.94 5 5 54 | 5.40 5.40 |  | $\ldots$ | .72 | .18 |  | 4.50 | 4.32 |
| ${ }_{403} 402$ Porc. | 400 400 | 10.26 9.72 | 5.94 5.94 | 5.40 |  | $\cdots$ | . 72 | . 18 | 3.60 |  |  |
| 404 Glass | 400 | 10.00 | 5.94 | 5.40 | $\ldots$ | .... | . 72 | 18 |  |  |  |
| 501 Glass | 500 | 11.08 | 6.22 | 6.22 |  |  | . 84 | . 18 |  | 4,50 |  |
| 502 Glass | 500 500 500 | 11.08 10.80 |  | 6.22 6.22 |  | …… | .84 | . 18 |  | ..... | 4.32 |
| ${ }_{\text {BD }}^{504}$ Glass | 500 100 | 10.80 | 6.22 <br> 2.70 | 6.22 | \$1.20 | \$1.20 | . 82 | .18 |  |  |  |
| $\mathrm{Q}^{2} \mathrm{P}$ Porc. | 150 | 5.94 | ${ }_{3}^{3.00}$ |  | 1.50 | 1.50 | . 48 | 18 | 1.80 1.80 |  |  |
| V-P Porc | 150 150 | 6.48 9.18 | 3.30 3.30 |  | 1.50 | 1.50 1.50 | . 48 | 18 | 1.80 |  |  |
| RR Porc. | 300 | 8.92 | 4. 60 |  | ${ }_{3}^{2} .10$ | 1.89 | . 72 | 18 | 3.00 |  |  |
| ${ }_{\text {W }}^{\text {S }}$ Porc. | 300 600 | 17.56 | 5.04 8.10 |  | 3.00 4.50 | 2.40 3.50 | . 1.24 | 18 |  | 8.10 |  |


| $\begin{gathered} \text { Type } \\ \text { of } \\ \text { Cell } \end{gathered}$ | Ampere Hour Capacity | Barrel <br> Shaped Heat <br> Resisting Glass Jar | Porc. Cover | $\begin{aligned} & \text { Rubber } \\ & \text { Gasket } \end{aligned}$ | Copper <br> Frames <br> With <br> Insulators <br> Complete | Long <br> Brass <br> Bolts and <br> Nuts for <br> Zines | $\begin{gathered} \text { Copper } \\ \text { Frame } \\ \text { Sides } \\ 2 \mathrm{Per} \\ \text { Cell } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Copper } \\ \text { Frame } \\ \text { Bolts } \\ \text { and } \\ \text { Nuts } \\ \hline \end{gathered}$ | Brass <br> Air <br> Vents <br> and <br> Nnts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 202 (liass. | 200 | . $\cdot$ | 80.90 |  |  | $\cdots$ | $\cdots$ | $\cdots$ |  |
| 206 Porc. . | 200 | , | 1.20 1.20 | $\$ 0.70$ .70 |  |  |  |  |  |
| 208 Porc.. | 200 |  | 1.00 |  | $\ldots$ |  | $\cdots$ |  |  |
| 252 Glass . | 300 | .... | . 90 |  | ..... |  |  |  |  |
| 255 Glass. | 300 | ..... | 1.20 | $\ldots$ | $\ldots$ | $\ldots$ |  |  |  |
| 401 Glass. | 400 | $\ldots$ | 1.20 | $\cdots$ | $\cdots$ | $\cdots$ | ..... | $\ldots$ |  |
| ${ }_{403} 402$ Plass. | 400 |  | 1.50 |  | $\ldots$ |  |  |  |  |
| 404 Glass. | 400 | \$3.78 | 1.20 | ..... |  |  |  |  |  |
| 501 Glass. | 500 |  | 1.20 | $\ldots$ | $\ldots$ | $\cdots$ |  |  |  |
| 502 Glass. | 500 500 | 3.78 | 1.20 |  |  |  |  |  |  |
| ${ }_{504}{ }^{\text {B }}$ G Prass. | 100 |  | . 70 |  | si.30 |  | sö.60 | so. 0.30 |  |
| Q Porc. | 150 |  | 1.00 |  | 1.30 | 30.70 | . 60 | . 30 |  |
| V-P Porc. | 150 |  | 1.00 | . 70 | 1.30 |  | . 60 | . 30 | \$0.30 |
| $\checkmark$ VR Steel. | 150 300 |  | 1.50 | . 70 | 1.30 1.30 | 70 | . 60 | . 30 | . 30 |
| S Porc. | 300 |  | 1. 1.00 |  | 1.80 2 | 70 | . 90 | 60 |  |
| W | 600 |  | 1.00 | .... | 2.00 | 70 | 1.10 | 6 |  |

[^17]Miscellaneous Separate Parts

[^18]

No. 2 Battery


No. 3 Battery


Standard Carbon Cell Round Jar


National No. 2 Carbon


Gravity Battery

## No. 2 Samson Battery

Size Over All $8 \times 43 / 4 \times 43 / 4$ Inches
This is regular or circular zinc form of battery. The cell has a voltage of from 1.40 to 1.47 , and an amperage on short circuit of from 12 to 16 amperes. This cell is adapted for gas lighting, telephone, gas cngines, railway signals, and all special work requiring a battery having great intial strength and capable of quick recovery after hard work.

| List Prices and Data |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Std. <br> Pkg. | **List Price | List | Description | Str. <br> Pleg. | **List Price |
| 340476 | Complete regular . . . . . | 50 | \$3.30 |  | Jar (square) . . . . . . . . | 50 | \$0.40 |
| 340479 | Carbon....... | 50 | 1.80 | 34048.3 | Sal ammoniac | 200 | . 30 |
| 340480 | Cover.. | 100 | . 30 | 340484 | Zinc regular | 100 | 1. 20 |

## No. 3 Samson Battery

## Size Over All $7 \times 51 / 4$ Inches

This atyle battery has much greater strength and larger current output than the No. 2. It is desirable, therefore, for all purposes where great endurance is needed. The zinc is of very heavy gaugu, hand-amalgamated and reinforced. The cover is of polished rubbercid. It is especially adapted for use in telephone installations, switchboad or long distance work. Also recommended for gas engines, railway signals and all extra heavy intermittent battery service.

| List Prices and Data |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | $\begin{aligned} & \text { Std. } \\ & \text { Pke. } \end{aligned}$ | ** T.ist Price | List <br> No. | Description | $\begin{aligned} & \text { Str. } \\ & \text { Prg. } \end{aligned}$ | **I.ist Price |
| 340488 | Complete. | 25 | \$4.40 | 340491 | Jar (square) | 25 | \$0.70 |
| 340489 | Carbon.. | 50 | 2.40 | 340492 | Sal ammoniac, 6 oz. | 200 | . 32 |
| 340490 | Cover... | 25 | . 52 | 340493 | Zine.............. | 50 | 1.50 |

CARBON CYLINDER BATTERY

| No. 1 With Round Jar |  | No. 7 With Square Jar *List |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  | *List <br> Price |  | *List <br> I'rice <br> Each |
| Description | Each | Description |  |
| Cell, complete. | \$1.00 | Cell, complete. . . ${ }^{\text {d }}$, ...... | \$1.00 |
| Carbon cylinder, with bushings | . 50 | Carbon eylinder, with bushings | .50 .20 |
| Glass jar, round. | . 20 | Glass jar, square | - 20 |
| Pencils, ziue. . | . 30 | Pencils, zinc | . 20 |
| Sal ammoniac eharge. . . . . . . | . 20 | Sal ammoniae charge.. | . 10 |

NATIONAL NO. 2 CARBON BATTERIES
The No. 2 has round glass jar with lip or pour-out.
Description

| Size $5 \times 7$ Inches |  | Size $6 \times 8$ Inches *List |  |
| :---: | :---: | :---: | :---: |
|  | *List |  |  |
|  | Price Each | escriptio | Price |
| Cell, complete ............. | \$3.60 |  | Ereh |
|  | $\$ 3.60$ .90 | Cell, complete ${ }^{\text {Glass jar, } 6 \times 8 \mathrm{ins.}}$ |  |
| Zine.......... | cation | Zine, 23/4'lbs..... | ication |
| Copper. | cation | Copper... | cation |
| Blue vitriol not ineluded in prices. *Delivery F. O. B. New York City **Delivery F. O. B. Boston, Mass. | use del se deli | Blue vitriol not included in prices ries write nearest house. es write nearest house. |  |

## BATTERY SUPPLIES



## Bull Dog Connectors



## Plain Battery Connector

Consists of 5 inches of lamp cord, composed of several strands of copper wire, with copper terminals on each end.

| List |  |  |
| :--- | :--- | :--- |
| No. |  |  |
| 16357 | Plain battery connector . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | List Price |
| Each | $\$ 0.20$ | $\$ 6.00$ |

## Link Battery Connector



HydrometerJar


No. 141 No. 102


Type V-2 Hydrometer Syringe


Break-not Hydrometer Syringe


Type S-1 Hydrometer Syringe
HYDROMETER SYRINGE
Specific Gravity Tester Type V-2
This instrument is for testing the specific gravity of the electrolyte of lead cells in rubber jars.

| List | Mirs. W.E. List |
| :--- | ---: |
| No. | List Price Each |

7200 Type V-2 improved hydroneter syringe, complete with case. $\$ 3.00{ }^{2} .37$
Specific Gravity Tester Type S-1
'This instrument is for testing the specific gravity of the electrolyte of sparking battery.


7281 Hydrometer syrince List Price Each

## EDELMAN BREAK-NOT HYDROMETER SYRINGE

A battery meter so constructed that it will not break if dropped.

| List |  | Mfrs. | W.E. List |
| :---: | :---: | :---: | :---: |
| No. |  | List | Price Each |
| 260451 | Edelman break-not hydrometer syringe | \$1.00 | \$2.00 |

HYDROMETER JARS

| List |  | Mfrs. W.E. List |
| :---: | :---: | :---: |
| No. |  | List Price Each |
| 104 | $6 \times 1$ in. hydrometer jars for hydrometers 101-102. | \$0.50 \$0.75 |
| 131 | $12 \times 2 \mathrm{in}$. hydrometer jars for hy drometers 106-107 | $1.25 \quad 1.88$ |



Bulb Syringe


Acid Syringe Hard Rubber Battery Syringe THERMOMETERS

| Iist |  | Mrrs. | W.E. List |
| :--- | :---: | ---: | ---: | ---: |
| No. | List | Price Each |  |
| 141 | Pocket, nickel case, $51 / 2$ ins. long, $20^{\circ}$ to $120^{\circ} \mathrm{F} \ldots \ldots \ldots .$. | $\$ 1.75$ | $\$ 2.63$ |
| 102 | Hydrometer with guiding points, shot bulh, with red line at |  |  |
|  | $25 \mathrm{~B}, 5$ ins. long, double scale, 10 to $40 \mathrm{~B}, 1,050$ to $1,400 \mathrm{Sp} . \mathrm{G}$. | 1.00 | 1.50 |

## BULB SYRINGE

For filling and equalizing the acid in batteries. Heavy, quick-acting rubber bulb, capacity 8 ozs., furnished with a straight and bent nozzle. Complete, in wooden box.

| 105 | Bulb syringe, comp | \$1.50 | \$2.25 |
| :---: | :---: | :---: | :---: |
| 132 | Extra bulb, with fitting | 1.00 | 1.50 |
| 133 | Extra nozzles | 50 | . 75 |

ACID SYRINGE, ONE PIECE


| HARD RUBBER BATTERY SYRINGE |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Mirs. | W. E. List | list |  | Mfrs. | W. F. Iist |
| No. |  | List | Price Each | No. |  | List | Prico Each |
| 136 | Hard rubber, capacity 12 oz. | \$4.00 | 86.00 |  | Extra nozzle, 9 ins. Iong | \$1.00 | \$1.50 |
| 137 | Extra nozzle, 6 ins. long. | . 75 | 1.13 | 140 | Extra nozzle, 24 ins. long. | 2.25 | 3.38 |
| 138 | Hard rubber, capacity 32 oz. | 12.00 | 18.00 |  |  |  |  |
| STYLE B BATTERY METER |  |  |  |  |  |  |  |
|  | Storometer or battery meter. | \$3.00 | \$4.50 |  | Hxtra glass tubes. | . 75 | 81.13 |
| 164 | Extra hydrometer. | 1.00 | 1.50 |  | Nozzle and plug. | . 30 | . 45 |
| 162 | Extra rubber bulbs. | 1.00 | 1.50 |  |  |  |  |

Delivery I'.O.B. New York City. For warehouse deliveries write nearest house.

# Western Electric 

## INTER-PHONES

"Inter-phones" is a trade name adopted by the Western Electric Company for what are generally known as intercommunicating telephones. They are special telephones designed to meet the requirements of service from room to room in a building or possibly from house to barn or garage. They have been designed by skilled telephone engineers especially for such use and are not adapted for outside telephone service.

## For the Information of Customers

Operating telephone companies, as a rule, do not permit connections with their wires, switchboards or telephones, of any apparatus or attachments not owned or maintained by them.

## Application

Inter-phones are intended to provide telephonic communication between various points in the home, factory or plant, as for example:

| In the home-between | In a business organization-between |
| :--- | :--- |
| Living-room | President's office |
| Bedroom | General manager |
| Library | Superintendent |
| Nursery | Bookkeeper |
| Servants' quarters | Shipping clerk |
| Kitchen | Foreman |
| Stable or garage | Cashier |
| Etc. | Etc. |

## Operation

A combination formed by connecting together a number of Inter-phones is called an Inter-phone system.
Each system may be considered as a small private telephone exchange requiring neither switchboard nor operator. Communication-that is, ringing the station desired and conversing with the person answer-ing-can be established by merely depressing a push button for a few seconds, holding the receiver to the ear and talking into the transmitter.

## Inter-phone Systems

To meet the different conditions in home and business, various Inter-phone systems have been designed, which differ in the number of instruments that can be connected, the kind of service they will give, the appearance of the sets-and the price. The quality of the apparatus for each system is of the highest and the difference in price is due to the fact that the service rendered by the various systems necessitates Inter-phones that differ in structure.

## Apparatus Required

All Western Flectric Inter-phone systems are simple and consist primarily of the following apparatus:

1. Inter-phones.

2 Batteries to furnish current for ringing and talking.
3. Wire or cable to connect Inter-phones and batteries.
4. Installing material (usually furnished by the installer) for connecting and fastening Inter-phones cable (or wire) and batteries.

## Types of Inter-phones

Three different types of Inter-phones to suit different conditions and tastes can be furnished: Wall Inter-phones, desk Inter-phones and hand set Inter-phones, which can be usedinterchangeably in the same system except when otherwise stated.

In order to assist our customers in selecting a system best adapted to their requirements the following list has been compiled:

## Inter-phone System Adapted to Business Organizations, Factor-

 ies, Stores, Institutions, Large Residences, etc. The Following Requirements Will Be Met.1. More than one conversation can take place simultaneously.
2. Any station can ring selectively any other station in the system instantaneously.
3. Quality of apparatus, operation, and appearance, the highest grade obtainable.

$$
\text { System No. 1. } 3 \text { up to } 24 \text { stations . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } 171
$$

From any station it is possible to select, ring, and talk individually to any other station. As many separate conversations can be earried on simultaneously as there are pairs of Inter-phones connected.

Inter-phone Systems for Residences, Banks, Institutions, Warehouses, Stores, or Other Mercantile Establishments Where Conversations Are Less Frequent. The Systems Are Reliable in Operation, the Apparatus Pleasing in Appearance and Moderate in Cost. Each System is Limited to One Conversation at a Time.

System No. 11. 3 up to 12 stations. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 172
From any station it is possible to select and ring any one of the other statious one conversation can be carried on at a time.

System No. 12. 3 up to 12 stations. . . . . . . . . . . . . . . . . . . . . . . ............................... . . 173
System No. 16. 3 up to $2 t$ stations. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 174
Systems No. 12 and No. 16 consist of one centrally located Inter-phone called the "Master Station" to which are connected a number of other Inter-phones called "(Outlying Stations."

It is possible to ring from the master station any one of the outlying stations selectively, or the master station from each of the outlying stations. One conversation can be carried on at a time.

System No. 15. 2 up to 6 stations. 177
A simple system. The bells of all stations will ring simultaneously whenever a call is made from any one of the stations. The various stations are called by signaling each one with a different code.

## System No. 14. 2 stations only

 178Primarily recommended for connecting two points separated by a mile or less. Only two wires are required for connecting the two stations, either of which can ring and converse with the other.

## Inter-phone Systems for Apartment Houses

System No. 7. 7 up to 25 stations . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 179
System No. 8. 8 up to 26 stations . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 179
System No. 9. 9 up to 27 stations. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 179
System No. 10. 9 up to 70 stations .
These systems provide service for any combination of suite, vestibule, janitor's and tradesmen's Interphones. They differ from each other in their capacities and combinations.

From the vestibule, janitor and tradesmen stations it is possible to select, ring and talk individually to any of the other stations in the system (except between vestibule and tradesmen and vice versa).

System No. 20. 4 or more stations.
This system provides service for any combination of a number of suite Inter-phones, a vestibule Interphone, a janitor Inter-phone and a laundry Inter-phone. From the vestibule, janitor, and laundry stations any one of the suite stations can be selected and rung individually, and vice versa. One conversation can be carried on at a time in the system.

## INTER-PHONE SYSTEMS

## Inter-phone Annunciator System

Consists of one centrally located annunciator with Inter-phone, called the "Master Station," connected to which are a number of other Inter-phones called "Outlying Stations."

System No. 18. 10 up to 70 stations or more . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Page 182
From the master station any one of the outlying stations can be rung selectively or the master station from any one of the outlying stations. Communication can be established between any two outlying stations through the medium of one or two connecting cords which can be used with the switchboard annunciator. Where many interconnections are required a private exchange switchboard of the No. 1801 type should be installed.

## Inter-phone Outfits

Complete Inter-phone systems of sinall capacities ( 2 or more) put up in standard packages containing Inter-phones, all necessary installing material, and complete instructions for mounting and wiring. Page 183

## Mechanical Code Signaling Systems

A call bell system making use of a number of mechanically revolving keys which, when turned, ring a number of bells simultaneously in accordance with a prearranged code. This calls to the telephone or central point persons to whom the code has been assigned. Fully described hereinafter.


No. 1355 Type Wall Inter-phone

## Inter-phone System No. 1

The No. 1 Inter-phone System is recommended for use in business organizations, factories, stores, institutions, large residences, etc., where frequently more than one conversation will take place at the same time; where prompt connections without loss of time are necessary and the highest grade of transmission is required.

Operation. From any station one can select and ring any other station without disturbing the rest of the stations in the system. That is only the station wanted will be signaled and no other. This is done by means of push button keys which are mounted in the face plates of the wall Interphones or in the key boxes used with desk stands or hand sets. For each station in the system, one push button key is required in each Inter-phone. Associated with the buttons are card holder frames to hold the cards which designate the names or station numbers of the butions


To make a call the button marked with the name or number of the station wanted is pressed (thereby ringing the bell of that station.)

Neither switchboard nor operator is required. The user makes his own connections, and is certain to get them right and without delay.

As many separate conversations can be carried on simultaneously as there are pairs of Inter-phones in the system. For example, in a system consisting of six Inter-phones, three separate conversations, as shown above, can be carried on at the same time without interfering with each other.

The class of service as described above is known as "Selective Ringing and Selective Talking" or "Noninterfering Service."


NO. 1324 WALL TYPE

## INTER-PHONES

## System No. 1 (Continued)

Capacity. Inter-phones for System No. 1 are a vailable in standarl caparities of $6,12,16,20$ or 24
buttons. There ean be as many Inter-phones stations in a system as there are buttons in the Interplones.

Types of Instruments. Wall, desk and hand set Inter-phones can be usel interchangeably in the same system.



Write our nearest distributing house for particulars and prices



NO. 6016 DESK TYPE



NO. 6016 hand SET TVPE

CABLE
TERMINAL TYPICALIIESTATION INTER-PHONE INSTALLATION

CABLE TERMINAL (G STATIONS SHOWN)


# INTER-PHONES 

## System No. 11

The No. 11 Inter-phone system is recommended for use in residenees, banks, institutions, warehouses, stores, or other mercantile establishments where conversations can be limited to one at a time.

The system is reliable in operation and the apparatus is pleasing in appearance and moderate in cost.
Operation. Each Inter-phone in the system is equipped with a number of push buttons for signaling the other stations. Associated with the buttons are card holder frames to hold cards designating the name or station number of the buttons. By depressing the button marked with the name or number of the station wanted, the bell of that station will be rung. No other station in the system will be signaled but the one desired.

Summarizing the service:
From any one station in the system any other station in the system can be selected and rung without disturbing those stations that are not wanted, and

Only one conversation can be carried on at a time.
Each No. 11 system requires one battery station, which should be located near the battery. The other stations in the system should be of the non-battery station type. For example, in a system consisting of five stations, there should be one battery station and four non-battery stations.

> THIS DIAGRAM IS INTENDED TO SHOW THE RINGING SERVICE PROVIDED BY 5 FOUR BUTTON SETS OF SYSTEM NO.IIAND SHOULD NOT BE CONFUSED WITH THE WIRING DIAGRAM


EACH SET REQUIRES ONE BUTTON FOR EACH OTHER STATION IN THEI SYSTEM. THUS-4 BUTTON SETS WILL PROVIDE FOR A 5 STATION SYSTEM, STATION\#I CAN RING STATIONS $2,3,4 \& 5$; STATION* 2 CAN RING STATIONS 1,3.4 AND_5 _ ETC. - SEE MARKING ON PUSH BUTTONS IN DIAGRAM ABOVE.

The class of service described under this systern is known as Selective Ringing and Common Talking.
Capacity. The standard Inter-phones are equipped with 4,8 and 12 buttons, accommodating the following number of stations in a system:


Types of Instruments. Wall, clesk and hand set Inter-phones can be used interchangeably in the same system.


No. 6034 Type IIand Set Inter-phone


INTER-PHONES System No. 11 (Cont'd.)

| Type | No. of Buttons | Illustrated on Page |
| :---: | :---: | :---: |
| 1327 | 4 and 8 | Wood 172 |
| $13: 39$ | 4 and 8 | Metal 172 |
| 1324 | 12 | Metal 171 |
| 1325 | 12 | Metal 171 |
| $60: 34^{*}$ | 4 and 8 | Metal 172 |
|  |  | and 173 |
| $6016{ }^{*}$ | 12 | Metal 171 |
|  |  | and 173 |
| *Either desk or hand set type. |  |  |
|  |  |  |
| Write our nearest distributing house for particulars and prices. |  |  |
|  |  |  |
|  |  |  |



No. 6016 Type Hand Set Inter-phone

## System No. 12

The No. 12 Inter-phone system consists of one centrally located Inter-phone called the "Master Station," to which a number of other Inter-phones, known as "Outlying Stations," are connected. This system is adopted for the same class of service as outlined under the No. 16 system, and provides communication from a central point to different rooms, and vice versa. It differs from the No. 16 system in that wall, desk or hand set Inter-phones can be used interchangeably in the same system, whereas the No. 16 system makes use of hand sets only.

Operation. The master station is equipped with a number of push buttons, one for each outlying station in the system. Associated with the buttons are card holder frames to hold cards designating the name or station number of the buttons. By depressing the button marked with the name or number of the outlying station wanted, the bell of that station will he rung. No other Inter-phone in the system will be signaled but the one desired.

The outlying stations are equipped with only one button, which will signal the master station when depressed.

Service. The service provided by Inter-phone System No. 12 is called two-way service, which signifies that it is possible to select and ring individually any one of the outlying stations from the master station, and vice versa, any one of the outlying stations can call the master station. No provision is made for having the outlying stations call one another. If this feature is desired, systems No. 1,11 or 15 should be used.

Only one conversation can be carried on at a time.


IMASTER STATION AND 4 OUTLYING STATIONS
Capacity. One master station and from two to twelve outlying stations can be connected.
Types of Instruments. Wall, desk and hand set type Inter-phones can be used interchangeably in the same system.


No. 1339 'Type Wall Inter-phone Outlying Station

## INTER-PHONES <br> System No. 12 (Continued) MASTER STATIONS

|  |  | Illustrated |
| :---: | :---: | :---: |
|  | Number of | on |
| Types | Buttons | Page |
| 1327 | 4 and 8, wood. | 172 |
| 1339 | 4 and 8, metal | 172 |
| 1324 | 12, metal. | 171 |
| 1325 | 12, metal. | 171 |
| 6034** | 4 and 8, metal | 172 and 173 |
| 6016* | 12, metal. | 172 and 173 |

*Either desk or hand set type.

## OUTLYING STATIONS

1327
1339
6015
1, wood . . . . . . . . . . . . . . . 178
6034 1, metal . . . . . . . . . . . . . . . 178
6042 1, metal.................... 174
6043 1, metal.................... 174
Write our nearest distributing house for particulars and prices.


No. 1327 Type Wall Inter-phone Outlying Station

## System No. 16

## GENERAL

The No. 16 Inter-phone system consists of one centrally located Inter-phone called the "Master Station" connected to a number of other Inter-phones called "Outlying Stations.". This system is particularly adapted to residences, country places, hotels, hospitals, schools, etc., where it is desired to communicate from a central point to various rooms, and vice versa; for example:

In residences for calling a central point, such as the kitchen or pantry, from the living-room, bedroom garage, Zaundry, vestibule attic, etc.;

In apartment houses for dumb-waiter service, where telephonic communication is desired between the tradesmen at the foct of the dumb-waiter shaft and the apartments;

In stores, offices, banks, where a number of people must frequently consult with the department heads, and vice versa;

In schools where the principal desires to call the teachers individually and the teachers to call him, but not to call each other;

In hospitals where the house doctor or head nurse may be wanted in a hurry;
In prisons or asylums where the superintendent, warden or other officials are likely to be summoned suddenly.

Capacity. One master station and any number of outlying stations, up to 24, can be installed. Additional outlying stations can be provided if desired.


No. 6042 Type Master or Outlying Station

## Types of Instruments

Hand Sets. Only the hand set type of Inter-phone can be used with System No. 16. This represents one of the most convenient types of talking equipment. The transmitter and receiver are a part of the hand set, which can be held and operated with one hand, leaving the other free. A bar marked Press to Talk is mounted on the hand set handle and is held down by the natural position of the hand while talking. When not in use, the hand set can be hung on a hook or laid down in any position. The hand set is finished in black.

Apparatus Boxes. In connection with the hand set it is necessary to use apparatus boxes containing terminals and other accessories. Two types of apparatus boxes can be furnished.

1. Round boxes arranged for non-flush mounting and equipped with an insulated base, black finished metal cover and nickel hook.
2. Metal boxes arranged for flush mounting, intended to be set in wall and equipped with a brush brass finished face plate.


No. 6043 Type
Master or Outlying Station

INTER-PHONES<br>System No. 16 (Continued)<br>FLEXIBILITY

With the non-flush apparatus box, the hand set cord is permanently
 attached to the hand set and box. With the flush mounted apparatus box the hand set cord is not permanently attached to the box, but terminates in a phug (exeept with No. 6042L and (i, System No. 1613). This plug can be inserted into a receptacle located in the center of the face plate just below the push buttom, therely connecting the hand set to the system. This feature makes it posible to discontinue telephone service at any point by simply removing the plug and the hand set. A hand set can be carried around from room to row to serve as an outlying station at any place where a flush apparatus hox is located. The plug is equipped with a hook on which the hand set can be hung when not in use.

Three kinds of ringing service are possible with System No. 16. They are designated as Nos. 16A, 1613 and 16C. Any one can be obtained by specifying appropriate equipment.

No. 16A: One-way Service, Master Station Can Call Outlying Stations. Any one of the outlying stations can be called from the master station. No other Inter-phone in the system will be signaled but the one desired. The outlying stations cannot ring the master station.
No. 16B: One-way Service, Outlying Stations Can Call Master Station. Any one of the outlying stations can ring the master station, but the master station cannot ring the outlying stations.

No. 16C: Two-way Service. This is a combination of No. 16 d and 16 B in which any one of the outlying stations can ring the master station and the master station ean ring any one of the outlying stations. No other Inter-phone in the systern will be signaled but the one desired.

Only One Conversation Can Be Carried on at a Time, no matter what class of ringing service is to be used. No provision is made for having the outlying stations call one another. If this feature is desired Systems Nos. 1, 11 or 15 should be used.

## System No. 16A <br> PROVIDING ONE-WAY SERVICE Master Station Can Call Outlying Stations

The master station may consist of a hand set with either a flush or a non-flush mounted apparatus box, and a push button block, with as many push buttons as there are outlying stations to be called. Associated with the buttons are card holder frames for holding cards to designate the name or station number of each button. The blocks come in capacities of $4,6,8,10,12,14,16$ and 20 buttons.

THIS DIAGRAM IS INTENDEO TO SHOW THE RINGING SERVICE PROVIDED BY
SYSTEM NQIGA AND SHOULD NOT BE CONFUSED WITH THE WIRING DIAGRAM


To call an outlying station from the master station, the button marked with the name or number of the station wanted must be depressed. This will oprerate the buzzer at the outlying station. No other Interphone in the system will be signaled but the one desired. Conversation can be carried on by depressing the talking bar in the hand set handle. In this system the outlying stations cannot call the master station nor can the outlying stations call one another.

Write our nearest distributing house for particulars and prices.

# INTER-PHONES 

System No. 16B
PROVIDING ONE-WAY SERVICE
Outlying Stations Can Call Master Station


The master station may consist of a hand set with either a flush or non-flush mounted apparatus box, or a hand set and an anmunciator. The outlying stations nay consist of a hand set with either a flush or a nonflush mounted apparatus box.


Each outlying station is proviled with a push button, which when depressed will signal the master station. If the master station consists of a hand set and apparatus box, thore will be nothing to indicate which outlying station originated the call. If such an indicating arrangement is desired, an annunciator, equipped with as many drops as there are outlying stations, is required in place of the apparatus box. Jach call from the outlying stations will then be registered by the operation of one of the drons, thereby indirating what outlying station signaled. Conversation can be carried on by depressing the talking bar in the hand sut handle.

The master station cannot call the outlying stations, nor can the outlying stations signal each other.
Write our nearest distributing house for particulars and prices.

## System No. 16C

 PROVIDING TWO-WAY SERVICE
## Master Station Can Call Outlying Stations and Vice Versa

In the No. 16 C system the master station consists of a hand set and an annunciator equipped with a bell, a number of drops and a corresponding number of push buttons, one for each outlying station. Associated with these buttons are card holder frames for holding cards to designate the name or station number of each button. The outlying stations may consist of a hand set and apparatus box arranged for either flush or non-flush mounting.

Each outlying station is provided with a push button to ring the bell of the master station annunciator, and at the same time operate one of the anmmeiator drops.

SYSTEM NO. 16C (Continued)



To signal an outlying station from the master station, the annunciator push button corresponding to the station wanted must be depressed, thereby operating the buzzer at the outlying station. No other Interphone will be signaled but the one desired.

Conversation can be carried on by depressing the talking bar in the hand set handle.

## EXTENSION CORDS

The standard hand set cord is three fect long. Longer cords are often needed, as in case of illness or for other reasons, so that the hand sets can be used in bed or any other point some distance from the apparatus box. In such cases hand sets for outlying stations can be furnished provided for or equipped with an extension cord in addition to the standard threc-foot hand set cord. Each extension cord is eight feet long and as many extension cords can be connected as desired.

## Write our nearest distributing house for particulars and prices.

## System No. 15

The No. 1.5 Inter-phone system is a simple and inexpensive system for smaller residences, warehouses, stores or other mercantile establishments, where only a few stations are required and the number of calls between the stations are few.

Operation. Each station is equipped with one push button for signaling the other Inter-phones in the system. Whenever the push button at any one station is depressed the bells at all the other stations will ring simultaneously.

When there are more than two stations in the system, it becomes necessary to provide some means whercby it is possible to indicate to the various stations which one of them is wanted to respond to the ring of the bell. This can be arranged by a corle of signals made up of various numbers of rings; for instance: One ring for station No. 1, two rings for station No. 2, three rings for station No. 3, etc. Thus a certain number of rings originated at any one of the stations will indicate the station desired, and none of the others, to whom the signal will also be audible, will respond.

If more than six stations are in service, the signaling code becomes cumbersome and mistakes are likely to occur, due to the possibility of misunderstood signals.

Only one conversation can be carried on at a time.
This system requires one battery station, which should be located near the battery. The other Interphones in the system should be of the non-battery station type. In a system consisting of five stations, for example, there should be one battery station and four non-battery stations.


This Dlagram Is Intended to Show the Ringing Service Provided by System No. 15 and Should Not Be Confused with the Wiring Diagram The class of service described is known as Code Ringing and Common Talking


No. 6034 Type Desk Inter-phone Capacity. Two to six stations are recommended for this system. More stations can be added, though at the expense of case and certainty in signaling.

Types of Instruments. Wall, desk and hand set Inter-phones can be used interchangeably in the same system.

Illustrated Types Used on Page
$\qquad$
1339 Metal 178
......... . 174
6034 Metal. . . . . . . . . . . . . . . . . . . . . . . . . . . . 178
6042 Metal. . ...................................... . . . . . 178
6043 Metal. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 174

## System No. 14

The No. 14 Inter-phone System is intended for use where only two stations will be required, and located a considerable distance apart. A feature of this system is that only two wires are required to connect the Inter-phones.
Operation. Either station can ring and talk to the other.


No. 6042 Type IIand
Set Inter-phone This is done by depressing the push button with which each set is equipped, thercby ringing the bell at the other station, holding the receiver to the ear and talking into the transmitter.

Types of Instruments. No. 1327 wall and No. 6015 desk type Inter-phones can be used interchangeably in this system.

Write our nearest distributing house for particulars and prices.


# INTER-PHONES 

## Systems for Apartment Houses


#### Abstract

Apartment House Inter-phones are for use in place of the old-time speaking tube for effecting communieation between the vestibule, apartments, janitor and tradesmen.

Apartment House Inter-phone Systems may be divided primarily into two classes, in accordance with the service they will furnish: 1. Systens Nos. 7, 8, 9 and 10 will furnish selective ringing and selective talking or non-interfering service, making it possible for a number of conversations to take place simultaneously. 2. System No. 20 will furnish selective ringing and common talking service, making possible only one conversation at one time.


## SYSTEMS NOS. 7, 8, 9 AND 10

These systems are planned throughout with the utmost care to insure satisfaction under all service conditions. The telephone instruments thenselves are neat and attractive in design. Systems Nos. 7, 8, 9 and 10 differ from one another in the variety of points in the apartment house that can be connected for intercommunicating service. They are, however, so arranged tha* one system may be expanded into another by merely supplying additional apparatus.

Operation. The systems may eonsist of one, two, three or more central or master Inter-phones located in the vestibule, janitor's or tradesmen's entrance. These sets may be connected to (from 3 to 2t) Interphones located in the apartments.

The vestibule, janitor's and tradesmen's Inter-phones are equipped with a number of push button keys one for each apartment station. Associated with these push button keys are card holder frames to hold cards designating the name or apartınent number of the buttons. liy simply depressing the button marked with the name or the number of the apartment clesired, the bell of the lnter-phone installed in that apartment will be rung. No other statiou in the system will be signaled but the one desired.

The suite Inter-phones can be provided with one or two buttons which, when depressed, will ring the janitor's station or operate an electric door opener.

Separate conversations may take place simultancously between each of the vestibule, janitor's and tradesmen's sets, and three different apartments. 'This is manifestly impossible with a single speaking tube system.


No. 1362 Vestibule Inter-phone with Letter Boxes
Types of Instruments. Wall or hand set type Inter-phones may be used interchangeably in the same system for suite service. The vestibule, junitor's and tradesmen's Inter-phones are of the wall type only. The vestibule letter boxes are equipped with either two or four separate compartments.


No. 1327 Type Suite Inter-phone

## SYSTEM NO. 7

Service. Vestibule can call apartments. Apartments can open door, if desired.

Capacity. One vestibule Inter-phone and any number of suite Inter-phones up to 24.

## SYSTEM NO. 8

Service. Vestibule can call apartments and janitor.

Apartments can call janitor and open door, if clesired.

Janitor can call apartments.
Capacity. One vestibule Inter-phone, one janitor's Inter-phone and any number of suite Interphones up to 24.


No, 1337 Type Suite Inter-phone

# INTER-PHONES 

## Systems for Apartment Houses (Continued)

SYSTEM NO. 9



Janitor's Annunciator Switchboard for System No. 10

Service. Vestibule can call apartments and janitor.

Apartments can call janitor and open door, if desired.
Janitor and tradesmen can call apartments.

Capacity. One vestibule Inter-phone, one janitor's Interphone, one tradesmen's luterphone and any number of suite Inter-phones up to 24 .

## SYSTEM NO. 10

Service. This system provides the same service as outlined under S'ystem No. 9, but on a larger scale. It is intenderl for use where several vestibules in the sante or adjoining apartment houses are to he served by one janitor. In this case, the janitor's equipment consists of a

No. 1350 Type
Janitor's and Tradesmen's Inter-phone


Capacity. One janitor's switchboard, two or more vestibule and tradesmen's Inter-phones and any number of suite Inter-phones up to 70 .

| Type |  | Number of Buttons | Illustrated on lage |
| :---: | :---: | :---: | :---: |
| Vestibule Inter-phones | 1302 | * $7,13,17,21,25$, metal. | 179 |
| Suite Inter-phonts | 1:327 | 1,2, wood. | 179 |
|  | 1339 | 1, 2, metal. | . 179 |
|  | 6042 | 1, 2, metal. | . 174 |
|  | 6043 | 1, 2, metal. | 174 |
| Janitor's and trades- | 1350 | +7, 13, 25, wood. | 180 | men's Inter-phones $\}$ switehborard which combines the functions of a wall type Interplone and annunciator.

*The odd button is for calling the janitor.
+The odd button is for conversing with vestibule. Disregard button in tradesmen's Inter-phones.

## SYSTEM NO. 20

The No. 20 Inter-phone System has been designed to provide an inexpensive and reliable means of communication between vestibule, apartments, janitor's quarters, laundry and tradesmen's entrance. There are eight different combinations of the No. 20 System, differing from each other in the variety of points in the apartment house that can be connected for intercommunicating service. The operation of each of these combinations, however, is the same.


Vestibule Equipment for Six Apartments

Operation. The vestibule equipment consists of one vestibule Inter-phone and any number of letter boxes.

The vestibule Inter-phone is provided with neessary talking equipment and one push button, the latter to be used for calling the janitor. Each letter box is provided with three compartments. A push bution is mounted below each compartment. When depressed this button will ring the bell of the Inter-phone in the apartment to which the letter box compartment has been assigned. No other Inter-phone in the systom will be signaled but the one seleeted. Each letter box compartment is also equipped with a card holder for indicating the name or apartment number.

The suite sets can be provided with a number of push buttons, depending upon the combination selected. These push buttons when depressed will operate the door opener, call the janitor, laundry or any other combination desired.
Write our nearest distributing house for particulars and prices.



No, 1520 Type Vestibule In-ter-phone


No, 3 Letter Box

## INTER-PHONES

## Systems for Apartment Houses (Continued)

## SYSTEM NO. 20 (CONTINUED)

The janitor's, laundry and tradesmen's Inter-phones can be arranged either for receiving calls from the other stations without being able to signal back, or for receiving calls and for signaling any one of the suite sets. In the latter case a soparate push button block must be used, which can be mounted conveniently beside the instrument.

Only one conversation can be carried on at a time over this system.
The class of service as described under this system is known as "Selective linging and Common Talking."

There are eight combinations of the No, 20 System available. The diagrams associated with this deseription are intended to show the ringing sarvice provided and should not be confused 'with the wiring diagram.

## SYSTEM NO. 20A

Service. Vestibule can call apartments, apartments can open door.

## SYSTEM NO. 20B

Service. Vestibulc can call apartments, apartments can open door and call janitor.

## SYSTEM NO. 20C

Service. Vestibule can call apartments and janitor, apartments can open door.

## SYSTEM NO. 20D

Service. Vestibule can call apartments and janitor, apartments can open door and call janitor.

## SYSTEM NO. 20E

Service. Vestibule can call apartments and janitor, apartments can open door and call janitor and laundry.

## SYSTEM NO. 20 F

Service. Vestibule can call apartments, apartments can open door and call janitor or laundry, and laundry or janitor can call apartments.

## SYSTEM NO. 20G

Service. Vestibule can call apartments and janitor, apartments can open door and call janitor, and janitor can call apartments.

## SYSTEM NO. 20 H

Service. Vestibule can call apartments and janitor, apartments can open door and call janitor and laundry, Janitor and laundry can call apartments.

|  | Types | Number of <br> I3uttons | Iliustrated <br> on Page |
| :--- | ---: | ---: | ---: |
| Yestibule Intor-phones 1520 | 1 metal | 181 |  |
| Suite lnter-phones | 1327 | $1,2,4$ wood | 174 and 172 |
| Janitor's, laundry and | 1339 | $1,2,4$ metal | 174 and 172 |
| tradesmen's Inter-phones | 1327 | wood | 174 |

Capacity. One vestibule set and any number of letter boxes can be used. One Ietter box will take care of 3 suite Inter-phones.

Write our nearest distributing house for particulars and prices.

## INTER-PHONES <br> Annunciator System No. 18

The No. 18 Inter-phone Annunciator System is designed to provide the service required in hotels, clubs, Y. M. C. A. buildings, schools, hospitals, asyluns, prisons, and in fact wherever it is found desirable to establish communication between a central point and a large number of points in one or several buildings. No connection can be made between this system and a public telephone system.

The system consists of one centrally located Inter-phone equipment called the " 1 laster station" to which are connected a number of other Inter-phones called "Outlying Stations."

Operation. The master station equipment is a combination of an annunciator and a hand set type Inter-phone. The annunaiator consists of a number of drops and jacks (one of each for every outlying station in the system), a cord and plug and a hand set Inter-phone. The associated drops and jacks are provided with corresponding numbers. From the master station it is possible to select and ring any one of the outlying stations in order to carry on conversation. This is clone by inserting the plug into the jack bearing the number of the outlying station wanted and depressing a push button mounted on the front of the annunciator.

Fach outlying station is provided with one push button which, when depressed, will ring the bell of the master station, and at the same time operate an anmunciator drop bearing a number corresponding to that of the station calling. In response to this signal, the phug of the annunciator cord at the master station should be inserted in the jack corresponding to the operated drop. This connects the calling outlying station to the master station Inter-phone.

Capacity. This system provides for one master station and 10 to 70 or more outlying stations.


Types of Instruments
Wall or hand set type Inter-phones can be used interchangeably in the same system The master station equipment consists of an annunciator and a hand set type Inter-phone. The outlying stations of either 1327 wooden or 1339 metal wall Inter-phones or 6042 or 6043 metal hand Inter-phones.

[^19]
## INTER-PHONES

Outfit No. 14
This consists of two wall type Inter-phones suitable for a private telephone line between house and



14A For use where the wiring is to be run entirely under cover and not exposed to moisture or weather. Includes one No. 14 outfit in one box, and another box containing 75 feet of insulated 3 conductor copper wire, two battery connectors, insulated nails for fastening wires, and illustrated installing instructions.
141 For use where the wiring is to be run in the open between or outside of buildings, and exposed to weathor and moisture. Includes one No. 14 outfit in one box, and another box containing 150 feet of outside 3 conductor copper wire, two brackets with screws, hooks and knobs to attach wires to building. two porcelain tubes to insulate wires when entering building, two battery connectors, 25 insulated nails for fastening wires inside build ing, and illustrated installing instructions.

## Outfit No. 15

 barn or garage, or for a line that is wholly within a house. It may also be used in offices or shops between two buildings or in one building.
Either station can ring and talk to the other
The Inter-phones are the same as those used for Inter-phone System No. 15. The instruments are of wood, arranged for non-flush mounting and finished in golden oak. Concise and fully illustrated instructions for installing are included in every package.

| Retail | List Price |
| :---: | ---: |
| Price | Each |
| $\$ 15.05$ | $\$ 30.10$ |

This consists of two hand set type Inter-phones suitable for the same class of service for which the No. 14 type outfit is intended. The Inter-phones are identical with the non-flush type hand sets used in Inter-phone System No. 15.
Either station can ring and talk to the other.
The instruments are finished in black with transmitter and receiver on one handle, and equipped with a small non-flush apparatus box. Complete instructions for installing are included in each package.

For use where the wiring is to be run entirely under cover and not exposed to
moisture or weather. Includes one No. 15 outfit in one hox, and another
box containing 75 feet of insulated 3 conductor copper wire, two batcry
connectors, insulated nails for fastening wires, and illustrated installing
instructions
For use where the wiring is to be run entirely under cover and not exposed to
moisture or weather. Includes one No. 15 outfit in one hox, and another
box containing 75 feet of insulated 3 conductor copper wire, two batery
connectors, insulated nails for fastening wires, and illustrated installing
instructions
For use where the wiring is to be run entirely under cover and not exposed to
moisture or weather. Includes one No. 15 outfit in one hox, and another
box containing 75 feet of insulated 3 conductor copper wire, two batcry
connectors, insulated nails for fastening wires, and illustrated installing
instructions instructions.
$\$ 19.40 \quad \$ 38.80$

For use where the wiring is to be run in the open between or outside of buililings, and thus exposed to weather and moisture. Includes one No. 15 outfit in one box, and another box containing 150 feet outside 3 conductor copper wire, two brackets with screws, hooks and knobs to attach wires to buildings, two porcelain tubes to insulate wires when entering building, two battery connectors, 25 insulated nails for fastening wires inside building, and illustrated installing instructions.
$\$ 38.80$

## Outfit No. 16



Outfit No.
Outfit No. Outfit No. 16-A
$16 \mathrm{~A} \quad$ For use with any existing circuit consisting of one bell or buzzer and one push button. Includes two hand set type Inter-phones, two connecting blocks with mounting screws, 25 feet of insulated twisted pair copper wire (to connect the Inter-phones to the existing wiring), 20 insulated nails for fastening wires, two hooks for holding hand sets and illustrated installing instructions.


Two hand set type Inter-phones are furnished with this outfit, which is intended to be used for converting any existing bell, buzzer or annunciator circuit into a practical working telephone system. This can be done by using the existing wires, bell and batteries, replacing the push button with one hand set and connecting the other hand set to the wire near the bell. As only one bell is used, calls can be made in one direction only. An outfit of this type placed in the office makes it unnecessary for the elerk or office boy to run back and forth when file information is required by the executive.

Retail List Price
Price
Each

INTER-PHONES

## Outfit No. 16 (Continued)

If the existing bell, buzzer or annunciator circuit consists of two or more push buttons, a No. 16 A outfit should be used-one hand set for the bell, buzzer or annunciator station, the other to replace one of the push buttons-and one No. 16B Inter-phone outfit for each additional push button.

| Outfit No. | Description | Retail Price Lach | List Price Each |
| :---: | :---: | :---: | :---: |
| 16B | To be used in addition to No. 16. outfit if existing bell, buzzer or annunciator circuit has two or more push buttons. Includes one land set type Interphone, one connecting block with mounting screws, 12 feet of insulated twisted pair copper wire, 10 insulated nails for fastening wires, one hook for holding hand set, and illustrated installing instructions . | \$7.50 | 815.C0 |



No. 17 Outfit ;

## Outfit No. 17

This consists of two Hand Set Type Inter-phones with all the material required to install a simple intercommunicating system between two points not over 80 feet apart, and where the wire will be wholly indoors and not exposed to weather conditions or moisture.

When installed in accordance with the directions furnished with each outfit, either station can call or talk to the other. Although intended primarily for business use, the No. 17 outfit can be used equally well in the home.

| Outfit No. | Description | Retail Price Each | List Price Each |
| :---: | :---: | :---: | :---: |
| 17 | Includes two hand set type Inter-phones, two connecting blocks with mounting screws, 80 feet of insulated twisted pair copper wire, 60 insulated nails for fastening wire, two hooks for holding hand sets, two bells, two battery connectors, and illustrated installing instructions. | \$18.10 | \$36.20 |



No. 1113 Extension Bell


No. 1A-Battery Boz


No. 1396 Push Button

Western Electric

# INTER-PHONE ACCESSORIES 

Extension Bell

Code No.<br>1113

This hell is wound to 10 ohms, and may be used as an extension bell for any Inter-phone system. It should also be used for any separate signaling circuit, such as a door bell operating from the Inter-phone batteries. . .<br>Description 10 ohms, and may be used as an $y$ Inter-phone system. It should separate signaling circuit, such as a from the Inter-phone batteries...<br>$\$ 1.50$

## Battery Boxes

1A Black japanned shect metal box lined with an insulating material. Holds 3 Blue Bell dry cells. Size of box, $83 / 4$ inches long by $33^{2}$ inches wide by $73 / 8$ inches high.
$\$ 2.10$
Similar to the No. 1.1. IIolds 9 Blue liell dry cells. Size of box, $14^{\frac{3}{2}}$ inches long by $5_{3 \frac{2}{2}}^{2}$ inches wide by $7 \frac{5}{8}$ inches high

## Push Button

1390 Wood push button. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 0.30$

## No. 19 Type Cable Terminals

The No. 19 'Гype cable terminal is admirably suited for interior distributing work. It was designed after a great deal of study, and is thought to be the best of its kind on the market. Made of hard wood, numbered and shellacked, and equipped with a japanned sheet metal cover.


No. 6B Connecting Block


No. 11A Coanecting Block

| $\begin{aligned} & \text { Code } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} \text { Capacity } \\ \text { in } \\ \text { Pairs } \end{gathered}$ | --Dimensions, Inches-_ |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Price |
|  |  | Length | Width | Depth | Each |
| 19.1 | 11 | 8 | 51/8 | 21/2 | \$8.60 |
| 19 B | 26 | 11 | 51/8 | 21/2 | 11.00 |

## Connecting Blocks

## No. 6 TYPE

'These consist of brass studs embedded in a hard composition base. Studs fitted with two nuts (one a split cheek nut) and two washers.

| Code | Caparity <br> in Pairs | Length |  | Width |
| :--- | :---: | :---: | :---: | ---: | | List Price |
| ---: |
| Each |

## Nos. 11 AND 12 TYPES

These consist of a composition base in which the serew terminals are imbedded. Each terminal consists of (wo screw hushings electrically connected by means of a metal strip, and provided with serews and washers.


# INTER-PHONE ACCESSORIES <br> Inter-phone Cable 

The conductors are provided with double silk and single cotton insulation, which is colored in such a way that each pair and each single wire can be identified. The cable is then impregnated with a wax compound and is covered with servings of paper and a heavy braiding, which is given a heavy coat of fireproofing paint.

The impregnation with wax prevents the insulation from fraying when the cables are installed. It also serves to protect the formed ends against moisture.

Three general types of cable are provided. Each type has its particular use, and care should be taken to order the proper cable for any desired purpose. These types are as follows:

1. Interior cable with outside braiding treated with gray fireproofing paint. Use only in dry places.
2. Interior cable with green glazed cotton outside braiding. Use only in dry places where exposed to view.
3. Outside cable, lead covered. Always use this cable outside, and inside in every case where there is apt to be moisture even in a small degree.

Lead-covered cables are not listed with separate Code Nos. Any fireproofed type of cable may be ordered with a lead sheath.

All cables are provided with a standard color scheme, so that cach pair can be distinguished from any other. The pairs are properly twisted to prevent inductive disturbances.

| Code <br> No. | Conductors <br> 13. \& S. Gauge | Covering | Approx. Outside Diameter | List Price per 100 Feet |
| :---: | :---: | :---: | :---: | :---: |
| 185 | 4 singles No. 22. | Fireproofed braid | $1 / 4 \mathrm{in}$. |  |
| 161 | 8 singles No. 22 | Fireproofed braid | ${ }_{16}{ }^{5} \mathrm{in}$. |  |
| 161 (Lead) | 8 singles Mo. 22. | Lead sheath | ${ }_{16}^{5} \mathrm{in}$. |  |
| 142 | 8 singles No. 22. | Green cotton braid | ${ }_{1} \frac{3}{6} \mathrm{in}$. |  |
| 162 | 12 singles No. 22 | Fireproofed braid | $\frac{11}{32} \mathrm{in}$. |  |
| 162 (Lead) | 12 singles No. 22 | Lead sheath | $3 / 8 \mathrm{in}$. |  |
| 163 | 12 singles No. 22 . | Green cotton braid | ${ }_{65}^{25} \mathrm{in}$. |  |
| 164 | 6 singles No. 22, 2 pair No. 16 | Fireproofed braid | $\frac{13}{32} \mathrm{in}$. |  |
| 164 (Lead) | 6 singles No. 22, 2 pair No. 16. | Lead sheath | ${ }_{3}^{\frac{13}{2}} \mathrm{in}$. |  |
| 165 | 6 singles No. 22, 2 pair No. 10. | Green cotton braid | $3 / 8 \mathrm{in}$. |  |
| 134 | 6 pair No. 22, 2 pair No. 16. | Fireproofed braid | ${ }_{3}^{\frac{3}{2}} \mathrm{in}$ in. | On request |
| 134 (Lead) | 6 pair No. 22, 2 pair No. 16 | Lead sheath | ${ }^{\frac{7}{6}} \mathrm{in}$. |  |
| 155 | it pair No. 22, 2 pair No. 16. | Green cotton braid | ${ }^{\frac{1}{3} \frac{3}{2}} \mathrm{in}$. |  |
| 141 | 12 pair No. 22, 2 pair No. 16 | Fireproofed braid | ${ }^{\frac{7}{6}} \mathrm{in}$. |  |
| 141 (Lead) | 12 pair No. 22, 2 pair No. 16 | Lead sheath | $1 / 2 \mathrm{in}$. |  |
| 156 | 12 pair No. 22, 2 pair No. 16 | Green cotton braid | $\frac{7}{16}$ in |  |
| 157 | 16 pair No. 22, 2 pair No. 16. | Fireproofed braid | $\frac{17}{32} \mathrm{in}$. |  |
| 157 (Lead) | 16 pair No. 22, 2 pair No. 16. | Lead sheath | $\frac{9}{16} \mathrm{in}$, |  |
| 159 | 16 pair No. 22, 2 pair No. 16. | Green cotton braid | $\frac{1}{3} \frac{7}{2} \mathrm{in}$. |  |
| 158 | 20 pair No. 22, 2 pair No. 16. | Fireproofed braid | $\frac{9}{16} \mathrm{in}$. |  |
| 158 (Lead) | 20 pair No. 22, 2 pair No. 16. | Lead sheath | 峧 in. |  |
| 160 | 20 pair Šr. 22, 2 pair No. 16. | Green cotton braid | $\frac{9}{16} \mathrm{in}$. |  |
| 136 | 24 pair No. 22, 2 pair No. 16. | Fireproofed braid | $\frac{19}{3} \mathrm{in}$. |  |
| 136 (Lead) | 24 pair No. 22, 2 pair No. 16. | Lead sheath | 5/8 in. |  |
| 150 | 24 pair No. 22,2 pair No. 10. | (ireen cotton braid | $\frac{9}{16}$ in. |  |
| 140 | 31 pair No. 22, 2 pair No. 19. | Fireproofed braid | ${ }_{5}^{5} \mathrm{f} \mathrm{in}$, |  |

## MECHANICAL CODE SIGNALING;SYSTEMS

## General

No. 1A. Signaling Set

ne at a time or to send is

APPLICATION. In every mercantile establishment it is often necessary to communicate immediately with the manager, superintendent or other executive who is not at his desk or within hearing range of his telephone bell at the moment.

In schools the principal, his assistant or the janitor are frequently wanted when they may be in any one of several places about the building.

The same is true of hotels and Y.M.C.A. buildings where the presence of the janitor, engineer or manager may be urgently needed at the office.

In hospitals the house doctor or head nurse may be wanted in a hurry when they are on their rounds.

In prisons or asylums the superintendent, warden, head keeper, or other official is apt to be suddenly wanted on an important matter.

To call different telephones (if such equipment is part of the building) messenger in order to locate the desired person, frequently takes a considerable perioll of time, but with a mechanical code signaling system installed, the operator, clerk or other employee in the office or other central point gives a turn to a revolving key marked with the name of the individual wanted, which instantly signals the person desired wherever he may be

DESCRIPTION. The equipment consists of a centrally located wooden cabinet equipped with revolving contact keys. A number of bells are mounted in different parts of the building which, when actuated from the central key cabinet, will ring simultaneously.

OPERATION. The key cabinet is equipped with a number of revolving keys. When the handle of a key is turned one-half revolution it slowly moves back to its original position, making and breaking an electrical contact a number of times at different intervals, thus forming a combination which is repeated four times before the key comes to a final stop. Each key produces a combination different from any of the other keys.

By placing the bells in such locations that, no matter where a person may be, he will always be within hearing distance of one of them, and by installing at a central point a key cabinet equipped with as many keys as there are persons in the organization who are apt to be frequently wanted on important matters, a call can be sent aut for any one of them just by turning the key assigned to him. All bells will immediately sound the proper combinstion, and on hearing his call the person wanted steps to the nearest telephone and is in communication with the office immediately.

In addition to the regular signals described above, a special signal giving a continuous series of impulses to attract attention above all other signals can be furnished if desired. This special signal is intended to be used for emergency, fire, etc.

CAPACITY. The system can be furnished with keys for sending out 4, 6, 8, 10, 12, 14 and 16 different signals, thus producing maximum calling facilities for sixteen persons, which is usually all that average conditions require. When the special signal mentioned above is furnished this reduces by one the capacity for regular signals.

BELLS. It has been found that single stroke bells with 6 inch gongs will give satisfactory service under ordinary conditions. Any number and various sizes of bells can be combined to form one system.

INSTALLATION. The signaling system can be used alone or in connection with an Inter-phone System.

1. Independently. The signaling system can be installed and operated entirely separate and apart from any other system, aud requires only two wires for its operation. As many bells as desired can be connected and made to simultaneously sound any desired code by turning the proper key in the key cabinet.
2. With Intercommunicating Telephone Systems. These signal sets can be connected directly to our inter-phones of System No. 1 without any change in the wiring of the instruments, or special bells. In this case, the bells on the instruments sound the code signals simultaneously whenever any one of the calling keys in the key cabinet is set in motion.

In case, however, loud ringing bells are required, or bells in locations where telephones are not installed, it will be found more satisfactory to install this code signaling system independently of any other equipment.
3. With Private Exchange or Private Branch Exchange Telephone Systems. A mechanical signaling system, when installed in connection with telephone systems of this class, should be put in as a separate system without special regard for the location of the various telephone instruments, the object being rather to so locate the bells that they will be best heard from every nook and corner of the plant.

## General-(Continued)

CONNECTION DIAGRAMS. No connection diagrams are given for the reason that there are many different signaling systems in which the code signaling sets can be used. We furnish, upon application, detail information covering the connection of these sets with inter-phones and with large and small bells and buzzers. If you will advise us as to your requirements, we will be very glad to work up a suitable signaling system and make you a quotation.

REQUIREMENTS. The following apparatus and accessories are usually required:
The key cabinct (state capacity) with 4 (or less) up to 16 keys.
Any number and size of bells.
One resistance coil and condenser box (to prevent sparking at eontacts).
One or more relay boxes, depending upon the number and size of bells and the length and size of wire.
Necessary wire to connect the apparatus.
One or more batteries consisting of four or more cells, depending upon the number and size of bells and the length and size of wire.


No. 2A Code Signaling Set


Model "ASS"
Single-stroke Enclosed Type


No. 262F
Coll and Condenser Box

## Code Signaling Sets

The cabinets are made of golden oak, quarter-sawed. The metal face is finished in dull black with nickel trimmings. The sets are made only in 4 and $i$ key sizes (cach key providing a different signal), but they can be mounted side by side when $8,10,12,14$ or 16 signals are required.

| Code | No. of | Description |
| :--- | :---: | :--- |
| No. | Signals | List Price |
| $1 A$ | 4 | Used for 4 signals . . . . . . . . . . . . . . . . . |

## Bells and Horns BELLS

Bells of the enelosed type, either single stroke or vibrating, with 4 , 6 or 8 inch gongs, can be furnished, the particular type and size depending on the local conditions.

## HORNS

Factory signaling horns can be furnished when a signal of this type for extremely noisy places is necessary.

## Coil, Condenser and Relay Boxes

With each code signaling set a resistance coil and condenser box, No. 262 F , is required to prevent exeessive sparking at the contacts. This box is made of quarter-sawed oak to match the set.

A relay box is necessary under certain conditions, depending upon the number and size of bells and the length and size of wire. This box contains a resistance coil and a condenser in addition to the relay. It is similar in appearance to the No. 262 F , and is known as the No. 262 G IRelay Box.

| Code |  | List Price |
| :---: | :---: | :---: |
| No. | Description | Each |
| 262F | Coil and condenser box. I'sed to prevent sparking at contacts | On |
| 262G | Relay box. | request |

262F Coil and condenser box. I'sed to prevent spark-
request

## MAGNETO TELEPHONES <br> No. 1317 Type

General. The No. 1317 wall telephones listed below are equipped with our standard long distance transmitter, concealed binding post hand receiver, induction coil and cords.

All of these telephones are wired for a condenser to be inserted in


No. 1317C Type (2 Cell) Magneto Telephone the receiver circuit. If condensers are desired, however, it should be so stated in the order excepting in the case of the No. 1317R, S, CR and CS telephones, which are furnished equipped with a condenser as standard. This should not be confused with the telephones for harmonic ringing service, which are always furnished equipped with a condenser wired in the ringer circuit.

Bridging code ringing telephones can be arranged for "central office selective signaling," by ordering a No. 465D key for each telephone to be so equipped. These keys are intended for mounting on the side of the telephones and can be easily wired into the circuit to perform the same function as telephones equipped with No. 1006A push buttons.

## Two Blue Bell Batteries and One No. 60A Protector Are Furnished With Each Telephone and Are Included in the Price

Note: If batteries are not desired, deduct 60 cents from the list price. If protector is not desired, deduct 50 cents from the list price.

## No. 1317C (2 Cell) Type

The No. 1317C type magneto telephone is the result of a demand by many of our customers for a more compact type of telephone. It has been designed with a battery compartment only large enough to accommodate 2 cells, thus making possible a smaller and neater cabinet.

## RINGERS OPERATED BY ALTERNATING CURRENT

| Code Ringing |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rinser |  |  |  |  | $\dagger$ List |
| Code | Resistance |  | Push | Con- |  | Price |
| No. | Ohms | Generator | Button | denser | Service | Each |
| 1317CN | 1610 | 50 type (3 bar A.C.) |  |  | Merium loaded lines | \$28.50 |
| 1317 CR | 16 j 00 | 50 type (3 bar A.C.) |  | 21 type | Medium loaded lines | 29.70 |
| 1317CP | 2500 | 50 type ( 3 bar A.C.) |  |  | Heavy loaded lines | 28.80 |
| 1317 CS | 2500 | 50 type (3 bar A.C.) |  | 21 type | Heavy loaded lines | 30.00 |
| 1317 CII | 1000 | 22 type (3 bar A.C.) |  |  | Light loaded lines | 27.70 |
| 1317CG | 1000 | 50 type (3 bar A.C.) |  |  | Light loaded lines | 28.20 |
| 1317CA | 1600 | 50 type (3 bar A.C.) | 1006i |  | Central office selective signaling | 29.10 |
| 1317 Cl 3 | 2500 | 50 type (3 bar A.C.) | 1006 A |  | Central office selective signaling | 29.40 |
| 1317CE | 1600 | 50 type (3 bar A.C.) | 1002A |  | Central office selective signaling | 29.10 |
| 1317CT | 1600 (biased) | 50 type (3 bar A.C. and pulsating) | 1004. |  | Signaling central secretly | 30.00 |
| 1317CU | $250 t)($ biased) | 22 type ( 3 bar pulsating) |  |  | Center checking | 29.20 |
| 1317 CK | 2500 (biased) | 50 type (3 bar pulsating) |  |  | Center checking | 29.70 |

## RINGERS OPERATED BY PULSATING CURRENT

| 1317 CJ | Four-party Selective Signaling |  |  |  |  |  | \$28.30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2500 (biased) | 22 type (3) | ar A.C.) |  | Any one of four parties |  |  |
|  |  | RINGERS OPERATED BY HARMONIC CURRENTEight-party Selective, Sixteen-party Semi-selective Si |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Code <br> No. | Ringer | Frequency (Cycles) |  | nerator | Condenser | Service |  | List Price |
| 1317CHA | 41 type | 162/3 |  |  | 21 type | Service | Each |
| 1317 CHB | 41 type | $331 / 3$ | 22 type | (3 bar *) | 21 type | IIarmonic selective | 29.70 |
| 1317 CHC | 41 type | 50 | 22 type | (3 bar *) | 21 type | signaling lines only | 29.70 |
| 1317 CHD | 41 type | $662 / 3$ | 22 type | (3 bar *) | 21 type | brang | 29.70 |

*Arranged to give alternating current, but contact springs are arranged so that approximately one impulse of current out of four is sent over the line.
$\dagger$ These prices include furnishing a No. 143 AW composition shell receiver. If the No. 144 AW hard rubber shell receiver is required add 50 cents to the list price of each telephone to be so equipped.

The Western Electric Company manufactures two general types of central battery telephones:
(a) Induction Coil Type
(b) Scries Type)

Series telcphones are very satisfactory on short subscriber lines (one or two miles), but on long lines (over two or three miles) the transmission efficiency is somewhat less than our induction coil apparatus.

## Induction Coil Telephones

Fquipped with transmitter, receiver, induction coil, condenser and ringer.


No. 1533 Telephone


No. 6054 Telephone

Ringers Operated by Alternating Current
Individual, 2 Party Selective or 4 Party Semi-selective Signaling
WALL TELEPHONES
Ringer
*List Price
Each
1000 ohms (biased) $\$ 19.50$ DESK TELEPHONES
Ringer
1000 ohm (biased)
Desk Stand Desk Set Box
Codo No.
3054 A

## Code No. $1533 \mathrm{E}^{2}$ $1533 \mathrm{~F}^{\circ}$ 1533 G 1533 H

Ringers Operated by Harmonic Current 4 or 8 Party Selective or 16 Party Semi-selective Signaling WALL TELEPHONES

Ringer
$331 / 3$ cycles $\$ 21.00$
50 cycles
21.00
$662 / 3$ cycles
21.00
$162 / 3$ cycles
21.00

## DESK TELEPHONES

Code No.

| Code No. | Ringer | Desk Stands | Desk Set Box |  |
| :--- | :---: | :---: | :---: | :---: |
| 6054 H | $3.1 / 3$ cycles | 1020 AL | 534 E | $\$ 25.00$ |
| 60.4 H | 50 | cycles | 1020 AL | 534 F |
| 6054 G | $662 / 3$ cycles | 1020 AL | 534 G | 25.00 |
| 60541 H | $162 / 3$ cycles | 1020.4 L | 534 H | 25.00 |

Desk Stands Desk Set Box

Central battery telephones for 4 party selective ringing with ringers operated by pulsating or superimposed current can also be furnished. Write for particulars.

## Series Telephones

Equipped with transmitter, receiver, condenser and ringer.

# Ringers Operated by Alternating Current Individual, 2 Party Selective, or 4 Party Semi-selective Signaling 

WALL TELEPHONES
Ringer
1000 ohm (biased)
$\$ 18.50$

Code No.
1533 K
Code No.
6054 K

DESK TELEPHONE
Ringer
1000 ohnn (biased)

Desk Stand Desk Set Box
1020:AI 534 K
$\$ 22.20$

## No. 1320 Police Telephone



No. 132 ${ }^{1}$-Closed


No. 1320-Outer Door Open

A weatherproof central battery telephone, inclosed in a cast iron box and specially adapted for polic patrol service. All apparatus is mounted on a frame which can be removed as a unit from case.

Equipped with unbiased 1000 ohm ringers and intended for straight alternating ringing only.
*List prices include furnishing a No. 143AW composition shell receiver. If the No. 144AW hard rubbe shell receiver is required, add 50 cents to the list price of each telephone to be so equipped.

## CENTRAL BATTERY TELEPHONES

## Telephones for Use with No. 1801 Switchboards <br> Systems A, B and C

## Series Telephones

These telephones are recommended for use with No. 1801 switchboard sys-


No. 13271 tems $\Lambda, 13$ and $C$ in local service only, that is, in connection with switchboards which do not have eonnection with an outside exchange. They are equipped with a direct current 140 ohm vibrating bell or buzzer, transmitter and receiver.

| Code |  |  |  | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Case and Finish | Mounting | Receiver | Each |
| 132711 | Wood-(iolden oak* | Non-flush | Watch case type | \$13.50 |
| 1:339NM | Metal-13rush brass | Flush | Watch case type | 20.10 |
| 1533N | Metal-l3lack enamel | Non-flush | Hand receiver | 20.10 |
| *'u | ed in ebony finish at | e price as | finish. |  |

DESK TELEPHONES

| Code |  | List Price |
| :---: | :---: | :---: |
| 6034 AU | Description | h |
|  | a watch case receiver. Has a buzzer in the base. | \$29.00 |
| $6034 A^{\prime}$ | Consists of a No. 102013H black desk stand equipped with |  |
|  | a wateh case receiver. Has a separate direct current |  |
|  | vibrating bell | 29.00 |



No. 1339 Type

## Induction Coil Telephones

These telephones are recommended for use with No. 1801 switchboard systems "C," which have lines connecting the system or switchboard with an outside exchange. They are equipped with a direct current 140 ohm vibrating bell, induction coil, standard long distance transmitter and a bipolar hand receiver.

| WALL TELEPHONES |  |  |  |
| :---: | :---: | :---: | :---: |
| Code |  |  | List Price |
| No. | Case and Finish | -Mounting | Each |
| 1293AR | Wood-Golden oak | Non-flush | \$21.80 |
| 1533M | Metal-Black enamel | Non-flush | 25.70 |
| DESK TELEPHONES |  |  |  |
| Code | Dosk | Dest Set Box | List Price |
| 6000AE | No. 1120CN (Black finish) |  |  |
| 600.AE | No. 1120CN (Black finish) | (Golden oak finish) | \$32.60 |

## System D

Any standard central battery telephone with ringers operated by alternating current either induction coil or series type ean be used with System D. However, induction coil apparatus, such as the No. 153313 wall telephones or No. 6054A desk telephones, are recommended where connection is made to an outside exchange.


## TELEPHONE SWITCHBOARDS AND SYSTEMS General

The line of non-multiple type switchboards is complete and includes designs that will satisfy every demand for telephone exchange equipment.

Magneto switchboards are offered in capacities varying from 4 to 3330 lines.
Private Exchange (P.X.) and 1rivate Branch Exchange (P.B.X.) switchboards, such as our sectional unit type, range in capacities from 20 to 80 lines and over. P.X. and P.A3.X. boards are also made up in either desk or cabinet style, ranging in eapacity from 60 to 600 lines.

Toll switchboards are offered in either desk or cabinet style and have capacities from 40 lines upward.
Common battery non-multiple switchboards are of the cabinet type and range from 260 to 520 lines in capacity.

Multiple type equipments are also manufactured for regular exchange use, for private branclu exchanges and for toll offices. These equipments range in capacity from 300 lines to 10.500 lines.

Due to the varied reguircments existing for multiple type equipments, these are not standardized to the same extent as are the non-multiple line of switchboards.

We will, upon request, gladly make studies, recommend equipments and furnish engineering data and prices applying to any type of switehboard.


No. 10613 Switchboard Wall Type

## No. 106B MAGNETO WALL SWITCHBOARD Drop Type

The No. 1061 B switchboard is intendel for exchanges where the total number of lines will not exceed 10 .

The cabinet is of walnut.
The equipment for each line consists of a 500 ohm drop, bridged across the line, and a jack.

The equipment for answering, originating and supervising calls consists of four cort circuits with supervisory drop signals, listening jacks and a listening cord.

Fquipment for one toll line is also supplied with this switchboard.
The operator's telephone set, furnished with the switchboard, consists of a long distance transmitter and receiver. (Other equipment consists of a night alarm cireuit, a five-bar hand generator, and a night alarm key.

In operating the switchboard, the operator answers and listens in with cither one of the two duplicate listening cords provided for the purpose. Connections are made by means of the other corts without the use of keys. Ringing is done over the listening cord with the hand generator.

## No. 1012 MAGNETO WALL SWITCHBOARD Ringer Type

The No. 1012 switchboard is intended primarily for small telephone systems of ten lines or less where it is not feasible to lave a regular switchboard operator in attendance.

The cabinet is made of a light finish quarter-sawed oak, having a door hinged in front to facilitate inspection of apparatus and wiring.

Equipment for each line consists of a 1000 ohm ringer. 1600 or 2500 ohm ringers can be furnished if required. Ringer indicators are supplied with each ringer so that the operator, if not in attendance when a bell rings, cen tell which line has called.

The equipment for answering and originating calls consists of four cord rircuits, listening jacks, and a listening cord. No supervisory or ring-off signals are provided.

The operator's telephone set, furnished with the switehboard, consists of a long distance transmitter and receiver. ()ther equipuent eonsists of a powerful five-bar hand generator.

In operating the switchboard, the operator answers and listens in with the listening cord and plug provided for the purpose. Connections are made with the other cords without the use of keys. Subseribers are called by ringing with the hand generator through the listening cord.

Write our nearest house for particulars.


No. 1012 Switchboard Wall 'lype

## No. 1800 MAGNETO SWITCHBOARD

Sectional Unit Type



This type of switchboard corresponds in general design to the familiar sectional unit bookease, and is offered for installations that are comparatively sinall at the start but are expected to grow rapidly, and where the needs for the future are indefinite. An ultimate capacity of io) lines has been set arbitrarily as the maximum that should be used with this type of switchboard. With a low calling rate, however, it is safe to assume that as many as 70 or 80 lines can be accommodated.

To meet various requirements, there are different types of base or supporting units, cord units, line units and top units. To assemble a board it is then neeessary to select, first, a base unit; second, a cord unit; third, one or more line units, and finally a top unit. These assemble readily in the order given, and provide a perfectly practical switchboard to which additional line units may be added at any time.

Easy to assemble a switehbeard for any line or operation condition.
Necessary to buy only as much equipment as needed, switehboard capaeity readily inereased (by adding line units) as business grows, no investment lying idle.

All terminals and apparatus instantly accessible.
Apparatus, material, construction and finished product are standarl Western Electric Quality Products, the best that can be produced.

Write our nearest house for particulars.


Method of Enlarging No. 1800 Switchboard-Capacity up to 50 lines

## No. 1200 TYPE MAGNETO SWITCHBOARDS Non-multiple-Automatically Restored Line Signals



No. 1220D Switchboard


No. 1250D Switchboard

| Switchboard |  |  | Cord Line |  |
| :---: | :---: | :---: | :---: | :---: |
| Code No. | No. of | Line | Capacity | Camle |
| (See Note 1) | Positions | Capacity | (See Note 2) | Pairs |
| 1220 | 1 | 105 | 15 | 105 |
| 1230 | $2\{$ left | 105 | 15 | 105 |
| 1230 | 2 ) right | 105 | 15 | 105 |
| 1240 | 1 | 165 | 15 | 165 |
| 1250 | $2\{$ left | 165 | 15 | 165 |
| 1250 | 2 right | 165 | 15 | 165 |

Note 1. The No. 1200 type magneto switchboards may he equipped with either No. 2 ball type combined jacks and signals and No. 10 ball type push button restored supervisory signals or No. 22 shuttor type combined jacks and signals and No. 34 shutter type supervisory signals. Boards equipped with hall type signals are described by adding the suffix "C" to the switchboard Code Nos.; as for example, No. 1240 C switchboard. loards equipped with shutter type signals are described by suffixing the Letter " $D$ " to the switchboard. Code No.; as for example, No. 1230D switchboard.

Note 2. The No. 1200 non-multiple magneto switchboard is furnished with either single or double supervision cord circuits. Single supervision hoards may, if desired, be equipped with five corl circuits having toroidal repeating ccils and switching keys. Double supervision boards may be equipped with either the condenser type "non-hang-up" cord circuits, or the condenser repeating coil type "non-hang-up," "non-ring-through" cord cireuts. The present No. 1200 types of switchboard, if arranged for single supervision, may be changed to a double supervision board simply by installing the necessary additional apparatus.

Write our nearest house for particulars.

# No. 1801 CENTRAL BATTERY PRIVATE EXCHANGE SWITCHBOARDS <br> Sectional Unit Type 



No. 1801 Switchboard Desk Type
Systems B, C or D


The No. 1801 sectional unit type switchloards have been designed for small private exchanges or private branch exchanges, scrving firom 20 to 00 lines. Liquipments having capacities up to 120 lines can also be furnished if required.

This type of board is constructed along the same lines as the No. 1800 sectional unit type magneto board. (See preceding pages.) They differ in that the No. 1801 has lamps for the line and supervisory signals.

The units of the No. 1801 switchboard are finished in birch, mahogany or light oak. Inside of switchboard units are shollacked to prevent warping. The frameworks are carefully and rigidly assembled. The apparatus is of the same quality ins that usel in the larger central battery equipments. Wiring is in cable form.


No. 181 1 Switchboard Showing
Method of Enlarging

## FOR THE INFORMATION OF CUSTOMERS

Operating telephone companies, as a rule, do not permit connections with their wires, switchboards or telephones, of any apparatus or attachments not owned or maintained by them.

Four different systems-A, B, C and 1)-have been devised to meet the various classes of service required in this type of switchboard. Telephones which can be used with these systems are listed on preceding pages under heading: Central l3attery Telephones.
*System A. Provides for comminication from any telephone to switehboard only. No means are available for connecting two telephones together and none for connections to the public telephone system.
*System B. Same as System $A$ but also arranged for connecting any two telephones together.
*System C. Same as System 13 but also provides for connections to a central battery or a magneto central office.
*Note: Direct current is used for ringing the telephone bells in Systems A, 13 and C.

System D. Provides the same service as System C, except that alternating current is used for ringing the telephone bells. lhis makes it possible to use standard central battery telephones with polarized ringers and induction coils.

Write our nearest house for particulars. State which system is best suited for your requirements.

## Nos. 1262-1350 CENTRAL BATTERY P.B.X. SWITCHBOARDS

These switchboards are designed for use as branch exchange equipments connecting with a public telephone system. They are of the central battery type, making use of lamp line signals and lamp supervisory signals. This makes possible rapid and reliable operation. The line signal is associated directly with the corresponding jack so that the operator can plug in directly above the lighted lamp.

Supervision is positive as the signal is closely associated with the corresponding cord.
The current supply may consist of a storage battery at the private branch exchange, charged either over separate conductors or trunks from the central office or from charging equipment at the private branch exchange. It may also be furnished direct from the central office storage battery over a trunk line.

The trunks from the central office terminate in cords and plugs. These plug-ended trunk circuits reduce the number of connecting cords required with the board. The use of one cord instead of two makes for ease in handling and does not tie up the connecting cord circuits. Inconing calls from the central office are completed directly by operator without the use of local cord circuits. This results in increased transmission efficiency.

Holding jack circuits up to the number of five are also provided for each trunk cireuit equipped to hold an exchange trunk without tying up a local line. This feature is valuable when the called-for line happens to be busy.

These private branch exchange switchboards are furnished in one and two-position cabinet or desk types in either birch, mahogany or oak finish.

Write our nearest house for particulars.


No. 1302 P.B.X. Switchboard Desk Type
Total Line Capacity
 No.
1262
1272
1280
1290
1302
1320
1321
1322
1330
1342
1350

|  | Total Line |
| :---: | :---: |
|  | Capacity |
|  | Wired Including |
| Number | Number |
| of | Arranged |
| Positions | for Relays |
| 1 | 200 |
| 2 | $\left\{\mathrm{I}_{2} \cdot\right.$ pos. 200 |
| 2 | (12. pos. 200) |
| 1 | 300 |
| 2 | $\{\mathrm{I}$. pos. 300 |
| 2 | (12. pos. 300 |
| 1 | 200 |
| 1 | 60 |
| 1 | 100 |
| 1 | 200 |
| 1 | 300 |
| 2 | $\{$ L. pos, 200 |
| 2 | \{ R. pos. 200 |
| 2 | $\{$ L. pos. 300 |
| 2 | \{ R. pos. 300 |


| Line Relay |  | (Yord Circuit Capacity Number | Plug <br> Ended <br> Trunks |  |
| :---: | :---: | :---: | :---: | :---: |
| Capacity | Wired | Wired | Capacity | Wired |
| 40 | 20 | 10 | 10 | 5 |
| 4() | ?() | 10 | 10 | 5 |
| 40) | ${ }^{2}()$ | 10 | 10 | 5 |
| 40) | 29) | 10 | 10 | 5 |
| 40 | 20 | 10 | 10 | 5 |
| 40 | 20 | 10 | 10 | 5 |
| $30)$ | 15 | 10 | 10) | 5 |
| 30 | 15) | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |
| 30 | 15) | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |
| 30 | 15 | 10 | 10 | 5 |

## FOR THE INFORMATION OF CUSTOMERS

Operating telephone companies, as a rule, do not pernit connections with their wires, switchboards or telephones, of any apparatus or attachments not owned or maintained by them.

Quantity Prices Quoted on Request


No. 1248A-Switchboard

Western Electric

No. 1248A AND No. 1258A CENTRAL BATTERY NON-MULTIPLE SWITCHBOARDS

These central battery non-multiple switchboards are designed for serving central battery telephōne lines and a small number of magneto lines. With the exception of central battery boards of the multiple type they are the largest made.

The No. 1248. 1 one-position board is best adapted for use where the number of central battery lines will not exceed 240 ; the No. 1258.1 two-position board where the maximum will be 480 lines.

Central battery lines are arranged with lamp signals and relays for controlling the limps as in the large multiple type boards.

Magneto lines terminate in combined jacks and signals.

| Code |  | Central |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Battery | Magneto | Cord |
|  |  | Lino | Line | Circuit |
| No. | Positions | Capacity | Capacity | Capacity |
| 1248A | 1 | 210 | 20 | 15 |
| 12581 | .) 1 left | 240 | 20 | 15 |
| 1288, | 21 right | 240 | 20 | 15 |

Cord circuits are arranged with lamp supervisory signals, giving poitive supervision. Anv or all cord cirenits can be arranged to operate as straight ceutral battery, combination eontral battery and magneto, or full uviversal.

In the unvarsal circuits, toroidal type repeating eoils will he furnished if speeified. When these are fumishel, a eut-out key is used so that if two argucto lines are connected, the repeating coil may be either cut in or out of circuit. When a magneto and eentral battery line are connecterd, the repating coil equipment will serve to climinate noise.

Various ringing combinations are a a ailable. To provide for any of these, universal wiring is installed to conneet the different types of cord circuit keys.

Suspented type transmitters are usually furnished, hut chest type transmitters will be supplien, if ordired.


Write our nearest house for particulars.

## MINE TELEPHONE SYSTEMS

Mine telephone systems usually consist of several instruments connceted to one pair of wires, forming a party line. Local battery magneto telephones are userd and signaling is clone by code rings.

The severe conditions encountered under ground. due to mosisture. gases, acidulated water, "etc., make it necessary to provide unumally well protected telephone instruments for this serviee. For use above ground. such as in the engine room, superintendent's offiere, ute.. in conjunction with the mina gystem, standard wall or desk type telephone instrments can be nsed unlexs it is proposed to place them ir exposed locations. In that event the metal case telephones should be used, the same as used bebw ground.

When the mine system regnires more lines that one. they shouthe terminated in a witchboard located at some central point, subh as the superimendent's office or engind house.

Switchboards suited to every wequirement or comdition are deseribed elsewhere it this ratalog under the heading of Switchbourds.

Write for a copy of booklet, "Mine Telephone Systems and How to Install Then." sent you on request.

## No. 1336 Type

The No. 1330 type metal mine telephone is fircproofed, moistureproofed and rust proofed. It iron case is curved at the top so that water and falling objects will easily slide off.

The apparatus inside the case is doubly protected from mosture, ancil fumes and gases by two iron doors, and smeill trationt wivn each bart to resist the action of such disturbing elements. iblen the immer door is closed only the netal transmitter monhbiene, reviver, cord timpregnated with a moisture resist ing compound and the generator hand a are expmed. When the outer door is closed even these parts are protected. In using the set it is evident that only the outer door meed be operned.

Ringers or Bells. The instrument is equipped with a high-effiemency ringer which is so designed that it is nearly imposible to get out oi adjustment.

The gongs emit a very loud, dist inct ring and ate given a special finish


No, 1336 Mine Telephone to prevent corrosion.

It is often de-sed to provide lond-ringing estemsion bells, in conjunction with the tephome instruments at eertain points when conditions are such that the bells furnished with the sets are mot adeguate. In this event, ringers or bells as a part of the instrument are unnecessary, and we are prepared to furnish telephones without bells when so sperified in the order.

Generator. The telephones are rquipped with a 5 bar hand generator powerful enough to satisfaetorily ring 40 telephones commected across the same line. All exposed parts are heaviay ghlvinized and the armature winding is impregnated with moistureproofing eompound.

Moistureproofed Parts. The receiver cord, windings of the receiver, ringer coils and induction conils are impregnated with a compound to protect them from moisture and gaseons fumes and all permanent terminal connertors are also imbedded in the same compound. All interior wiring is done with heayy eoppor wire insulated with a high grade of rubbre. These wires are formed and laced together into cables, which protect them from injury and also preani a neat and ermpact arrangement.

Batteries. Two cells of standard dry balters are required for cach telephone to furnish the talking current. In ordering batteries for telephones in use in underground or in damp locations, specify that they be furnished with "special impregnated cartons."



No. 1336 Mine Telephone
(Outer Door Open)


No. 1336 Mine Telephone (Outer and Inner Doors Open)

# MINE TELEPHONES <br> Telephones for Above Ground Service 

In the superintendent's office, engine house and other dry and protected parts of the plant which should have communication with each other and the mine, the No. 1317 standard wooden ease magneto telephone and No. 6004 desk stand magneto telephone. listed in the preceding pages, can be used and are recommended. These telephones have been designed to meet the most exacting requirements of telephone service, and are standard with the largest telephone companies for heavy duty magneto service.

## Mine Telephone Extension Bells

It is often desired to place a boll at some point distant from the telephone thus permitting the instrument to be located in a more or less sheltered position and still make it possible for the signals to be heard over quite an area. For this use two types of bells can be furnished. The No. 127 and the Nos. 392 and 342 types. These are listed under the heading Extension Bells elsewhere in this catalog.

Bells having ringer coils wound to either 1000 or 2500 ohms resistance can be furnished. In using these bells on lines in connection with telephones of other manufarture, the 1000 ohm type is recommended.

No. 127 Type. The No. 127 type is recommended for use above ground in dry, protected locations where a bell having the same sound volume as the bell furnished with the telephone instrument is satisfactory. Where a loud-ringing bell is required, the No. 392 or $\mathcal{N} .342$ types are rcconmended.

Nos. 392 and 342 Types. These extension bells are thoroughly protected against moisture, having impregnated coils and all exposed metal parts galvanized. They are so designed and constructed that it is almost impossible for them to get out of adjustment. However, they can be quickly and easily adjusted, if necessary.

The No. 392 is furnished equipped with 6 inch gongs. The No. 342 is also regularly equipped with 6 inch gongs and is mounted on a wooden backboard with canopy, as a protection against falling material; in case 8 inch gongs are required they can also be furnished.

## Mine Telephone Protectors

It is customary to protect mine telephone instruments against lightning discharges and accidental crosses with lightning or power circuits. It is generally recognized by telephone authorities that a protector should be placed as near as possible to where the line wires enter the buidding, as by this method protection is afforded the inside wiring, the instrument and the building itself.

We manufacture several different types of protectors for use with telephone apparatus. The No. 60A protector is intended for protection against lightning only in locations where there is no chance of contact with electric light or power wires, and the No. 12 A protector for protection both from lightning and foreign electric currents. "This apparatus is listed under the heading "Protectors."


No, 343A Mine Signaling Set

## Mine Signaling Sets

'lo provide a reliable system for electrical signaling in mines we have designed the No. 343 i signal set which consists of a strong iron case containing a 5 -bar No. 481 ) hand generator and two terminals. The line wire's are brought into the set through a hole in the bottom.

On the front of the outer door a small box having a glass window is provided in which is hung the parllock kcy. In case of emergency this window nust be broken in order to open the set and turn the generator erank.

No. 48D Generator. The No. 48D generator furnished with this signaling set will ring 30 No. $3+2$, 2500 ohms signal bells connected on a 7 ! $\underline{2}$ mile full metallic linc of No. 12 13.W.G. iron wire or a $281 / 2$ mile line of No. 12 13. $\mathbb{N}$. hard drawn copper wire.

It has all exposed metal parts galvanized to make them rustproof and the armature winding is impregnated with a moistureproof compound.
It is mounted inside the metal case and is made proof against dust and dirt by the iron plate which is held firmly against an iron shouldar with large screws. The generator handle only protrudes through the plate, and all uther mechanism and wiring is entirely encased even when the outer door is open.


## Signal Bells

For receiving the signals either the No. 392 or No. 342 type loud-ringing hells can be used. These be!ls are alike in design and construction only the No. 342 type is mounted on a wooden backboard with a canopy for extra protection from falling rocks or other objects. (Sce above description of mine telephone extension bells.)


No. 343A Mine Signaling Set (Outer Door Open)

## RAILROAD TRAIN DISPATCHING SYSTEMS



We have not attempted to list here detailed information with regard torailroad train dispatehing telephones and selective apparatus, but only wish to call attention to the fact that we are prepared to furnish complete equipments, especially adapted to any sarvice requirement.

Write our nearest distributing house for detailed information.

## Street Railway Telephone Systems

City and suburban clectric railways are finding the use of telephone dispatching a profitable mothod of eontrolling the movement of thrir cars. In general an 1800) switchboard is used at the oflice. (onnected to the board are a number of telephomes along the line at, terminals, short-line points, important traffic centers and intorsections, railroad crossings, canal or river coossings and company buildings. For protected places, standard magneto telephones of the $1: 317$ type are used. For unprotected phaces the $1: 78$ type telephone is better suited.

Im some cases it is advisable to equip the cars with portable sets of the No. 1330 or 1331 types, which can be connected to the line by means of No. 1 sit type jacks mounted on poles alomg the track.

## Portable Magneto Telephone of No. 1375 Type

This is a complete portable magneto telephone for comecting to metallic or grounded lines and capable of ringing the bells on a hoavily loaded circuit.

The apparatus is compactly mounted on an aluminum frame which can tre casily removed as a unit


No. 1375 B from the caze f.r inspection or adjustment when necessary. The line and ground terminals are conveniently mounted on a terminal plate direetly under the eover. The equipmant consists of a standard No. 1001 type hand set, induction coil, generator, 2150 ohm buzzer fir receiving signals and a No. 703 Eveready dry battery.

This portable trlephone is especially adinted for line patrolmen and ot hers who are frequently out of reach of a permanent telephone station and who must carry a light and compact telephone for communicating to headquarters guickly in an emergeney.

The following equipment is intended for use with these sets, but will not be furnished unless specified in the order:

One bayenet type ground rod per Spec. D-313 provided witle a brass seabbard and a 10 foot connecting wire for attaching to set.
One line conncetion wire per fipec. D-311 consisting of a 40 foot length of No. 1113 . \& S. flexible rubber covered and braided copper wire, equipped with tips at cach end and having s, 4 ineh bared space at the middle.

The usual nethod of eonnecting this telephone to the line is cither by means of a line pole or by moans of the line connecting wire. This wire is thrown over the line and held in such a position that the bared wire is in contact with the line wire, and either one or both ends of the wire being connected to one terminal of the telephone, the other terminal being connected cither to the ground by means of a bayonet gromed rod or ot her ground connection, or to the other line wire by means of another line connecting wire in the case of a metallic circuit.

| Code | Hand |  |  |  |  | Jist Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Set | Generator | Buzzer | Battery | Wright | Each |
| 137513 | 1001H | No. 29E | 2150 ohins | No. 70:3 Eveready | 10!2 ${ }^{\text {d }}$ \%s. | \$74.40 |
|  |  |  | LINE CONN | G WIRE |  |  |
| Spec. D-311 |  |  | (As des | ove) |  | \$1.20 |
|  |  |  | BAYONET | ND ROD |  |  |
| Spec. D-313 |  |  | (As de | bove) |  | \$6.00 |

## STREET RAILWAY TELEPHONES

## No. 1278 Type



No. 1278G

This is a weatherproof iron box telephone designed to be fastened to poles along a strect railway line. The following apparatus is mounted on a removable base:

No. 48 type ( 5 bar A.C.) generator, ringer, induction coil, two fuses, two open space carbon cutouts, and automatic door switch which is operated by the opening and closing of the door, and a No. 25 type repeating coil. The repeating coil insulates all metallic connection between the line and telephone instruments. The ringing current and talking currents are both transformed through this roil either out over the line or into the instrument, as the case may be. Closing the door operates the door switch and disconnects the repeating coil from the line, and also breaks the local transmitter battery circuit. This prevents current from passing through the repcating coil except when the telephone is in use, and also prevents any unnecessary drain on the battery.

The lower part of the case is arranged to hold two dry cells and the No. 1001 type hand set and cord when not in use. The cord used is weatherproof and of sufficient length to enable the user to stand in a comfortable position while talking.
The No. 1278 G telephone is provided with a lock so constructed that after the key has been inserted and the door opened the key is held tightly in plate and cannot be removed until the door has been properly clused again. This serves to insure the clusing of the door before the user returns to his car.

| Code No. | Generator | Ringer | Hand Set | Door <br> Lock | Fuses | *List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1278G | 48C (5 bar A.C.) | $51 \mathrm{~A}(1000$ ohms) | 1001 F | 5B | Two 500 volt, 1 ampere | \$100.00 |
| 1278H | Same as No. 1278 permitting st: | acept that a hasp <br> rd switch locks to | d stapl used. | sul | ted for the 513 lock, thus | $\begin{aligned} & \text { On } \\ & \text { reque } \end{aligned}$ |

*The above prices do not include batteries; these should be ordered separately as desired.

## Portable Magneto Telephones in Wooden Cases

These portable telephones are intended for connect-


No. 13.3:E ing to regular bridging magneto lines, and are equipped with is standard lucal battery circuit.

They are contained in substantial wooden cases manle of lard maple, having the corners reinforced with aluminum brackets. Cases are regularly furnished with is suds.stantial leather suitease handle. If so specified on the order, however, a broad leather shoulder strap can be furnished in place of the handle or in addition to it.

The Nos. 1330 F and 1331 F are equipped with a six foot cord and No. 1.46 plug for connecting with the line through : No. 186 pole jack.

Condensers are not furnished unless so specified on ordire

N. 13.31 E

| Code <br> Na. | Method of Consecting to Line | Rirgers | Generator | Service | $\dagger$ Batteries Used | Approx. Weight Complete | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1330F | No. 146 plug and cord | $\begin{aligned} & 32136 \\ & (2.500 \text { olinns } \end{aligned}$ | 48 A (5 bar) | Heavy loaded lines | 2 Blue Bell | 28 lbs . | \$79.80 |
| 13311 | No. 116 plug and cord | 313 buzzer (2.60 ohms) | 22 A (3 bar) | Light loaded lines | 1 No. 792 Eveready | 17 lbs. | On request |

tBatteries are not fumished unless specified in order.

# Western Electric TELEPHONE APPARATUS 



No. 2 Type (French)
the threshold is protected withsafety tread

## Telephone Booth

No. 2 Type Folding Door Telephone Booths (French)

This type booth makes use of a folding door which can be elosed and opened by pulling the handle. It remains in any position and will stay elosed without the use of catches. There are no tracks upon the floor to gather dirt and become clogged. The ventilation is perfect. The door, when operated, extends only four inches beyond the face of the booth. The interior sides, back and ceiling are lined with sheet metal. The floor is of hard-wood and The booths can be furnished


No. 2 Type (French) with five glass panels (two pancls in upper part of door, two panels in left hand side and one pancl in right hand side, facing booth) or they can be furnished with two glass pancls in upper part of door only. With each booth a shelf is furnished, intended as an elbow rest. The door is always hinged on the right hand side (facing booth). The booths are properly crated for shipping without "dditional charge. Booths will be shipped set up, unless order specifically reads "ship knocked down." In such cases an extra charge is made.

| List |  |  |  | List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| No. | Material | Finish |  | $1 \text { to } 24$ |
| 2 A | Oak | Plain oak | (2 glass panels in door) |  |
| 2 B | 13irch | Dark mahogany | (2 glass panels in left side) |  |
| 2 C | 13irch | Light mahogany | ( 1 glass panel in right side) |  |
| 2 C | Oak | Plain oak (2 glass | s panels in door only) | ()n |
| 2 II | 13 irch | Dark mahogany | (2 glass panels in door only) | request |
| 2.1 | Birch | Light mahogany | (2 glass panels in door only) | request |
| I3ooth seats (extra) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . |  |  |  |  |
| Char | or knoc | lown booths. |  |  |

## FOLDING DOOR BOOTHS (SEAMAN)

These booths are made so as to oceupy the smallest space possible, but roony enough for the comfort of the user. By the folding door device no space outside of the booth is needed for closing and opening the door. The booths are substantially built and a shelf is furnished in every booth.


## SWINGING DOOR TELEPHONE BOOTHS (SEAMAN)

These booths are sound proof and have double interchangeable walls forming a complete interior shell, surrounded by a complete exterior one with an air space between, thereby excluding outside noises. The booths are equipped with a double door. Wach door swings on its own set of hinges. Only one knob is used with the door. If not specified otherwise, the hooths will be supplied with doors swinging to the right. Sides of glass of panels are made interehangeable so that when one glass side is ordered it may be placed either to right or left of the door at the option of the user.

| List No. | Outside | Inside | Finish | Glass | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | *32 x 39 ins . | $32 \times 26$ ins. | Plain oak | In door only |  |
| 21 | *32 x 39 ins. | $32 \times 26$ ins. | Plain oak | In door and one side | 135.00 |
| 21 | * $44 \times 39 \mathrm{ins}$. | $37 \times 38$ ins. | Plain oak | In door only | 145.10 |
| 21 | * $44 \times 39 \mathrm{ins}$. | $37 \times 32$ ins. | Plain oak | In door and one side | 156.20 |
| 25 | *31 x 37 ins. | $26 \times 32$ ins. | Plain oak | In door only | 94.50 |
| 25 | *31 x 37 ins. | $26 \times 32 \mathrm{ins}$. | Plain oak | In door and one side | 101.30 |
| 20 A | * $32 \times 39$ ins. | $26 \times 32$ ins. | Plain oak | In door only | 124.90 |
| 20A | *32 x 39 ins. | $26 \times 32$ ins. | Plain oak | In door and one side. | 135.00 |

List
No
*Not including shelf. Shelf extra.
Delivery F. O. B. Factory, Milwaukce, Wis. For warehouse deliveries write nearest house. All booths have the door on the wide side except when List No. is followed by capital "A," which indicates a booth with the door on the narrow end. Standard finish of the booth is plain oak. Prices for quartered oak, mahogany or cherry finish on request,

## TELEPHONE APPARATUS <br> Lead Covered Telephone Cable

Cable for aerial and underground telcphone use is composel of copper conductors, insulated with either one or two wrappings of paper, twisted into pairs and enclosed in a lead sheath. In general, cable with single wrapped conductors is recommended, since its electrical and mechanical charaeteristies are perfectly satisfactory for most conditions, and the cost is less than of cable with double wrapped conductors. Cable internded for interior construction usually has the conductors insulated with two servings of silk and one of cotton.

The insulated conductors may be enclosed in a sheath composed of commercially pure lead, an alloy of lead and tin, or an alloy of lead and antimony. Lead antimony sheath is recommended for aerial and underground construction. Lead-tin sheath can also be furnished if desired. I'ure lead sheath is recommended for use only within buildings or in similar unexposed places. It is furnished, however, on cable intended for acrial or underground use where a cheap cable is desired.

## Extra Pairs

Fxtra pairs are placed in all cables containing conductors smaller than No. 16 gauge, to take care of any pairs which may become defective in manufacture. In the majority of cables, all or part of the extra pairs are good and may be used for additional circuits. All pairs of No. 16 gauge and larger, except in submarine cable, are guarantced to meet the specification requirements when the cable leaves our factory.

## Prices

Owing to the flurtuations of the market price of raw material, it is impracticable to list prices on cable in a catalog. We will be pleased, however, to furnish full information and prices on request.

## Special Cables

Special conditions often require cables with different characteristics from those which have been standardized and coded. There is a Western Electric cable to meet every requirement. If your condition necessitates special cable write our nearest house giving full details and information and price will be furnished. A brief description of some of the most important of special cables is given below:

## Submarine Cables

Paper insulated submarine telephone cable may be divided into three gencral classes, Icpending upon the use for which they are intended.

1. High dielectric strength, tight core cable, designed for use in rather long lengths, that is, in lengths such that the cost of repairing a break in the cable will be less than the cost of an entirely new cable.
2. High dielectric strength, loose core eable, designed for use in rather short lengths where high transmission efficiency and high dielectric strength are of importance; for exumple, a short river crossing cable connecting important open wire lines.
3. Single paper insulated loose core cable designed for use in rather short lengths where so high it dielectric strength is not necessary; for example, a short river crossing cable connecting land cables.
lither single or double armored cable can be furnished. In most cases, the single armored cable is sufficient mechanical protection. The double armored cable is used only in cases of extremely severe mechanical requirements. In still water with a mud bottom, a single armor will be sufficient. With a rocky and uncven bottom with strong tides and currents, double armor should be considered.

## Composite Cables

Composite cable, or cable composed of conductors of two or more ganges can be furnished. The combinations of pairs which will utilize the space within the lead sheath most economically are somewhat limited and our cable engineers will make recommendations along this line upon receipt of detail information as to the conditions to be met.

## 1200 Pair Cables

A 1200 pair No. 24 gauge cable has been developed for underground use with a mean outside diameter of $25 / 8$ inches. This type of cable is designed for short cables in congested districts.

## High Dielectric Strength Cables

Paper insulated cable designed to withstand potentials up to 1500) volts A.C. is mamufactured for use where telegraph or signal circuits are to be carried through the cable.

## TELEPHONE APPARATUS Cable Terminals <br> No. 8 Type WITHOUT PROTECTORS

This terminal is for open wire distribution from lead-covered aerial cable, and is arranged for attaching to poles. No arrangement is made for protective devices. A six-foot No. 2: 13.\&S. gange cable stub is standard, and will be furnished attached to assembled terminal, unless otherwise ordered.

List Price Each
l'rices are I: (). B. Hawthorne, Ill.
Ill.
Overall
Height
(Less Cable Stub)
$15 \frac{3}{16}$
$15 \frac{3}{16}$
$19 \frac{14}{16}$
$19 \frac{16}{16}$
$28 \frac{1}{1}$
Diameter
of Inood
Inches
$61 / 4$
$61 / 4$
$61 / 4$
$61 / 4$
$61 / 4$
with 6 Ft .

| Code | Capacity |
| :--- | :---: |
| No. | Pairs |
| 8. | 10 |
| $8 B$ | 16 |
| 80 | 26 |
| 8 D | 31 |
| 8 E | 51 |

No 22 B.\&:
Gauge Cable
Attached
$\$ 12.50$
13.70
18.30
20.96

No. 14 Type

## WITHOUT PROTECTORS

This is for open wire distribution from lead-covered aerial cable, and is intended to be mounted on poles or buildings. No arrangement is made for protective devices. A six-foot No. 22 B .dS. gauge cable stub is standard, and will be furnished attached to assembled terminal, unless otherwise ordered.

Prices are F. (). 13. Hawthorne, Ill.
Cable Terminal
Open


Closed


Open

No. 14C-Cable Terminal
This is a protected terminal for open wire distribution from leadcoverel aerial and underground cable. Inclosed in a black finished galvanized iron cover approximately $8 \frac{9}{16}$ inches in diameter, provided with a safety chain fastened to the mounting base.

Arranged for mounting on poles. Equipped with:
No. 7. fuses (7 ampere unless otherwise specified).
No. 1 protector blocks.
No. 2 protector blocks.
No. 3 protector micas.
A six-foot No. 22 B.\&S. gange cable stub is standard, and will be furnished attached to assembled terminal unless otherwise ordered.

I'rices are F. O. B. Hawthorne, Ill.

| Code | Capacity <br> Pairs | Length <br> Inches |
| :---: | :---: | :---: |
| No. | 10 | $19 \frac{9}{32}$ |
| 18A | 15 | $22 \frac{1}{32}$ |
| 18B | 25 | $28 \frac{29}{3}$ |
| 18C | 30 | $33 \frac{1}{3}$ |
| 18D | 50 | $46 \frac{35}{32}$ |
| 18E | 60 | $53 \frac{35}{3}$ |

List Price Each
Including
Cable
$\$ 30.00$
38.30
54.20
71.80
102.20
135.60

## Electrically Operated-for Central Battery Service Only



No. 7J


No. 14 Mounted with a
No. 1020 Desk Stand

## Coin Collector

## NO. 7 TYPE

These are arranged so that a coin placed in the coin chute remains under control of the central office operator, who may refund or deposit it in the crin box. The coin collector is credinarily connected to the telephone line so that it is necessary to drop a coin of the proper denomination into the box to signal central office. This saves considerable time on the part of the operator. It may be wired so that the coin need not be deposited until the operator recuusts it. The switchboard cord circuits must be arranged for operation
in connection with these coin collectors.

All electrical cireuits are insulated from the case. The case has a heavy back japanned finish.

| Code | Arranged for | -_Approx. Dimensions, Inches -_-_ |  |  | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Length | Width | Depth |  |
| 7J | Nickels | $8{ }_{1 / 6}^{3}$ | $55 / 8$ | 478 |  |
| 7K | Nickels | 11 $\frac{9}{16}$ | $5{ }^{13}$ | $4{ }^{5} \frac{59}{69}$ | 15.90 |

The No. 7 K has a larger coin box than the No. 7.J.

## The Gray Automatic Pay Station

These coin collectors may be used on either local battery or contril battery lines. The signals are given zutomatically on dropping the coin into the slot. No electrical conmetions are required.

| Jode No. | Type | Coins Arranged for | Approx. Size Inches | *List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| 8.1 | Wrall | Nickel | $7 \mathrm{x}^{3} 3$ \% $\times 31$, | So 60 |
| 11 | Wall | Nickel, Dime, Quarter | $9 \times 41 / 2 \times 3$ | 21.60 |
| 13 A | Desk | Nickel | (1) $1 / 2 \times 4115 \times 314$ | $\stackrel{15.00}{ }$ |
| 4 | Desk | Nickel, Dimp, Quartor | $11 \times 21 / 2 \times 31 / 2$ | 15.00 |
| 20 | Desk | Nickel, Dime, (Quarter | $103 / 4 \times 41 / 4 \times 31 / 4$ | 29.80 3.40 |

*F. O. B. Martford, Conn.
The above Code Nos. and prices cover the coin collector box only and do not include telephone
rument. nstrument.

## Condensers

Ised in telephones on party lines where ringing trouble often occurs, due to parties "Iistening in" or leaving their receivers off the hook.

Telephones equipped with one of these condensers wired in series with the receiver overcome this difficulty, and it is possible to ring satisfactorily on a line with several receivers o'f provided the telephones are so equipped.
Code No. Cso Capacity List Price

21W Magneto telephones, for wiring in scries
Capacity
Each
No. 21W Condenser

## TELEPHONE APPARATUS

## Cords

## FOR TELEPHONE SETS

There is a Western Frectric cord to fit any telephone set or switchboard. If none of the cords described below mect your requirements, write us, sending if possible a sample cord (an old one will do) or a sketch, paying particular attention to the kind of tip required. Always specify length of cord when ordering.

## Wall Telephone Receiver Cords

| Code <br> No. | Description | Used with | Standard <br> Length | Cord Tip | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 10 | Two conductor tinsel | Receiver on |  | No. 29 (receiver entl) | 0.60 |
|  | ering. |  | 6 ft . | No. 62 (set end) | 1.10 |
| 92 | Two conductor tinsel | Receiver on |  | No. 62 (set end) |  |
| 92 | cord, red and blue twisted covering | wall set | $21 / 2 \mathrm{ft}$. | No. 30 (receiver end) | 40 |
| 454 | Same as No. 92, except for tips. | Receiver on wall set. | 3 ft . | $\begin{gathered} \text { No. } 30 \text { (both } \\ \text { ends) } \end{gathered}$ | 10 |

## Desk Stand Cords

549 Two conductor tinsel cord, green silk covering.
329 Single conductor tinsel cord, green silk covering.

550 Three conductor tinsel cord, green silk covering.

Receiver on $21 / 2 \mathrm{ft}$. N゙ก. 62 (stand end No. 1020 desk stand.
Transmitter on No. 1020 desk stand.
No. 1020 desk stand to connect it with desk set box.

$\mathrm{N}^{2} 29$


No 30


No 62
Cord Tips

## DESK SET BOXES (Magneto)

For Use with Desk Stands, Telephone Arms, etc., on Magneto or Local Battery Lines
Used with No. 1020AL desk stand and Nos. 1020AC, 1048AA, AB and AC telephone arm.

## Nos. 300 and 315 Types

Oak boxes equipped with induction coil, and with ringer, generator and condenser as indicated below.

RINGERS OPERATED BY ALTERNATING CURRENT
Code Ringing

| Code <br> No. | Ringer Resistance Ohms | Type Generator | Condenser | Service | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 315 H | 1000 | No. 22 (3 bar A.C.) |  | Light loarded lines | \$18.80 |
| 300 K | 2500 | No. 48 (5 bar A.C.) |  | Ilcavy loaded lines | 20.130 |
| 300 N | 2500 | No. 48 (5har A.C.) | 1 Mf . | Ileavy loaded lines | 21.90 |
| 300 L | 1600 | No. 48 (5bar A.(') |  | Medium loaded lines | 20.20 |
| 300 M | 1600 | No. 48 (i) bar A. ${ }^{\circ}$. $)$ | 1 Mf | Medium loarded lines | 21.60 20.00 |
| 300AA | 2500 | No. 50 (3 birr A. ('.) |  | Heavy loaded lines Medium loaded lines | 19.70 |
| 300 AB | 1600 | No. 50 (3 lar A.C.) |  | Medium loaded lines | 11.10 |

## Desk Stands

Code
No.
1020AL For regular bridging magneto service. Insulated transmitter. Includes 1 No. 20-

List Price AL desk stand, 1 No. 329 transmitter, 1


Nos. 300 and 315
Type Desk Set Boxes


# Westert Electric <br> TELEPHONE APPARATUS <br> Extension Bells <br> <br> FOR ALTERNATING CURRENTS 

 <br> <br> FOR ALTERNATING CURRENTS}

These extension bells are intended for auxiliary use in connection with wall, desk or telephone arm telephones. They consist of a ringer on a suitable mounting and two line terminals or binding posts.

They are suitable for magneto bridging non-selective


No. 127 Type


No. 342 Type erviee only
Ringer mounted in an oak box. Approximate dimensions. width $61 / 2$ inches; height $47 / 8$ inches; depth $45 / 8$ inches.

| Cude | Ringer | Resistance | List Price |
| :---: | :---: | :---: | :---: |
| No. | No. | Ohms | Each |
| 127 E | 38.19 | 1000 | \$5.10 |
| 1275 | 3 SBG | 2500 | 7.80 |
| 127( | $381{ }^{\text {c }}$; | 1600 | 7.40 |

No. 392 type moisture-proofed loud ringing hells having a black finish metal cover and base with galvanized finish gongs.

When the extension bell is to be used on a central battery line a condenser must be connected in series with the ringer coils.

Baso is arranged for mounting a No. 21 D condenser. Condenser is not furnished, however, unless so ordered. The connecting leads to the ringer coils are so arranged that the condenser can be easily connected in series with the ringer without disturbing the line wires when desired.

| Code | Resistance | Diameter | List. Price |
| :---: | :---: | :---: | :---: |
| No. | Ohms | Gongs | Each |
| 312 A | 1000 | 6 ins. | \$13.50 |
| 39213 | 2501 | ( ${ }^{\text {ins. }}$ | 14.70 |
| $39^{2} \mathrm{~J}$ | 1600 | ${ }_{6} \mathrm{i}$ ins. | $1+.10$ |
| $33^{12} 9$ | 1000 | 8 ins. | On request |
| 39211 | 2500 | 8 ins. | On request |

Biasing attachment for selective ringing can be alded if desired.
No. 342 type loud ringing bells for use in mines and other places where a bell protected from weather is desired. Consists of a No. 392 t type hell mounted on a No. No. 149 A backhoard having a sloping roof which protects the bell from falling water and other substances.

| Code | Bell | Resistance | Diameter | List Price |
| :--- | :---: | :---: | :---: | ---: |
| No. | Used | Ohnis | Gongs | Each |
| $3+26$ | 392 G | 1000 | 8 ins. On request |  |
| $3+21 \mathrm{~K}$ | 3921 I | 2500 | 8 ins. On request |  |
| $342 . J$ | 392.1 | 1000 | 6 ins. On request |  |
| $3+2 \mathrm{~K}$ | 39213 | 2500 | 6 ins. On request |  |

## Mica Fuses



Mica Fuse, Western Union Style


Mica Fuse, Postal Style


No. 11C.

These fuses are furnished cither with copper or foil tips, and in rither Western Vinion or l'ostal style. The fuse is mounted on a mica base, or inclosed between two strips of mica.

When ordering, always specify ampere eapacity desired and it is best to send sample of fuse wanted (an old one will do). If this is not possible, be sure and give the following information:
length.
Style (whether Western Union or Postal).
Kind of terminals or tips (eopper or tin foil).
I'se (whether for exchange or telephone protection).

## Tubular Fuses

## With Fiber Shell

These fuses are regularlv furnished in 7 amperes capacity unless otherwise specified, althougis fuses of from 1 to 8 amperes capacity can be furnished if so orlered. The No. 12 fuse contains theat coil.

| Code | Used with | Less |
| :--- | :---: | :---: |
| No. | Protectors Nos. | than 20 |
| 11 C | $58 \mathrm{~A}, 58 \mathrm{~B}$ | $\$ 0.40$ |
| 12 A | 12 A | .90 |


| List Price Each |  |
| :---: | :---: |
| 20 | 50 |
| to 50 | or $\$ 1$ Iore |
| $\$ 0.30$ | $\$ 0.28$ |
| .70 | .60 |

## TELEPHONE APPARATUS



## Hand Generators

$\left.\begin{array}{ccccc}\begin{array}{c}\text { Code } \\ \text { No. }\end{array} & \begin{array}{c}\text { No. of } \\ \text { Bars }\end{array} & \text { Current } & \begin{array}{c}\text { Armature } \\ \text { Normaly }\end{array} & \text { Use }\end{array} \quad \begin{array}{c}\text { List Price } \\ \text { Each }\end{array}\right\}$

## Hand Sets

| Code |  |  |
| :---: | :---: | :---: |
| No. |  | List Price |
| 1001A |  | Ea |
|  | tery lines. Equipped with No. $244 W$ transmitter, No. 131 W receiver and 3 ft . No. 348 cord which has two spring clips. | \$15.90 |
| 1002.1C | For use in place of a regular magneto bridging or central battery desk stand or transmitter arm. Equipped with No. 141 W receiver, No. 267 W transmitter, $41 / 2 \mathrm{ft}$. |  |
|  |  | 18.20 |

## Induction Coils

Code Dimensions
No. Inches



No. 12A Protector


No. 58A Protector


No. 60A Protector


No. 1


No. 2


No. 19


No. 20

| $\begin{aligned} & \text { Code } \\ & \text { No. } \end{aligned}$ | - Description |  |  |  |  | list Prico |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Protector Blocks | Protec Micas |  | Protectors | Less than 20 | $20 \text { to }$ | $\begin{array}{r} 50 \text { to } \\ 200 \end{array}$ |
|  |  |  |  |  |  |  |  |  |
| 1 | Plain carbon block with fuse metal. | $\text { k No.' } 2$ | No. 3 |  | $\begin{aligned} & \text { Nos. } 12 \mathrm{~A}, 58 \mathrm{~A}, \\ & 60 \mathrm{~A} \end{aligned}$ | \$0,30 | \$0.10 | \$0.06 |
| 2 | Grooved carbon blork without fuse metal. | No. 1 | No. 3 |  | $\begin{gathered} \operatorname{Nos}, 12 \mathrm{~A}, 58 \mathrm{~A} \\ 60 \mathrm{~A} \end{gathered}$ | 30 | . 08 | 04 |
| 19 | Plain copperblock with two pins. | $\text { No. } 20$ | No. 10 | 0 N | Nos.58B 60B | . 30 | 20 | 16 |
| 20 | Grooved copper block with two bushings. | $\text { No. } 19$ | No. 10 | 0 N | Nos.58B,60B | . 30 | . 20 | 16 |



## Protector Micas

| Code | Protector Blocks | Protectors | Less | $\qquad$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． |  |  | than 20 |  |  |
| 3 | Nos． 1 and 2 | Nos．12A，58A and 60， | \＄0．30 | \＄0．10 |  |
| 10 | Nos．19， 20 and 21 | Nos． 5813 and 6013 | ． 30 | ． 18 | \＄． 12 |

## Receivers

| Code No． |  |
| :---: | :---: |
| ${ }^{*} 143 \mathrm{AW}$ | Description |
| ${ }^{*}$ Concealed binding post hand receiver， |  |
| composition case． |  |

## Ringers

The ringers listed below have gong posts suitable for either $1 / 2$ or $5 / 8$ inch woodwork，as indicated； spacers can be furnished，however，to adapt the No． 53 type to $3 / 8$ inch woodwork and the No． 38 or 51 types
 to either $3 / 8$ or $1 / 2$ inch woodwork．Black finish gongs are fur－ nished as standard，but nickel finish gongs can be supplied if desired．

| Cole | Aのッス |  |  | R．Inunts in |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ance | Code | Diam． | work |  | Price |
| No． | Ohms | No． | Ins． | Ins． | Use | Each |
| 38．1G | 1000 | 26， | 3 | 5／8 |  | \＄4．70 |
| 3813 G | 2500 | 26.1 | 3 | 5／8 |  | 5.40 |
| 38 FG | 1600 | 26 A | 3 | $5 / 8$ |  | 5.10 |
| 51 AG | 1000 | 25 A | $21 / 2$ | $5 / 8$ | Local | 4.70 |
| 51 BC | 2500 | 25A | 21／2 | $5 / 8$ | battery | 5.40 |
| 51 FG | 1600 | 25. | 21／2 | 5／8 | （magneto） | 5.10 |
| 53 AC | 1000 | 25A | $21 / 2$ | 1／2 | telephones | 4.70 |
| 53 BC | 2500 | 25． | $21 / 2$ | 1／2 |  | 5.40 |
| 53 FG | 1600 | 25A | 21／2 | $1 / 2$ |  | 5.10 |



No. 90510 Testing Ser

## TELEPHONE APPARATUS

## Magneto Test Sets

NO. 1017 TYPE

A woolen hox telephone test set equipped with a regular local battery talking circuit consisting of a No. 26ifll iransmitter, No. 13 induction coil, No. 145W receiver and a special three-cell dry battery unit.


No, 1017BTest Set

## MAGNETO TESTING SETS

Fach set consists of a hand generator and a ringer, wired in series, and inclosed in a wooden came.



## Transmitters for Telephones

| Code |  |  | List Price |
| :---: | :---: | :---: | :---: |
| No. | Description | Use | Each |
| 329 W | High resistancr, insulated transmitter. Provided with mounting | Magneto and central | \$1.70 |
|  | lug and clamping bolt. Nickel-plated case. Similar to No. | battery deskstands |  |
|  | 311 W exeept proviled with elamping holt. | ohe:urms. |  |
| 350 W | High resistance, irsulated, bracket type transmitter. Fiquipped with two cords. Nickel-plated case with black finished bracket and arm. | Magneto and central battery wall telephones, requiring a brarket ty pe transmittor. | 5.30 |
| 355 W | High resistance, insulated transmitter. Arranged to mount on an iron bracket of the type which forms a part of the No. 3.50W transmitter. Not provided with mounting lug. Nickel-plated | Magneto and central battiry wall type telephones. | 4.10 |



147 AC or CC
For Mounting on Top of Flat Top Desk


Type " I:Z",
Code
No.
147 AA
1.17 AB
147 AC
147 CA
147 CB
147 CC

## ADJUSTABLE TELEPHONE BRACKETS

## Western Electric No. 147 Type Telephone Brackets

Designed and manufactured by the Western Flectric Company to met the most severe telephone bracket service. This lracket is made with prorision, from special high-grade material, which results in a serviceable, durable and long-wearing bracket. The elamp will fit any desk telephone with a cylindrical sten 1 inch to $11 / 4$ inch in diameter.

|  |
| :---: |
| Western Electric |
| 'EZ" Type Telephone Bracket |

Can be moved up and down; stops in any eonvenient position and revolves on its base. Finished in black. Desk stand cord supported and kept out of the way. Clamps for all types of e.tindrical and convex stems. Furnished for mounting to any stryle desk or wall. When ordering sperify type of desk stand used and mounting wanted.

E-Z Type Telephone Braeket, height 24 ins., weight 3 lbs. $\$ 0.00$ I'rices are for bracket eomplete with No. 81, 83, 85, 85 N. 8.8 Y , or 8 s mountjng and any style elamp.

'EZ,' Type Mountings

## Extra Features:

When the "EZ" telephone bracket is cquipped with a No. 82 or No. 86 mounting add $\$ 1.40$ each to the above price; or, No 96 extension atachment add $\$ 0.90$ eath to the above price; or No. 93 win attachmert and $\$ 0.90$ each to the above price.

## MOUNTINGS

No. 81 is used on wall or side of flat top desks.*
No. 83 is used on top of flat dersk.
No. 85 is used on cither side of flat or roll top desk.
No. 85 X is used on either side of that or roll top desk.*
No. 86 clamps on edge of flat top desk.*
No. 94 is used on wall or partition.

Type "S" Bracket

No. 1 For use on side of flat or roll top desk.
No. 2 For use on top of flat top desk.
No. 3 Clamps on edge of flat top desk.*
No. 4 For use on wall or partition.
No. 5 For use on side of flat top desk.*
No. 6 For use on side of roll top desk.*
No. 6.A For use on side of flat or roll top desk.*
No. 7 For use on side of flat top desk.*
No. 10 Attaehments fits any mounting and holds two brackets.*
CLAMPS
No. 20 Clamp fits telephones with a eylinelrieal stem.
*o. 21 Clamp fits telephones with convex shaped stems.*
*Not storked. Furnished on order only.
Delivery F. O. B, Ilawthorne, III.

## RINGING MACHINES



## Motor Generator Ringing Sets

Westera lileetric motor generator ringing sets consist of direct current or single phase 60 cycle alternating current motors direct connected to magneto ringing generators. These sets furnish alternating ringing current only at 80 volts, 19 evrles. An attachment for obtaining positive and negative pulsating current is, however, available. These direst connected motor generator sets form a very compatet, serviceable unit.

| Code | Motor | Output | Code | Motor | Output |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Volts | Watts | No. | Volts | Watts |
| 310077 | 115 D \% | 7 | 310087 | 110 A.C. | 15 |
| 310078 | 230 1). $\%$ | 7 | 310088 | 220 A.C. | 15 |
| $31(0079$ | 115 1). | 11 |  |  |  |
| 310080 | $2301) .0$ | 11 |  |  |  |
| 310081 | 115 DC | 15 |  |  |  |
| 310008: | $2301) .0$ | 15) |  |  |  |
| 310083 | 110 A.C. | 7 |  |  |  |
| 310084 | 220 A. \% | 7 |  |  |  |
| 310085 | 110 A. ${ }^{\text {c }}$ | 11 |  |  |  |
| 310086 | 220 A. $\%$ | 11 |  |  |  |

The above sets operate at a speed of 1150 R.P'M. Prices on application.
Orders should read:
No. . . . . . . . Ringing Machine to give an output of . . . watts at 80 volts and to operate on . . . volts ...... eycles; equipped with pulsating carrent attachnent (if desired).


## Rotary Pole Changers

These rotary pole changers are in reality rotating interrupters, consisting of a direct or alternating current motor with a commutator for interrupting the current. They are suitable for use in telephonecentral oflices, serving a maximum of 1500 subscribers.

Code No.
A-24
A-36
A-110 T.C.
A-220 I.C.
S-24
S-36
S-110 D.C.
S-220 D.C.
A.C. 110
A.C. 299

| to Operate |
| :---: |
|  |
|  |
| 10 volts 1 |
| 220 volts I |
| 24 volts D |
| 36 volts 1) |
| 110 volts |
| 290 volts |
|  |
| 0 volt |


| Power <br> Consumption | Special Transformer <br> Required |
| :---: | :---: |
| 8 watts | Yes |
| 8 watts | Yes |
| 8 watts | No* |
| 8 watts | Yes |
| 8 watts | Yes |
| 8 watts | Yes |
| 8 walts | No |
| 8 watts | Yes |
| 8 watts | Yes |
| 8 watts | Yes |

## Kind of Current

 FurnishedA.C. only
A.C. only
A.C. only
A.C. only
A.C. and pos. and neg. puls. A.C. and pos. and neg. puls. A.C. and poss. and neg. puls. A.C. and pos, and neg. puls. A.C. and pos. and neg. puls. A.C. and pos. and neg. puls.
*Transformer required if one side of lighting circuit is grounded.
Ringing current for A.C. 110 and A.C. 220 must be taken from exchange batteries.
Prices upon application.
Orders should read:
No......... rotary pole changer to operate from. . . . volts. . . . eycles with special transformer for. . . volts D.C.

## Battery Charging Units

## AUTOMATIC REGULATED (DIRECT-CONNECTED)

Battery Charging Unit for Charging Telephone Storage Batteries


This set consists of $31 / 4$ horsenower air cooled engine, directly connected to the generator and mounted together wit! control panel on one base.

The engine will operate either on kerosene or gasoline. The supply tank is located in the base pumping done by varuum ferd.

Splash system of oiling, perfect lubrication, no waste.
This set is ideal where it is desirable to have an anxiliary source of power for charging telephone storage batteries.

Tell us your requirements and let us quote.

## CHARGING MACHINES



Battery Gharging Init, Front View


## Battery Charging Units

Western Eleetrie MIC and MCC type two-bearing motor-generatow sets have been comtined with a switchboard panel, arranged for mounting directly on the machine framework, to form battery charging units.

## SIZE. AND CAPACITY DATA

| Stor: | to Pe Char 8 Ifour Discharge | Output of Charging | -- -Ch | Cycle- | - |  | Amper | Capacity |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rate | Unit | 110 Volt | 220 Volt | 110 Volt | 220 Volt, |  | urred |
| Type | Amperes | Armeres | Code No. | Code No. | Code No. | Code Na, | Charge | Discharge |
| 13T | 0.75 | 5 | 1531 | 2531 | 3.331 | $45: 31$ | 3 | 1 |
| CT | 1.50 | 5) | 1532 | 2532 | 353:3 | 4532 | 3 | 2 |
| PT | 3.0 | 5 | 1563 | 2563 | [35193 | 4563 | (i) | 3 |
| ET | 4.5 | 5 | 1505 | 2565 | 3-2\%) | 4565 | \# | 5 |
| B | .62\% | 5 | 15:31 | 2531 | 3.531 | 45.31 | 3 | 1 |
| C-3 | 1.25 | 5 | 153: | 2532 | 3\% | 4532 | 8 | 2 |
| ( -5 | 2.5 | 5 | 1533 | 2533 | 3553 | 453:3 | 3 | 3 |
| ( -7 | 3.75 | 5 | 1519\% | 2565 | 3-365 | 4565 | 0 | 5 |
| J)-3 | 2,5 | 5 | 1533 | 2533 | 3-73 | 4533 | 8 | 3 |
| 1)-5 | 5.0 | 5 | 158 | 9565 | $35(5)$ | 4565 | 6 | 5 |
| D-7 | 7.5 | 10 | 1000 | 2000 | $3: 60$ | 4000 | 10 | 10 |
| D-9 | 10.0 | 10 | 1000 | 2000 | 3000 | 4000 | 10 | 10 |
| E-5 | 10.0 | 10 | 1000 | 2000 | 3000 | 4000 | 10 | 10 |

The speed of all sets is 1750 IR.P.M.

## Prices on Application

Orders should read:
1-Code No, 1565 Telephone Battery Charging Init.

WIRELESS PRACTICE SETS<br>FOR LEARNING THE MORSE AND CONTINENTAL CODES



List No. 342


List No. 5.3


List No. 52


List No. 54

The key, buzzer and three binding posts are mounted on the polished hardwood hase and so comnected that the set may be used for individual code pratice or for the operation of a 2 -party line, an exeellent method of quickly learning the codes. Full directions with earh outfit.

| List Mfrs iv. |  |  | IV.F. |
| :---: | :---: | :---: | :---: |
| No. |  | List | List |
| 342 | Wireless I'ractice Set, with dry | Price | Price |
|  | battery and cord. . . . . . . . . . . . | \$3.00 | \$4.20 |
| 34 | Wircless Practice Net only, no bat- |  |  |
| 51 | liey only. | 1.150 | 2.24 |
| 251 | 1!i-'Tone l3azzer only | . 80 | 90 |

This set is similar to our No. 342 exeept that it has an induction coil mounted on its lase, whieh allows the operator to use his stundard radio hearl set. This set is particularly adapted for instruction purposes to classes of wireless students. Diagram of connections with carh instrument.

| List |  | Mifrs. | II. E. |
| :---: | :---: | :---: | :---: |
| No. |  | List <br> Price | List |
| 33 | Wircless Jractice Set. | \$4.50 | 815.30 |

('onsists of a key, huzzer, socket, lamp, binding posts, witch and dry battery wit!, four feet of green silk-covered, flexible cord. The efficiency of a wircless operator is gauged by his ability to read both soumd and light signals, and this practice set offers the means of aequiring efficiency in l:oth.

| List |  | Mfrs. | $\mathrm{W}, \mathrm{~F} .$ |
| :---: | :---: | :---: | :---: |
| No. |  | Price | Price |
| 52 | Wireless Praetice Set. | \$4.0) | \$5.60 |

This outfit consists of a key, buzzer, lamp, socket, switeh, binding posts, induction roil, dry battery and four feet of green silk double conducting cord.

The induction coil permits the operator to use standard radio head sets (any number in parallel) with maximum (effieioney. "rhis set enables the student to acquire both sound and sight signal instruction and is of special value to sehools and colleges having a course in ratio telegraphy on their curriculum, Diagram of connections with each instrument.



No. 103 With Legs


No. 108 Legless

## Steel Lever Keys

The lever and trunnion are made of one piece of fine wrought steel, polished and nickel plated, giving a perfect bearing and avoiding the loose trunnion trouble so common in other types. All other metal parts finely finished and lacquered.

Each key is fitted with improved adjustment spring holder.
Both knobs are of hard composition rubber.
The durability, lightness and quick action of the steel lever pattern are recognized by experts and operators. The Postal and Western Union Telegraph Companies have adopted this type as their standard.

| List |  | Mirs. | *W. E. List |
| :---: | :---: | :---: | :---: |
| No. |  | List | Each |
| 103 | Key, with nicke-plated lever, brass frame, with legs . | \$2.20 | \$3.08 |
| 105 | Key, with nickel-plated lever, and frame, with legs. | 2.60 | 3.64 |
| 106 | Key, with silver-plated lever, and frame, with legs. | 3.50 | 4.90 |
| 108 | Key, with nickel-plated lever, brass frame, legless. | 2.40 | 3.36 |
| 109 | Key, with nickel-plated lever, and frame, legless. | 2.80 | 3.92 |



No. 178 Eureka Type


No. 180 Escelsior Type

## Eureka Learner's Instrument

The Eureka Instrument is a first-class, standard size telegraph set. All of the working parts-which includes key lever, sounder lever, sounder yoke or anvil, adjusting serews, etc.-are finely finished composition metal, such as is used in all high-grade instruments. Sounder base is japanned, striped with gilt. The base is mahogany and highly polished. The key is of the steel lever pattern, and sounder gives a loud, clear and distinct sound.

Key knob and circuit closer knob) are of polished hard rubber composition.
This instrument will operate on a single standard dry cell. But key must be left open when not in use.

| List |  | Mifrs. | *W. E. List |
| :---: | :---: | :---: | :---: |
| No. |  | List | Each |
| 178 | Fureka Telcgraph Instrument, $\bar{i}$ ohms | \$3.20 | \$4.48 |
| 179 | Eureka Telegraph Instrument, 20 ohms | 3.50 | 4.90 |

## Excelsior Learner's Instrument

The Fxcelsior Jearner's Instrument is designed to fulfill all the requirements of a short line apparatus at the least possible cost.

The sounder magnets, lever, anvil and key lever are the same as used on the Eureka outfit.
The frames for holding sounder lever and key lever are stamped from wrought iron and heavily japanned. This method of assembling insures perinanent adjustment of the side motion of both key and sounder lever as there are no screws to become loose.

The base is mahogany finish highly polished.
This is a neat and compact learner's instrument and will give entire satisfaction on lines up to five miles in length.

| List |  | Mirs. | *W. E. List |
| :---: | :---: | :---: | :---: |
| No. |  | List | Each |
| 180 | Fxcelsior Telegraph Instrument, 5 ohms . | \$2.70 | \$3.78 |
| 181 | Excelsior Telegraph Instrument, 20 ohms | 3.00 | 4.20 |

Fither of the above sets can be furnished with key and sounder separate. Prices on application.
A copy of "Philosophy and Practice of Morse Telegraphy" is furnished gratis with each set.
*Delivery F. O. J. Factory, New York City. For warchouse deliveries write nearest house.

## TELEGRAPH APPARATUS



No. 135
Main Line Sounder with Key


No. 136
Main Line Sounder Only

## Main Line Sounders

This sounder is recommended for wreeking, testing, switehboard or temporary office use, and all places where it is desirable to dispense with local batteries.

They are made with full size relay magnets of 150 ohms resistance having a special armature adjustment and are fully suited for doing in a greatly improved manner the work of regular main line box relays. They are sensitive to weak currents, giving a clear working sound on currents where, without them, a relay with local sounder and battery would be absolutely necessary.


## Main Line Sounder Without Key

| 136 | 150 ohms without key | \$10.00 | \$14.00 |
| :---: | :---: | :---: | :---: |
| 140 | 250 olums without key | 10.70 | 14.98 |



No. 115 Standard Pony Relay


No. 125 Commercial Standard Type

## Standard Pony Relay <br> Mounted on Polished Mahogany Base, with Metallic Sub-Base

This relay will operate on lines up to 20 miles, with perfect case, in cases where main line sounders fa to give satisfaction.

| List |  | Mfrs. List | *W. E. List Each |
| :---: | :---: | :---: | :---: |
| 114 | 5 ohms for burglar alarm work | \$3.60 | \$5.04 |
| 115 | 20 ohms for lines up to 10 miles | 3.60 | 5.04 |
| 116 | 50 ohms for lines 10 to 30 miles | 3.90 | 5.46 |
| 118 | 75 ohms for lines 30 to 50 miles. | 4.20 | 5.98 |

## Commercial Standard Relay

This instrument embodies all modern improvements.
Polished rubber-covered coils, mahogany base, ornamental sub-base and extension adjustment.

| 125 | 150 ohms resistance | 88.00 | \$11.20 |
| :---: | :---: | :---: | :---: |
| 145 | 250 ohms resistance | 8.70 | 2.18 |
|  | *Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house. |  |  |

## LOCK GRAVITY DROP ANNUNCIATOR



Dixie No. 81
Lock Gravity Drop Type

## The San-Fer-Ann

Sanitary Steel Annunciator No. 91

| No. of Drops | $\xrightarrow[\text { Across }]{ }$ Arr of Drops $-\longrightarrow$ |  | Outside Dimensions - |  |  | W. F. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width, lns. | Height, Ins. | Depth, Ins. | List Price |
| 2 | 2 | 1 | $6 \frac{1}{8}$ | 43/4 | $21 / 8$ | \$11.84 |
| 3 | 3 | 1 | 6\% 7 | $43 / 4$ | $21 / 8$ | 13.40 |
| 4 | 4 | 1 | $67 / 8$ | 43/4 | 21/8 | 14.88 |
| 5 | 3 | 2 | 678 | $71 / 4$ | $21 / 8$ | 16.32 |
| 6 | 3 | 2 | 678 | 7114 | $21 / 8$ | 17.60 |
| 8 | 4 | 2 | 678 | 714 | 21/8 | 20.74 |
| 10 | 5 | 2 | $81 / 4$ | 7114 | $21 / 8$ | 2:3. (0) |
| 12 | 4 | 3 | 71/8 | 9 | $21 / 8$ | 26.48 |

Dimensions do not include bell or reset rod, for which add $11 / 4$ inches to heighn for reset rod and I inch to depth for bell. Finish: White enamel with nickel trimming. All other finishes special.

## 13 to 24 drops, add to list per drop.

$\$ 2.72$
25 drops and over add to 12 drop list for each additional drop
5.76

## THE DIXIE No. 81

The Dixie Anmunciator meets the requirements of all classes of services where a moderate priced annunciator is desired. Wach is packed neatly in an individual pasteboard carton with the style and type of contents marked plainly on the label. 'The glass is emameled, the openings for drops edged with gilt. 'This annunciator is equipperl with Dixie bell. Not furnished in any special finishes or in other arrangement of drops than given. Finish: Filled and varnished *ak only.

## THE CADET No. 82

This annuncator is the same as the Dixie except that it is mors claborate in design and finish, and is equipped with Cadet Bell. Finish: Fillel, varnished and oil-rubbed *oak. For other finishes prices on application.
No. of
Drops
2
3
4
5
5
6
7
8
10
12

$\xrightarrow[\text { Depth }]{82-}$

| W. E. List Prices- |  |
| :---: | ---: |
| No. 81 | No. 82 |
| 88.96 | $\$ 10.24$ |
| 10.46 | 11.68 |
| 11.84 | 13.12 |
| 13.60 | 14.72 |
| 14.88 | 16.00 |
| 16.32 | 17.60 |
| 17.60 | 19.04 |
| 20.64 | 22.04 |
| 23.52 | 24.88 |

7.00
$7.00 \quad 2.16$
$2.50 \quad 2.73$

Special Finish, Lettering and Setback for No. 82 Only
For mahogany, add to list $25 \%$. For white enamel finish, add to list:
2 to 10 drop
$\$ 10.00 \mid 21$ to 50 drop.
\$18.80
11 to 20 drop
13.76
23.76

Lettering on glass, up to 10 letters, list, $\$ 1.60$; cach additional letter, list, 11 cents.
For electrical reset up to 20 drops, aild $\$ 18.80$, over 20 drops add $\$ 37.60$.
For automatic reset up to 20 drops, add $\$ 20.00$, over 20 drops add $\$ 40.00$.
Lamp Signal Attachment Add to List $\$ 11.20$
Prices do not include lamp.
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

## GRAVITY DROP ANNUNCIATORS



Arrow No. 125


No. 213

THE ARROW NOS. 125-WOOD CASE-AND 125M—METAL CASE

| No. of I)rops | Arr. of Drops-- |  |  | le Dim |  | --W. E. List-- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width | Height | Depth | No. 125 | No. 125M |
|  | Across | Lown | Inches | Inches | Inches | Wood Case | Metal Case |
| 2 | 2 | 1 | 61/4 | $61 / 4$ | 33/4 | \$9.98 | \$12.03 |
| 3 | 3 | 1 | 71/8 | $61 / 4$ | $33 / 4$ | 12.03 | 14.98 |
| 4 | 4 | 1 | $77 / 8$ | $6 \% 4$ | $33 / 4$ | 16.00 | 19.97 |
| 6 | 3 | 2 | 71/8 | 71/8 | $33 / 4$ | 21.57 | 27.01 |
| 8 | 4 | 2 | $77 / 8$ | 7\%8 | $33 / 4$ | 28.80 | 35.97 |
| 10 | 5 | 2 | $97 / 8$ | 7\%8 | $33 / 4$ | 35.97 | 44.99 |
| 12 | 6 | 2 | 111/4 | 7\%\% | $33 / 4$ | 41.92 | 54.02 |
| 15 | 5 | 3 | $97 / 8$ | $10^{3} 4$ | $33 / 4$ | 52.48 | 64.51 |
| 18 | 6 | 3 | 1114 | $10^{3 / 4}$ | 33/4 | 62.98 | 77.38 |
| 20 | 5 | 4 | 97/8 | 13. | 33/4 | 70.02 | 85.95 |
| 24 | 6 | 4 | 111/4 | 1312 | 33/4 | 83.97 | 103.17 |
| Over 2 | add per | list. |  |  |  | 3.52 | 4.28 |

No. 125 Wood Finish: Filled, varmished and oil-rubbed oak, other finishes, price on application.
No. 125 Metal Finish: Black Rubber Enamel. Wood finishes to match wood trim, add to list $25 \%$. Note: When not otherwise specified wood case will be furnished.

NO. 213

| -_Outside Dimensions-- |  |  |  |  |  |  |  |  | $\ldots$ - Outside Dimensions |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of | Arr. of Drops | Width | IIeight | Depth | *List | No. of | Arr. of | Drops | Width | Height | Depth | *List |
| Drops | Across Down | Inches | Inches | Inches | I'rice | Jrops | Across | Down | Inches | Inches | Inches | Price |
| 6 | $3 \quad 2$ | 161/2 | 301 | 6 | \$48.00 | 36 | 9 | 4 | 24 | 2558 | 6 | \$161.92 |
| 8 | 42 | $161 / 2$ | 201 | 6 | 60.03 | 40 | 10 | 4 | $251 /$ | $255 \%$ | 6 | 179.97 |
| 10 | $5 \quad 2$ | 18 | 201 | 6 | $70.0{ }^{2}$ | 50 | 10 | 5 | 251/2 | 285:8 | 6 | 215.04 |
| 12 | 62 | 191/2 | 201 | 6 | 78.02 | $(6)$ | 12 | 5 | $281 / 8$ | 285\% | 6 | 257.92 |
| 15 | 82 | 221/2 | 201 | 6 | 89.08 | 80 | 16 | 5 | $341 / 2$ | 285\% | 6 | 303.80 |
| 20 | 54 | 18 | 25. | 6 | 120.00 | 100 | 20 | 5 | 401/2 | 2858 | 6 | 379.90 |
| 24 | $6 \quad 4$ | 191/2 | 25\% | 6 | 131.97 |  |  |  |  |  |  |  |

Dimensions do not include bell on top, nor reset knob on bottom, for which add $3 \frac{1}{4}$ inches to height
Extra Drops up to 250 , add per drop
$\$ 3.84$
Intermediate Sizes: For intermediate inzes deduct $\$ 2.05$ per drop from the list price of the next larger size listed.

Finish: Filled, varnished and oil-rubbed oak, other finishes, price on application.
For white enamel finish, add to list:

Lettering on glass, up to 10 letters, list, $\$ 1$; each additional letter, list, 11 cents.
Electrical setback, up to 20 drops, add to ! ist, $\$ 18.80$. Orer 20 drops. add to list, $\$ 37.60$.
Automatic setback, up to 20 drops, arld to list, $\$ 20.00$; over 20 drops, add to list, $\$ 40.00$.
With electrical or automatic setback, add to height oif case $1 \frac{1}{2}$ inches.
For Lamp Signal Attachment, listed elser rhere, add to list, \$11. 20.
Note: Heavy faced type indicates finish f mpplied when not otherwise specified.
*Delivery F. O. B. Factory, New York C ity. For warehouse deliveries write nearest house.

## GRAVITY DROP ANNUNCIATORS Standard House Types



NO. 215 WOOD CASE FLUSH ANNUNCIATOR

| No. of Drops | Arr. of Drops |  | -*Outside Dimensions- |  |  | List Price | No. of Drops | Arr. of Drops |  | -*Outside Dimensions- |  |  | Inst |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width Inches | Height Inches | Depth Inches |  |  |  |  | Width | Height | Depth |  |
| 2 | 2 | 1 | $61 / 4$ | (1)1/4 | 21\% | Price | Drops | Across | Down | Inches | Inches | Inches | Price |
| 3 | 3 | 1 | $61 / 4$ | 6114 | $21 / 2$ | 13.18 | 15 | 5 | 3 | 115/8 | $75 / 8$ 101 | $21 / 2$ | \$48.00 |
| 4 | 4 | 1 | $81 / 4$ | $61 / 4$ | $21 / 2$ | 17.60 | 18 | 6 | 3 | 115/8 | 101/88 | 21/2 | $\begin{aligned} & 58.55 \\ & 70.21 \end{aligned}$ |
| 6 | 3 | 2 | $81 / 4$ | 75/8 | 21/2 | 24.00 | 20 | 5 | 4 |  |  |  |  |
| 8 | 4 | 2 | $81 / 4$ | $75 / 8$ | 21/2 | 32.00 | 24 | 6 | 4 | 115/8 | 12\% | $21 / 2$ | 98.53 |
| 10 | 5 | 2 | 101/4 | 75\% | $21 / 2$ | 40.00 |  |  | 4 | 1/8 | 12,8 | 2/2 | 93.53 |

- Dimensions given are without trim. For trim, add $31 / 2$ inches to height and width.

Finish: Filled, varniehed and oil-rubbed oak; other finisbes, prices on application.
Bell or buzzer not suppiied unless ordered, but is furnished without additional charge when specified.
For over 2.4 drops, add per drop $\$ 3.90$.

## NO. 215-M METAL CASE FLUSH ANNUNCIATOR

| No. of Drops | Arr. of Drops |  | -*Outside Dimensions- |  |  |  | No. of | Arr. of Drops |  | -*Outside Dimensions- |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width | Height Inches | Depth | List Price |  |  |  | Width | Height | Depth |  |
| 2 | 2 | 1 | $61 / 4$ | $61 / 8$ | 21/2 | Price | Drops | Across | Down | Inches | Inches | Inehes | Price |
| 3 | 3 | 1 | 6114 | $61 / 8$ | $21 / 2$ | 16.0 f | 12 | 6 | 2 | 115 | 75,8 | $21 / 2$ | \$58.88 |
| 4 | 4 | 1 | $81 / 4$ | 6114 | $21 / 2$ | 21.63 | 18 | 6 | 3 | $1{ }^{15}$ | 101/8 | $21 / 2$ | 70.53 84.61 |
| 6 | 3 | 2 | $81 / 4$ | $75 / 8$ | $21 / 2$ | 29.44 | 20 | 5 | 4 | 101/4 | $12^{3}$ \% | 21/2 | 94.02 |
| 8 | 4 | 2 | 81/4 | 75 | $21 / 2$ | 39.23 | 21 | 6 | 4 | $11^{5}$ | 1238 | $21 / 2$ | 112.77 |
| 10 | 5 | 2 | 101/4 | 75\% | 21/2 | 49.02 |  | For | larger | sizes at |  | 2 | 112.77 |
|  | imens nish: <br> ll or b | ons gi Black uzzer | en are other ot sup | without nishes | rim. <br> a appl | or trim ation. | $d 21 / 2$ r woo | inches finish | to he es, add | ht and to list | width. $5 \%$ |  | 4.74 |

## Intermediate Sizes Either Style

For intermediate sizes, deduct for No. $215, \$ 3.39$; for No. $\$ 15 \mathrm{M}$, 4.42 per drop from list price of the next larger size listed.

## Special Finish, Lettering, Setback and Lamp Signal Attachment

For white enamel finish, add to list:
2 to 10 drop.
11 to 20 drop.
$\$ 8.00 \mid 21$ to 50 drop
$\$ 15.04$
drops and over. . . . . . . . . . . . . . . . . . . . . . 19.00
Lettering on glass up to 10 letters, list, $\$ 1$. 60 ; each arlditional letter, list, 11 cents.
Electrical sethack, up to 20 drops, add to list, $\$ 18$. 80 ; over 20 draps, add to list. $\$ 37.60$.
Automatic setback up to 20 drops, add to list, $\$ 20.00$; over 20 drops, add to list, $\$ 40$. (10.
With electrical or automatic setback, add to height of case, $11 / 2$ inches.
For I, amp Signal Attachment. listed elsewhere, add to list $\$ 11.20$.
For special finishes-information on request.
Delivery F. O. B. Factory, New York City, For warehouse deliveries write nearest house.


No. 10


No. 114

NO. 10 RETURN CALL ANNUNCIATOR

|  |  |  | -Outside Dimentions- |  |  |  | No. of | Arr, of Drops |  | -Outside Dimensions- |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of | Arr. of | Drops | Width | Height | Depth |  |  |  |  | Width | Height | Depth |  |
| Drops | Across | Down | Inches | Inches | Inches | Price | Drops | Across | Down | Incbes | Inches | Inches | Price |
| ${ }^{\text {Drops }}$ | ${ }_{i j}$ | 1 | 131/4 | 123/4 | 43/4 | \$23.42 | 2.1 | 8 | 8 | 16 | $201 / 2$ | $48 / 4$ | \$89. 20 |
| 8 | 5 | 2 | 12 | 161/2 | $43 / 4$ | 31.24 | 36 | 12 | 3 | 23 | $201 / 2$ | 43/4 | 133.18 |
|  |  |  |  |  |  |  | 40 | 10 | 4 | 20 | 25 | $43 / 4$ | 147.96 |
| 10 | 5 | 2 | 1213 | $161 / 8$ | $43 / 4$ |  | 50 | 10 | 5 | 20 | $283 / 4$ | $43 / 4$ | 184.96 |
| 12 | 6 | 2 | $131 / 4$ | 161/2 | $43 / 4$ | 45.64 | 60 | 12 | 5 | $\underline{2}$ | 283/4 | 43/4 | 221.96 |
| 15 | 8 | 2 | 16 | 161/s. | 43/4 | 56.96 | 80 | 16 | 5 | 293/4 | $283 / 4$ | $43 / 4$ | 295.94 |
| 20 | 7 | 3 | 143/4 | 201/2 | 43/4 | 75.96 | 100 | 20 | 2 | 353/4 | $283 / 4$ | 43/4 | 369.92 |

Dimensions do not include bell on top, for which add 2 inches to the height.
Finish: Filled, varnished and oil-rubbed oak; for other finishes prices on application.
Wiring diagram sent with each annunciator.

## Intermediate Sizes

For intermediate sizes, deduct $\$ 3.00$ per drop from the list price of the next larger size listed.
For larger sizes, add per drop \$3..72.
NO. 114 FIRE ALARM ANNUNCIATOR

| No. of Drops | Arr. of Drops |  | -Outside Dinemions- |  |  | *List | No. of | Arr. of Drops |  | -Outside Dimensions- |  |  | *List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width | Height | Depth |  |  |  |  | Width | Height | Depth |  |
|  | Across | Down | Inches | Inches | Inches | Price |  | Across | Down | Inches | Inches | Inches | Price |
| 6 | 6 | 1 | 1314 | 123/8. | $43 / 4$ | \$22.52 | 36 | 12 | 3 | 23 | 191/2 | $43 / 4$ | \$131.40 |
| 8 | 5 | 2 | 12 | $153 / 4$ | 43/4 | 30.02 | 40 | 10 | 4 | 20 | 231/4 | $43 / 4$ | 145.98 |
| 10 | 5 | 2 | 12 | 153/4 | 43/4 | 37.50 | 50 | 10 | 5 | 20 | $263 / 4$ | $43 / 4$ | 182.46 |
| 12 | 6 | 2 | 131/4 | 153/4 | $43 / 4$ | 45.00 | 60) | 12 | 5 | 23 | $283 / 4$ | +3/4 | 218.94 |
| 15 | 8 | 2 | 16 | 153/4 | $43 / 4$ | 56.32 | 80 | 16 | 5 | 293/4 | 263/4 | $43 / 4$ | 291.90 |
| 20 | 7 | 3 | $14^{3 / 4}$ | 191/ | $43 / 4$ | 75.00 | 100 | 20 | J | $353 / 4$ | 301/4 | 43/4 | 364.92 |
| 24 | 8 | 3 | $16 ;$ | 191/2 | 43/4 | 89.98 |  |  |  |  |  |  |  |

Dimensions do not include bell on top, for which add 2 inches to height.
Finish: Filled, varnished and cil-rubbed oak; for other finishes prices on application.

## Intermediate Sizes

For intermeliate sizes, deduct $\$ 3.00$ per drop from the list price of the next larger size listed.
For larger sizes, add per drop, \$3.72.
Special Finishes, Lettering, Setback and Lamp Signal Attachment W.F.List
For white enamel finish, culd to list:

2 to 10 drop

11 to 20 drop. . . . . . . . . . . . . . ... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 14.04
21 to 50 drop . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 21.20
51 drops and over.
27.60

Lettering on glass, up to 10 letters, list \$1.(i): each additional letter, list, 11 cents.
For Lamp Signal Attachment, listed elsewhere, add to list, $\$ 11.20$,
Other sizes and finishes, special-information on request.
Note: Heavy face type indicates finish supplied when not otherwise specified.
*Delivery F. O. I3. Factory, New York City. For warehouse deliveries write nearest house.

## SEMAPHORE DROP ANNUNCIATORS



No. 401
Wood


No. 405
Metal Case

Flush Types
NO. $401-\mathrm{NO} .407$

| No. of | -Arrangement of Drops- |  |
| :---: | :---: | :---: |
| Drops | Across | Down |
| 2 | 2 | 1 |
| 3 | 3 | 1 |
| 4 | 2 | 2 |
| 6 | 3 | 2 |
| 8 | 4 | 2 |
| 10 | 4 | 3 |
| 12 | 4 | 3 |
| 15 | 5 | 3 |
| 18 | 6 | 3 |
| 20 | 5 | 4 |
| 24 | 6 | 4 |


| Wialth | Height | Depth |
| :---: | :---: | :---: |
| Inchen | Inches | Inclies |
| 734 | $7^{3}$ | $=1 / 2$ |
| 9\% | 734 | 21/2 |
| $73 / 4$ | $9{ }^{-4}$ | $21 / 2$ |
| $9{ }^{95 / 8}$ | 93 9 | $91 / 2$ |
| 115 | $93 / 2$ | 21/2 |
| 117\% | 113 | $\pm 12$ |
|  | 1134 | 913 |
| $117 / 6$ | 113 | $21 / 2$ |
| 141/x | $113 /$ | 21 |
| 10, ${ }^{\text {a }}$ | 1331 | $21 / 2$ |
| 141\% | 133/4 | $21 / 2$ |


| W. F. I.ist Price |  |
| :---: | :---: |
| No. 401 | No. 407 |
| \$11.01 | $\$ 12.99$ |
| 13.511 | 16.51 |
| 17.98 | 22.02 |
| 24.58 | 30.02 |
| 32.77 | 40.00 |
| 10.96 | 49.98 |
| 49.22 | 60.03 |
| ti0.03 | 72.00 |
| 72.00 | 86.40 |
| 30.00 | 90.00 |
| 96.00 | 115.20 |
| 4.03 | 4.80 |
| 3.52 | 4.48 |

No. 401 Wood Case
Finish. Filled, varnished and al-rubbed *oak; other finishes, riews on appheation Dimensions do rot inclade bell far which add $3 / 4$ inch to depth.

No. 407 Metal Case
Finish, Black; other finishes, priers on application. For imitation wood finshes add 25 per eent.

| No. of Drops | -Arrancement of Drops-AeroseDown | NO. 406-NO. 405 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Width <br> Inches | Dimpen <br> MeighL | Depth Inche's |  |  |
|  |  |  | Inche: |  | $\text { No. } 406 \text {. F. Isst Price }$ |  |
| 2 | 21 | 8 | $55^{3 / 4}$ | 234 | \$11.84 | \$13.82 |
| 3 | 31 | 101/4 | 53 | 234 | 14.72 | 17.08 |
| 4 | $2 \quad 2$ | 8 | 81 | 23 | 19.58 | 23.62 |
| 6 | $3 \quad 2$ | 101/ | 818 | $2{ }^{3}$ | 27.04 | 32.38 |
| 8 | 4 - | 121\% | 814 | $2{ }^{3}$ | 36.02 | 43.20 |
| 10 | 4 3 | 131\% | $1013{ }^{3}$ | 23 | $25.01)$ | 54.02 |
| 12 | 4 3 | 1210 | $10^{3}$ | 23 | 54.02 | 64.76 |
| 15 | 3 5 | 1014 | 1534 | 234 | 1in. 98 | 78.02 |
| 18 | 36 | 101/4 | $1 \times 1$ | $2{ }^{3}$ | 79.16 | 03.56 |
| 20 | 4 5 | 121 | 153/4 | 23 | 87.80 | 104.00 |
| 24 | 4 -6 | 12\% | 181/8 | 234 | 205.60 | 124.80 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

No. 406 Wood Cage
Dimensions do not include triwisovelap of trim $17 / x$ inches all aroural.
Finish. Filled, varnshel and bil-rubbed *Ok, other finishes, pries on application.
Small beil or buzzer will i.e furnished if ordered.

## No. 405 Metal Case

Dimensions do not in-lude trims: ove-lap of trim $1^{1 / 4}$ inches all atound.
Finish. Black; other finisher, prices on application. Fror imitetion wood finishes, udd to list 25 per keut.
Small bell or buzzer will te furnishem if ordereat.
GENERAL

For white mamel, add to list:


[^20]
## DE VEAU HOSPITAL SIGNALING SYSTEM



No. 150013


No. 150313


No. 1501 B


No. I520A


No. 1522.1

The most important feature of the Do Veau Hospital Signaling System is its "absolute safety." All danger to hospital from fire by short "ircuit, or injury by shock is eliminated. Another feature is the simplieity of the systrm. Its flexibility makes it adaptable to any building, regardless of size. The signals are silent and precise, and produce a definite though silent recond which will last until the lamps are extinguished by the attendant. The finish of the apparatus is white.

Where desired, the system may inclute the Fmorgency Foature. Other optional features are: Supervisory Etations and Jlapsed lime lecorders.

The current required may be produred by a motor generator, transformer or storage battery, deprading entirely upon conditons.

Warh system consists primarily of a number of push-button deviers, which, when depressed, light, simultancously, a number of lamps lorated at various points, thereby notifying the nurse or doctor that their service is needed. The lamps, when lighted, ran be extinguished only from the station where the call originated, thus making it neeessary for the hurse to go to the patient's bed.

## Calling Stations

The C'alling Stations are made in two types-Single, to take care of one bed; and Double, to take care of two adjoining beds. The Private Roon Calling Station consists of a metal plate, from which extends a flexible cord, ending in a push button. The latter to boplacel within convenient reach of the pationt. The Ward Calling station has, in addition, a small lamp, either exposed or with a bulls-eye. The Solarium or Bath lionm Calling Station has the calling bution mount d directly in the face plate, In addition, cach calling station is equipped with a control buttom, which, when depressed, will extinguish the lamps. While the listine helow cocrers stations with control buttons only, control keys can be furnishod instearl, if so desired. For each catling station a single switeh box, with a minimum denth of $23_{4}$ inches is required.

FOR PRIVATE ROOMS
List
No.
ingols
Lindyl3 3

Typo
Single
$\begin{array}{lr}\text { Single } & \$ 11.50 \\ \text { Double } & 18.50\end{array}$
Jist
Prico
$\$ 11.50$
18.50

FOR SOLARIUM OR BATHROOM
wis

| Jist |  | İist |
| :---: | :---: | :---: |
| No. | Type | Price |
| 1;1):313 | Single | \$8.50 |
| , . $\cdot$. | . $\cdot \cdots$ | -'.' ${ }^{\prime}$ |
| DS WITH BULI' |  |  |
|  | LL'S- |  |


| List |  | Jist | list |  | Jist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Type | Price | No. | Type | Price |
| 1.0113 | Single | \$13.50 | 50,2B | Single | \$11.(k) |
| 150113J3 | 1)ouble | 20.50 | 15021313 | I )ouble | 21.00 |

## Pilot Stations

The Pilot Stations consist of a faceplate, equipped with lamps, to be mounted over the doors of the rooms and wards, as woll as in the duty room and dict kitehen. If more than $f$ lamps are reguired in the two later places, an annunciator should be used. Each duty rnom and diet kitehen pilot station is also equipped with a buzzer, which will senuid momentarily when a call is made.

FOR CORRIDOR

| Jist | Typo | Iist |
| :---: | :---: | :---: |
| No. |  | Price |
| 1520.4 | Single | \$6.00 |

## For Duty Room and Diet Kitchen

## WITH BULL'S-EYE COVER

AND BUZZER

12228
10213
$1522(1)$
15201 )
15220
$1522 \mathrm{~J}^{\circ}$
Number of
Jarnips
1
2
3
3
4
5
6
J.ist
Price
$\$ 19 .(0)$
21.10
25.50
27.50
32.00
34.010
 AND BUZZER

## Nurses' Lamp Annunciators

When six or more lamps are required in the duty room or diet kitehen, it is advisable to use an anmanioator, which ean be furnished in capacities from 3 to 20 lamps and more These anmumbitors are equipped with small lamp units, about $11 / 4$ inehes square, and a "Siafeguard" D'ilot I.amp, which insures the registering of every call, even should the individual lamp unit. by any chance, become burned out. The numbers or other markings ovar the individual lamp units can be changed at small expense. A buzzer forms part of the equipment. The finish of the annunciator is white.

| Number | List No. 1550.A |
| :---: | :---: |
| of | Wood Case |
| l.amps | List J'riee |
| 3 | \$54.00 |
| 4 | 5:1) (0) |
| 5 | 16. 4.00 |
| 6 | (it) . 00 |
| 8 | 78.013 |
| 11 | 87.00 |
| 122 | 90.00 |
| 10 | 113.60 |
| 20 | 131.20 |
| Fiach atditional | 5.00 |


| Jist No. 1550 R Non-Flush |
| :---: |
| Metal Case |
| List Price |
| S.57.0) |
| (i2. 000 |
| 67.00 |
| 72.00 |
| 81.00 |
| 90.00 |
| 99.00 |
| 116.60 |
| 134,20 |
| \%. ${ }^{(1)}$ |


| $\begin{aligned} & \text { List No. } 15 \overline{5} 0 \mathrm{C} \\ & \text { Flush } \end{aligned}$ |
| :---: |
| Wood Case |
| list Price |
| 856. (0) |
| til. (\%) |
| $166 .(0)$ |
| 71.00 |
| 80.00 |
| 89.00 |
| 98.00 |
| 115.60 |
| 133.20 |
| 5.00 |

List No. 1550D
Flush
Metal ('use I.ist Price 859.00
854.00
64.00
69.00
7.60
74.00
83.00
132.00
101.00
118.60
1311.20
$\begin{array}{llll}\text { Leach atdditional } & 5.00 & \text { 5. (0) } & 5.00 \\ 5.00\end{array}$
Delivery F. O. I3. Factory, New lork, N. Y. For warchouse deliveries write nearest ho:se.

# DE VEAU HOSPITAL SIGNALING SYSTEM 

## Supervisory Lamp Annunciator (for Matron's, Superintendent's, Head Nurse's Room

This equipment is optional. It can be furnished in capacities of 3 to 24 or more lamps, with wooden or metal case, for flush or non-flush mounting. The anmumeiator consists of smatl flush mounted lamps, with $3 / 1$ inch butl's-eyes. A designation strip is mounted underncath the lamps, so that each one of them may be given a name or reference numbor. The equipment is furnished complete with lamp mountings, lamps and hulls'eyes. 'The terminals are monnterl inside the ease and providerd with non-slip maeline serews. The finish of the annunciator is white cnamel. Prices will he furnished upon request.

## Elapsed Time Recorders

Elapsed Time Peoorders are used to register graphically the time consumed botween the sonding and answering of a call. The patient pressing the button operates a pen which travels along a paper feod-roll in synchronism with a clockwork mochanism in the recorder-cabinet, making a graphe and permanent record of the time required to answer a call. UTon the call being answered, aml the control button released by the murse answering the call, the marking ceases. This eqpipment also is optional, and pries will be furnished upon request.

## Emergency Feature

Upon answering a call, the nurse sometimes finds the patient in such a critical condition that immerliate assistance from the physician is neelech. To take care of these eases the Emergeney Feature has been proviled, consisting of an energener calling aud an emergency control button in the Calling Station, as well as an emergeney lamp in each lilot Station, which should be of a contrasting color to the regular lamp. In addition, the Pilot Station in Juty Room or Diet Kitchen is equipped with an emergency hell.

## Calling Stations with Emergency Feature

FOR PRIVATE ROOMS
List
No.
151013
15101313

|  | List |
| :--- | :---: |
| Type | Price |
| Single | $\$ 16.00$ |
| Double | 23.00 |

No. 1510 B


WITH EXPOSED LAMP
List
No.
151113
15111313

|  | List |
| :---: | :---: |
| Type | Irice |
| Single | $\$ 20.00$ |
| Double | 27.00 |

FOR SOLARIUM OR BATHROOM

List
No.
1520 B

For Wards

## Pilot Stations with Emergency Feature FOR CORRIDOR

| List |  | List |
| :--- | ---: | ---: |
| No. | Type | Price |
| $1: 51213$ | Single | $\$ 20.50$ |
| 1.5121313 | Double | 27.50 |


| List |  | List |
| ---: | ---: | ---: |
| No. | Type | Price |
| 151313 | Ningle | $\$ 12.50$ |


| Type | List |
| ---: | ---: |
| Double | Irice |
| Do.40 |  |

## For Duty Room and Diet Kitchen

WITH BULL'S-EYE, BUZZER AND WITH EXPOSED LAMP, BUZZER EMERGENCY BELL

| List | Number of | List | List | Number of | List |
| :--- | :---: | :---: | :---: | :---: | ---: |
| No. | Lamps | Irice | No, | Lamps | Price |
| 1.524 B | 2 | $\$ 25.00$ | $1523 B$ | 2 | $\$ 24.10$ |
| 1524 D | 4 | 31.50 | 152310 | 4 | 30.10 |
| 1524 F | 6 | 38.00 | 1523 F | 6 | 36.40 |

Annunciators for Fmergency Service require twice the number of lamp units; the regular set for patient's calls, and another set (in contrasting color) for cmergency calls. When ordering annumeiators for systems with cmergeney feature, clo not fail to specify this in your order. Prices for lamp ammonejators with emergency feature can be figured by doubling the above inentioned prices for regular amunciators.

Delivery F. O. B. Factory, New York, For warehouse deliveries write nearest house.

## DE VEAU HOSPITAL DOCTOR＇S CALL SYSTEM

This system has been designed to instantly locate any physician in any part of the hospital，and notify hine that his immediate assistance is needed，thus avoiding the loss of time contaber in trying to locate foim by ralling various telephone stations，or sending a messernger for him．

The following apparatus is required for a De Veau llospital Doctor＇s（＇all Syste．．．．
CALILN（i STATIONS：
Consist of a calling board with movable cams．A designation strip，bearing the doctor＂s reference number，is mounted near each cam．The board should be located at a central point，like ottice or duty room


No．1505－A

| List |  | Number of | I．ist |
| :---: | :---: | :---: | :---: |
| No． | Type | （＇aths | Price |
| 1505 A | Non－F゙Msh | （） | \＄24．00 |
| 150．51 | r＇lush | 1 | 25.00 |
| Fach addition |  | ． | 3.100 |

Pl．oT STMATION゙心：
Consist of lamp annumeiators（either single or donble－fare，as desired），provided with a number of lamp units．Ipon the operation of a＂am of the（＂ablang Station，one of the unts will light，illuminating the reference mumber of a doctor．＂lhe annumetors should be located where the dortorsare most likely to see them－in wards，corridors，cte．

## DE VEAU ELECTRICAL RESET ANNUNCIATORS

Wall Type No. 25R



Wall Type Nos. 25R

Flush Type No. 15RII


Pesk Type No. 2R

Elevator Type No. 11 RI:


##  shown.

No extra charge for st raight maltiple work.
For antomatic reset add $\mathbf{S} 10.40$ list per anmunciator

## Elevator Type No. 11RE

Tyue: Flectrieal reset. Style: Flevator.
Finish: black ebony mounted with niekel trimmings standard. Special finishes extra.

Iquipment: Complete with the necessary DeVeau No. 1 li lelectrical reset drops and pivoted armature bell.

## No. 11RE, Reset Drop

| Drop | List | Drop | List | Drop | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Capacity | l'rices | Capacity | Irices | Capacity | Irices |
| 3 | 811.70 | 7 | \$24.50 | 12 | \$46.20 |
| 4 | 14.00 | 8 | 26.40 | 16 | 52.80 |
| 5 | 17.50 | 9 | 33: 000 | 18 | 59.40 |
| 6 | 21.00 | 10 | 339.60 | 20 | 66.00 |
|  |  |  |  | 24 | 7!.20 |

Fach additional reset drop ovor 20, list, \$3.00.
Drop capacities not mentioned take list prices of noxt highest rapacities shown.

For automatie resot on No. 11 li F, add $\$ 10.10$ list per annumeiator. No extra charge for straight multiple work.

## BRYANT SILENT CALL SIGNAL SYSTEM

The Bryant Silent Call Signal System is a simplified Lamp signal system designed particularly for use in hospitals and having use also in oflices, department stores, public buildings, etc.

It requires no relays, no batteries. no motor generators, no transformers, and operates direct on 100 to 125 volts direct or alternating current.
"'he slightest pressure on the button of a bed push indicates a desire for attendance, which is registered by means of incandesecnt lamps lighting simultaneously at various points-outside the room or ward dom, at the murse's desk, in the diet kitchen and elsewhere if desired.

The registration of a call nay also be indicated to the patient by the means of an illuminated bulls-eye included as a part of the calling station at the bedside. All the signal lamps incident to a given eall remain lighted and cannot be changed until reset by the attendant at the calling station by the bedside where the call originated.

A calling station may be confined to the receptacle and cord extension with bed push and control switch. or may include the bulls-eyeand one or more outlets for examination light, reading lamp, fan, heating pad, etc.

The system is permanent positive with minimum maintenance.
For convenience each section of the various stations has been given a letter designation, as shown above the illustration.

$$
{ }^{* O}{ }^{\prime} \quad \text { "J" }
$$



No. 10 Calling sitation


No. 11 Calling Station
*List
No.
10. Private Roon Caling Stations

10 Calling Stations "()," "J" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug.
It requires a standard two gang outlet box not less than $23 / 4$ inches deep.
11 ('alling Sitation " $( \} . "$ "J," "P", includes: 1 control switrh, 1 receptacle for cord extension to bed push, 1 bed push button with 8 feet of special signal cord and plug, 1 double pole push button emergency switch.
It requires a standard three-gang outlet box not Iess than $23 / 4$ inches decp.


So. 12 Calling Station


No. 13 Calling station

## Private Room Calling Stations

Calling Station "Q," "J," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push. 1 bed push button with 8 feet of special signal cord and plug, 1 receptacle for plug extension to examination light, fan, heating pad, etc.
It requires a standard three-gang outlet box not less than $23 / 4$ inches deep.
13 Calling Station " $\ell, "$ "J." "I'," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push with 8 feet of speeial signal cord and plug, 1 double pole push button emergency switeh, 1 receptacle for plug extension to examination light, fan, heating puid, etc. t requires a standard four-gang outlet box not less than $23 / 4$ inches deep.
*The outlet box is not included with the stations.
$\dagger$ Delivery F. O. B. Factory, Bridgeport, Conn. For warehouse deliveries write nearast house.

## BRYANT SILENT CALL SIGNAL SYSTEM

Ward Calling Stations. The warl calling stations are designed for use in roons where several beds are placed. They are similar to private room calling stations, except that a bulls-eve signali hamp has bern alded to enable the responding attendant to locate the exact origin of the call. They may also be used in private rooms when it is de:ired that registration of the call be indicated to the patient. 'lhe equipmont ineludes a two cande lamp behim each bulls-eye.


No. 14 Ward Calling Sistion


No. 15 Ward Calling Station

## Ward Calling Station

*List
No.
14

Outfit " C ," "A," "J" includes: 1 control switeh, 1 receptacle for corl extension to bed push,
1 bed push button with 8 feet of special signal cord and phig. 1 bulls-eye signal. ........... $\$$.2.2. 0 ; It requires a standard four gang outlet not less than 2,4 inches deep.
15 Ouffit "( ," "A," "J," "P" includes: 1 control switch, 1 receptacle for cort extension to bed
push, 1 bed push button with 8 feet of special signal cord and plug, 1 bulls-eye signal, 1
double pole emergency push button switch.
$\$ 23.66$
It repuires a stamdard four gang outlet box not less than $23 / 4$ inches deep.


No. 16 Ward Calling Station


No. 17 W'ard (:alling Station

## Ward Calling Station

| N |  | ist Pric |
| :---: | :---: | :---: |
| 16 | bed push, 1 bed push button with 8 feet of special signal cord and phug, 1 bulls-cye signal, 1 receptacle for plug extension to examination light, fan, heating pail, etc. t requires a special four gang outlet box not less than $23 / 4$ inches deep. | . $\$ 24.70$ |
| 17 | Outfit "Q," "A," "J," "P," "D" includes: 1 control switch, 1 receptacle for cord extension to bed push, 1 bed push button with 8 fect of special signal cord and plug, 1 bulls-eye signal. 1 double pole push button emergency switch, 1 receptacle for plug extension to exanimation light, fan, heating pad, etc. |  |
|  | It reguires a special five gang outlet box not less than $23 / 4$ inches deep. |  |
|  | ote: The outlet box is not included with the stations. |  |
|  | Elivery F. O. B. Factory, Brisgeport, Conn. For wareh |  |



Automatic Kecorder


Lamp Annunciator

# Elapsed Time Recorder 



## Candelabra Base Lamp Annunciator

| No． Signal | Size of Box Inctres | Size of T＇rim Inches | List Price Each | No． Signal | Size of Box Inches | Size of Trim Inches | List Irrice Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 61／4× $4^{3}$ 年× $\times 1 / 4$ | 8 星 $\times$ 6 $3 / 4$ | \＄17．50 | 44 | $141 / 2 \times 25 \times 41 / 4$ | $16112 \times 27$ | \＄213．50 |
| 4 | $61 / 4 \times 614 \times 414$ | $81-1 \times 814$ | 31.50 | 48 | $141 / 2 \times 261 / 2 \times 41 / 4$ |  | 2：34．50 |
| 6 | $61 / 4 \times 73 \times 411$ | $81.0803 / 4$ | 42.00 | 52 | $141 / 2 \times 28 \times 41 / 4$ | 161，${ }^{10} 30$ | $\bigcirc 54.80$ |
| 8 | $61 / 4 \times 91 / 4 \times 414$ | $81 / 4 \times 1114$ | 52.50 | 54 | $171 / 2 \times 29 \times 41 / 4$ | 191任 $\times 24$ | $26+.60$ |
| 10 | $61 / 4 \times 10 \times 4 \times 1 / 4$ | $81-4 \times 1034$ | 70.00 | 60 | $171 / 2 \times 231 / 2 \times 41 / 4$ | 191\％$\times 2516$ | 294.00 |
| 12 | 61／4）$\times 12 \mathrm{l} \times 41 / 4$ | 819 $\times 1+1 / 4$ | 73.50 | 66 | $171 / 2 \times 25 \times 41 / 4$ | $19 \frac{1}{2} \times 27$ | 323.40 |
| 16 | $01 / 4 \times 018 \times 41 / 4$ | 1114 $\times 111 / 4$ | 87.50 | 72 | $171 / 2 \times 26 \times 41 / 4$ | 1912 $\times 281 / 2$ | 366180 |
| 20 | 91／4 $\times 10 \times 4 \times 1 / 4$ | 111．1 $\times 123 / 4$ | 101.50 | 78 | $171 / 2 \times 28 \times 41 / 4$ | $1912 \times 30$ | 382.20 |
| 24 | $91 / 4 \times 121 / 4 \times 41 / 4$ | 111／$\times 141 / 4$ | 119.00 | 80 | $201 / 2 \times 231 / 2 \times+1 / 2$ | $221 / 2 \times 251 / 2$ | 392.00 |
| 28 | $91 / 4 \times 138 \times 41 / 4$ | $111 / 2=153 / 4$ | 140.00 | 88 | $201 / 2 \times 25 \times 41 / 2$ | $221 / 2 \times 27$ | 431.20 |
| 32 | 91／4 $\times 151 / 4 \times 41 / 4$ | $1112=171 / 4$ | 161.00 | 96 | $201 / 2 \times 261 / 2 \times 41 / 2$ | $221 / 2 \times 281 / 2$ | 470.40 |
| 36 | $91 / 4 \times 163 \times 41 / 4$ | $1114=183 / 4$ | 175.00 | 100 | $231 / 2 \times 231 / 2 \times 41 / 2$ | $2512 \times 251 / 2$ | 490.00 |
| 40 | $91 / 4 \times 1814 \times 4 \frac{1}{4}$ | 1114x ${ }^{\text {x }}$（1／4 | 196.00 |  |  |  |  |

For $1 / 2$ inch bulls－eye add $s 0$ ． 56 per signal to above prices．
Bulls－eye of annunciators from＇2 signal to 12 signal are arranged in vertical rowe of 1 wo；from 16 signal to 52 signal in vertical rows of fom；from 54 to 79 signal in vertical rows of six；from 80 signal to ！ 6 signal in vertical rows of eight ； 100 signal ir．horizontal and vertical rows of ten．

## Devices for Calling Stations



## Complete Sections

| A | Pl | \＄3． 50 | P | Plate with No． 2202 double pole |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| C | Plate with receptacle and porcelain plite | 1.76 | P | emergency push switch．．．．．．．．．．．． Plate with No．（i）2 double pole emer－ |  |
| C | Pato with receptacle and indestruct－ ible phag | 2.04 | I＇ | gency push switch．． <br> Plate with double pole removable | ． 28 |
| D | Plate witl：receptacle an | 2.24 |  | mechanism emorgency switch． | 2.38 |
| E | Plate with receptacle． | 1.12 | P | Plate with 3 cirenit removable mechan－ |  |
| F | Plate with receptacle | ． 98 |  | ism emergency swith． | $\because 2.60$ |
| $J$ | Plate with receptacle hut not with plug | 1.06 | Q | Plate with control switch | 10.50 |
| ， | Whate with receptacle pluge 8 foot cord |  | （2） | Plate with control lowk switeh | 11.20 |



MISCELLANEOUS APPARATUS


## One Station for Two Beds

Foonomy in installation cost can sometimes be effected by making one station answor for two beds. An extra "J" section may be added to any calling station thus providing an additional phag receptande for bed cord extension, both bed pushes operating on the one control switch.

List Price Tach
Receptacle for cord extension to bed push without plate
Extra "J" section of calling station plate
Fextra bed push button with 8 feet of special signal cord and plug . . . . . . . . . . . . . . . . . . . . . . . . . . . $\quad$. 00
Note: When an extra " J " section is added to any calling station an extrit gang section of outlet box will be regaired.

## Push Button and Cord

List No.

list Price
$57 .(1)$
474 Extrabutton........................................................................................... 4.20

Lextra cord. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . per foot
48:3 İxt rat fuses (for direct current) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .ach . 0 .
484 Extral fuses (for alternating current) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . each . 07

## Lock Type Control Switch

This switch ran be operated to cancel the catl only by a person in possession of the key.
Lock trpe eontrol switrh (extrat)


Signal for Night Calls


SIngle Door Light Receptacle and IPlate


Double Door Light Receptacle and Plate

## Pilot Lamp and Door Lamp RECEPTACLES AND PLATES

The door signal lamp assists the one answering a eall to locate the room or to attract the attention of anyone passing. I'ilot lamps may be located where desirable.

361884 Doable door light receptacle and plate. (Requires 2 gang switch box).................. .i. . 4
$3(188.5 \quad$ Thre pilot light receptacle and plate. (Requires 3 gang switch box) .............. . . 3.36
361886 Four pilot light receptarle and plate. (Requires 4 gang switch box)................. 4.48

## Audible Signals for Night Calls

Two gang standard outlet hox is required for the audible signal without switch and three gang for andible signal with switch.
Audible signal and switeh.
Audible signal without switch
Finish of plates: Calling Station, Door Lamp and Pilot Lamp phates are regularly finished in brush brass. (other finishos, exeepting those requiring gold and silver, will be furnished at \$0.14 list, extra, per unit section of plate.

For gold and silver finish, prices quoted on application.

## VEHICLE CALL ANNUNCIATOR



Vehicle Call


Switchboard

## Edwards Vehicle Call System

An orderly, dignified and officient means of signaling chaffeurs and coachmen who are waiting for their pasengers at hotels, elubs, department stores, theaters, piers, ete.

The annunciator consists of two or more five-sided lanterns with opalescent glass sides etched and fillerl in with black so that numbers are white and plainly discemible from a great distance in the daytime; at night an ineandrseent light inside each lantern makes the number just as plain. 'lhe lanterns are revolved by means of the switchboard shown above, which has one lever for each lantern. It is only necessary to move the switch over to the desired number to have it apmar on the anmunciator. This is areomplished by means of a $1 / 16$ J.I' motor, which, through worm gear, rewolves the lantern to the proper position.

The case is sheet steel, so designed that ornamental covering case to mateh rlesign of building maty be put over it.

The switchboard is a slate hox with heave brass front, and arranged for flush or surface monnting.
The annunciator with two lanterns gives 25 different numbers; three lanterns give 12.5 numbers; four lanterns give (625. They are supplied to show the same number from two sides or one and with figures from 12 to 18 inches high.

Operation. The system is oporated entirely from the switchboard, which is generally installed in the entrance vastibule of the building, and usually operated by a carriage attendint, whose duty it is to hand duplicate numbers to passenger and driver upon arrival, and display such numbers on the anmunciator as vohicles are wanted. For this purpose the switchnoard containes radial arm dial switches with arrowheal pointers, and it is only necessary for the attendanf to move these swithes so that the pointers rest over the numbers on the switeh dial that are to be displayed on the annunciator.

## SIZES OF NUMBER PLATES IN INCHES

12 Inch


## SIZES OF NUMBER PLATES IN INCHES

| 16 Inch |  |  |
| :---: | :---: | :---: |
|  | ber of Cy lin |  |
| 2 | 3 | 4 |
| 81900.00 | 82000.00 | S2150.00 |
| 2100.00 | 2250.00 | 2500.00 |


| 1 w | \$1900.00 | 82000.00 | \$2150.00 |
| :---: | :---: | :---: | :---: |
| 2 way. | 2100.00 | 2250.00 | 2500.00 |


| 2 | , | 4 |
| :---: | :---: | :---: |
| \$1750.00 | \$18:00.00 | \$1950.0 |
| 1900.00 | 2100.00 | 2350.0 |


o opposite dirertions. I'rices include operating switchboard, and are I. O. I3. New York
Prices include the cost of plain sheet steel watherprof cases, finished in black, and so made that customer, shoulid he so desire, may have ornamental case made and slipped on directly over the one which we furnish.

Delivery F. O. B. New York. For warehouse deliveries write nearest house.

## BURGLAR ALARM APPARATUS



No. 3


Wirine Diakram


No. 5

## AUTOMATIC CLOCK BURGLAR ALARM NO 3

Equipment -Fine S-day clock, servants' call, voltmeter, bell, battery and silent tests, constant ringing switch, and antomatically illmminated dial if ordered. Extra attachments, as listed below.

Finish Oak or any ordinary wood, filled, varnished and rubbed; beveled plate glass door with lock. Surface or fush types furnished. Prices and dimensions given are for surface types; other styles on request.

| No. of | Arrangement | [_-_Outside Itimensions_-_____-_ |  |  | *List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Width | Height | Depth |  |
| Sertiors | Rows | Inches | Inches | Inches | Price |
| 6 |  | 14 | 23 | $73 / 4$ | \$473.00 |
| 8 | 1 | 17 | 23 | $73 / 4$ | +465. 00 |
| 10 | 1 | 19 | 23 | $73 / 4$ | 5.17 .00 |
| 10) | 2 | 121/2 | 27 | $73 / 4$ | 517.00 |
| 12 | 2 | 14 | 27 | $73 / 4$ | 5:30.00 |

Additional sections in width, add to width, 1 tinches.
Additional rows in height. add to height, 4 inches.
Additional sections, add to list per section. \$12.1it.
For white cnamel finish, add to list, $\$ 16,50$.
Note: Heavy face type indirates finish supplied when not otherwise ordered.

## AUTOMATIC CLOCK BURGLAR ALARM NO. 5

Equipment: Standard 8-day long pendulum elock. Battery, bell and silent test, constant ringing switch. Extra attachments, as listed bolow.

Finish: Same as No. 3 but without glass door. Other finishes and flush types furnished. Prices and dimensions shown are for surface types.

| No. of Sections | Arrangenient Rows | -Outside Dimensions |  |  | *List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Width | Height | Deptb |  |
|  |  | Inches | Inches | Inches | Price |
| 6 | 1 | $131 / 4$ | 24 | 61/4 | \$1\%.t.00 |
| 8 | 1 | 16 | 24 | $61 / 4$ | 176.00 |
| 10 | 1 | 18 | 24 | $61 / 4$ | 198.00 |
| 10 | 2 | 12 | $271 / 2$ | $61 / 4$ | 200.00 |
| 12 | 2 | 131/4 | $271 / 2$ | $61 / 4$ | 242.00 |

Additional sections in width, add to width, $11 / 2$ inches.
Additional rows in height, add to height, $31 / 2$ inches.
Additional price per section, list, $\$ 7.70$.
Servants' call can be furnished at an additional list price of $\$ 16.50$.
For white enamel finish, add to list, $\$ 13.20$.

## EXTRA ATTACHMENTS

For No. 3, or No. 5 I3urglar Alarms.
Automatic incandescent lamp lighter, in case, capacity 5 amps................................ . . . . . 7 . 40
Automatic incandescent lamp lighter, in case, capacity 10 amps.......................................... ()
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

## BURGLAR ALARM APPARATUS



No. 7


Wiring Diagram


## AUTOMATIC BURGLAR ALARM NO. 7

Furnished with battery, bell and silent tests.

| No. of | Arrangement | Width | Height | Depth | *List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sections | Rows | Inches | Inches | Inches | Price |
| 6 | 1 | 131/4 | 141/2 | 61/4 | \$84.70 |
| 8 | 1 | 16 | $141 / 2$ | 61/4 | 91.30 |
| 10 | , | 183/4 | 141/2 | $61 / 4$ | 96.80 |
| 10 | 2 | $113 / 4$ | $181 / 4$ | $61 / 4$ | 96.80 |
| 12 | 2 | 131/4 | 181/4 | $61 / 4$ | 103.40 |

Additional rows in height, add to height, $33 / 4$ inches. Additional sections in width, add to width, $11 / 2$ inches. Add to price per section, \$1, 60 .

Finish: Filled, varnishad and rubbed oak. Other standard finishes to order.

## Special Finish

Note: Heavy face type indicates finish supplied when not otherwise specificd.
For mahogany, add to lisf, $25 \%$. For white enamel finish, add to list $\$ 8.80$.
CLOSED CIRCUIT DROP NO. 11
For annunciators or burglar alarms on closed circuit, each drop acting as its own relay.
For annunciators or hurglar alarms
Add to list price of burglar alarm:

| With Clock | Without Clock |
| ---: | ---: |
| $\$ 159.50$ | $\$ 77.00$ |
| 192.50 | 110.04 |
| 225.50 | 143.00 |

For 6 -section cases.
For 8 -section cases.
$110 .(\%)$
143.00
For 10 -section cases.
For larger sizes, prices furnished on application.
For annumeiators all stykesexcent fire alarm, return call or the No. 81, special prices on application.


LOCK BURGLAR ALARM SWITCHES
Schedule "E"
The No. 95 switch is placed on the outside of door frame, so that when burglar alarm is set, persons having a key may enter withtut giving the alarm.
95 Polished brass or riskel. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 13.20$
The No. 95A operates the same as No. 95 , but has two locks. Keys fit both inside ano outside locks so that after switch has been turned off outside, key can be withdrawn and person entering can close the door, insert key on inside and reseb switch.

95 A Polished brass or nickel plate
$\$ 26.40$
The No. 95 B is the same as No. 95 , but with rod to go through door frame, fastened by nuts on inside, so that it cannot be removed from the outside.

95 B Polished brass or nickel.
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write neareat house.

## BURGLAR ALARM ACCESSORIES

## Open and Closed Circuit Springs

No. 28


No. 29


No. 30


No. 32


No. 34


No. 37


No. 33

## OPEN CIRCUIT SPRINGS



The make and break spring No. 38 differs from other types in that it establishes the contact as the door opens and closes, but not when the door is open or closed. It is used for store doors and other places where a signal that a door is being opened or closed is desired and yet permit the door to remain in either position without ringing the bell.


## CLOSED CIRCUIT SPRINGS

| List No. | For Use On |
| :---: | :--- |
| 28 | Window |
| 30 | Window |
| 37 | Shutter |
| 39 | Door |
| 121 | Window |
| 40 | Door or Safe |
| 42 | Door or Safe |
| 44 | Door or Safe |
| 44 A | Door or Safe |


| Description | Size of Plate | Std. Pkg. | *List Price |
| :---: | :---: | :---: | :---: |
|  | $23 / 8 \times 1 / 2 \mathrm{in}$. | 100 | \$0.78 |
| Heavy spring | $33 / 8 \times 5 / 8 \mathrm{in}$. | 50 | . 97 |
| Extra long break | $3 \mathrm{x} 5 / 8 \mathrm{in}$. | 50 | 1.00 |
| Opening door breals contact | $2 \mathrm{x} / 8 \mathrm{in}$. | 50 | . 44 |
| Flat contact or for loose sash. | $41 / 2 \times 3 / 4 \mathrm{in}$. | 100 | . 66 |
| Fits $3 / 8$ inch hole (price witl plate) | $13 / 4 \times 58 \mathrm{in}$. $13 / 4 \times 5 \mathrm{in}$. | 50 | . 66 |
| Price with plate. <br> With extra plate No. 44 a | $13 / 4 \times 5 / 8 \mathrm{in}$. | 50 | . 78 |
| With extra plate No. 44 a | $13 / 4 \times 5 / 8 \mathrm{in}$. | 50 | . 22 |

## DOOR TRIP NO. 236

To automatically ring bell when door is opening. Screws to door frame.
Door Trip
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


SS-1


SS-1

## SS-1 ELECTRICALLY SUPERVISED SYSTEM

The simplest type of eleetrially supervised system. For use where an absolutely dependable supply of direct eurrent is available at all hours of the day or night. Employs angle stroke gongs which require no winding and onerato directly from lighting or jower circuits.

Main circuits, box circuits and gong circuits are constanlly under electrical test. Trouble of any nature or failure of operating current is indieated automatically by ringing of trouble bell and by visual indication at the panel.

## OPERATING PANEL WITH CABINET NO. SS-1

$11 l$ meressary instruments, relays, resistances and connertors mounted on shate panel and enclosed in sheot sted cabinet, arramged for conduit comection. Price includes trouble bell amd battery for' operating same.

|  | IV. E. List |
| :---: | :---: |
| For single cireuit sustems not to exeed 1t gongs. | Price 174.75 |
| For each additional cireuit add per cirruit...... | 34.85 |

## SINGLE STROKE GONG-NO. 2000-CONDUIT TYPE

No winding required-strikes heavy powerful blow. Itave separable conduit fiting for $\begin{aligned} & \text { a } \\ & \text { inch surface }\end{aligned}$ conduit ( $3 / 4 \mathrm{inch}$ if specified).

| List No. |  | W. E. List Price |
| :---: | :---: | :---: |
| $\because 100$ | is inch single stroke alarm bell | \$24.85 |
| $\underline{2100}$ | S inch single stroke alam bell | 331.06 |
| $\because 100$ | 10 inth single stroke alarm bedl | 37.20 |
| 2100 | 12 inch single stroke alam bell | +(6. 50 |
| 2100 | 14 inch single stroke atarm bell. | 54.75 |
| 2100 | 16 inch single stroke alarm bell . | 108.00 |

FIRE ALARM BOXES-SELECTIVE RINGING TYPES

| List No. |  | W. E. List Price |
| :---: | :---: | :---: |
| 1275 | Fnelosed pull lever type for surface conduit | ) |
| 1276 | Einclosed pull lever type for surtace eonduit |  |
| 1275-2 | Combined pull lever and break glass type. | 40.50 |
| Trouble bell, conduit type, induded in price of panel. |  |  |
| be supplied in panel. |  |  |
| System similar to the above can also be supplied for operation on storage or primary battery. |  |  |
| Prices given on this page apply to 100 to 125 volts D. (\%. |  |  |
|  | for 200 to 250 volt material quoted upon |  |

## SELECTIVE CODE-RINGING CLOSED CIRCUIT TYPE USING EDWARDS ELECTRO-MECHANICAL BELLS




EMB-2

## EMB-2 ELECTRICALLY SUPERVISED SYSTEM

The system most generally employed in industrial plants, warehouses, institutions and all huihings requiring a reliable supervised conde-ringing system operated independenty of coetric liphting circuits.

Operation. When any box is operated by pulling the lover a dode signal is given by all gong:showing location of box from which alarm was sounded.
 see diagram.

Main cireuits, box cirenits and gong circuits are under comstant electrical tost. Frouble of any nature or failure of operating corrent is indicated atomationlly by ringing of trouble bell and hy visual indication at the panel.

## OPERATING PANEL WITH CABINET EMB-2

All instruments, relays, resistanes and conneotors are mounted on shate panel and enclosed in steel cabinet, arranged for conduit connection. I'rice includes trouble bell and battory to oporate samo.

| List No. |  | W. F. Inst Price |
| :---: | :---: | :---: |
| EMB-2 | For single circuit system-not to exered 14 gongs | \$174.75 |
|  | For each addition circolit, add per circuit | 34.85 |

## ELECTRO-MECHANICAL BELLS-No. 1330 OR 1331

A dependable powerful bell with separable fitting for 1巨 inch conduit.
W. E. List

Price
6 inch Edwards clectro-mechanical bell . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$(64.96$
8 inch Elwards chectro-merhanieal bell 67.28

12 inch belwards electro-mechanical bell 77.40

FIRE ALARM BOXES
List No.
W. F. List

275
1276 Finclosed pull lever type for concoated condu $\$ 29.40$
1276 Fnclosed pull lever type for conseated conduit. 35.70

1275-2 ('ombined pull lever and break glass. . . . . . . . .
Primary battery or storage battery and charging outfit. Prices quoted upon application.
Customer must specify number of bells to be operated on cach cireuit so suitable resistance unit can be supplied in panel.

Conduit connections are detachable and may be shipped separately in advance to facilitate installation of conduit.

Electro-mechanical system, supervised and code-ringing, can also be supplied for operation on alternating or direct current lighting circuits.

Send for complete Edwards Fire Alarm Bulletin.

## EDWARDS FIRE ALARM SYSTEMS

OPEN CIRCUIT, NON-SUPERVISED BATTERY TYPE USING EDWARDS RECTI VIBRATING BELLS


A simple open circuit battery systom, moderate in first const and mantename and suitable for many installations when the owner does not consider the supervised system to be neerssary.

OPERATION
When any alarm box is operated by breaking the glass in the front, all gongs ring conimuously until the box is restored or until batiery is exhausted.

Alarm does not indicate location of the box operated.
All bells and boxes on each rircuit are comected in multiple.
GONGS RECTI No. 1001--VIBRATING-SURFACE CONDUIT TYPE
A sturdy, clear ringing weat herproof gong.
Case has oil soaked gasket allowing no moisture to penetrate.
llammer rod is of brass, direct arting and strikes a powerful blow.
Contacts are of carbon and will not rust, corrode or stick.
Soparable conduit fitting drilled and tapped for $1 / 2$ inch combuit ( $3 / 4$ inch if specified).

| List No. | Size | Ohms | W. E. Iist Price |
| :---: | :---: | :---: | :---: |
| 1001 | 6 | 4 | \$25.47 |
| 1001 | 8 | 4 | 29.95 |
| 1001 | 10 | 6 | 39.47 |
| 1001 | 12 | 6 | 51.60 |
|  | BOXES |  | W. E. List |
| 2241 | Break glass type for surface conduit. Has somable eonduit fitting for $1 / 2$ inch conduit. With test key. Finish, red enamel. |  | Price 10.88 |
| 2240 | Duplieate of No. 2241, except for concraled cond |  | 10.88 |

## BATTERY CABINET-FOR STORAGE BATTERY

An approvea metal cabinct to hod cells and proted them from dust, dirt and injury.
To take up to 10 eclls.
$\$ 31.50$
For larger sizes-add for each 2 cells
4.00

## BATTERY SETS

Pries cover approved cabinet and dry battery.
6 volts D.C
10 volts D.C
Irices
12 volts D.C application
Storage Battery Prices on Application
Conduit connections on bells and boxes are detarhable amel may be shipped separately in advance to facilitate installation of conduit -boxes and gomgs may be at tached at any time by machine serews supplied with them.

Open cireuit systems similar to the above can be supplied for operation on 100 to 250 volt D.C. lighting circuits.

Prices upon application.


Substantial in construction.
Reliable in operation.
Operation: When lever is pulled and released it automatically disengages so ats not to interfere with proper operation of the box through additional pulling. When signals have been completed lever is antomatically re-engaged and box is ready for anothor alarm. No winding ever neessary. The door is provided with a spring hinge so that when roleased after sending alarm it automatically returns to closed position. Silent teat of any box may be made by using key supplied with the alarm box. Telephone recoiver fest may he substituted if desired at additional cost.

Detachable conduit fitting drilled and tapped top and bottom for $1 / 2$ inch conduit ( $3 / 4 \mathrm{inch}$ if desired), so that conduit work nety be completed, wire pulled in and eonnected up then. Boxes may be attached at any time by machine screws supplied with them.

Finish: IRed mamel.

| İist |  | I ist |
| :---: | :---: | :---: |
| No. |  | Price |
| 1275 | For use with surface conduit. | 829.40 |
| 127\% | Forr use with concealed comduit | 35). 70 |

## Combination Pull Lever Break Glass Box Alarm-No. 1275-2



No. 1275-2

This is the regular 1275 or 127 (i) except that a locked door is substituted making two operations necessary to sound an alarm. Ipon breaking the glass the door automatically opens to the full extent, then pulling the lever sounds an alarm. Door may be opened by means of key without broaking the glass.
I.ist
List
No.
1255-2 For use with surface conduit. . . . . . . . . . . . . . . . . sto. . 50
1276-2 For use with concealed conduit.................. . 46. 50

## Weatherproof Cases for Fire Alarm Boxes



No. 129

Substantial cast-iron cases to protect hoxes from weather or mechanical injury.

Jinish: Red enamel.
list ..... List
No. ..... Price
129
Size $81 / 2 \times 71 / 2 x+$ inches for No, 2041 boxes ..... 825.85
1200 Size $12 \times 111 / 4 \times 61 / 4$ inches for 1275 or $1275-2$ boxes ..... $32.5 \%$
Extra for strap key for testing. ..... 2.84
Extra for glass in door. ..... 3.74

Mail Orders Filled at Prevailing Prices


## Break Glass, Contact Making Types

These boxes are used where a general alarm on alarm apparatus such as vibrating bells of Recti type is desired, or in centrally controlled systems, where annunciators such as the No. 114 -which is equipped with bell control switches-and vibrating alarm bells are employed. In this latter system, the operation of a box causes tag bearing number of the box operated to indicate on annunciator, and annunciator bell to ring continuously. It is then possible for person at annunciator to ring any or all alarm bels to clear building. In using this type of apparatus, open circuit system is usually employed.

A yery high degree of perfection has been obtained by close attention to details of manufacture.
Prices inchule hammer and chain.

## NO. 224 FLUSH TYPE

Breaking glass closes circuit. Size plate, $3 \frac{7}{16} \times 43 / 8$ inches. Fits standard switch box.
Standard finish: 1 ark mat ground, raised lettering and borders brush brass or bronze.
List No.
*List l'rice
224 Fire Alarm Box, Flush type.
$\$ 16.44$

## NO. 224A SURFACE TYPE

Same as Nc. 224, except made for surface mounting.
Operation: Breaking glass closes circuit. Size, overall dimensions, including mat, $41 / 8 \times 51 / 4$ inches.
Standard finish: Dark natt ground, raisel lettering and horders brush brass or bronze.
List No.
*List l'rice
224A Fire Alarm Box, Surface type.............................................................. \$7.20 Mat anly for 224 A
1.88

Special Note: Boxes No. 224 and No. 224A have heavy cast brass faces; clear glass in front, is backed by red plate; contacts are so designed as to be positive in operation, irrespective of length of time they have bren inactive. Special test key included with box; signaling without this key or by breaking glass impossible.

NO. 2240 CONCEALED CONDUIT TYPE
This box fits a standard push button switch box. The contacts are of a new positive acting design. Raised letters finished in white are cast on the front. The box is finished in red enaniel.

Test may be made by unlocking and opening the hinged front of the box, which accomplishes the same result as if the glass were broken, in that it allows the operation of the regular contact mecharism. Contact springs are heavy phosphor bronze, and when box is operated the heavy disk makes a positive scraping contact.
List No.
2240 Flush couduit type................................................................... ${ }^{\text {*List Price }} 810.88$

## NO. 2241 SURFACE CONDUIT TYPE

The No. 2241 is the same as the No. 2240 , except that a back case has been added to adapt. it to use with surface conduit installations. The case is drilled and tapped for $1 / 2$ inch conduit.

${ }_{2241}^{\text {List No. }}$ Surface conduit type . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\quad$| List Price |
| :---: |
| $\$ 10.88$ |

## NO. 77 SURFACE TYPE

Operation: Breaking glass closes circuit. Size, $33 / 4$ inches diameter.
Standard finish: Polished brass, brush brass or bronze.
77 Fire Alarm IBox, with hammer and chain ..... $\$ 1.88$
Prices other finishes on reghest.
EXTRAS
Extra glasses with papersi or all types of boxes ..... $\$ 0.37$
Extra chain and hammer for No. 77 box. ..... 45
Extra chain and hammer for other boxes.67*Delivery F.O. B. Factory, New York City. For warenouse deliveries write nearest house.


No. 229


No. 238

## Central Station Contact Box

NO. 229
This instrument consists of a mechanical movement somewhat similar to that installed in the standard fire alarm box. Also a series of brass wheels marked with the numbers which they sound, mounted individually on pins in the case. Case is quartered oak, with glass door supplied with lock and key. This instrument is used for village or town fire alarm systems, for the operation of tower bells, or it is located at fire headquarters, so that any box number may be rung from that point.

It is also available for use in connection with factory signal systems, for the ealling of company officers, superintendent, foreman, etc., by sounding numbers of each on single stroke or vibrating bells.

To operate number, wheel bearing proper number is placed on shaft of mechanism, after which the pulling of lever starts it in motion, automatically sounding number of district in which fire is located, or if used for individual signal the number of person it is desired to reach.

Mechanism can be arranged to sound this number 3 or 6 times as may be desired.

| List |  |  |
| :---: | :---: | :---: |
| No. | Description | *List Price |
| 229 | Los including ( $n$ umber wheels. . | Each |
|  | lixtra number wheels. | \% |

## Fire Alarm Relay

NO. 238
Base polished mahogany, metal parts, old brass. Specified with Edwards' Factory or 'Town Fire Alarm System, with electro-mechanical gongs when used on separate eircuits, or any extension work. List

| No. |  | * List |
| :---: | :---: | :---: |
| 238 | 20 ohms. | Price |
| 238 | 50 ohms. | \$1\%. |
| 238 | 100 ohms. | 15.8 |
| 238 | 250 ohms. | 120 25 |



## Automatic Pen Register <br> NO. 2197

Self-starting and self-stopping. Registers in ink the number of the fire alarm box (by means of short dashes on paper tape) from which call is made. Standard resistance unless otherwise specified, 20 ohms. Other resistances special.


# FARADAY FIRE ALARM SYSTEMS 

# Selective Code Ringing Closed Circuit Type，for $100-250$ Volt D．C．Circuits Using Single－stroke Non－clock work Faraday Gongs 




Model DSS，Faraday Fire Alarm Control Cabinet

## MODEL DSS，ELECTRICALLY SUPERVISED

Model DSS（direct single－stroke）Faraday Fire Alarm Systenas are designed for use where an absulntely dependable supply of direct current is available at all hours of the day and night．

Motel DN＇S systems are similar to Model DWAl systems，but employ single－stroke gongs，which require no winding up，in place of lelectro－mechanical Gongs，which do require rinding．

Main circuits，box circuits and gong circuits are constantly under electrical test．＂Troulde of any nature， on any part of the system or falure of operative current is automatically indicated hy ringing of Tronhle bell．

## CONTROL CABINETS

| List No． | Description | List．Price Each |
| :---: | :---: | :---: |
| DSN－14 | Faraday Control Cabinet for installations not exceeding 14 gongs，complete | \＄205．00 |
| Dぶ－28 | Same as DSS－14，except for 15 to 28 gongs | 270.00 |
| 1）N゙ぐ2 | Same as Dis－14，execpt for 29 to 42 gongs． | 315.00 |
| 1）ガウ－56 | Same as DSA－14，exeept for 43 to 56 gongs | 3 m |

## SINGLE－STROKE HALF－GUARDED GONGS

21206 inch half－guarded single－stroke Faraday Fnclosed Type Gong． ..... $\$ 24.00$
8 inch half－guarded single－stroke Faraday Enclosed Type Gong ..... 34.00
2120 10 inch half guarded single－stroke Faraday linclosed Type gong ..... 36.00 12 inch half－guarded single－stroke Faraday linclosed Tyue Gigng ..... 45.00
2120
2120
$2120 \quad 14$ inch half－guarded single－stroke Faraday linclosed Type Cioug． ..... 56.30 ..... 56.30
Above gongs are furnished with knock－outs to slip both 1 or or inch conduit．
BOXES
F－2022 Enclosed－lever code－ringing selective type Faraday Surface Box ..... \＄25．50
FF－2022 Enclosed－lever sode－ringing selective type Faraday Flush Box． ..... 34.50
TROUBLE BELLS
2502 Faraday linelosed Type Trouble leell，with outlet－box back$\$ 10.00$Where any circuit of less than 14 gongs is to be installed，same must le specified，so that resistance－minit may be mounted in control－cabinet．

Delivery F，O．B．New York City．For warehouse deliveries write nearest house

FARADAY FIRE ALARM SYSTEMS
Selective Code Ringing Closed Circuit Type


## Model SSS，Electrically Supervised

Model shis（storage single－stroke）Faraday Fire Alarm Bystoms are dosigned for wee where neither A．C．nor I）．C．electric light or power current is avaibable from at enstantly alependable somen，hat where either A．（＇．or 1）．（＇．at erertain prodods is avalable．

Moded NSA systems are similar to Model SEAI systems，but employ sibgle－stroke gangs whith require no winding up in phace of electro－mechanical gongs which do reguire winding up．
 of system，or failure of operative current is antomationlly indie ated by ringing of trouble bell．

## CONTROL CABINETS

list $\quad$ List Price

No． がッ゙ー17 ぶ心－2す Faraday Control（abmot for instalations not exereding $\overline{6}$ gongs，（xumplete $\qquad$ sivel）
（＂harging cabinet for charging storage battery from i）．（\％eirenits
critor

## BATTERIES



## MOTOR GENERATORS

MGi－108 Mutorgencrator，direct connected，with base，to chargestorage battery ．．．．．．．．．．．．（On appl．

## HALF－GUARDED SINGLE－STROKE GONGS

2120 ti inch single－strokr linelosed Type Gong．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．S．． 4.00

$2120 \quad 10$ inch single－stroke linclosed Type Gong．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 36.00



## BOXES

F－2022，linclosed lever code ringing liaraday Box，surface type．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．S28．50


## TROUBLE BELLS

2502 Finclosed Type Trouble lell，with outlet box back
Where any circuit of less than 14 gongs is to be installed，same must be specified，so that resishance－unit may be mounted in control cabinet．

Send for special bulletin on Faraday Fire dlarm Systeme．
Delivery F．O．I3．New York City．Jor warehouse deliveries write nesarest house

# FARADAY FIRE ALARM SYSTEMS 

Selective Code Ringing, Closed Circuit Type, Using Electro-mechanical Faraday Gongs




Model SEM, Faraday Fire Alarm Control Cabinet

## Model SEM, Electrically Supervised

Model SEM (Storage Flectro-mechanical) Faraday lire Alarm Systems are designed for use where neither A.C. nor D. (. electric light or power current is at all times available from a constant absolutely dependable source, but where cither A.C. or D.C. at certain periods is availabie.

Model SEM systems are similar to Moded SSS systems, but employ electromechanical gongs which require winding up in plare of single-stroke gongs which do not require winding up.

Main cireuits, box circuits and gong circuits are constantly under electrigal test. Trouble of any nature on any part of the system, or failure of operative current is automatically indiated by ringing of Trouble Bell.

## CONTROL CABINETS

| List |  | Liss Price |
| :---: | :---: | :---: |
| No. | 1)escription | Lach |
| SWM-14 | Faraday Control Cabinet for installations not exceeding 14 gongs, complete | \$3-45.10 |
| SWA1-28 | Control Cabinet for installations 15 to 28 gongs, inclusive, complete. . . . . . | :900.00 |
| SEMA-14 | Similar tostal-14, except has in addition controller for motor gerecrator | :27i.00 |
| SEMA-28 | Similar to StiM-28, except has in addition controller for motor gencrator | \&20. (0) |
| STORAGE BATTERY |  |  |
| SB-24 | Storage battery for above systems complete (not charged), per cell. | ( $\mathrm{n}_{1}$ appl. |
| MOTOR-GENERATOR |  |  |
| MC-108 | Motor generator, direet connected unit, to generate diret current for storaze battery charging, complete, with base (may be used in connection with either sidit. 14 or SLiMA-28 control cabinets) | (1) appl. |
| D.C.:ELECTRO-MECHANICAL GONGS |  |  |
| 2620 | 6 inch Flectro-mechanical Faraday Gong | \$ 844.50 |
| 2620 | 8 inch lilectro-mechanical Faraday Gong | 686.30 |
| 2620 | to inch Electro-mechanical Faraday Cong | 169.80 |
| 2620 | 12 inch Electro-mechanical Faralay Gong | 56. 20 |
|  |  |  |
| BOXES |  |  |
| F-2022 | Enclosed lever code ringing liaraday Box, surfare type | S2x. 50 |
| FF-20202 | Finclosed hever conde ringing Faradiy Box, flush type. | 84.50 |
| TROUBLE BELLS |  |  |
| 2502 | Enclosed 'T'ype 'Trouble Bell, with outlet box back | \$10.00 |
| Send for speeial bulletin on Paraday Fire $\lambda$ larm Systems. |  |  |
| Delive | ery li. O. 13. New York City. For warehouse deliveries write nearrst house. |  |

Delivery li. O. B. New York City. For warehouse deliveries write nearrst house.

# FARADAY FIRE ALARM SYSTEMS <br> Selective Code Ringing Closed Circuit Using Single-Stroke Faraday Gongs <br> Industrial Board State of New York Standard 




Model '"InSp', Faraday Fire Alarm Control Cabinet

## Model "DSP" Electrically-supervised Pre-signal or Dualoperated Type

"DSP" (Direct Single Pre-Signal) Faraday Fire Alarm System is designed for twe whre an absulutely dependable supply of direct current is available at all hours of the day and night.
"DsiP" Faraday System is designed especially for hotels, hospitals and similar institutions where it is not desirable to alarm all the oceupants of the building immediately umon a fire being discovered, but where it is desired to notify the members of a previously trained fire brigade. The opration of the systern is such that when any box is pulled, the code number is sounded on certain predetermined gongs located at points within hearing of the fire brigade, but not necessarily located so as to be a sompe of anmoyance to the guests. Fpon the signal being received on these gongs, members of a fire brigade immediately proeryed to the point indicated and in the majority of instances are able to put out the fire; lowever, should the fime brigade not be able to cope with the situation thenselves, and it becomes neressary that the guest.s bo alarmed, a second operation of the box by any member of the fire brigade will sound a general alam on all the gongs in the building, thus advising all orcupants of the fire.

Main-( 'ircuits, Box-Circuits and Gong-Circuits are constantly under test ; trouble of any nature, on any part of the system, or failure of operative current is automatically indicated by the ringing of Trouble-Br(li.

## Faraday Pre-signal Control Cabinets

List No,
DSP-11
DS'P-12
1)NP'13

Control C'abinet for installations eonsisting of 1 Pilot' Cirenit and 1 Gong C'ircuit. .
 For installations cunsisting of 1 Pilot and 3 General Gong Cirenits.

## Faraday Single-stroke Gongs

2120 and 2100 loor description and prices, see "DSS" System, on another page,

## Faraday Boxes

PF-2022 Pre-Nignal Enelosed-Lever Code-Kinging Boxes, Surface. .............................. 839.00
PFF-2022 I're-signal Enelosed-Lever Code-Ringing Iowes, Flush.

## Faraday Trouble-bells

[^21]FARADAY FIRE ALARM SYSTEMS
Selective Code-Ringing Closed-Circuit, Using Electro-Mechanical Faraday Gongs



Model "REM" Faraday Fire Alarm Control Cabinet

## MODEL "EEM," ELECTRICALLY SUPERVISED

Factories, Schools, Public Institutions, Apartments, Warehouses, Yards, Etc,
"EFA"" (Fdison Flectro-Mechanical) Faraday Fire Alarm System is designed for use where neither A.C. or I).C. electric light or power current is at all times available from a constant, absolutely dependable source and whore the use of Storage Batteries is not desirable.
"EFMN" System is similar to "SEA," but is operated from Fdison Primary Batteries instead of Storage Batterios.
"ELD" System requires for the operation of the gongs. 3 Edison BSCO Cells of 300 ampere hork capacity per gong; to this must be added an additional 3 colls for line ressistance and Troubie-lielay. It is desimble to install the batteries in duplicate and this duplicate set of batteries is controllod by the Faraday Throw-()ver Switch mounted in the Control-Cabinet.

## FARADAY "EEM" CONTROL CABINETS

| List No, |  |  |
| :---: | :---: | :---: |
| FENI | Control C'ahinet complete | \$204. 110 |
| FARADAY D.C. ELECTRO-MECHANICAL GONGS |  |  |
| 2020 | (i) inch Finerto-Mechanical laraday Ciongs. | S64.51 |
| 2680 | 8 inch File ${ }^{\text {dro-Nechanical Jaraday (iongs. }}$ | (6t) . 81 |
| 2620 | 10 inch Elertro-Nechanical Firaday (iongs. | 69.80 |
| 2620 | 123 inch Electro-Mechanical Faraday Gongs. | $76.20)$ |
| Ahove gongs atre furnished with outlet box batks to slip cither $\frac{1}{2}$ or $3_{4}$ inch conluit as specified. |  |  |
| FARADAY BOXES |  |  |
| F-2022 | Finlosel-Tever ' 'ode-Kinging faraday loxes, Surface. | \$28.54) |
| FF-2022 | Finclosed-Lever Code-İinging Faraday Boxes, Flush. | 34.50 |
| FARADAY TROUBLE-BELLS |  |  |
| 2502 | Finclowed-Tyme'lroublo-liell, with outhet box back (one bell for earh system). | \$10.00 |
| BATTERY |  |  |
| 302 | dison BSC'O Battery, per cell. | plication |
| 1) | very F. O. 13. New York City. For warehouse deliveries write nearest hour |  |

## FARADAY FIRE ALARM SYSTEMS

" No. 1." NON-SUPERVISED, OPEN CIRCUIT

Non-selective, Non-code-ringing, Open-circuit, for Battery Circuits using Faraday Vibrating Gongs
for sMald hotelsi sMALL PUBLIC INSTMTUTIONS, LODGING HOUSES, SMALL SCHOOLA . IND (OTHER PLACE WHERE OPEN-CHRCUIT, NON-SUPERVISED FIRE AL.IRM SYSTEM IS DESIRED


Model 2500
Enclosed Vibrating Gong with Conduit Box Back


Models 2040 and 2042
Break Glass Non-Code Ringing Box with Conduit Box Back

Faraday No. 1 Fire Alarm Systen is a simple open circuit, non-selective, non-eode-ringing, non-supervised system, i. e., does not indicate the location of the box from which the signal originaterand does not antomatically indicate failure of operative current or derangement of eircuits or apparatus.

Breaking the glass of any box automatically rings all gongs. (iongs are vibrating type and after glass is once broken, will continue ringing until glass is replaced in box.

| List | GONGS | Irice |
| :---: | :---: | :---: |
| No. | Description | Each |
| 2500 | 8 inch Linclosed Type Vibrating Gong, |  |
|  | wound to special resistance, as follows: |  |
|  | $\mathrm{U}_{\mathrm{p}}$ to and including + gongs, resistance |  |
|  | per gong 10 ohms. [ p to and inclurling |  |
|  | (3) gongs, resistance per gong, 20 ohms. |  |
|  | 10 gongs and over, resistance per gong, |  |
|  | 40 ohms.. . . . . . . . . . . . | \$27.70 |
| 2500 | 10 inch gong, same as above | 36.00 |
| 2500 | 12 inch goug, same as above. | 43.00 |
|  | BOXES |  |
| 2040 | Break-glass Fire Alarin liox for surface work, for $1 / 2$ inch conduit |  |
| 2042 | Break-glass Fire Alarm Box for eoncealod |  |
|  | work, for $1 / 2$ inch conduit. . | 12.0 |
|  | BATTERY SETS |  |
| FA-62 | Battery Sct, surface steel, for not over 4 gongs, 110 cells | \$67.30 |
| FA-102 | Battery Sct, surface steel, for 5 to gongs, inclusive, no cells |  |
| FA-122 | Battery Set, surface stecl, for 10 gongs and over. Subject to certain limitations, no cells | 134.6) |



Send for special bullotin on Faraday Fire Aarm Systems.
Delivery: F. O, B, New York City. For warehouse deliveries write nearest horise.

## FARADAY FIRE ALARM SYSTEMS



Model 3010
Fire Alarm Annunciator


Model 2040
Fire Alarm Box


Model 2024
Fire Alarm Box

"No. 1-A" Faraday, Non-Supervised, Open Circuit

Non-Selective, Non-Code-Ringing, Open-Circuit for Battery Circuits Using Annunciators FOR SMALL HOTELS, SMALL PUBLIC INSTITUTIONS, LODGING-IIOLSES, SMALIA SCIOOLS AND O'THER PLACES WHERE OPEN-CIRCUIT, NON-SUPERVISED FHRE ALARM SYSTEM IS DESIRED.


#### Abstract

"No. 1-A" Faraday Fire . Narm System is a simple, open-circuit system, so arranged that the breaking of a ghass in a fire alarm box will cause an annunciator (rop to fall, thus indigating the point from which the alarm originates. "No. 1-A" System is a non-supervised system-i.c., does not automatically indieate failure of operative current or derangement of circuits or apparatus.


## Faraday Fire Alarm Annunciators

Firaday Fire Alarm Annunciator, gravity type, golden oak finish, complete with necessary DeVeau Gravity Drops, strong lever-switches, double-gonged pivoted armature bell-irechanism mounted in hard wood case with extended backboard. Drops indicate location of the alarm. One or more bells can be comnected to circuit by switching the levers on the lower section of extended backboard.

| List |  | List Price | List |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Each | No. |  | Each |
| 3004 | 4 drop | \$34.10 | 3012 | 12 drop | 861.00 |
| 3001 | (i drop) | 40.00 | 3014 | 14 drop | 64.60 |
| 3008 | 8 drop | 46.90 | 3016 | 16 drop | 70.40 |
| 3010 | 10 drop) | 53.70 |  | additi | 4.80 |

## Faraday Fire Alarm Boxes

2024 Break-Glass Fire Alarm Box, finished in English Vermilion, will fit standard eutlet hox for conduit. Furnished with special test key and contact device. 'Test may be made with key without breaking glass, but without key it is impossible to send test signal. Size $43 / 8$ inches high $\times 37 / 8$ inches wide.
2040 Break-Class Fire Alarm Box, finished in English Vermilion, for surface work, made for $1 / 2$-inch conduit, projects from wall $31 / 8$ inches. Size $51 / 4$ inehes high $x 31 / 4$ inehes wide, New York Fire Prevention Bureau Standard.

## Faraday Gongs

# $2500 \quad 8$-inch Enclosed-'l'ype Vibrating Congs, wound to special resistance $\$ 27.70$ <br> 2500 10-ineh Finclosed-Type Vibrating Gongs, wound to special resistance 36.00 <br> $2500 \quad 12$-inch Enclosed-Type Vibrating Ciongs, wound to special resistance . . . . . . . . . . . . . . . . . . . . 45.00 

## Battery Sets

FA-62 Patter on Battery Set, Surface-Steel, for not over 4 Gongs-no cells . . . . . . . . . . . . . . . . . . \$(97. 30
FA-102 Patterson Battery Set, Surface-Steel, for not over 9 Giongs-no cells...................... . . . . 112.20
FA-122 Patterson Battery Set, Surface-Steel, for 10 Gongs or over-no cells. . . . . . . . . . . . . . . . . . . . 134. 00 )
Patterson-Columbia Ignitor Screw-Top Cells
For use in Patterson IBattery Sets. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 0.80$
Send for special bulletin on Faraday Fire Alarm Systems.
Delivery F. O. B., New York City. For warehouse deliveries write nearest house.

## FARADAY FIRE ALARM BOXES



Types WF-2022 and WN-2022


Type N-2022

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ |  | W. I\%. List Each |
| :---: | :---: | :---: |
| WF-20:2 | Weatherproof Fire Alarm Box, consisting of standited pull lever box enclosed in weatherproof (ase, complete with spring litch with flat key or turn handle brass spring, no key | \$60.00 |
| W-202 | (ast iron weatherproof enclosing case only with spring lateh with flat key or turn handle brass spring lateh, no koy (without pull lever box) | 31.50 |
| (1) | Pull Lever selective (onte-ringing Type Fire Alarm Box only (no lever entesing door), without weatherproof anclosing case. | 28.30 |
| WN-2022 | Weatherproof Nom-interforing Vinclosed Pull Lever, Code linging liare Narm Boxes, weatherproof case, no test bell, ate. | 94.00 |
| WNB-2022 | Same als WN-202:. complefo with lighthing arrester, test bell. door shunt, etc. | 125.00 |

Irices for above with watchman's service on anplication.

N-2022 Non-interfering Enclosed l'ull Jover, Code IRinging, Fire Alarm Buxes, for surface mounting with outlet box back for conduit. . (i2. 50)
('-20):2 same arranged for watchman's call, in addition man
F-202'2 Enclosed Pull Lever, Code lainging, Solertive 'Type Faraday lire Alarm Jonx, with out let back box for conduit, surface momenting
28.50


Type NF-2022

NF-2022 Non-interforing Endosel Pull Lover, Code Kinging, Firo Alarm Boxes, for flush mounting with outlet batck box for combluit. (is. 50

FF-2022 Enclosed I'ull Lover, Coto Ringing, Soleotive 'Type, Fiaraday F'ire Alarm Bos, with out let back bos for conduit, flush mounting .

Soml for sperial bulletin on Faraday Firo Narm Systems.
Delivery F. O. B. New York City. For warehouse deliveries write nearest house.


Model F-20:2
Enclosed Pull-lever, Code Ringing Fire Alarm Box, for Surface Work, Has Conduit Box Back


Model 2120
Single-stroke lialf-guarded Gong


Model 2620
Electro-mechanical Gong


Model FF, 2022 Enclosed Pull-lever Code Ringing Fire Alarm Box for Flush Work, Has Conduit Box Back


Model 2040
llreak-glass Fire Alarm Box with Conduit Box Back

Faraday Fire Alarm Systems are particularly designed and suitable for factories, schools, colleges, public institutions, hotels, theaters, oflice buildings, department stores, warehouses, apartment houses, etc.; in fact, for every class of building where life and property should be protected from the fire hazard. but with full consideration that an interior fire alarm system must be simple and econonical, both as to initial cost and maintenance.
laraday Fire Alarm Systems are designed to operate from three suurces of electrical energy, viz.:
(1) I).C. electric light and power circuits.
(2) A.C. electric light and power circuits.
(3) l anttery (both primary and storage) circuits.

Faraday Fire Alarm Systems represent the latest developinents in the fire alarm field. Particular attention is called to the entirely original cabinet-unit mounting feature of all control apparatus and instruments. Cabinets are absolutely fireproof. They are of heavy pressed steel, finished in glossy vermilion. All instruments and control mechanisms are batck connected, mounted on slate panels. Cabinets are furnished with glass windows through which all instrument dials are easily read without opening doors. Terminals on slate panels are latest type Underwriters' pattern, with each terminal so plainly marked that the connecting of circuit wires to mains, boxes, gongs and trouble bells can be readily made by any goorl mechanic.

Faraday Fire Alarm Systems may perhaps be classified in two general types, viz.:
(a) Wlectrically supervised closed circuit code ringing.
(b) Nou-supervised open circuit non-code ringing.

Electrically supervised closed circuit code ringing systems are operated by a cont inuous flow of electric current, by either pull lever or break-glass boxis, imlicating by powerful single-stroke signals on gongs, location of box from which signal originates. Main circuits, box circuits and gong rircuits are constantly under electrieal test. Trouble of any nature on inny part of this system or failure of operative current automatically indicating itself by ringing of trouble bell.

Non-supervised open circuit non-code ringing systems are operated by the current when the simple break-glass type box is put in service. The great disadvantage of this open-circuit non-supervised system is that some accident may, of course, at any, time open the circuit and when this happens an attempt to send in a fire signal completely fails. Furthermore, with the open circuit system, location of box from which signal originates camnot be indicated, as the bells simply ring continuously till the glass in the bux is replaced.

Flectrically supervised elosed circuit systems may be sub-divided into two classes, viz.:
(a) Non-clockwork single-stroke gong systems,
(b) Electro-mechanical (clockwork) gong systems.

Send for special 32 page bulletin on Faraday Fire Alarm Systems.

# WATCHMAN'S TIME DETECTORS <br> BATTERY AND MAGNETO TYPES WITH OR WITHOUT TIME PIECES Magneto Type No. 75-With Time Piece 

| No, of Stations |  | imensio |  | List <br> I'rice | No. of Stations | _-_-_-_Dimensions-___ |  |  | list |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ifeight | Width | 1)epth |  |  | Height | Width | Depth |  |
|  | Inches | Inches | Inches |  |  | Inches | Inches | Inches | Price |
| - 4 | $313 / 4$ | 1710 | $51 / 2$ | \$216.32 | 12 | $313 / 4$ | 171/2 | $51 / 2$ | \$257.2S |
| 6 | $313 / 4$ | 17 年 | $51 / 2$ | 226. 16 | 15 | $313 / 4$ | 171/2 | $51 / 2$ | 27:.04 |
| 8 | $313 / 4$ | 171/2 | $51 / 2$ | 236.80 | 20 | $351 / 2$ | $211 / 4$ | $51 / 2$ | 298.24 |
| 10 | $313 / 4$ | 171/2 | 5) $1 / 2$ | 247.04 | 2.) | $351 / 2$ | $211 / 4$ | $51 / 2$ | 325.12 |

Ifetrastations, per station $1, j$ to 50 , list $\$ 3.22$. Where more than 25 stations are required two recording dials will be used
stimdard finish, oak. For $\because: \%$ hite onamol. add to list. 815.36 ,
lrices inchude a year's supply of dials, but do not inchule manneto or battery stations. Idsted below.
Magnetc Type No. 76-Without Time Piece


No. 76-Magneto Type


Paper Dial


No. 161

No. of Height Width Depth List Sta. Ins. Ins. Ins. Price $4 \quad 18 \quad 171 / 2 \quad 51 / 2 \quad 8124.16$ $\begin{array}{lllll}8 & 18 & 171 / 2 & 51 / 2 & 134.40 \\ 8 & 18 & 171 & 51 / 2 & 16 i 5\end{array}$ $10 \quad 18 \quad 17 \frac{51 / 2}{} \quad 51 / 2 \quad 175.36$

No, of IIeight Width Iepth
List
Sta. Ins. Ins. Ins. Price
$12 \quad 18 \quad 171 / 2 \quad 51 / 2 \quad 5185.60$
$15 \quad$ Is $171 / 2 \quad 51 / 2 \quad 0(0) .(\mathrm{Kj}$
20) $\quad 18 \quad 171 / 2 \quad 51 / 2 \quad 226.56$ stationa stations, per station, list, $\$ 8.22$. Where more than 25 stations are required, two recording dials will be used.

Standard finish, oak. Jor white enamel, add to list, 810.24 .
Prices include a year's supply of dials, hut do not include bat tery or magneto stations, listed below.
Battery Type No. 97 -With Time Piece Name prices and dimensions as No. 75 above.

## Battery Type No. 98-Without Time Piece

 Same prices and dimensions as No. Tit ahove.
## Paper Dials

For all types of watchnan's time detectors listed above:

| 1 to 10 stations, per 1000. | List Pr |
| :---: | :---: |
| 11 to 15 stations, per 1000 . | 4. |
| 16 to 20 stations, per 100) | 30 |
| 21 to 2.5 stations, per 1000 . |  |
| Magn |  |
| FOR USE WITH NOS | ORS |



No. 162


No. 16.3

List Price

## 161 Wool case. Hand gemerator with removable handle

161l" Portable type with carreing strap, No. $7^{*}$ plug and three foot eord
162 Weatherproof for outdoor use and in more or less exposed planes. Jand gemerator with removable handle
23. (0)
16.3 Flush metal case. Iand generator with removable handle


No. 211

## Battery Key Stations FOR USE WITH NOS. 97 AND 98 TIME DETECTORS

button switch boxFinish. Nickel plated stamdard; old bratse or polished brass furnished if specified. liey only for above

Delivery F. O. B, Factury, New Furk (ity. For warahouse deliveries write nearest house.

# GRAVITY DROP ANNUNCIATORS Standard Elevator Types 



No. 130 Metal Case


No. 12
Wood Case
NO. 130, METAL CASE

| No. of | -Outside Dimensions- |  |  |  |  |  | No. of | Arr. of Drops |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arr. of | Drops | Width | Height | Depth | *List |  |  |  |
| Drops | Across | Down | Inches | Inches | Inches | Price | Drops | Across | Down |
| 3 | 1 | 3 | 4 | ! $13 / 4$ | 31/8 | \$13.18 | 10 | 2 | 5 |
| 4 |  | 4 | 4 | 12 | $31 \times$ | 16.00 | 12 | 2 | 6 |
| 5 | 1 | 5 | 4 | 141/4 | $31 / 8$ | 19.97 | 14 | 2 | 7 |
| 6 | 1 | 6 | 4 | 161/2 | 3! | 24.00 | 16 | 2 | 8 |
| 7 | 1 | 7 | 4 | $1 \times 3 / 4$ | $31 / 8$ | 28.003 | 18 | 2 | 9 |
| 8 | 1 | 8 | 4 | 12 | $31 / 8$ | 30.419 | 20 | 2 | 10 |

-Outside Dimensions-

| Width | Height | Depth | *List |
| :---: | :---: | ---: | ---: |
| Inches | Inches | Inches | Price |
| $61 / 4$ | $141 / 4$ | $31 / 8$ | $\$ 38.02$ |
| $61 / 4$ | $161 / 2$ | $31 / 8$ | 45.63 |
| $61 / 4$ | $183 / 4$ | $31 / 8$ | $i 03.38$ |
| $61 / 4$ | 21 | $31 / 8$ | 60.80 |
| $61 / 4$ | $2.31 / 4$ | $31 / 8$ | 68.42 |
| $61 / 4$ | $251 / 2$ | $31 / 8$ | 76.97 |

Dimensions do not include bell on top, nor reset on the bottom, for which add $31 / 4$ inches to height. Finish: Black, other finishes on application. For wood finishes add to list $25 \%$.
Not furnished in other arrangement than listed.
For intermediate sizes deduct $\$ 3$. 00 per drop from list price of next larger size listed.
For larger sizes add $\$ 3.84$ per drop to list.
Made of sheet steel, perfectly insulated and dust-proof.
For semaphore types see Nos. 410 and 411.
Metal Case No. 130D: same as the No. 130) exeept that No. 130) is arranged for up and down sorvice drops arranged vartically in two rows, one row for up and one row for down. l'riges atd to list price of No. 130 \$1.60 for lectering on glass up and down. Dimensions and finish same as No. 130 .

NO. 12, WOOD CASE

| No. ofDrops | Arr. of Drops |  | - Outside Dimensions- |  |  | ${ }^{\text {* List }}$ | No. of | Arr. of Drops |  | -Outside Dimensions- |  |  | *List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Width | Ifeight | Depth |  |  |  |  | Width | Height | Depth |  |
|  | Across | Down | Inches | Inches | Inches | Pric $_{\theta}$ | Drops | Across | Down | Inches | Inches | Inches | Price |
| 3 | 1 | 3 | 5 | 93/4 | 3 | \$10.24 | 10 | 2 | 5 | $61 / 4$ | 141/4 | 3 | S2S.03 |
| 4 | 1 | 4 | 5 | 12 | 3 | 12.03 | 12 | 2 | 6 | $61 / 4$ | 161/2 | 3 | 3i3. 60 |
| 5 | 1 | 5 | 5 | 141/4 | 3 | 15.0.4 | 14 | 2 | 7 | $61 / 4$ | 183/4 | 3 | 34. 23 |
| 6 | 1 | 6 | 5 | 161/2 | 3 | 17.08 | 16 | 2 | 8 | 61/4 | 21 | 3 | 44.80 |
| 7 | 1 | 7 | 5 | 183/4 | 3 | 20.99 | 18. | 2 | 9 | $61 / 4$ | 231/4 | 3 | \%). 43 |
| 8 | 2 | 4 | 61/4 | 12 | 3 | 22.40 | 20 | 2 | 10 | 6114 | 251/2 | 3 | if. 00 |

Dimensions do not incluale hell on top nor reset knob on the bottom, for which add $31 / 4$ inehes to height.
Finish: Filled. varnished and oil-rubbed oak. For other finishes prices on application.
For intermediate sizes ceduct $\$$ - 00 per drop from list price of next larger size listed.
For larger sizes add per drop to list \$2. so.
For semaphore topes see Nus. 410 and 411.
No. 12D Wood Case: S'mueas No. 12 except that No. 12D is arranged for up and down serviee drops arranged vertically in two rows, ome row for up and one row for down. Priecs add to list price of No. 12 $\$ 1$. bif for hettering ong glas up and down. Dimensions and finish the same as No. 12 except in 6 drop size drops arranged in two rows.

## Special Finish, Lettering, Setback and Lamp Signal Attachment

 For white enamel finish, add to list:2 to 10) drop
$\$ 8.00 \mid 11$ to 20 drop
$\$ 11.00$
Lettering on glass, up to 10 letters, list, $\$ 1$. iio; each additional letter, list, 11 cents.
Electrical setback, up to 20 drops, add to list, $\$ 18.80$; over 20 drops, add to ist, $\$ 37.60$.
With electrical setback, add to height of case, $11 / 2$ inches.
Other finishes, special-inforination on request.
For Lamp Signal Attachment, listed elsewhere, add to list, \$11. 20.
Note: Heavy faced type indicates finish supplied when not otherwise specified.
For "up and down" push buttons for use with elevator annunciators see listing elsewhere.
*Deliverv F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


No． 410
Semaphore Lock （iravity I）rop＂Iype


No． 412
Semaphore Lock Gravity Drop＇lypo


No． 813
Lock Gravity Drop Type


No．807IIV
look（iravity I）rop＇l＇ype

SEMAPHORE LOCK GRAVITY ELEVATOR TYPE
NO． 410 NO． 411

No．of Arr．of Drops Widthle Wimensions
No．of Arr．of Drops Width Height Denpth LIIst Prict．

| I）rothe | Arross | 1）（1wn | Incores | Inubirs | In－hes | No． 110 | No． 411 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 1 | \％ | i） | 12 | 21. | \＄11．71 | \＄14．72 |
| 4 | 1 | － | 5 | 14 | $2=6$ | 14.10 | 17.98 |
| 5 | 1 | 5 | $\overline{3}$ | 16 | $21 / 2$ | 17． 51 | 22.52 |
| （3） | 1 | t | i | 18 | 212 | 20.49 | 26.81 |
| 7 | 1 | 7 | j | 20 | 212 | 24.51 | 31.49 |
| 8 | 2 | 1 | $73 \%$ | 14 | $21 / 2$ | 26.4 .3 | ．3．4．43 |
| 10 | 2 | 5 | 73／8 | 16 | 23 | 3.3 ． 192 | 43.01 |
| 12 | 2 | fi | $73 / 4$ | 18 | $21 \%$ | 139．122 | 5158 |

NO． 410 WOOD CASE
Finish：Filled，varnishod and wil rubbed＊oak；for other finishes prires on applieation

| No．of | －Outside Wimensions |  |  |  |  | Pricif |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Arr．of | ）rops | W゙い！ | llaight | Depth |  |  |
| 13rops | Arrosis | Down | Hathes | Inchu＇s | In－lus | No 110 | Vo．+11 |
| 14 | $\stackrel{2}{2}$ | 7 | $3^{3}$ | 20 | 21： | $41 ; 21$ | S（it） 20 |
| 14 | － |  | $7{ }^{3}$ | 2－2 | 2 | $5 \cdot 8.80$ | 6is． 81 |
| 18 | $\stackrel{2}{2}$ | 9 | $7{ }^{3}$ | 21 | 216 | 59.39 | 77．38 |
| 20 | 2 | 10 | 7＊ | 26 | 2－2 | 45.50 | 819.02 |
|  |  |  |  |  |  | 3． $3: 3$ | 4.28 |
| $\begin{aligned} & \text { Interm } \\ & \text { next } \end{aligned}$ | ediatos larner | $\begin{aligned} & \text { izes: mo } \\ & \text { ize per } \end{aligned}$ | listert． lrop． | $e l_{1}, 1 \cdot t$ | from | 2.51 | 3.82 |

## NO． 411 METAL CASE


For imitation wool fimshers．atd to lat 2.5 per coret

WOOD CASE DESK TYPE，PORTABLE NO． 412

| No．of | 10men | － | Width | Height | ［）ejntl） |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1）rops | Arrosa | 1）0w | Inclues | Inchers | Inches | list |
| 2 | 2 | 1 | N | $3{ }^{3} 5$ | lıries | Price |
| 3 | 3 | 1 | 101／4 | 3\％ | ， 1 | 819.97 |
| 4 | 4 | 1 | 1：1\％ | 3598 | ， 315 | 20． 90 |
| 5 | 5 | 1 | 1.14 | 35188 | －312 | 26.30 .30 .27 |
| 6 | t； | 1 | 17 | 3 3 ［／8 | 31\％ | 36.27 31.18 |
| ¢ | 8 | 1 | 21：2 | $3{ }^{5}$ | 汭 | 31.18 +1.98 |

Finish：Filled，vamisherd and rubbed＊oak；for other finshos priets an application．
STANDARD RAILWAY ANNUNCIATOR NO． 813
 Boll or huzzer tot a part of equipment．

| 10 | 5 | 2 | $\square^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 | ${ }^{6}$ | 2 | 1034 | \％1： | 20 | \＄415．78 |
| 14 | 7 | $\stackrel{3}{2}$ | 1219 | $\therefore$ | 25 |  |
| 16 | 8 | $\stackrel{2}{2}$ | $1: 33$ | 51 | 23 | 74．84 |
| 18 | 9 | $\stackrel{2}{2}$ | $151 /$ | 51 | 5 | \％ 8.818 |
| 20 | 10 | 2 | $16^{3}{ }^{\text {\％}}$ | 519 | 5. | Sit 018 |
| 22 | 11 | 2 | 1814 | 5 | 2－8 | （1） 10.5 |
| 24 | 12 | 2 | $193 /$ | $51 / 2$ |  | 112.19 |

## 110 VOLT ANNUNCIATOR NO． 807 HV

Armunciator for 110 wolt D．C．service

 annunciator is a new departure and will be foumd dependable．
 $\qquad$




Largersizes，add per drop．
Intermediate sizes，not listed deduct trom next larger size per drop


## GENERAL DESCRIPTION

No. 400 Unassembled
This dass of drop has been used for many years in places whore the indication is to be electrically rostored. The "Edwards" development should mors properly be called an invention, for it only retains the principle of a target electrically wherated from one position to another. All of the uneertain and supersensitive balance or magnedic features have been omitted, and there is presented in this drop for the first time a positive, self-locking indication. The action of the drop eanot be affected by vibration, and is capable of taking care of averal times the eurrent neenssary for operition without injury. 'lhe Edwards Lock Somaphore drop (patented) is really the combining of two lock drops in one unit, and does away entirely with the use of prmancnt magnets. The "position" locking feature of this drop is unique and original. There is nothing flimsy in constuction or uncertain in its operation and only the drops that are indicating are in the reset cireuit; a big saving in battery life. Alb iron parts are protected by electroplating, and magnets are wound with enameled wire, making the most sulwtantial and at the same time simple and positive electric control drop that has ever been produced. The usual manal reset found in gravity or needle type amuncators is omitted, control being entirely electrical.

## OPERATION

Upon energizing the right hand magnet, the shotter is thrown to the left, after which it may be returned to the first position by energizing the left magnet. The front of the annunciator is clear, as all necessary marking appears on white bristol board card carried by the drop. The result is a decided improvement in appearance over types exposing all markings upon the face; in addition it affords acconvenient means of changing indications at practically no expense or effort.

## METHODS OF WIRING RESET BUTTONS

None of these ammenciators have the old-fashioned reset plungers in the bot tom of the cases. The drops are all electrically reset by an ordinary push button. This makes it possible to locate the reset button away from the ammuriator, but if specified on order it can be mounted on the ammonciator case.

First: An ordinary push button may be located in any convenient place, and by pushing this button all of the drops that are down in the annunciator will be electrically reset.

Second: One reset button may be provided for cach drop in the anmunciator so that any drop may be restored without affecting any ether. A system of this kind is splendidly adapted for use in hospitals and other places where gencral supervision of any kind is desired.

Thirl: 'The drops of an annumeiator may be divided into two or more groups, each group, having its own reset button or buttons.

## GENERAL

Unless otherwise specifiel, no push buttons will be supplied with semuphore drop annunciators. For office installations we recomment the use of the Edwards Directory Push No. 190, and, if the wiring is to be in accordance with plan No. 1 shown below, one of the buttons in this push may be used as the reset button. "omplete wiring diagram in the back of every semaphore drop annunciator. Schedule "E"

List No. 400 Lock Semaptore Drop........................................... *ist Price $\$ 3.70$


## Western Electric <br> FIRE ALARM AND SIGNAL BELLS <br> VIGILANT ELECTRIC SINGLE STROKE BELLS—DIRECT CURRENT-6 OHMS

Magnets and Armature are so arranged that the armature is strongly attracted from a considerable distance, giving the hammer a long sweep and a powerful blow.

Striker. The hammer is attarhed to the hammer rod by a strong flat spring, causing a quiek recoil, resulting in clear and distinct signals. Tension and strength of blow are adjustable.

Single Stroke. Single stroke bells can be wound to operate on direct current up to 500 volts.
Vibrating. Vibrating bells are furnished up to 110 volts direct current.


No. 20

## The Vigilant, Open Type-No. 20

| Size | List Price | Size | List Price |
| :---: | :---: | :---: | :---: |
| $21 / 2 \mathrm{in}$ | 89.85 | 8 in. | $\$ 24.52$ |
| 3 in | 10.12 | 10 in | 40.66 |
| 4 in | 10.80 | 12 in . | 55.66 |
| 6 m | 17.32 | 14 in . | $\mathrm{iz}_{6} .96$ |
| 6 | 19.80 | 16 in . | 142.50 |
|  |  | $1 s$ in. | 162.00 |

Combination vibrating and single stroke, addl tor list $\$ 5.25$.
Finish. $2^{2}$ to $f$ inch, nickle plated and black; larger sizes, polished brass and black.

## The Vigilant, Covered Type-No. 21

| Size | List Price | Size | List Price |
| :---: | :---: | :---: | :---: |
| 6 in. | \$23.78 | 14 in | List Price |
| 8 in . | 28.50 | 11 i in | 147.00 |
| 10 in . | 44.86 | 18 in | 16500 |
| 12 in . | 59.40) |  | 150 |



No. 21


No. 21C

Vibrating, ald to list, \$3.71.
Combination vibrating and single stroke, add to list \$5.25.
Finish. $21 / 2$ to 6 inch, nickle phated and black; larger sizes, polished lrass and black.

## The Vigilant, Fire Alarm Type-No. 21C

A special form of the Ddwards Vigilant Bell for fire alarm use. Approved by States having fire protection laws. This bell is highly efficient; it has no heavy retracting springs nor is there loss of power through compound levers.

The eonduit fitting shown on right side of cut is separable, so that monduit wires pulled in and the bell attached at any time.

| Size | List Price | Size | List Price |
| :---: | :---: | :---: | :---: |
| 6 in. | \$28.28 | 14 in | \$77.85 |
| 8 in | 333.75 | 16 in | 153.00 |
| 10) in. | 50.10 | 18 in | 171.00 |
| 12 in . | (5i. 40 |  |  |

Finish. Polished brass and red.
Comduit boxes regularly drilled for $1 / 2$ inch conduit. Furnished for $3 / 1$ inch, if ordered.

For higher voltages rofer to "special Rexistance "Table."
Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

# FIRE ALARM AND SIGNAL BELLS 



No. 133
Full Grid


No. 1.331

## Electro-mechanical Bells

## FOR ALTERNATING OR DIRECT CURRENT UP TO 110 VOLTS

## For Open or Closed Circuit on Direct Current, but Open Circuit Only on Alternating Current

The EAwards electro-mechanical bell is operated by a strong spring meehanism which is electrically released on an exeeptionally small current flow. The mechanism is entirely insulated from the case. The binding posts are on the side phere they are most aceessible. Regularly supplied single stroke, but will be furnished, if orderml. as a constant ringing bell, i.e., to ring continuously until run down on either open or closed circuit. These bells are dust, insect, moisture and weatherproof, or non-weatherprof if for interior use.

Operation. The hammer, when released, makes a full revolution, passing under the gong to an inclined plane, where it is raised, ant strikes the gong with the great fore gathered in the revolution. The recoil causes it to drop and become locked in its normal position under the gong. As the full force of the blow is spent on the gong, there is no strain on the mochanism. The operation, through an eecentric, produces positive action.

Resistance. 5 ohms. (TTp to 20 ohms furnished without additional charge.)
Finish. Polished brass and red.
Capacity. $3(1)$ to 450 hlows to each winding.
Keys. Une key furnished with cach order. Additional keys $\$ 4.00$ each.

| WEATHERPROOF TYPE-NO. 133 |  |  |  |
| :---: | :---: | :---: | :---: |
| Size | Iist Price | Size | List Price |
| 6 in . | \$10) 46 | 14 in | \$83.40 |
| 8 in. | (i2. 00 | 16 in | 154.50 |
| 10 in . | 65. 26 | 18 in | 166.50 |
| 12 in . | 71.40 |  |  |

CONDUIT TYPE-NO. 1331
Conduit box drilled for $1 / 2$ inch conduit. Furnished for $3 / 4$ inch if ordered.
State if for use with surface or conemed eonduit.

| Size | List I'rice | Size | List Price |
| :---: | :---: | :---: | :---: |
| 6 in. | S6.4.9\% | 14 in | 889.40 |
| 8 in . | 67.28 | 16 in | 160. 0 () |
| 10 in . | 70.80 | 18 in | 17.50 |
| 12 in . | 77.40 |  |  |

## GRIDS

## For Electro-mechanical Bells

For priees of gridded bells adll to list of Nos. 133 or 1331 the following:



RectiNo. 100 Ac :


Recti No. 100 Standard


Recti No. 100 U
Underwater 'I'ype


Recti No. 219
Underdome Type

Recti No. 100

| Size. | For Battery- |  |  |  | -110-125 Volts, D.C. -220 Volts, D.C. - |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. of | Ohms | Amp. | List Price | Ohms | List Price | Ohms | list Price |
|  | Dry Cell | Resistance | Gong | Each | Resistance | Each | Resistance | Jach |
| $3 \mathrm{ins}$. | 3 | 2 | .35 | \$9.76 | 500 | \$11.16 | 2000 | \$20.80 |
| 4 ins | 3 | $\underline{2}$ | .35 | 10.30 | 500 | 14.72 | 2000 | 21.6 |
| 5 ins . | 4 | 4 | . 30 | 16.84 | 50) | 23.36 | 2000 | 31.20 |
| 6 ins. | 4 | 4 | . 30 | 19.08 | 500 | 25. 20 | 2000 | 33.20 |
| $7 \mathrm{ins}$. | 4 | 4 | 30 | 21.40 | 500 | 27.60 | 2000 | 35.40 |
| 8 ins. | 4 | 4 | . 30 | 23.30 | 500 | 29.68 | 2000 | 37.60 |
| 10 ins. | 6 | 6 | 20 | 39.50 | 500 | 46.40 | 2000 | 55.20 |
| $12 \mathrm{ins}$. | 6 | ( | 20 | 53.88 | 500 | 61.76 | 2000 | 71.20 |
| 14 ins. | 8 | 10 | . 12 | (io). 84 | 500 | 73.60 | $200 \% 1$ | 78.00 |
| 15 ins. | 8 | 10 | 12 | 12:3.74 | 500 | 128.62 | 20010 | 117.00 |
| 16 ins. | 8 | 10 | .1\% | 129.62 | 500 | $13 \mathrm{~N}, 12$ | 2000 | $140.6{ }^{2}$ |
| 18 ins. | 8 | 10 | . 12 | 147.34 | 500 | 148. 70 | 20 (0) | 142.80 |

Recti No. 100 U for operating on alternating current, price same as 100 .
Recti No. 219, underdone tyo, for oprating on hattery aml direat current, price same as No. 100 above.

## RECTI-ALTERNATING CURRENT TYPE No. 100AC Single Phase, 25, 40 or 60 Cycles; Carbon Contacts

A loud-ringing, vibrating bell for operation direct on alternating current up to 220 volts, 25 to 60 cycles.

| Size | 110-125 Volts | 22 )-250 Volls | Size | $110-125$ Volts | 60 cycles. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4 in . | \$18.66 | 226.26 | 8 in. | \$39.90 | \$48 66 |
| 5 in . | 31.00 | 40.00 | 10 in . | 64.19 | 73.0 |
| 6 in. | 34.00 | 42.83 | 12 in . | 85.88 | 96, 32 |
| 7 in. | 36.92 | 5\%. 76 |  |  |  |

No. 100UAC and No. 219AC same price as No. 100 AC .


Part Grid

|  | Add to List Irice of Rell |  |
| :---: | :---: | :---: |
| Size | Part Grid | l'ull Grid |
| 4 in . Reeti. | \$1. (\%) |  |
| 5 to 6 in . Recti | 2.40 | \$14.40 |
| 7 to 8 in . Recti | 4.00 | 21.60 |
| 10 in . Recti. | 4.80 | 32.00 |
| 12 in . Recti. | 6.40 | 42.40 |



Add to List Price of Reil Part Grid Full Grid $\$ 6.40$
13.22
17.32
28.65
Size
14 in. Recti. . . . . . . . . . . . . .
15 in. Recti. . . . . . . . . . . . .
16 in. Reeti. . . . . . . . . . . .

Delivery F. O. I3. Factory, New York City. For warehouse deliveries write nearest house.

## RECTI DIRECT CURRENT BELLS



No. 217


No. 1001 Conduit Type
For D. C. or A. C.


No. 100A Auto Type


No. 220 Recti Buzzer

## RECTI HIGH VOLTAGE TYPE NO. 217

Long, quick break contacts, slate base mounting, operates gong only. Suitable for use on direct current up to 600 volts. For intermittent service. Not made weathorproof.

| Volts |  |  |  | Sizes |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 6 Inches | 8 Inches | 10 Inches | 12 Inches | 14 Inches | 16 Inches | 18 Inches |
| 220 to) 299 | \$49.60 | \$45. 20 | \$72.80 | \$84.00 | \$105.00 | \$151.20 | \$180.00 |
| 300 to 499 | 60.80 | 67.20 | 77.26 | 12.500 | 114.76 | 160.44 | 189.70 |
| 500 to 600 | 66.40 | 71.20 | 83.20 | 97.50 | 119.26 | 16.4 .50 | 193.56 |

## RECTI CONDUIT TYPES NO. 1001 AND 1001 A.C.

For hattery or direct urrent up to 250 volt , and for aternating current up t, 220 volts; 25, 40 or 60 cycles, single phase.


## RECTI AUTOMOBILE TYPE NO. 100A

The sizes gencrally usel are $5,6,7,8$ or 10 inches, and to operate on a direct current from either primary or storare batterics.

Gencral voltages for automobile ' ells are 22, 44 or 88 volts.

| Ohm | S.ze | List | Oh | Size | List | Ohm | Size | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Resist. | Inches | Price | Resist. | Inches | Price | Resist. | Inches | Price |
| 4 | 5 | \$16.84 | 4 | 7 | \$21.40 | 6 | 10 | \$39.50 |
| 4 | 6 | 19.08 | 4 | 8 | 23.55 | 6 | 12 | 53.88 |

## RECTI BUZZER

For Operation on Battery, Direct or Alternating Current


No. 220A is furnished with silver contacts; for carbon contacts adel to list price, $\$ 0.80$.
Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


No. 510


No 17

## Transformer Bells No. 510

Fdwards transformer bells are a seientific A.C. hell development, to meet the demand for a loud ringing, dependable boll in the larger siges, thoperate on low voltage transformers of limited eapacity.
loor use in schools, industrial plants, institutions, and wherever reliable signals are required. Any number of bells may be operated from one transformer.

LIST PRICES

|  | Regular | Weatherpronif 13ell | Full <br> Grid | Part <br> Grid |
| :---: | :---: | :---: | :---: | :---: |
| 3 in . | \$6.72 | 8982 | 816.32 | \$13.12 |
| 4 in | 7.20 | 1040 | 16.80 | 13.60 |
| 5 in. | 15.30 | 10.08 | 26.56 | 23.36 |
| 6 im . | 16.96 | 21.76 | 28.16 | 24.96 |
| 7 in. | 19.52 | 2.482 | 30. 72 | 27.52 |
| 8 in | 21.12 | 2592 | 32.32 | 29.12 |
| 10 in . | 37.76 | 42.56 | 48.96 | 45.76 |
| 12 inch. | 47.20 | 2592 | 58.40 | 55.20 |
| Buzzer | 6.40 | 9.60 |  |  |

Standard winding, ti-10 volts, 60 cycle A. \%. Other voltages and frequensies an be furnished.

## No. 17 Economy Bell

The Eilwards reonomy bell is a high-grade, adjustable, fully insulated hedl for all parposes.
Intensified Stroke Armature. An intensified and powerful siroke with geat ecunomy of current is obtainel as follows:

The armature contart spring and their support form a single unit. The spring serves the double purpose of holding the sontact points and supplying the spring tension for the armature action.

When the magnets are energized they at tract the armature, but the contart prints olo not separate until the armature has mareically completed its stroke. 'The pull of the magest is effective during the entire stroke, whirh is long and powerful.

New Code Connectors. New code binding posts as approved by the National Board of Fire Underwriters are supplicd on this high-grade bedl. Wires may be quickly connected. Ifter the screws are set down it is impossible for wires to suread or lonsen.

Adjustable Contacts, Positive Lock, Non-turning Binding Post. A positive locking screw holds the eontact serew in position. The contact post is securely fastened to the frume so it positively cannot turn. The contucts are heavy, broad-faced, and made of pure silver.

## LIST PRICES



# IRON BOX BELLS AND BUZZERS <br> DIRECT CURRENT 



No. 1845


No. 1855


No. 1848


No. 1900

## Iron Box Bells and Buzzers

Class "B" Ad justable

This Bell is guaranteed to give satisfaction.
Every part is designed for long and hard service with the possibility of a "ground" or "short circuit" in the bell practically eliminated. Specially formed hard fiber in addition to rubber covering is used to prevent circuit wires coming in contact with the bell frame. The base or back of the bell is made from dead soft steel formed under heavy pressure and arranged with a contimuous rim which rests flush on the surface to which the bell is attached, preventing anything getting into the bell mechanism. The armature and magnets are mounted on a separate base which is securely attached to the back. The armature striker rod and ball are made from one piece of metal, therefore, no chance of any parts becoming loose. The armature is pivoted and fitted with an adjustable tension spring which can be adjusted for one to eight cells of battery. The contact post is non-turnable and fitted with a lock nut on the contact screw. The binding posts are non-turnable. Magnet cores are tipped with copper caps to prevent armature from sticking. The cap and frame are protected with a covering of black japan and all other parts are nickel and copper plated to $\quad$ prevent rusting.

|  | Class "B" |  | Quantity Prices |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1-10 | 10-100) | 100-500) | 500 and Over |
| 1855 | 21/2 inch gong |  | \$1. 46 | \$1.0\% | \$0.80 | \$0.74 |
| 1856 | 3 inch gong. |  | 1.54 | 1.14 | . 84 | 78 |
| 1857 | 4 inch gong. |  | 2.10 | 1.52 | 1.14 | 1.04 |
| 18.58 | Buzzer |  | 1.40 | 1.02 | . 76 | . 70 |

## Class "C" Non-adjustable

The cover is made of tinned sheet steel, black japanned, and is held rigidly in place by metal projections on top of base, under which the cap is snapped.

The base is of heavy annealed steel, black japanned. Contact post is attached to the magnet head which insures permanent adjustment and no danger of a "ground" on the base as it does not touch it.

The armature, striking rod and ball are all made from one piece of metal-a sure prevention of loose striker rods or balls.

Magnets are standard size and end of upper magnet is fitted with a copper cap to prevent armature sticking.

Binding posts are non-turnable, whien prevent holding screws from turning and inaking loose contact.
Every detail of the bell and buzzer is constructed for durability and satisfactory service.
One cell of battery will operate either, and as many as five cells can be used if desired.

|  |  | ('LASS "C" | 1-10 | 10-100 | 100-500 | 500 and Over |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1845 | Bell, 21/2 inch gong |  | \$1.32 | \$0.9\% | \$0.72 | \$0.64 |
| 1846 | Bell, 3 ineh gong |  | 1.44 | 1.02 | 76 | . 70 |
| 1847 | Bell, 4 inch gong |  | 1.88 | 1.44 | 1.08 | . 98 |
| 1848 | Buzzer ....... |  | 1.30 | . 94 | .70 | . 62 |

## Improved Monitor Bell

A neat, compact, reliable, round bell with double magnets, non-turning contact spring and binding posts. The gong is nickel plated, and secured in its place so it cannot turn, giving always a clear ring instead of a rattle caused by a loose gong.


# IRON BOX BELLS AND BUZZERS DIRECT CURRENT 



The Dixie


Dixie Buzzer


The Cadet

The Dixic (Non-adjustable) and the ('adet (Adjustable) are wound to two ohms only and are not furnished in higher resistance or special finish.

The Arrow (Adjustable) is wound to a ohms standard and can be furnished for athy higher resistances as listed helow.

Exelusive and advantageous features of Ldwards Iron Box Bells.
Fahnestock Clip. For eomnerting wires insted of old serew forminals. Elimi-


Cow nates all trouble from lonse wires and swes time. Fahnestore (lip is Eurnished only on Wdwards liells and Buzzers.

Gong. Kiveted to support to prevent removal or turning.
Cover. Held in position at three points. Interference imposiable.
Hammer Rod, Ball and Armature. (Ine piece. Rod swaged to prevent bending in operation. Hammer ball under gong to prevent disarrangement.

Pivot. At eenter of balance to prevent strain.
Dust and Bug Proof. I ivot is located at noarest possible point to eover where there is practically no motion-hence the opening is lout slightly larger than the rod which pases through it, lativing no roon for foreigh matter to enter.

Finish. Black enamel, niekel trimmings.
NET QUANTITY PRICES
Dixie Class "C"-2 Ohms

List
No
720
722
724
725 Buzzer
Fanney (iongs
Size
Inches
$21 / 2$
3
4
$\ldots$
$\ldots$
leess Than

| Unit l'ackage | 1 Unit 1 'kg | 1 Ste Pkg. |
| :--- | :---: | :---: |
| Price Lach | Price for 10 | l'rice for 100 |

liancy (iongs

| 710 | 21 |
| :--- | :--- |
| 712 | 3 |
| 714 | 4 |
| 715 | 13 ugzer |

## Cadet Class "B"-2 Ohms

| 21/2 | 81.80 | \$1:3.40 | \$1(i). 100 | \$90.00 |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 1.90 | 14.20 | 1(15.0) | 96.00 |
| 4 | 2.50 | 18.80 | 14) (1) | 126.00 |
|  | 1.70 | 13.00 | 95.00 | 88.00 |
|  | 3.100 | 22.40 | 16\%. (0) | 152.00 |

Arrow Class "A"-5 Ohms

| $21 / 2$ | $\$ 2.70$ | $\$ 20.00$ | $\$ 1.51 .00$ | $\$ 134.00$ |
| :--- | ---: | ---: | ---: | ---: |
| 3 | 2.90 | 21.00 | 158.00 | 140.00 |
| 4 | 3.40 | 25.20 | 192.00 | 170.00 |
| $\ldots$ | 2.70 | 19.60 | 148.00 | 132.00 |
| $\cdots$ | 3.90 | 29.00 | 218.00 | 198.00 |

Sleigh
 F. (O. 13. New York.

Unit Package. 10 pieces of same size and class.
Standard Package. 10 unit packages same size and class.
5 or more Standard Packages. Assortment of sizos and classes in Standard Packages.
Assortment of special resistance and regular wound bells not allowed to make Standard Packages. Platinum Contacts. I'rices on application. Frurnished on Class " $A$ " only.

SPECIAL RESISTANCE-FURNISHED ON CLASS "A" ONLY

## Add to Net Prices per Bell



Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


## The Lungen Bell

This is a very high grade iron box bell and buzzer. It has been made continuously in the various sizes for a period extending over 30 years. As the hammer rod is so shaped that the opening through which it passes in the side of the case is on!y slightly larger than the size of the rod, it may justly be described as a dust and insectproof bell. It is worthy of notice that this is the only type bell in which the standard size of 1 inch gong can be obtained.

## LUNGEN NO. 13-3 OHMS <br> Specifications

Schedule "E'"
Compact, positive acting, durable, insectproof.
(a)-Cover and base formed steel. (b)-Unit hammer rod and armature. (c)-Pivoted armature. (d)-Small hammer rod channel. (e)-Heavy spring nut adjustment. (f)-Brass gong heavily nickeled. (g)-Thibbed edges, spring cover.

Finish, one inch size, all nickel; other sizes, enameled base, nickel gong and cover.

| Sizes | 1 in . | $13 / 4$ ins. | 2 ins. | $21 / 2 \mathrm{ins}$. | 3 ins. | 4 ins. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fancy | \$1.80 | \$1.60 | \$1.66 | \$1.22 | \$1.35 | \$1.80 |
| Fancy Gongs |  |  |  | \$1.92 |  |  |

Special finishes-aprices on application. Special resistance prices furnished on application.

## LUNGEN NO. 14-3 OHMS

Scheaiule "E"
Characteristics and specifications, the same as No. 13, except as follows:
(a)-Base, cast. (e)-Screw and locknut adjustment. (f)-Cast bell-metal gong.

In 5 and 6 inch case; japanned; gong and binding post, nickel; the other sizes, gongs and binding posts, polished bronze.


## The Lungen Buzzer <br> LUNGEN NO. 15-3 OHMS

## Specifications

Cover and base formed sheet steel. Pivoted armature. Lock nut adjustment screw. Ribbed edge spring cover. Positively dust and insectproof.

Special finishes-prices on application.
Special resistance prices furnished on application.
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


No. 760


Cow


Sleigh


Dome


New Band

## No. 760 Wood Box Bells-3 Ohms

The "EDVFARDS" are a decided improvement in wood box bells and are constructed after the design of Efwards Iron Box Bells containing all of the features of the Cadet (Adjustable) Type.

The mechanism and gong support are one unit. All connecting wires are on the inside of the box where they are fully protected. Eilwards Wood Box I3olls are equipped with Fathmestock (lip's.

Base and cover of seasoned oak. Cover is secured to hase hy three spring arms holding it in a permanent position.

Gong is riveted to gong support and cannot loosen.

| Net Quantity Prices |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Less Than Unit l'kg. | 1 Unit l'kg. |  | 5 or More Std. Ekgs. |
| Size <br> $21 / 2$ ineh | l'rice Each $\$ 2.80$ | Price for 10 | Price for 100 | I'ricefor 1 Ste. $\mathbf{T} \mathrm{kg}$. |
| 3 inch | 2.90 | $\stackrel{22}{ } 00$ | \$156.00 | \$140.00 |
| 4 inch | 3.40 | 26.00 | 192.00 | 146.10 |
| 13uzzer | 2.72 | 18.40 | 192.00 | 172.10 1360 |
| Fancy Gongs | 3.80 | 29.00 | 212.00 | 13600 192.00 |

Unit Package. 10 pieces of same size and class.
Standard Package. 10 unit packuges, same size and class.
5 or more Standard Packages. Assortment of sizes in standard parkages.
Assortment of special resistance and regular wound bells not allowed to make standard parkage.

## No. 750 Bronx Watch Case Buzzer- 3 Ohms

No. 156



The smallest round buzzer made. Especially convenient for porket use for testing.

Resistance. 3 ohms standard. Sperial resistances, see table bow
Distinctive Features. lanund brass ase, havily nickel plated. Cover fits smugly to base making it dust and bugproof. Phosphor bronze springs. Silver contaets.

## NET QUANTITY PRICES

| Iist | Ileight |
| :---: | :---: |
| No. | Inches |
| 750 | $5 / 8$ |

## Diameter

| Inches | Less than 10 | 10 to 99 | 1001 or Mora |
| :---: | :---: | :---: | :---: |
| $1 \% / 4$ | $\$ 1.50$ | $\$ 1.00$ | $\$ 0.96$ |

## No. 156 Re-al Monitor Bell-3 Ohms

This small compact bell is especially designed for street cars, apartment houses and ammuncator work and for positive operation under the most severe conditions.

Resistance. 3 ohms standard. For special resistance, see table below.
Size. 3 inch. Standard Package. 100.
Finish. Nickel plated gong. Jlack cnamel base.
Direct acting straisht lines movement self contamed unit. Direct arting straight line hammer-rod. Weather, dust and bugyreof. lleavy phosphor bronze eontant springs. Large wiping contact points.

## NET QUANTITY PRICES

Levs than 10
$\$ 2.00$

10 to 99
$\$ 1.80$

100 or More
\$1. $\boldsymbol{H}_{6}$

## SPECIAL KESISTANCES

## Add to Net Prices per Bell

Resistance

| $1-10$ ohms | $11-20$ ohms | $21-50$ ohms |
| :---: | :---: | :---: |
| $3-6$ volts | $7-10$ volts | $11-20$ volts |
| $\$ 1.60$ | $\$ 1.80$ | $\$ 2.00$ |
| .50 | .80 | 1.20 |
| .50 |  | .80 |

51-100 ohms
$21-30$ volts
101-200 ohms
$31-50$ volts $\$ 2.20$
1.55 \$ 40
1.50

# THE EDWARDS RIOT BELL "Motor Driven" Bells 

An absolutely new principle-a very powerful quick responding, loud ringing, weatherproof, revolving stroke bell-bells that obtain all the sound that the gong can produce. A sinooth running, high efficiency motor, especially designed for the purpose used. They are designed to operate on battery voltages of 6 and higher, also lighting circuits of 110 volts alternating and lirect. The full power of the revolution and its momentum produce a strength of blow never before obtained. No aljustment is needed. No parts to wear out. No gears to stick. No heavy parts to move. Striker is mounted directly on motor shaft.


## NO. 300 GENERAL SIGNAL RIOT BELL

Available wherever a loud ringing alarm or signal bell is desired. For operation on alternating or direct current lighting circuits or hattery. The bells are weatherproof and may be used out of doors. Made in sizes 10 to 18 inches for all voltages and frequencirs. Furnished for 6 volt battery circuit when not otherwise specified.

| List No. | Size Inches | Voltage | List Price | İst No. | Size Inches | Voltage | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Size 10 | 6 D.C. | \$11s.s0 | 300 | 15 | 6 D.C. | \$14.() |
| 300 300 | 10 | 110 A.C. or I.C. | 147.60 | 300 | 15 | 110 A.C. or D.C. | 172.80 |
| 300 | 12 | 6 D.C. | 122.40 | 300 | 16 | 6 D.C. ${ }^{6} 10$ D.C. | 151.22 |
| 300 | 12 | 110 A.C. or I.C. | 151.20 | 300 | 18 | 6 D.C. | 165. $\mathrm{i}^{(0)}$ |
| 300 | 14 | $6 \mathrm{D} . \mathrm{C}$. | 129.60 | 300 | 18 | 110 A.C. or D.C. | 194.40 |
| 300 | 14 | 110 A.C. or D.C. | 10ヶ.40 | $30 \%$ | 18 | 110 A.C. or D.C. |  |

## NO. 320 LIBERTY RIOT BELL

Designed for use on fire fighting apparatus vehicles only. An adaptation of the liot movernent to the engine or locomotive type gong. Replaces the hand operated type of same bell now widely in use. Gives a greater volume of sound than the hand operated sell, and is controlled by the driver from a push bution on the steering wheel. It is the different signal so essential to the rapidly moving fire department vehicle. Addhitional buttons may be placed on other parts of the vehicle if desired, enabling others than the driver to operate the bell. Economical in current consumption, it can be operated on the ignition batteries. Where vehicles are equipped with electric starting and lighting system, the Riot Liberty Bell can be furnished without extra charge to operate on it. This saves the cost of and space for separate battery. Where this type of gong, hand operated, is now used, the Riot attachment can be furnished to fit the gong. By sending gong to the factory, attachment can be applied to best effect.

| gong. |  | Size Inches | Voltage | List Price |
| :---: | :---: | :---: | :---: | :---: |
| $320$ | Liberty Riot Bell | 10 | 6 D.C. | $\$ 129.60$ |
| 320 | Riot attachment only |  |  |  |

NO. 310 DOUBLE GONG RIOT BELL
For fire engines, ambulances and patrol wagons. The only signal sufficiently different and with clamorousness enough to meet the urgent necessity of fire fighting and emergency velicles.

They operate on a 6 volt battery by steering wheel push, and produce a far-reaching, effective and entirely different warning of the approach: a rigorous, emphatic demand for the right of way in a tone loud enough and strong enough to be heard at a distance, enatling pedestrians or traffic to keep the way open.

An adaptation of the Riot Bell using two gongs and a double striker. The gongs are struck alternately, and as the gongs are different tones the volume of sound is greatly intensified.

|  |  |  |  | List Price | List Price |
| :--- | :---: | :---: | :--- | ---: | ---: |
| List No. | Size Inches | 6 Volts I.C. | List No. | Size Inches | 6 Volts D.C. |
| 310 | 12 | $\$ 129.60$ | 310 | 16 | $\$ 158.40$ |
| 310 | 14 | 144.00 | 310 | 14 | 180.00 |
| 310 | 15 | 151.20 |  |  |  |

[^22]
# Western Electric CIRCÜIT CLOSING DEVICES 

267


No. 26


No. 112

# Constant Ringing Drop No. 26-4 Ohms <br> FOR USE WITH BATTERY AND MAGNETO 

Esperially designod for use on Tedephones, I Burglar Alarms, ete,
 thus closing the local circuit, and comsing a bell to ring continuously matil the lever is raised into phare.

Furnished for magneto wound to so ohms.
Can also be arranged as an indiating buzzer, so that when buzzer operates arm will drop at side showing that sall has bern made.

Will give satisfactory operation wound to any resistance up to 300 ohms.
Will not guarantee operation on more than 25 volts.
Finish: Nickel. Standard package: 6 .
List ..... 'List
No. ..... Price
2613 For hattery, 4 ohms. ..... $\$ 2.56$
26M For magneto, 80 olums ..... 3.5
26X Indicating buzzor. ..... 3.52
Assortment of $\mathrm{B}, \mathrm{M}$ and X promition to make standard packages.
Special resistance, see table below.

## Relay No. 112-10 Ohms <br> FOR OPERATION ON DIRECT CURRENT ONLY

This relay is designed to meet the domand for a reliable reday for the handling of small eurrents, The contacts and chatanees are eonstrueted to take care of current equal in value to one ampere at 20 volts or 20 watts.
liquiphed with silvor coniads, phosphor bronge spring.
Will give satisfactory operation wound to any resistane up to 300 ohms.

| Finish | Stri. l'kg. | List Price |
| :--- | :---: | ---: |
| Nickel, japanned base | $i \mathrm{i}$ | $\$ 3.00$ |

## For Special Resistance, see table below <br> SPECIAL RESISTANCE

| [p | 21 | 51 | 101 | 151 | 201 | 2.51 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| to | to | to | to | to | to | to |
| 20 | 50 | 100 | 150 | 200 | 251 | 300 |
| 80.96 | \$1.50 | 82.00 | \$2.56 | 83.00 | \$3.50 | \$3.85 |
| . 96 | 1.50 | 2.00 | 2.56 | 3.00 | 3.50 | 3.85 |

No. 112 Relay
$061.50 \quad 2.00$
$3.00 \quad 3.50$
3.85

Idelivery F. O, B. Factory, Now Yonk (ity. For warehouse deliveries write nearest house.

# FARADAY! BELLS 

GENERAL OUTLINE OF STANDARD TYPES OF FARADAY SIGNAL GONGS WITH DATA AS TO OPERATIVE CURRENT, ETC.

Faraday Signal Congs are made in five (5) general types, viz.:
Vil)rating (enelosed and skeleton types).
Single Stroke (enclosed and skeleton tyes).
'Iwo-signal Combination Single Sitroke ant Vibrating (enclosed tyjes only).
1Hectro-mechanical (enclosed types only).

## Vibrating Gongs

Vibrating Gongs will be furnished as ordered to operate fiom the following sources on energy as may be specified:
(a) Battery (ircuits-all voltages (gongs to be wired in multiple).
(b) D.C. Light and lower (ircuits-all voltages up to (ifo) (gongs to be wired in multiple).
(c) A. (1, 25-(i) Cyele Circuits ( 18 to 2\%, 100 to 110, 200 to 220 volts) as follow:
(1) A.C. $2 \overline{5}-10$ cycle bell-ringing transformer circuits, 12 to 24 volts, single gong pattorns up to 12 inches inclusive-double gong patterns up to 18 inches inclusive. (Gongs to be wired in multiple.)
(2) A.C. $25-60$ cycle light and power circuits- 100 to 110,200 to 220 volts. (Gongs hest wired in series, but nay be wired in multiple.)
(3) In series (any number as may be nuecified not exceeling 10 gongs) on $100-110$ volts A.C. light and power circuits- $25-60$ eycles.
(4) In series (any number as may be specified not exceeding 20 gougs) on 220 volts A.C. light and power circuits- $25-60$ cycles.

## Single Stroke Gongs

Single Stroke Faraday Gongs of standard type (except clectro-mechanienl patterns) eannot be operated on A.(. circuits; single stroke gongs must have, as a source of current supply, either battery current or D. C. light and power current: singlest roke gongs are particularly adnpted to code signalling and, of course, are preferable to vibrat ing gongs for code signalling; single st roke gongs cannot, from the nature of thoir construction, be comted on to give anywhere near the volume of sound that a continuous ringing vibrating bell can give.

Single Stroke Congs are best wired in series, but may be wired in multiple.

## Two (2) Signal Cormbination Single Stroke and Vibrating Gongs

Two (2) Signal Combination Single Stroke and Vibrating Faraday Gongs, like the single stroke type in preceding paragraph eannot be operated on $A$. (. eurrent; battery current or D. (. hight and power current must be nsed; special attention is called to the fact that twos ( 2 ) signal combination single stroke and vibrating gongs draw a much greater amount of current for full normal operation than vibrating gongs of sume size, and when operated from buttery, ample ampere capacity of the battery set is essential.

Two (2) Signal Combination Single Stroke and Vibrating Faraday Congs should always be connceted in multiple on a 3 wire circuit.

## Electro-mechanical Gongs

Electro-mechanical Faraday Gongs will he furnished to operate on battery current, A.C. (25-60 cycle) circuits ( 6 to 220 volts) and D.C. light and power circuits ( 100 to 600 volts).

Electro-mechanical Faraday Gongs are furnished to operate as specified, for open or closed circuit lines, as follows:

Style 1-Single stroke, for open circuit work.
St yle 2-Single stroke, for closed circuit work.
Style 3-Continuous ringing, for open circuit work.
Style 4-Continuous ringing, for elosed eirenit work.
Style 5 -To ring continuously until rum down, for open circuit work.
Style 6-To ring continuously until rim down, for closed circuit work.
In an Flectro-mechanical Faraday Gong, the blow on the gong is struck by a heavy ball on the end of a lever released by the electric current, but operated by a powerful clock-spring.

Electro-mechanical Gongs are designed for use where recpuirements demand a heavior and more powerful blow than is possible to obtain from an electric signal gong of regular design, or where current for operation of gong must be kept down to a minimum (Faraday lilectromechanical Gongs can be furnished to operate on a minimum of 60 milli-amperes per gong ).

Electro-mechanical Gongs reauire winting of clockwork spring after 600 or $7(k)$ blows have been struck.

Electro-mechanical Faraday Gongs should always be wired in series for most economical operation.

# SPECIAL RESISTANCE WINDINGS 

# FOR FARADAY AND EKLA SKELETON AND FARADAY ENCLOSED-TYPE BELLS 

 AND BUZZERSList additions shown below apply to Faraday Skeleton FKT, Skeleton, Faraday Enclosed-Type Gongs, Paraday Lnder-Dome (Gongs, Faraday Double-gong Bells, laraday Electro-Mechanical Gongs and l'araday linzzers for use on Battery and 1). C. circuits- lo not apply to . . C.

To obtain the list price of special resistance bells, add the list prices shown helow for the desired resistance to the list price of the "regular resistance" bell; from the combined figure thus obtained, standard diseount on bells apply
"IRegular resistance" vibrating bells will operate satisfactorily on battery and D.C. circuits at the voltage shown in table listing variou; types of bells on other pages, but where gongs are to be operated on highervoltage circuits, or where a number of gongs are to be operated simultaneonsly in "multiple" on a circuit, gongs wound to proper higher resislance must be used to oblain satisfactory results.

For D.C. light and power circuis, as well as lower D.(). voliages, dafia given in table at bottom of page should be used-this table showing approximate ohms' resistance for vilrating bells for various D. (. . voltages.

For vibrating bells resistance given in table below for D.C. circuits may he slightly varied from, in actual practice, without bad results, but the maximum resistances shown for specific D. C. Voltages insure minimum sparking at contacts and bost results; minimum maintenance expense will be obtainel by using the highest resistancers shown below for specific voltages.

Inless wired in series resistance of single-st roke gongs to be comected to D.C. light and power cireuits, should he approximately one-quarter that of vibrating gongs when designed for operation on similar voltages.
'To operate on low volt age battery, single-stroke gongs are best wired in muli iple. Figure resistance by following formula: $1 R=14^{2} \div 20$,

Faraday Enclosed Type Vibrating Crongs will be furnished, when ordered, wound to 150 ohms to operate direct, in mult iple on tion volis I). C. street railway circuits; 600 volt gongs should be used either with Faraday Resistance Pancls or with 5-60 watt lamps, conneeted as per blueprint attached to each 600 volt gong.

For A.C. bell ringing transformers and A.C' light and power circuits, Transformer Type Faradiny (iongs should the used. Listings of transformer gongs cover gongs suitable for eonnetion direct to 12 and 18 volt bell ringing transformers and 100 to 240 volts A. ('. light and power circuits. It is never desirable to use Pli MARLO 'Transformer Gongs on less than 12 volts, and Jaraday 'lrunsformer Gongs on less than 18 volts.

Resistances of transformer gongs for A.C. circuits are entirely arbitrary and cannot be figured on the same basis as shown below for 1)('. circuits.

For A.C, circuits, Transformer Single-gong Bells, Transformer Under-Dome Gongs, or Transformer Double-gong Bells should invariably be used; all Faraday Single-gong and Coder-Dome Transformer Gongs, except doublo-gong types, are of the "no-contact" non-sparking type; they may be connected in series (when wound to moper resistance for this work) and when so connected, the total mumber of gongs on the circuit requires no more current than one gong would require in multiple. larticular attention is ralled to this advantage over other transformer gongs, for the reduced current demand for the operation of the number of gong*, makes possible the use of any first-class contart-key of standard design.

Triplex contacts will be furnished when specially ordered, at stight additional cost on all Faraday Vibrating (tongs and Buzzers, except the smallest size on No. of frames. rlriplex contacts are a guarantec against the failure of is signal gong, for with three (3) independent sets of contacts, one set may break down or even two sets, without causing the failure of the gong.
l'ure platinum is, without quest ion, the most dependable for gong contacts, but where price of platinum seems prohibitive, platinoid will be found satisfactory.

Sinele stroke and clectro-mechanical gongs have no contacts.
list additions for sperial resistance windings of skeleton bells may be combined with list prices of skeleton thells and likewise list additions for special resistance windings of cnelosed type bells (ineluding Underdome gongs, double-gong bells, electro-meohanical gongs and buzzers) may be conbined with list prices of these bells to obtain list values determining discounts; however, list additions for enclosed type bells (including undar-dome gongs, double-gong bells, electro-mechanical gongs and buzzers) cannot be combined with skeleton bells to make up list values.

Hesi-tance of single-stroke gongs is approximately one-quarter that of vibrating gongs when designed for operation on similar voltages.
OHMS RESISTANCE FOR OPERATION OF FARADAY VIBRATING GONGS ON DIRECT CURRENT

|  | Adapted to |  | Adapted to |  | Adapted to |  | Adapted to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Operate on | Ohms | Operate on |  | Operate on |  | Operate on |
| Resistance | lollowing | Resistance | Following | Ohms | Following | Ohms | lollowing |
| per Bell | $\checkmark$ Vitages | per Bell | Voltages | lesistance | Direct Current | Resistarace | Direct Current |
| 5 | 6-10 | 1:0 | 30-35 | per Bell | Voltages | per Skell | Voltares |
| 10 | 10-15 | 200 | 35-45, | 3.50 | $6 .-81$ | $551)$ | 110-120 |
| 20 | 1:- 20 | 250 | 45-55 | 400 | 815 - 0.5 | 1009 | 120-1:30 |
| 50 | 20-25 | 300 | 55-65 | 4.50 | 95-105 | $2(1)$ | 220-240 |
| 100 | $25-30$ |  |  | 500 | 105-110 | 1.5) | 500-600 |

SPECIAL RESISTANCE WINDING LIST ADDITIONS-PER GONG


# FARADAY SKELETON BELLS 

VIbrating type, bell metal gongs, class a



"High-power" Armature.-Patented "High-Power" armature allows the keeping of armature in magnetic field up to the moment of striking the gong.<br>Breakage of Springs Cannot Disable Bell.

Insulated Mechanism. - Frame of bell carries no current at any time, as entire electrical mechanism is insulated from frame casting. Bells may be mounted on metal without fear of grounding.

Solid Back.-Solid back prevents dampness from getting into insulation washers on back of bell, or affecting magnet windings. All insulation washers sealed in with waterproof wax.

Locking Side-contact Post.-New patented split-section side-contact post compresses both sections against thread of platinum contact screw and positively locks with cone cap piece having taper thread; no injuring of platinum serew threall and adjusting to a thousandth of inch assured at all times.

Solid Trunnion Frame.-Solid trunnion frame cannot work loose or move in any direction. Improved split section, replacing old locknut on trunnion frame, compresses against upper trunnion screw, and no amount of jarring can loosen the upper bearing.

Cylindrical Trunnion Bearings, Extra Heavy Cylindrical Type.There is no possibility of armature breaking away from either upper or lower bearing; construction utilizes full strength of both upper and lower trunnion frame casting.

Non-turning Contact and Binding Posts.-Non-turning and non-loosening binding posts equipped with split stcel lock-washers prevent connections from ever jarring loose.

Contact Points. -Contant points are made of platinoid or pure platinum, as specifiea, and are always plainly marked on both screw and spring. Platinoid contacts furnished, unless otherwise specified.

Note: Faraday sketeton Bells will be wound, when speeially ordered, to any resistance up to 200k) ohms: howe:er, we do not recommend Skeleton Bells for 110,220 or 500 volts service. For this service, Faraday Entlusel Type Bells (with no enelosed terminals). shown on other pages, should be invariably used.

Faraday Skelcton Bells $u_{p}$, to (i-ineh, inclusive, will operate on both A. C. and I). C. cireuits when wound to roper resistance ( 1750 to 2500 ohms for $100-120$ volts D. ('., 110 ohms for fo-eycle, $100-115$ volts A. C.). Above 6-inch these gongs will not give satifactory service on A. ('. circuits, and Fararlay Double-Gong Bells must be used.

Faraday Skcieton Type Gongs will be furnished single-stroke, when specially ordered, at $\$ 1.00$ list additional, but for important single-stroke work the Faraday Single-Stroke Gong is recommended, and the slight advance in price will be found more than justified.

PRICE LIST

| List | Size, Gong | Frame | Ressstance | List Price | List | Size, Gong | Frame | Resistance | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | No. | in Ohms | Each | No. | Inches | No. | in Ohns | Each |
| O- $21 / 2$ | 21/2 | 1 | 1.5 | \$5.28 | O-12 | 12 | X-5 | 5.2 | \$33.20 |
| ()-3 | 3 | 1 | 1.5 | 5.68 | ()-14 | 14 | X-5 | 5.2 | (i6.32 |
| O-4 | 4 | 1 | 1.5 | 6.48 | ()-15 | 15 | X-5 | 5.2 | 80.78 |
| O- 5 | 5 | 2 | 2.1 | 8.80 | ()L-15 | 15 | 6 | 8 | 117.45 |
| ()- 6 | 6 | 2 | 2.1 | 9.92 | ()-16 | 16 | 6 | 8 | 124.05 |
| ()- 8 | 8 | 3 | 3 | 15.52 | ()-18 | 18 | 6 | 8 | 143.63 |
| O-10 | 10 | 4 | 5.2 | 26.56 |  |  |  |  |  |

Special resistance gongs to order-for prices, see special listing elsewhere.
Assortment of all sizes of Faraday skeleton and Elka Skeleton lBells permitted to make up quantity, but Enclosed Typ. Bell; cannot be included with Skeleton Bells to make up quantity.

Note: The Underwriters' Laboratories alprove only the Enclosed Type Bell for signal systems coming under their supervision.


## BELLS AND BUZZERS

## EKLA SKELETON BELLS, CLASS Z

EKKLA Model "Z" bells differ from the Faraday Model "O," principally in the following details:

Armatures not pivoted, but provided with patent double-screw-lock back-tension adjustment of reed-pattern.

Mechanism not insulated from frame-casting.
Silver contacts in place of platinoid.
lianding-posts simply non-turning, in place of Faraday patented duplex posts, non-turning and non-loosening.

Skeleton EKLA Ikells, Model "7,", listed below, are designed to operate on battery circuits only; for bell-ringing transformer circuits, transformer enclosed-type Single-gong Bells, transformer enclosed-Type double-gong bells, transformer underdone gongs or PR MARLO transformer gongs are recommended. Skeleton bells should never be used on electric light and power circuits.
Skeleton EKLA Bells will be furnished Single-Stroke when specially ordered at 50 cents net additional but for important single-stroke work the special Faraday Single-Stroke (iong shown on another page is recommended, and the slight advance in cost found more than justified.

| List | Size Gong |  | Resistance | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Frame No. | in Ohms | Eacil |
| Z-21/2 | $21 / 2$ | 1 | 1.5 | \$4.80 |
| Z-3 | 3 | 1 | 1.5 | 5.12 |
| Z-4 | 4 | 1 | 1.5 | 5.44 |
| Z-5 | 5 | 2 | 2.1 | 10.78 |
| Z-6 | 6 | 2 | 2.1 | 11.39 |
| Z-8 | 8 | 3 | 3 | 20,67 |
| Z-10 | 10 | 4 | 5.2 | 3418 |
| Z-12 | 12 | X-5 | 5.2 | 38.08 |

Skeleton FKLA Bells will be wound to any special resistance desired at standard list additions.
Assortment of all sizes EKLA and Faraday Skeleton Bells permitted to nake uj list values, but enclosed type gongs or buzzers cannot be included with skeleton hells; list price additions for special resistance windines may be included with bells and buzzers to make up list value.


Nos. 93, 99 and 101
Buzzers, Cover in Position


Mechanism of Nos. 89 . $91,93,99$ and 101 Buzzers


No. 94, Cover Removed

## FARADAY ENCLOSED TYPE BUZZERS

The Standard Nos. 89, 91, 93, 90 and 101 have the Faraday " 1 ligh-power" armature; No. 94 Fxtra Ioud, in addition to the "High-power" armature, has a heavy steel ball at the cod of the armature rodthis steel. ball striking on extension of the base frame casting with such force and rapidity as to make the signal three times as powerful as the No. 99 or No. 101.

Models 89 and 91 are the same as the 111 mechanism shown above with no cover; they are intended for interior mounting in annumeiators, switchboards, telephone apparatus, etc.; Model 93 is the same mechanism, with standard cover as shown in left-hand cut above, complete with rubber gasket, etc.; the size of the Models 89, 91 and 93 is so small that they fill a very long-felt want.

Frame of buzzer carries no current at any time, as entire electrical mechanism is insulated from frame casting. These buzzers may be mounted on metal without fear of grounding. Breakage of tension spring will not disable mechanism.

Side-contact adjustment is of patented micrometer-lock type; all working parts are heavily copperplated against dampness. Magnet coils are waterproof; soft-rubber gasket between frame and cover guards against outside moisture. Triplex contacts will be furnished when specially ordered, and insure the best contact construction ever made.

| List No. | Style | Frame No. | Ohms | Inches | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 89 | No Cover | 00 | 1.4 | $1 \frac{13}{16} \times 1 \frac{13}{16} \times 11 / 8$ | \$6.59 |
| 93 | Enclosed | 00 | 1.4 | $21 / 8 \times 21 / 8 \times 1 \frac{3}{16}$ | 7.20 |
| 91 | No Cover | 00 | 1.4 | $2 \frac{7}{16} \times 2 \frac{7}{16} \times 11 / 8$ | 6.59 |
| 99 | Enclosed | 0 | 1.4 | $31 / 8 \times 31 / 8 \times 13 / 8$ | 8.26 |
| 101 | Enclosed | 1 | 1.5 | $41 / 4 \times 4 \times 2 \frac{1}{16}$ | 9.60 |
| 94 | Enclosed | 1 | 1.5 | $41 / 4 \times 4 \times 2 \frac{1}{18}$ | 10.21 |

Faraday Buzzers will be wound to any special resistance desired at standard list additions.
Platinum Contacts: Add to above prices of buzzers for pure platinum contacts, $\$ 2.40$.
Triplex Contacts: Add to above prices of buzzers for Triplex Platinoid contacts, $\$ 8.00$; for Triplex Pure Platinum contacts, $\$ 12.00$.

Triplex contacts not furnished on 89, 91 and 93 buzzers.

# ENCLOSED-TYPE FARADAY SIGNAL GONGS Standard Models A, B and C 

National Code Standard<br>VIBRATING-WEATHERPROOF-FOR BATTERY AND D.C. CIRCUITS (Cannot Be Used on A.C. Circuits)

Faraday Enclosed-Type Bells are recommended whenever the gong is exposed to dust, dampness or mechanical injury. They are used for inportant signal work by leading railroads, fire alarin companies, etc. The mechanism is protected by a heavy bauer-barff iron case.

Faraday Ciongs A, B and C, listed below. are designed to operate on Battery, ard when ordered wound to proper resistance, on D.C. electric light and power circuits from 100 to 600 volts; for A.C. cirenits, both Bell Ringing Transformer and 100 to 240 rolt A.C. circuits, Transformer Enclosed Type Single Gong, Transformer Fnclosed Type Double Gong Transformer Underdome Giongs or 1 PR Marlo Transformer Gongs are recommended:

These gongs will be furnished Single-Stroke when specially ordered at $\$ 1.00$ additional.


Model A


Model B


Model C

| Model No. <br> Jon't liail <br> to Specify <br> Model No. and | Size Gongs Inehes All Gongs FullPolished |  | To Operate on Battery <br> (Gomgs to be Wired in Multiple) |  |  |  |  |  | To Operate on $22(0-250 \mathrm{~V}$ olt <br> J. ${ }^{\prime}$. Circuits In Multiple, No External Hesistance Required |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Number of 1)ry Cells hequired at <br> (iong <br> Terminals for Normal Operation | Opmerative <br> Voltage <br> at <br> Gong <br> Tcrminals | Approx. Watt Consumption per Giong | Regular Resistance Ohms for Battery Circuits | list Price Each |  |  |
|  |  | Frame No. (Size of |  |  |  |  |  | Found to soo Ohims | ll ound to 20M0 (Ohms |
| Which to Operatc | x therwise Specified | $\underset{\substack{\text { Mechan- } \\ \text { ism) }}}{\substack{\text { a }}}$ |  |  |  |  |  | list I'rice Each | I-ist l'rice Each |

MODEL "A" NON-GUARDED GONGS-1 $1 / 4$ INCHES TO 18 INCHES

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A-13 | 13/4 | 00 | $\because$ | 2 | 1.5 | 1.4 | 86.24 |  |  |
| A-2 | $\cdots$ | 00 | 2 | 2 | 1.5 | 1.4 | 6.72 | . . . . | . . . . . |
| A-21/2 | $21 / 2$ | 0 | 2 | 2 | 1.1 | 1.4 | 7.20 |  |  |
| A-3 | 3 | 0 | 2 | 2 | 1.1 | 1.4 | 8.24 |  |  |
| A- $31 / 2$ | $31 / 2$ | 1 | 3 | 3 | 1.8 | 1.5 | 10.08 | \$14.16 | 820.80 |
| A- 4 | 4 | 1 | 3 | 3 | 1.8 | 1.5 | 10.32 | 14.73 | 21.60 |
| A $=5$ | 5 | $\cdots$ | 4 | 4 | 2.2 | 2.1 | 16.88 | 23.36 | 31.20 |
| A-6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 19.04 | 2.5.20 | 33.20 |
| A- 8 | * | 3 | 5 | 5 | 2.5 | 3. | 23.52 | 29.68 | 37.60 |
| A-10 | 10 | 4 | ti | 6 | 2.55 | 5.2 | 39.52 | 46.40 | 53.20 |
| A-12 | 12 | $\mathrm{X}-5$ | 6 | 6 | 2.55 | 5.2 | 53.36 | 61.76 | 71.20 |
| A-14 | 14 | X-5 | ${ }^{6}$ | 6 | 2.55 | 5.2 | (6,5 . 84 | 7.3 .150 | 78.00 |
| A-15) | 15 | t | 8 | 8 | 4. | 8. | 123.75 | 132.75 | 146).6.3 |
| A-16 | 16 | (i) | S | 8 | 4. | 8. | 129.60 | 133.60 | 142.80) |
| A-18 | 18 | 6 | 8 | 8 | 4. | 8. | 147.30 | 148.68 | 162.40 |
| MODEL "B" HALF-GRID-CUARDED GONGS-31/2 INCHES TO 14 INCHE |  |  |  |  |  |  |  |  |  |
| 3-31/2 | $31 / 2$ |  | 3 | 3 | 1.8 | 1.5 | \$11.68 | \$15.76 | \$22.40 |
| 13-4 | 4 | 1 | 3 | 3 | 1.8 | 1.5 | 11.92 | 16.32 | 23.20 |
| 13-5 | 5 | 2 | 4 | 4 | 2.2 | 2.1 | 19.28 | 25.76 | 33.60 |
| B-6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 21.44 | 27.60 | 35.60 |
| J3-8 | 8 | 3 | 5 | 5 | 2.5 | 3. | 27.52 | 33.68 | 41.60 |
| 3-13. | 10 | 4 | 6 | 6 | 2.55 | 5.2 | 44.32 | 51.20 | 60.00 |
| 3-12 | 12 | S-5 | 6 | 6 | 2.5\% | 5.2 | (ic) 32 | 68 16 | 77.60 |
| 3-14 | 14 | X -5 | 6 | 6 | 2.55 | 5.2 | 72.24 | 75.00 | 84.00 |

MODEL "C", FULL-GRID-GUARDED GONGS-5 INCHES TO 12 INCHES

| C-5 | 5 | 2 | 4 | 4 | 2.2 | 2.1 | \$31.28 | \$37.76 | \$45.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C- 6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 33.44 | 39.60 | 47.60 |
| C- 8 | 8 | 3 | 5 | 5 | 2.5 | 3. | 45.12 | 5128 | 59.20 |
| C-10 | 10 | 4 | 6 | 6 | 2.55 | 5.2 | 71.52 | 78.40 | 81.75 |
| C-12 | 12 | X-5 | 6 | 6 | 2.55 | i. 2 | 89.55 | 9690 | 105.75 |

[^23]
# CONDUIT-PATTERN <br> VIBRATING-WEATHERPROOF-FOR BATTERY AND D.C. CIRCUITS <br> (Cannot Be Used on A.C. Circuits) 



Faraday Conduit Type Signal Congs make possible the installation of a signal gong system on the outside of a building or on the inside with positive assurance that no breakdown can occur.

Heavy marine gaskets between conduit box back and bell frame prevent entrance of dampness or water, and mechanism of gong, connections, etc., is absolutcly protected at all times.

Faraday Gongs AP, BP and CP, listed below, are designed to operate on battery and when ordered wound to proper resistance, on I.C. electric light and power circuits from 100 to 600 volts; for A.C. circuits both Bell Ringing Transformer and 100 to 240 volt A.C. circuits, Transformer Enclosed Type Single Gong, Transformer Enclosed Type Double Gong, Transformer IJnderdome Gongs, or P'l Marlo Transformer Gongs, are recommended.

These gongs will be furnished single-stroke when specially ordered at $\$ 1.00$ additional.
These gongs will be furnished wound to any special rosistance desired at standard list additions.

| Model No. Don't Fail to Specify Model No. and | Size Gongs Inches All (iongs Fulle Polished | Frame No. | To Operate on Pattery <br> (Congs to be Wired in Multiple) |  |  |  |  | $\left[\begin{array}{c}\text { To Operate or } \\ \text { 111.125 Volt } \\ \text { I.C. Cireuits } \\ \text { 1u Multiple, } \\ \text { No Fxtrrnal } \\ \text { Resistance } \\ \text { IRequired }\end{array}\right.$ | To Operate on 220-250 Volt D.C. Circuits In Multiple. No External lesistance IRequired |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Number of | Gurative <br> Voltage <br> at <br> Gong | $\therefore$ pprox. <br> Consumption per fiong | Regulatr Tesistance Ohme fur Battery Circuits | I.ist l'rice Farh |  |  |
|  |  |  | 1)ry Cells |  |  |  |  |  |  |
|  |  |  | IRequiredat |  |  |  |  |  |  |
| Voltage at | Unless |  | Terminals |  |  |  |  | Wound to $5000 \mathrm{~F} . \mathrm{ms}$ | Wound to 2000 Ohms |
| Which to | Otherwise | Mcrhati- ismi) | for Normal (1)eration |  |  |  |  | Jist Prace | List Price |

MODEL "AP" NON-GUARDED CONGS—31/2 INCHES TO 18 IÑCHES

| AP-31/2 | $31 / 2$ | 1 | 3 | 3 | 1.8 | 1.5 | \$17.28 | \$21.36 | \$25.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{AP}^{1}-4$ | 4 | , | 3 | 3 | 1.8 | 1.5 | 17.52 | 21.92 | 28.80 |
| $A{ }^{\text {P }}$ - 5 | 5 | 2 | 4 | 4 | $\underline{2}$. | 2.1 | 24.32 | $30.8 \times$ | 3 N .72 |
| AP-6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 24.85 | 32.72 | 40.72 |
| AP-8 | 8 | 3 | 5 | 5 | 2.5 | 3 | 31.60 | 37.76 | 45.68 |
| $A P^{-11}$ | 10 | 4 | 6 | c | 2.55 | 5.2 | 18.16 | $55^{51} 04$ | ( 3 3.81 |
| AP-12 | 12 | X-5 | 6 | C | 2.55 | 5.2 | (ii). 10 | 75.40 | 70.84 |
| AP-14 | 14 | X-5 | 6 | ${ }^{\text {a }}$ | 2.55 | 5.2 | 71.48 | 77.10 | 86.10 |
| $\mathrm{AP}^{\text {P }} 13$ | 15 | 6 | 8 | 8 | 4 | 6 | $1: 34.50$ | 113.50 .5 | 141.33 |
| AP-16 | 16 | 6 | 8 | S | $t$ | 6 | 141.40 | 149.40 | 1.52.88 |
| AP-18 | 18 | 6 | 8 | - | 4 | 6 | 147.56 | 1.8.76 | 172.48 |

MODEL "BP" HALF-GRID GUARDED GONGS-3y’2 INCHES TO 14 INCHES

| BP-31/2 | 31/2 | 1 | 3 | 3 | 1.8 | 1.5 | \$18.88 | \$22.913 | \$29.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PP-4 | 4 | , | 3 | 3 | 1.8 | 1.5 | 19.12 | 23.52 | 30.40 |
| ISP- 5 | 5 | 2 | 4 | 4 | 2.2 | 2.1 | 26.72 | 33.28 | 41.12 |
| 13P. 6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 28.36 | 35.12 | 43.12 |
| $13 \mathrm{P}-8$ | 8 | 3 | 5 | 5 | 2.5 | 3 | 35.60 | 41.76 | 49. 68 |
| BP-10 | 10 | 4 | 6 | $G_{1}$ | 2.55 | 5.2 | 52.96 | 59.8 | 68.64 |
| BP-12 | 12 | X-5 | 6 | 6 | 2.55 | 5.2 | 68.96 | 7 (i. 80 | $8(1) .85$ |
| BP-14 | 1.1 | X-5 | 6 | 6 | 2.55 | 5.2 | 75.83 | 83.10 | 92.10 |
| MODEL "CP'" FULL-GRID GUARDED CONGS-5 INCHES TO 12 INCHES |  |  |  |  |  |  |  |  |  |
| $\overline{\mathrm{CP}}=5$ | 5 | 2 | 4 | 4 | ${ }^{2} \cdot{ }^{2}$ | 2.1 | \$38. 72 | \$15. ${ }^{\text {2 }}$ | \$5:3.12 |
| CP- 6 | 6 | 2 | 4 | 4 | 2.2 | 2.1 | 40.96 | 47.12 | 55.12 |
| CP-8 | 8 | 3 | 5 | 5 | 2.5 | 3 | 53.20 | 29.36 | 67.28 |
| CP-10 | 10 | 4 | 6 | 6 | 2.50 | 5.2 | 75.15 | 81.60 | 89.85 |
| CP-12 | 12 | X-5 | 6 | 6 | 2.5\% | 5.2 | 87.65\% | 105.60 | 113.85 |

## A. C. TRANSFORMERS SINGLE-GONG

## Faraday Enclosed-type Bells

(National Cold Standard)

## VIBRATING-WEATHERPROOF-FOR OPERATION ON 18 VOLT A. C. BELL-RINGING TRANSFORMERCIRCUITS AND 100 TO 220 VOLT A. C. LIGHT AND POWER CIRCUITS, $\mathbf{2 5 - 6 0}$ CYCLES



The mechanism on they Transformer Faraday Gongs is entirely dimerent in design and operation from the ordinary type of signal gong; 'ransformer Fraday (ionge having no contarts can ba morated in geries or in multiple, with absolntoly no sparking, and may be safely installed in plates where presence of gas, inftammable vapors and dust have hitherto mate the use of electric mignalling apparatus dangerous, if not actually maposithe:

The extreme raphelity of vibration gives a sound just as satiofatory for rode simallimg as a singhe stroke fong.
Transformer Faraday Gonga are regularly furnished, as listed below, on operate direet in multiphe without oxternal resis-

(a) In series (any tu mber as nay be specified not exceding 10 gongs) on $100-110$ volts A.C. light amd power cireuits $25-60$ cycles.
(b) In series (any number as may be sperified not exereding gongs) on 220 volts A. (. light and powir rircuita $25-60$ cyeles.

I'rices for series gongs same as given below for 18 volt transformer wimits
 cuit, the current consumption of all gongs is mogeater than that frgurnd by one gong-an important desiderathm in satisfactory opreration and life of circuit closing devines.

Marnet cores are of datest type laminated eonstrurtion, windines are of omameled wire and evory detail of the mechanism is of the bance standard ats light ame power circout apparatus

When used on bell ringing transformers, it is very important that tha fransformer be of sufficion, eaparity, or satisfactory



Don't fail to specify volfage gongs are to onerate on in addition to Model No.; otherwise orders cannot be illed.
Assortment of all sizes molosed type pongs and buzzers permoted to make up list valuc, but faralay nul EKLA Skeleton bells cannot he included with enclosed type gongs or buzzers; list price additions for special resistance windings may be included with bells to make up list value.

# FARADAY ENCLOSED TYPE GONGS <br> NATIONAL CODE STANDARD 



Model UP
For Exposed Conduit Work

These gongs are far superior to projecting-neck type of signal-gong heretofore almost universally used. The entire meehanism of an Underdome Gong, including hammer rod and ball. are within the gong, completely housed and protected; mothing (am possibly injure or derange the meehanism and, in addition, the design of the I nderdome Faralay Gong lends itself to the requirements of building work, i.c., that the gong shall not in any way mar the general building lines:

Underdome Faraday Cings have the following advantages in merhanism:
(a) Patented "lighr-"ower" armature allows the keeping of armature in magnetic field up to the moment of striking the gong-twice the power of any other mechanism made, because contart points do not open or cut off current till the end of stroke.
(b) Bronze-sterl power-multipiying gears between armature and hammer rod. (c) No springs can broak to stop) operation of gong.
(d) Frame-casting of bell carries no current at any time, as entire electrical mechanism is insulated. Faralay lells may mounted on metal without fear of groumding.

Underdome Faraday Gongs are made in three (2) models, viz:
"1) 13 "-for surface-mounting without conduit.
"D13C"-with outlet box for surface-mounting with conduit.

| List No. | Size, Gong Inches | 8 | No. of Frame |
| :---: | :---: | :---: | :---: |
| 1.8 | 3 | Resistance, 0 hms |  |
| $(1-10$ | 10 | 4 | 3 |



Special resistance bells made to order-for priess see special histing onsewhere.
Note: Underdome Faraday Bells are ideal for elect rie vehicle work; will be furnished wound to any resistance required; generally used for 88 volts.

## D. C. DOUBLE-GONG ENCLOSED TYPE



Model D-Double-Gong Bell

These bedls are dexignod for five different D.C. service conditions, as shown in headings above price columns below. All five types on this page are designed to be connected direct in multiple on line without external resistance of any sort, but there are two distinctly different types of bells, viz.: Multiple-Type and Sories-Type.

Multiple-Type Gongs for 100-125 and 220-250 volts and battery cireuits of all voltages should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple-Type Gongs must never be connected in series.

Series-Type Giongs, while requiring no external resistance, may be connecterl either in multiple or in series-the latter being particularly advantageous, however, under some conditions when lines are long and size copper small; Series-Type (iong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

PRICE LIST

|  |  |  | MULTIPLE |  |  |  |  |  | SERIES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Sise Each Gong Inche: | $\begin{aligned} & x \\ & 0 \\ & 0 \\ & \underset{0}{7} \\ & ? \end{aligned}$ | MULTIPLE-TYPE MCLTIPLE-TVPE <br> D. C. $100-125$ Volt D. C. 220-250 Volts <br> Direct in Multiple Direct in Multiple <br> on Line on Line <br> No External No External <br> Resistance Resistance |  |  |  | MULTIPLE-TYPE <br> J. C. Battery Direct in Multiple on Line |  | SERIES-TYPE <br> D. C. 100-125 Volts <br> Direct in Series on Line No External Resistance |  | SERIES-TYPE <br> D. C. 220-250 Volts <br> Direct in Series on Line No External Jesistance |  |  |
|  |  |  |  |  | Ohms |  | Ohms |  |  |  | Ohms |  |  |
|  |  |  | sistance per P'air Coils | $\begin{aligned} & \text { List Price } \\ & \text { Each } \end{aligned}$ | sistance per Pair Coils | List Price Each | sistance per Pair Coils | List Price Each | sistance per Pair Coils | List Price Each | Bistance per Pair Coils | List Price Each | $\begin{aligned} & \text { For Model } \\ & \text { "DP" } \\ & \text { Add } \end{aligned}$ |
| D. 3 | 3 | 1 | 1000 | \$21.76 | 2000 | S26.24 | 3 | \$12.80 | 1000 | \$21.76 | 2000 | \$26.24 | $\$ 7.20$ |
| D. 4 | 4 | 1 | 1000 | 22.72 | 2000 | 27.20 | 3 | 13.80 | 1000 | 22.72 | 2000 | 27.20 | 7.20 |
| D- 5 | 5 | 1 | 1000 | 26.90 | 2000 | 31.42 | 3 | 18.00 | 1000 | 26.96 | 2000 | 31.42 | 7.20 |
| D- 6 | 6 | 3 | 1000 | 33.36 | 2000 | 39.84 | 6 | 20.40 | 1000 | 33.36 | 2000 | 39.84 | 8.06 |
| D. 8 | 8 | 3 | 1000 | 38.16 | 2000 | 44.64 | 6 | 25.20 | 1000 | 38.16 | 2000 | 44.64 | 8.06 |
| I) -10 | 10 | 4 | 1000 | 53.68 | 20)() | 60.72 | 10 | 39.60 | 1000 | 53.68 | 2000 | 60.72 | 8.64 |

Note Double-Gong Bells, above described, will be wound to any desired special resistance for use on D. C. circuits. For list prices for such winding, see special listing elsewhere, being careful to note that double-gong bells always have to be wound to maximum resistance per coil, not per pair as single-gong bells; therefore, list prices of double the resistance of single-gong bells must be figured. For example, a single-gong bell to operate without excessive sparking on a given D. C. voltage might be wound to 500 ohms, but a double-gong for same use 500 ohms per coil or 1000 ohms per pair.

Don't tail to specify which of five types is required and voltage in addition to "List No.," and "Model No.," otherwise order cannot be filled.

When Series type gongs are required order must state: (a) How many gongs are to be connected in each series. (b) Voltage of circuit. (c) Length of line (both legs) and size of wire.

# BELL RINGING TRANSFORMERS 



## Western Electric <br> No. 1 Bell Ringing Transformer

The function of the beil ringing transformer is the operation of bells, door openers, buzzers, annumeiators, or, in fact, any means of signalling that is used in the average residence as well as for factory and gencral signalling purposes.

The Western lilectric N 0.1 Transformer is a small inexpensive device, having three different voltages on the secondary side of 6,8 and 14 volts, this range is provided to meet the varying conditions of operation. The external dimensions are: willth, $23 / 4$ inches; height, $13 / 4$ inches; length, $33 / 4$ inches. It is encased in a sheet metal container. This transformer is of the shell type construction, and it is so designed as to give absolute inaximum bell ringing power allowed by the fire underwriters, as such hell ringing power is expressed in watts capracity. Particular attention has been paid to the insulation factors and to that end insulaton material is so disposed as to protect the primary and secondary from each other as well as from the primary and secomdary and iron. Electrical bell transformers are always floating on the service or lighting line. It is therefore eesential that their no-load losses-core losses- be as low as possible, at least small enough not to operate the ordinary house watt meter.


Medium 60 Watts Capacity

## Bell Ringing Transformers

Wayne bell ringing transformers are built in capacities suitable to answer every bell ringing requirement ranging from 5 to $1: 5$ watts capacity inclusive.

25 to 49 Cycles

| List |  | Voltage- |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Primary | Secondary | Watts | Frequency |
| 192340 | 110 | 12 | j) | 25 to 49 |
| 179343 | 110 | - $5.10,15$ | (i) | 25 to 49 |
| 179544 | 110 | 8 8, 16, 24 | 125 | 25 to 49 |
| 179541 | 110 | 12 | 5 | 50 to 140 |
| 191395 | 110 | 8, 16, 24 | 60 | 50 to 140 |
| 99192 | 110 | 10, 20, 30 | 125 | 50 to 140 |
| 179542 | 220 | 8, 12 | 5 | 50 to 140 |
| 191771 | 220 | 8, 16, 24 | 60 | 50 to 140 |
| 191772 | 220 | 10, 20, 30 | 125 | 50 to 140 |


| Length | Width | $1)$ epth |
| :---: | :---: | :---: |
| Inches | Inches | Inches |
| $61 / 6$ | $31 / 2$ | $21 / 2$ |
| 53,4 | 6 | $33 / 4$ |
| 6\% | 7 | $41 / 2$ |
| 50 to 140 Cycles |  |  |
| 23/8 | 23/8 | 21/4 |
| $61 / 2$ | $31 / 2$ | $31 / 4$ |
| $53 / 4$ | 6 | $33 / 4$ |
| 21/2 | $23 / 8$ | 21/4 |
| 61/2 | $31 / 2$ | $31 / 4$ |
| $53 / 4$ | 6 | $31 / 4$ |

Capacity in Std. Makes of Trrans. Bells Simultancously $3-3^{\prime \prime}$ $15-4^{\prime \prime}, 5-5^{\prime \prime}, 4-7^{\prime \prime}, 3-10^{\prime \prime}$ $30-1^{\prime \prime}, 16-5^{\prime \prime}, 8-7^{\prime \prime}, 6-10^{\prime \prime} 15$

Shp. List Wgt. Price
Llos. Each
$51 / 2 \quad \$ 5.00$
$10 \quad 18.00$
$15-3-3^{\prime \prime} \quad 2 \begin{array}{ll}5-3^{\prime \prime} & 2-7^{\prime \prime} \\ 15 & \$ 4.50\end{array}$
$\begin{array}{crr}3-3^{\prime \prime} & 2 & \$ 4.50 \\ 15-2^{\prime \prime}, 5-5^{\prime \prime}, 4-7^{\prime \prime} & 8 & 15.00 \\ 30-3^{\prime \prime}, 10-5^{\prime \prime}, 8-7^{\prime \prime}, 6-10^{\prime \prime} & 10 & 20.00\end{array}$
$\begin{array}{ccr}30-3^{\prime \prime}, 10-5^{\prime \prime}, 8-7^{\prime \prime}, 6-10^{\prime \prime} & 10 & 20.00 \\ 3-3^{\prime \prime} & 21 / 2 & 5.00\end{array}$
$\begin{array}{ccc}15-2^{\prime \prime}, 5-5^{\prime \prime}, 4-7^{\prime \prime} & 8 & 16.00 \\ 0-3^{\prime \prime}, 10-5^{\prime \prime}, 8-7^{\prime \prime} \cdot 6-10^{\prime \prime} & 10 & 21.00\end{array}$

## BELL RINGING, TOY AND SIGN LIGHTING TRANSFORMERS



Type SS Ringing Transformer


Danditoy Transformer


No. 2D Toy Transformer

## Bell Ringing Transformers

## For Alternating Current Only-Standard 110 Volts, 60 Cycles

Types C, D, SS and 3 S are for extra heavy duty such as the operation of large size bells or a large installation of beils to be rung at once.

| List | Toltage | Cap. |  | ion |  | Wt. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Sxecondary | Watts | length | Width | Height | Lbs. | Each |
| Type C | 6 | 60 | 6 | 41/8 | 43/8 | $71 / 2$ | \$9.00 |
| Tvpe I) | 6-14-20 | ${ }_{60}$ | 6 | $41 / 8$ | 43/8 | $71 / 2$ | 10.50 |
| Type SS | 6-12-18-24 | 100 | 6 | $41 / 8$ | $43 / 8$ | 9 | 13.50 |
| Type 3S | 10-25-35 | 100 | 6 | $41 / 8$ | 43/8 | 9 | 15.00 |

## New Type Thordarson Toy Transformer

The Danditoy is of the same construction and material as the higher priced transformers, the only difference being size. It is equiped with a voltage regulator giving eleven different voltages in steps of $21 / 2$ volts, starting at 2 ! 3 and going up to 27 2 2 volts. This device will run all electrical toys exceptimg the heavier ligher priced train outfits, for which we recommend the larger sizes.
Danditoy
$21-2-271 / 2$
40
33 í
3
3
3
$\$ 4.50$

## Standard Type Toy Transformer

Thordarson troy transformers eliminate the use of batteries. They are designed to operate all classes of elect-ical toys, such as miniature trains, small signs, motors light small lamps, operate Ruhmkorff and other types of induction coils. 'The 11) has secondary voltages ranging from 1 to 20 volts in steps of che volt each. The 2 D ) has a range irom 1 to 25 volts in steps of one volt each; and the No. 5 B and 5 D a range of from 1 to 15 volts in steps of one volt each. Several different voltages can be used simultaneously.

The $5 B$ is equivped with both circuit breaker and voltage regulator. The D's are equipped with voltage regulator only.

It is cmmecessary to use a rheostat with any of the above transformers.

| List |  |  |  | sions, |  | Wt., | Jist Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltaro | Watts | Length | Width | Height | Lus. | Each |
| 1D | 1-20 | 80 | 5 | 4 | $33 / 4$ | 8 | \$8.26 |
| 21) | 1-25 | 140 | 51/4 | 5 | 4 | 11 | 11.26 |

## Sign Lighting Transformers



Sign Lighting Transformer

The multiple lighting transformers are designed to be used in connection with low voltage Mazda lamps, either for sign or residence lighting. These transformers cmbody all essentials of a perfect design, electrical, magnetic and mechanical. They are double wound and insrlated to withstand a breakdown of 2500 volts between the primary, secondary and core, Standard transformers can be furnished for two and three wire systems, 110 and 220 volt primaries, 11 and 22 volt secondaries.

| I.st | Watts |  | Midth | Height |  | Weirht | *ist Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{361224}$ | Watts | 47/a ins. | $35 / 8 \mathrm{ins}$. | $31 /$ ins. | $91.2 \%$ | till | \$14.40 |
| 361225 | 150 | 5 ns. | 4 ins. | $31 / 2$ ins. | $92 \%$ | 8 lbs. | 19.20 |
| 361226 | 250 | $53 / 1$ ins. | $47 / 8 \mathrm{ins}$. | 4 ins. | $93 \%$ | 13 lbs . | 25.60 |
| 261227 | 500 | $65 / 8$ ins. | 5 ins. | $45 / 8$ ins. | 94.2\% | 19 lbs. | 28.80 |
| 361228 | 750 | di\% ins. | $51 / 4$ ins. | 43 ins. | 94.9\% | 25 lbs . | 32.00 |
| 361229 | 1000 | 75/8 ins. | $53^{3} 8 \mathrm{ins}$. | 5 ins. | 95.2\% | 28 lbs . | 35.20 |
| 361230 | 1500 | 73 ins. | 5/8 ins. | 51/4ins. | 95.9\% | $3{ }^{5} \mathrm{lbs}$. | 44.80 |
| 361231 | 2000 | $85 / 8$ ins. | 0 ins. | 6 ins. | 96.1\% | $44^{\text {a }}$ lbs. | 56.00 |
| 361232 | 2500 | 9 ins. | 63 \% ins. | $63 / 4$ ins. | 96.5\% | 55 lbs . | 64.00 |
|  | ed by | Nation | oard | re Unde | er |  |  |

*Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

# ELECTRIC DOOR OPENERS FOR OPERATION ON BATTERY OR BELL RINGING TRANSFORMERS 



## No. 155 ''Nojar" Mortise Type-Solid Nose

Width, 2 inches; depth, $27 / 8$ inches; thickness, $11 / 8$ inches; nosing opening, $1 / 4$ inches; face plate, $11 / 4 \times 33 / 8$ inches.
Finish Standard Package List Price
Brass
25
$\$ 4.80$
No. 79 Push-out Spring included.

## Mortise Type-Roller Nose-Nos. 48 and 48A

Solid bronze. Each opener is tested under a heavy pressure and warranted.
No. 48 Width. $21 / 4$ inches; clepth, $25 / 8$ inches; thickness, $1 \frac{7}{16}$ inches; opening. $11 / 8$ inches.
No. 48A Width, $25 / 8$ inches; depth, $25 / 8$ inches; thickness, $1 \frac{7}{16}$ inches; opening, $11 / 2$ inches; face plate

|  | No. $48 \mathrm{~A}, 11 / 2 \times 37 / 8$ inches; face plate No. $4813,11 / 2 \times 4$ inches. |  |  |
| :--- | :---: | :---: | :---: | :---: |
| No. | Finish | Standard Package | List Price |
| 48 | Bronze | None | 828.80 |
| 48 A | Bronze | None | 36.80 |

No. 49 Push-out Spring included.


No. 50


No. 51

Rim Type-Roller Nose-Nos. 50 and 50B
FOR SURFACE OR RIM LOCKS, THIN DOORS, IRON GATES, ETC.
No. 50 Width, $21 / 4$ inches; depth, $25 / 8$ inches; thickness, 1 inch; opening, $11 / 8$ inches.

| No. 50 B | Width, $21 / 4$ inches; depth, $25 / 8$ inches; thickness 1 inch;opening, <br> No. <br> 50$\quad$ Finish | Standard Package |  |
| :--- | :---: | :---: | :---: |
| 50 B | Cast bronze | None | List Price |
|  | Cost | $\$ 28.80$ |  |


| None | $\$ 28.80$ |
| :--- | :--- |
| None | 30.40 |

No. 49 Push-out Spring included.
None
30.40

## Plate Type-Roller Nose-Nos. 50 and 51A <br> FOR DOOR FRAMES TOO THIN TO TAKE MORTISE

No. 51 Wilth, $21 / 4$ inches; depth, $25 / 8$ inches; thickness, 1 inch; opening, $11 / 8$ inches.
No. 51A Width, $21 / 2$ inches; depth, $21 / 4$ inches; thickness, 1 inch; opening, $11 / 2$ inches; face plate. $38 / 4 \times 11 / 2$ inches; side plate, $33 / 4 \times 27 / 8$ inches.

| No. | Finish | Standard Package | List Price |
| :--- | :---: | ---: | ---: |
| 51 | Bronze | 1 | $\$ 30.40$ |
| 51 A | Bronze | 1 | 32.00 |

No. 79 Push-out Spring included.
Delivery F. (). B. Factory, New York City. For warehouse deliveries write nearest house

## ELECTRIC DOOR OPENERS



No. 1541. Mortise Type


No. 52


No. 239

Door Openers and Latches

| List No. |  |  |  |  | Dimensions Face Plato | Finish | Std. Pkg. | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Width | Depth | Thickness | Opening |  |  |  |  |
| 1541 | $2 \mathrm{ins}$. | $3788 \mathrm{ins}$. | 1, 8 ins. | $11 / 4$ ins. |  | Brass | 6 | \$11.60 |
| *52 | 3 ins. | $31 / 4$ ins. | $7 \% \mathrm{in}$. | $3 \mathrm{~m} \times 3 / 4 \mathrm{in}$. | $1 \times 43 / 4$ ins. | Bronze | 1 | 39.20 |
| 239 | Latch for | with No | Opener |  |  | Bronze | 1 | 1.80 |



Door Openers and Latches

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | mensions |  |  |  |  |  | Finish | Std. List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Width | Depth | Thickness | Opening | Face Plato | Side Plate |  | Pkg. |  |
|  | $33^{5} 8 \mathrm{~g}$ ins. | 13 in. | 1 in. | $1 \frac{3}{16} \mathrm{ins}$. | $57 / 8 \times 11 / 4 \mathrm{ins}$. |  | 13rass | 100 | 84.00 5.60 |
| $\dagger 153$ | 2 ins. | $37 / 8$ ins. | 11/4 ins. | $11 / 4$ ins. | $1 / 4 \times 38^{16} 5$ | $3,8 \times 3 \geqslant 4$ ins. | 13rass | 6 | 6.80 |
| $\dagger \dagger 152$ | 2 ins. | $\square{ }^{1} \frac{3}{6} \mathrm{ins}$. | 1'8ins. | $1 / 4 \mathrm{~ms}$. |  |  | - |  | 28.32 |
| 152 | Arrang | to take | inch con |  |  |  |  |  | 28.32 |

## Push-out Springs

List
No.
49
79
89

9
Desc:iption
Mortise Type
Fits $11 / 2 \mathrm{in}$ hole
Fits $1 / 2 \mathrm{in}$. hole

Finish
Phosphor I3ronze
Brass
Brass

Standaird
Package
List Price
Each
$\$ 0.72$
.64
.56

Charge for special resistance all door openers same as R. F. A. 1. Bell
Delivery: F. (O. 13. New York City. Jior warehouse deliveries write nearest house.
*For use with sliding doors. Mechanism enclosed. Requires straight mortise.
$\dagger$ For door frames too thin to take mortise.
$\dagger \dagger$ For surface or rim locks, thin doors, iron gates, etc.

# MISCELLANEOUS SWITCHES 

## Door Switches



No. 174


No. 175

Fit Standard Switch Boxes GENERAL DESCRIPTION
Eco and Lungen Door Switches are designed to automatically light and extinguish electric lamps by the opening or closing of a door. They are used in telephone booths, bank vaults, closets, dressing-rooms, etc. Attention is called to the compactness of the switches; the springs and contacts are phosphor bronze; all types are guaranteed mechanically and electrically perfect. Finish, brass, unless otherwise specified.

## ECO NO. 174

Made to operate every other time; operates as follows: when door is shut, light is off; open door, lamp lights; after entering, shut door, lamp remains lighted; open door for exit, lamp goes out; shut (loor, lamp) remains out.


## LUNGEN NO. 175

${ }^{*} 175 \mathrm{~A}$
Langen
110 V .5 amp
25
$\$ 6.24$
Lungen 110 V. 5 amp.................... 25
6.24
*Lights lamp when door is opened; turns it off when door is shut. thights lamp when door is shut; turns it olf when door is open

## SWITCH BOXES

Schedule "E"
Switch boxes are specially designed for placing in mortise of door frame. If sufficient space is available any standard flush switch case may be usel, as the screw eenters on Eco and Lungen switches are the same as on standard push switches.

Jist No.
2000 130x

Width Length Depth Std. Pkg. *List Price
$11 / 4 \mathrm{in}$. $35 / 8 \mathrm{in} .25 / 8 \mathrm{in}$. $25 \mathrm{j} \quad \$ 1.92$


No. 172


No. 178


No. 165

Battery Switches
HARD RUBBER BASE

| List |  |
| :--- | :--- |
| No. | Style |
| 172 | Keystone |
| 178 | Scuare |
| 165 B | P'ole-changing |
| 165 F | Pole-changing |


|  | -*List Prices- |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Std. Pkg. | 1-Pt. | 2-P't. | $\begin{aligned} & \mathrm{Adv} . \\ & \text { per Pt. } \end{aligned}$ |
| Niekel trimmings, hollow back. Regular up to 3 pt . | 6 | \$0.88 | S0.91 | \$1.28 |
| Nickel trimmings, hollow back. Regular up to 3 pt . | 6 | 1.12 | 1.36 | 1.60 |
| Nickel trimmings, back connections | 3 | 3.52 |  |  |
| Nickel trimmings, front connections. | 3 | 4.80 |  | ecial |

Engraving on knobs, per letter, list, 24 cents additional.
*Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


Front View No. 122


No. 104 Wood


Rear View No. 122


Front View No. 102


Rear View No. 102

## Spring Connector Switch No. 122

A greatly superior eonstruction. Eyelet contact points into which the cupped arm springs and is securely retained. Fahnstock clips replace the ohsolete hinding post insuring perfect connection and ease of installation.

Finish. Oak.

| List No. | Stal. I'kg. | -———List Price-n---つ |  |
| :---: | :---: | :---: | :---: |
|  |  | 1 Point | 2 Point |
| 122 | 100 | \$0.24 | \$0.32 |

## Wood Base Switch No. 102

Lever is held by spring washer insuring Ierfect contact.


No. 164 Metal

|  |  |  |  |
| :---: | :---: | :---: | :---: |
| Ijist No. | Std. Pkg. | LPoint, | List Price- |
| 102 | 25 | $\$ 0.64$ | $\$ 0.88$ |

Arditional points up to 6 , add to list per point, $\mathbf{\$ 0 . 2 4}$.

## Crown Switches

No. 104, oak base. No. 164, nickeled buse.
A single pole double break switch with cupped contact arm which springs on points ensuring perfect connection.

Assortment permittel.
List No.

Stri. Pkg.
25
—— List lrica, lïther Style——
$\$ 0.64$


NG. 167

## Dial Switch No. 167

For selective or program bell ringing where a number of bells are to be operated singly or all at once. To operate a single bell the short arm is moved to the number corresponding to the bell to be rung and pressed on to the eontact point. To ring all bells the long arm is moved to contact point markod "All." Base oak, niekel metal parts. Numbering on celluloid, inlaid flush with the wood base.

List No.
16710 points.
$\$ 30.08$
Each additional point
3.01

Delivery F. O. 13. Factory, New York City. For warehouse dcliveries write nearest house.

## FLUSH PUSH BUTTONS



No. 63


No. 620


No. 1062


No. 1162


No. 59

## Midget and Mite Types

No. 63 New Mite. Formed shell, over all, $5 / 8 \mathrm{x} 5 / \mathrm{s}_{\text {inches; }}$ non-turnable centers, spring elip fasteners. IBinding posts take up to No. 12 13. \&S. wire.

| 1 innt | Fits Ihole |  | Wrat Pky | Mrs. | *W. F. Jist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Center | Lis. | I.ist | Preme |
| ${ }^{\text {fi3 }}$ New Slite | 1. | Light or dark pearl | ;0) | S0. 45 | \$0.72 |

No. 620 and 621. Non-turnable centers. Fully insulated. Scraping contart. Feonomy binding post takes all sizes of wire. Screws cannot come out. A high-grade reliable push. No. (i) escuteheon may be used with this push.
(i20 Dixie Jr.
621 Dixie Jr
$5 / 8$
$5 / 8$
Light or dark pearl
Pearl, protruding $1 / 8 \mathrm{in}$.
50
80.28
$\$ 8.45$
(.) button.
1062 Nidget Jr. $\quad 5 / 8 \quad$ Light or dark jearl $\quad 200 \quad \$ 0.25 \quad \$ 0.40$
No. 1162 Midget Jr. Same as No. 10 i2 Jlidgot Jr., but without back springs or binding posts. Spring clip fasteners.
1162 Nidiret Ir
5/8 Light or dark pearl
5)
80.25
80.40

No. 59 Midget. Non-turnable centers, secure spring dip fastencrs, phosphor-bronze contacts. Binding posts take any size wire. No. 61 esetitcheon may be used with this button.
59 Midget
$3 / 4 \quad$ Light or dark pearl
8
$\$ 0.5$
$\$ 0.88$


No. 1059


No. 85


No. 260


No. 1059 Midget. Non-turnble centers, secure spring clip fastencrs, phosphor-bronze spring, seraping contacts. Connectors take any size wire. No. (il wenteheon may be used with this button.

| List | Fits IIole |  | Stal. P'kg. | Mifs. | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Ins. | Center | Lbs. | List | Price |
| 1059 Mid | 3. | Light or dark pearl | 5) | \$0.0) | \$0.80 |

HIGH VOLTAGE-No. 85
Long quick break. Phosphor-bronze contact springs. Whell solid brass with mondensite insulation and rubber center perfectly insulated.

| List | cr center prorny imata | Fits Hole |  | Sted. Ibkg. | Mirs. | W, L. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Style | Inches | ('enter | Lhes. | List | Price |
| $85^{\circ}$ | For 110 volts open circuit | $3 / 4$ | Hard rubber. | 12 | \$2.00 | \$3.20 |
| 85.4 | For 220 volts open circuit. | 1\% | Hard rubher | 12 | 4.50 | 7.20 |
| 85 C | For 110 volts closed cirenit. | $11 / 8$ | llard rubber | 12 | 5.75 | 9.20 |
| 8is. | For 2:0 volts closed circuit. |  |  |  |  |  |
| Hare | rubber bushing for 110 volts. |  |  |  | \$1.00 | \$1.60 |
| Ilard | rubber bushing for 220 wolts. |  |  |  | 1.25 | 2.00 |

No. 260 Van Tassell. Formed shell; durable insulation; soraping contats; non-groumding phosphor-
bronze contact springs recessed in insulator, locking in place. For closing 2, 3 or 4 eireuits; 4 contacts furnished unless otherwise ordered.

$\begin{array}{llllll}\text { this button. } \\ 1160 \text { Midget } & \text { Light or dark prarl } & 50 & \$ 0.95 & \$ 1.52\end{array}$
For any group, "A" finish, listed previously, add................................................. . . . . . . 2
For any group " 13 "' finish, listed previously, add . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 72
For engraving, per letter.........................................................................
Note: Heavy face type indicates center and finish supplied w
Alz Finishes: Nickel plate, brush brass, old brass or bronze.
*Delivery F. O. 13. Factory, New York City. For warehouse deliveries write nearest house.

## MISCELLANEOUS PLATES



No. 116


## Slow Break-No. 116

Finish. *Nickel plate, brush brass or bronze.
Used in electric: automobile controller haudles, ete. It is supplied with wiping contacts and phosphor-
ze springs. bronze splrings.

Fits Ilole, Inches
! 1

Center Hard rubher

Std. Pkg. 40

List Price
$\$ 1.44$


No. 157D


No. 158

## Flush Push Escutcheon-No. 60

This is an exceptionally neat fitting escutcheon for use on plaster, or where larger push than themidget is reguired. The iron plater is seemere paster, or where the first; there being a mumber of serew holes it is always possible to have the serew engage ia lath; the top plate is placerl over the iron plate and a midget or midget junior button is then slipped into the hole and pressed tight. The spring clips on the side of button, grips the iron plate, and holds the button and brass plate securely in place.

| No. | Style | Hole | Std. Pkg. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 60 Viscutcheon. | Metal | 5/8. | 50) | 80.40 |
| ${ }_{61}$ Escutcheon. | Metal | 缶in. | 50 | .40 .40 |

Finish. *Nickel plate, brush brass or bromze. For any group A finish ald $\$ 0.24$. For group 13 add $\$ 0.64$.

## Stone Escutcheon-No. 261

A plain flanged casting designed to cement into stone work, drilled to take $3 / 4$ inch push.

The No. 260 Van Tassel I'ush is recommended for use with this escutcheon. No.

List Price
261 Escutcheon, imitation stone finish .
$\$ 3.01$

## Plates-Diamond or Square-No. 157

Finish. *Nickel plate, brush brass or bronze.
Bevel edge; drilled for 1 button. No. 157か size $17 / 8$ inch; No. 157b size be$t$ ween points $21 / 3 \times 3 \frac{1}{6}$ inches. Assortment permitted to make standard package. For $5 / 8$ inch or $1 / 2$ inch pushes only.
No. Std. Pkg. List l'rice


For any group A finish, add to list $\$ 0,24$. For any group B finish, add to list $\$ 0.64$.
In ordering, state size of button for which plates are intended to be used; $5 / 8$ inch size furnished if not otherwise ordered.

## Switch Box Plate-No. 158

Finish. *Nickel plate, brush brass or hronze.
For standard switch box, drilled for 1,2 or 3 buttons, $5 / 8$ inch. of 1 or 2 buttons $3 / 4$ inch. Serew hole centers are $3 \frac{9}{32}$ inches. Machine screws furnished. In ordering, state if for $5 / 5$ inch, or $3-\frac{1}{2}$ inch buttons. No.
158 Switeh box plate, size $41 / 2 \times 23 / 4 \mathrm{ins}$.
Stu. Pkg. List Price
Add for special group, A finish $\$ 1.28$; group 13 finish, $\$ 1.92$.
Note: *Indicates finish supplied when not otherwise ordered.
Delivery IF. O. 13. Factory, New York City, For warehouse deliveries write nearest house.


No. 9628

## Square Push

| I.ist |  | Size | Sta. | *List |
| :--- | :--- | :---: | :---: | :---: |
| No. | Type | Description | Inches | Plig. |

Finish: Nickel plate, brush brass, old brass or bronze; for any group $\boldsymbol{A}$ finish add $\$ 0.48$ for any group B finish, add \$1.2S


No. 180

No. 136

## Combination Bell and Push

Consisting of bell and push for call and return call in connection with anmunciators.
List
No.
136 Combination bell, oxidized copper finish
Cowbination bell, oxilizal espar fina

## Metal Plates for Pushes

METAL PLATE NO. 180
Plate Only for No. 147 and No. 148 Wood Blocks
Prices do not include buttons, but in ordering, specify whether size $\lambda, \frac{5}{8}$ inch, or size $\mathrm{B}, 3 / 4 \mathrm{inch}$, is required.

| required. |  | Size "f" | Size "B" |  |
| :---: | :---: | :---: | :---: | :---: |
| List | No. of | S/8 Inch Button | 3/4 Inch Button | List |
| No. | Pushes | Inches | lnches | Price |
| 180 | 1 | $1 \frac{3}{16} \times 1 \frac{5}{16}$ | $13 / 4 \times 13 / 4$ | \$1.02 |
| 180 | 2 | $238 \times 1 \frac{5}{16}$ | $3 \times 13$ | 1.09 |
| 180 | 3 | $31 / 2 \times 1 \frac{3}{16}$ | $41 / 4 \times 13 / 4$ | 1.22 |
| 180 | 4 | $41 / 2 \times 1 \frac{5}{16}$ | $51 / 2 \times 13 / 4$ | 1.28 |
| 180 | 5 | $51 / 2 \times 1 \frac{5}{16}$ | $63 / 4 \times 13 / 4$ | 1.41 |
| 180 | 6 | $61 / 2 \times 1 \frac{1}{16}$ | $8 \times 13 / 4$ | 1.66 |
| 180 | 8 | $415 \times 23$ \% | $51 / 2 \times 3$ | 1.98 |
| 180 | 10 | $512 \times 238$ | 63 年 $\times 3$ | 2.62 |
| 180 | 12 | 612 3 23,8 | $8 \times 3$ | 3.52 |

[^24]
## DIRECTORY PUSHES



No. 190


No. 191


No. 71

## Edwards Directory Push

No. 190 or 191
No. 192 is the same as the No. 192, except that the buttons are on an inclisel planm, the block higher in the back than in front.

| No. of | *List | No. of | *Jist | No. of | * List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Buttons | Price | Buttons | Price | Muttons | Price |
| 1 | \$4.03 |  | 88.45 | 7 | \$12.80 |
| 2 | 5. 51 | 5 | (1) 79 | $\checkmark$ | 14.08 |
| 3 | 6.78 | f | 118 | 10 | 16.96 |

For No. 192, add $\$ 1.03$ to the list priece.
The list numbers apply to 190 ; for 191 add " $F$ "' af or the mumber let tur.
For larger sizes, ald to list for each button. \$1.00.
For pearl buttons. add to list per button, $\$ 1.08$.
For silk covered rable conuocted, add to list pei foot, per button, sosis
For silk eable not conneeted. per foot per comluctar, so. 11
Standard finish, nickel; dark oak, mahozany and brush brass "an be supplied without extra charge.
Standard parkage, 3 or more plates, totalling 40 buttons.

## Paper Weight Push

Finish: Nickel plate, brush brass, old brass or bronze.
Made of pressed st cel, weightmil bark, felt-coverch, 8 to 12 button, cast rase. Drice includes No. 63 pushes matched finished rims. Sperial finishes aroup A or group B, add to list $\$ 0.26$ or $\$ 0.48$ per push

| List | No. of | Nize | * Dist | List | No. of | Size | *List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pushea | Inches | Prise | No. | Pushes | Inchey | Price |
| 71 | 2 | 21/2×17/8 | 55i. 32 | 71 | 6 | $21 / 2 \times 178$ | \$9.92 |
| 71 | 3 | $21 / 2 \times 13$ | 6.5 | 71 | 8 | $4 \times 17$ | 13.18 |
| 71 | 4 | $21 \% \times 17 /$ | 7.60 | 71 | 10 | $4 \times 17$ \% | 14.53 |
| 71 | 5 | $21 / 2 \times 17 / 8$ | 8.70 | 71 | 12 | $51 / 2 \times 17 / 8$ | 15.81 |

Other sizes up to 20 buttons.
For attaching green silk cord, por foot for rawh button, \$0.32
For silk cable not connerted, so. 12.
Special finishes group, " $A$ " add to list 80.38 .
Special finishes group " 13 " add to list. \$1.5
Note. IIeavy face type indicates finish supplied when not otherwise specified.


No. 147

## Standard and Special Finishes

Note, Heavy fare ty pe indicates finish supplied when not otherwise specified.

Finish Group "A"
Finish Group " ${ }^{\text {B }}$

| Od Enslish bronze | Polisteed ropper |
| :---: | :---: |
| Antidue or Fiemish | Polishel steel |
| brase | T3auer-barff |
| Oxidizexl bronze | Acid or statuary |
| Englisl bronze | l.emon brass |
| Mottlen copper | Ciun metal |
| Gxidizal copper | Black |
| Antique enpper or |  |

Gilt
Satin gold Eitruscan gilt (ioll bronze Oxidized silver lKutler's silver Ormolu or French gilt

Burnished gilt
Polished silver
Pompeiian bronze
Roman or dull gold
Sand blast, antique brass
Sand blast, old brass
Verde antique

## Compound Pushes <br> \section*{*No. 147 TYPE}

Two piece separable block in oak, ash, cherry or mathogany; other wools special. Front hollowed for connections. Back solid, felt protected. Cord outlet not cut unless ordered. P'rice does not include buttons, but in wrdering specify whether size

| List | No. of | Size " A ' | \$ize "13" | Stal. | List | List | No of | Size " ${ }^{\text {d" }}$ | Size " 13 " | Std. | U ist |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pushos | Ins. | Ins. | Qty. | Price | No. | Pushers | Ins. | Ins. | Qty. | Price |
| 147 | 1 | 21/2 $\times 21 / 2$ | $234 \times 234$ | 21 | \$1.2s | 1.17 | 6 | $8 \times 21$ \% | $9 \times 23 / 4$ | 18 | 54.24 |
| 147 | 2 | $31 / 2 \times 21 / 2$ | $4 \times 23 / 4$ | 21 | 1.76 | 1.17 | 8 | $53 / 4 \times 21 /$ | $61 / 2 \times 4$ | 16 | 4.96 |
| 147 | 3 | $4{ }^{3} \times 21 / 2$ | $51 / 4 \times 234$ | 21 | 2.08 | 1.17 | 10 | $7 \times 315$ | $73 / 4 \times 4$ | 16 | 6.24 |
| 147 | 4 | $53 / 4 \times 21 / 2$ | $61 / 2 \times 23 / 4$ | 18 | 2.18 | 147 | 12 | $8 \times 31 / 3$ | $9 \times 4$ | 16 | 7.52 |
| 147 | 5 | $7 \times 21 / 2$ | $73^{3} \times{ }^{3}$ | 13 | 3.52 |  |  |  |  | 。 |  |

For larger sizes, add to 12 luaton 80.64 per button.
If weight ed for paper weight, add per hutton, list so. 48 .
No 148 TYPE
Same as No. 147, exeept block is in one piece with hollow hack. In ordering, sperify whether size " A ," $5 / 8$ inch, or size " $B_{\text {, }}$ " $3 / 4$ inch, is required.

| 148 | 1 | $21 / 8 \times 21 / 8$ | $216 \times 216$ | 24 | 80. SS | 148 | 6 | 73. $\times 2$ \% | , $\times 2$ \% | 18 | \$2.24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 148 | 2 | $31 / 8 \times 21 / 8$ | $33 \times 216$ | 24 | 1.28 | 1.18 | 8 | $6 \frac{1}{2} \times 31$ |  | 16 | 2.48 |
| 148 | 3 | $43 / 8 \times 21 / 8$ | $5 \times 21$ | 24 | 1. $5 \cdot 2$ | 118 | 10 | $17^{5 / 5} \times 31$ | T15 $\times 3$ | 16 | 2.7 |
| 148 | 4 | $51 / 2 \times 21 / 8$ | 111/4 $\times 21 / 2$ | 18 | 1.76 | 148 | 12 | $7 \frac{3}{4} \times 31 / 4$ | $83 / 4 \times 3{ }_{4}$ | 16 | 3.0 |
| 148 | 5 | $65 / 8 \times 21 / 8$ | $71 / 2 \times 21 / 2$ | 18 | 2.00 |  |  |  |  |  |  |

[^25]
## PUSH BUTTONS

## Wrought Metal Pushes



No. 25750

PLAIN STYLES
List
No.
25750
25755


No. 25793


Schedule " $R$ "
Number in *List Price Carton per Dozen 6 \$11.i2
20.93 Wrought bronze, loose back. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 41/4 x 2.


No. 25794


No. 25795


No. 25792
-

## \section*{FANCY STYLES}

| Size | Number in <br> Inches | *List Price <br> Carton Dozen |
| :---: | :---: | ---: |
| $43 / 4 \times 2$ | 6 | $\$ 11.52$ |
| $41 / 8 \times 13 / 8$ | 6 | 11.52 |
| $4 \times 2$ | 6 | 11.52 |
| 4 | $\times 2$ | 6 |

For varicty of finishes, see preceding page.
*Delivery F. O. B. Factory, New York City. For warchouse delive:ics write nearest house.

## WROUGHT METAL PUSHES



No. 25575


No. 25577

No.
2.575

## Description

Wrought bronze, loose back
Wrought bronze. lowse har

No. 25587



No. 25578


No. 25651

No.
25i) 78
Wrought bronze, loosio bisek
.\%) Wrought bronze, Joose hack
25585 Wrought bronze, loose back

## Description

25051 (ast bronze, sorew cap).


No, 25585

| Size | No. in | List Price |
| :---: | :---: | ---: |
| Inches | Carton | per Doz. |
| $11 / 2$ | 12 | $\$ 7.20$ |
| $13 / 8$ | 12 | 7.50 |
| $23 / 8$ | 12 | 7.50 |

Iback conters only. For return call servion ext rat contant is supplied for whirh add to list per button $\$ 0.60$.

Any of these pushes furmished in bronzo nickel plate, antique copper, oxidized copper. bauer-barff, or brush brass, without extra charge. Polished hronze furnished when not otherwise ordered.


## Anti-wood Push Buttons-Stamped Steel

To take the place of wood pushes. Better than screw eap buttons.

| No. |  | Style | Finish | Size Inches | List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0.3 | Wrought steel. |  | Ieal bronze | $21 / 4$ | \$20.40 |
| $0) 1$ | Wrought steel. |  | Polished bronze | $21 / 4$ | 24.00 |
| 08 | Wrought steel. |  | Oxidized copper | $21 / 4$ | 24.00 |
| 010 | Wrought steel. |  | Niekel plated | $21 / 4$ | 24.00 |
| 011 | Wrought steel. |  | Satin brass | $21 / 4$ | 24.00 |

I) livery F. O. B. Factory, New York City. For warehonse deliveries write nearest house.

## WALL PLATES AND PUSHES



No. 205


Sui:ch Plate No. 158-72

## Combination Wall Plates

COMBINATION WALL PLATE NO. 205
Finish: Nickel plate, brush brass, old brass or bronze.
Metal plate $2 \times 3$ inches, with No. 620 Midget, Jr., push and No. 72 detachable extension plug, with flexible cord and pear push furnished if desired.
List No.
*List Price
205 Less cord and pear push.
$\$ 3.12$
For any group A finish, add $\$ 0.96$. For any group 13 finist, add $\$ 2.00$. For 6 feet of silk cord and pear push, add $\$ 2.48$.

## Switch Plate and Plug No. 158-72

Finish: Nickel plate, brush hrass or bronze.
Plato fits standard switeh box.
List No.
158-72 Plate and Switch
.\$3.62
Special finishes-ald to ist group A, $6 \pm$ cents. (iroup 13,96 cents.


No. 237


No. 235


No. 72

Floor and Extension Type Pushes
NO. 237 REGULAR FLOOR PUSH
Heavy contacts and indestructible insulation. A reliable push. No attachment for cord.


NO. 235 WITH REMOVABLE PLUG
Schedule "E"
Has extension attachment for connecting flexible cord with table clamp or pear push. Eyelets can be placed in carpct or rug for entrance of plug without injury.

Heavy contacts and indestructible insulation. A reliable push.
235 Combination complete.
$\$ 1.00$
Plug only
Finish: Nickel plate, brush brass, old brass or bronze.
For flexible cord connection. Size of plate, 2 inches dianeter.
Fis Plug and plate
6
$\$ 2.00$
Plug only

Finish: Nickel plate, old brass, brush brass or bronze.

## Standard and Special Finishes

Finish Group "A"

Old English bronze
Antique or Flemish brass
()xidized brass

English bronze
Mottled copper
Oxidized copper
Antique copper or
Japanese bronze

- Delivery F. O. B. Factory, New York City.

Polisher copper
Polished steel
Bauer-barff
Acid or statuary bronze
Lemon brass
Gun metal
Black

Gilt
Satingold
Etruscan gilt Gold bronze Oxidized silver Butler's silver Ormolu or French gilt

Finish Group "B"

Dor warehouse deliveries write nearest house.

## MISCELLANEOUS PUSH BUTTONS



No. 67


No. 268


No. 68


No. 173

## Pendant Pushes <br> NOS. 67 AND 268 PUSHES

| List |  | Equipped | Std. | *List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Case | with P'ush | Quty. | Price |
| t7 | Ash, oak, cherry or stained manogany. | No. (i20) Dixis, Jr. | 25 | 80.72 |
| 67 | lolack walnut, muple, cypress or maliogany | No. (i20) Dixie, Jr. | 12 | 1.28 |
| 67 | White enamel. . . . . . . . . . . . . . . . . . . . . . | No. (i20 Dixie, Jr. | 6 | 2.00 |
| 67 | Cienuine rosewood. | No. 6\% ()ixie, Jr. | 6 | 7.52 |
| $\bigcirc 68$ | White or black celluloid. | No. $\mathrm{i}^{2} 0$ Dixic, Jr. | 6 | 2.00 |
| Assortment of 25 constitutes a standard package. |  |  |  |  |
| NO. 68 METAL PUSH |  |  |  |  |
| Finish: Nickel plate, brush brass, old brass or bronze. |  |  |  |  |
| List |  | Equipped | Std. | *List |
| No. | Case | with Push | Quty. | Price |
| 68 | Single, corrugated metal | No. 620 Dixie, Jr. | 12 | \$0.72 |
|  |  |  |  |  |
|  |  |  |  |  |

## NO. 173 MULTIPLE PUSH

Finish: Wood part. any ordinary wood. Oak shipped unless otherwise ordered. Metal part, nickel plate, brush brass, old brass or bronze.

| List |  |  | Equipped | Std. | *List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Case | mith I'ush | Qnity. | Price |
| 173 | Two button |  | No. 63 New Mite | 12 | St. 80 |
| 173 | Three button. |  | No. 63 New Nite | 6 | (1.24 |
| 173 | Four hutton. |  | No. 63 New Mit | , | 78 |
| 173 | dive luatton. |  | No. 63 New Mite |  | 10.00 |
| 173 | Six Button. |  | No. $0: 3$ New Mite |  | 12.48 |
| 173 | Seven I3utton. |  | No. 63 N New Mite |  | 15.0 .4 |
| 173 | Eight Button. |  | No. ${ }^{3} 3$ New Mite |  | 17.60 |

Additions: For aftaching flexihle green silk cord, 1 or 2 conductor, per foot, $\$ 0.14$. For white enamel, add to list \$2.48.

If eomnested-add 40 conts list pur buttom in addition to rost of rord.

## Standard and Special Finishes

Note: Heavy face type indicates finish supplied when not otherwise specified.

Finish Group "A"
Old English bronze
Antique or Flemish brass
Oxidized brass
English bronze
Mottled copper
Oxidized copper
Antique copper or
Japanese bronze

Polished copper
I'olished steel l3aner-barff Acid or statuary bronze. Lemon brass Gun metal Blact:

Finish Group "B"

Satin gold
Etrusean gilt Gilt
Grold bronze
Oxidized silver
Putler's silver
Ormolu or F'rench gilt

Burnished gilt
Polished silver
Pompeiian bronze
Roman or dull gold
Sand blast, antique brass
Sand blast, old brass
Verde antique

- Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


No. 1375


No. 1386


No. 1382

## Watertight Push Button

This push button is for use in boats. ice houses. eoh storage plants, mines, or any place where the atmosphere is comimously damp. A watertight pigskin cap is held in place over the push center by a threaded ring. The base is solid bronze with two cast lugs projecting, through which connecting wires pass.
Mifrs. $\quad \dagger$ W. E.

| List No. | Diameter |  | List | List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| *1375 | $21 / 2 \mathrm{ins}$. | With platimum contarts | \$2.40 | \$3.36 |
| *1376 | $21 / 2 \mathrm{ins}$. | Without platimum comtad | 1.80 | 2.52 |

Prices include any finish from Nos. 1 to 11 inclusive.

## Improved Watertight Push Button

Navy Standard
This push button has heavy (ierman silver springs with platinum contacts. Screw cap, rubher gaskets under the base and between the base and serew cap. Hard rubbor back. l'ush center (overed by pigskin, which is leld in place by rim and four screws.
$1386 \quad 258$ ins. lmproved watertight push button
$\$ 2.50$
\$3.00

## Non-watertight Push Button

Navy Standard

This push button has heavy platinum contarts; serew cap.
138:
$\because 3 / 8$ ins. Non-watertight push button
$\$ 1.80$
$\$ 2.52$


## Paper Weight Wood Desk Push

This is a polished wood push, with lead in bottom which can be used as a paper weight. It is very convenient and neat.

|  | , | Mfrs. | $\dagger$ W. E. |
| :---: | :---: | :---: | :---: |
| L.st ${ }^{\text {coso. }}$ |  | List | List Price Each |
| 1258 | Wood mish, wak only | 80.70 | \$0.98 |

## Wood Push Buttons

| Mfrs. | tW. E. |  |
| :---: | :---: | ---: |
| List | List Price Each |  |
| $8(0.15$ | $\ldots \ldots$ | 80.21 |
| .15 | $\ldots$. | .21 |
| .15 | $\ldots$. | .21 |
| .15 | $\ldots$ | .21 |
| .15 | $\ldots$. | .21 |
| .15 | $\ldots$. | .21 |

## Extension Push Buttons

This can be used as a regular push button, and by attaching a double conductor flexible cord with pear push or table clamp on the end, the circuit can be extended to a hed for the convenient use of a sick person or to desk, table, etc. Mirs. List List Price. E. List No. 80.50 List Price Each 1364 Walnut or oak
*The price quoted with each push is for the finish designated by the following numbers:
Finish No. 1, bronze, polished (natural color of metal). 2, nickel plated. 3, polished bronze, inlaid with black. 4, silver plated. 5, silver oxidized (mottled). 6, antique eopper (dark color). 7, copper oxidizel (mottled). S, Jatier barff (dead black). 9, brass (plated). 10, appearance of a dull, wrought copper finish. 11, lemon brass (brushed brass).
$\dagger$ Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.


No. 206


No. 290


No. 117

## Dixie Floor Tread No. 290

Double hearybrass contact plates, folt covered bottom ('an bouserlumber rugtoavoid cutting. Constructed sufficiently rigid to bear weight of rus, Sirain removerl from connections by passing wire over ; rounded corners. Vise grip, solderless connertions.

|  |  | Std. | L.ist |
| :---: | :---: | :---: | :---: |
| No. |  | Pkg. | Price |
| 200 | Dixie tread | 25 | \$2.48 |

## Table Clamp No. 206

Finish. *Nickel plate, brush brass or bronze.
May be used in connection with floor push or wall phus.
A self-contained unit, buttons and contarts built into apring clamp base. ('ontacts open to inspection and are self-cleaning, wire connections casy of access and very substantial.

| No. |  | Std. I'kg. | List Price |
| :---: | :---: | :---: | :---: |
| 206 | Table elamp. | 25 | \$1.52 |

## Automobile Foot Push No. 117

lispecially constructed for automobiles. ("ase is of 2 pieces of heavy rast brass with rubber flange between, resulting in moistureprof, perfect insulation. Contact springs and lever springs of phosphor bronze. An additional rubber gasket on back provides insulation from vehicle. Finish, natural metal. Capacity, 100 volts or less at $1 / 2$ ampere, size $3 \times 3 \frac{1}{4}$ inches.

|  |  | Stal. | List |
| :---: | :---: | :---: | :---: |
| No. |  | Pkg. | Price |
| 117 | Foot push | () | 80.40 |

## Card Rack No. 25

 bronze. For special finishes add to list for group $1, \$ 0.48$, group 13, so.2s.

|  |  | std. | List |
| :---: | :---: | :---: | :---: |
| No. |  | Pkg. | Price |
| 25 | Card rack | 100 | S0.40 |

Note: *Indicates finish supplied when not otherwise ordered.

## Special Finishes

## FINISH GROUP "A"

Old English bronze
Antigue or Flemish brass
()xidized brass English bronze
Mottled eopper
Oxidized copper
Antigue copper or
igue copper or
Japanese bronze
Delivery F. O. 13. Factory, New York ('its

## MESCO CONNECTORS AND BINDING POSTS



No. 6536


No. 6535


No. 6540


No. 6534
*List Price
Small Rectangular Connector
17 Size Fach


## Large Rectangular Connector

With One Hole

6.5 .39

654:3 Reroptarle only.
$178 \times 178 \times 7 / 8 \mathrm{in}$.
(6.5.3 4

Rectamgular rommertor
Rectangular Connector
(i.54)
l'lag only
72
(95) 2 ;

Roreptivle only
72


Binding Posts
These binding posts are made of brass and man burnished in plain brass or niekel pate at same price.

| Nirkel plated. |  |
| :---: | :---: |
| Nickel plated. | 48 |
| Nickel phater. | 32 |
| Nickel plated. | 4 |
| Niekel platerl. | 10 |
| Linglish pattern, nickel phated. | if |
| Nickel plated. | 32 |
| Nickel plated. | 24 |
| Nickel plated. | 16 |

Special prices for quantities of 1000 or more.
*Jelivery Ir. O. 13. Factory, New York (ity. For warehouse rleliveries writo nearest house.

## EVEREADY DAYLO

Wetuipped with guaranted Diverealy Tungston hatteries and Mazda bulbs. They have permanent contacts, pernithing both flath ame continuous lisht. ('an be used with absolute safety eroumb oil, gas, gun powder, and othor inflammable or or explusive material.


Nos. 2602 to 2612

Nos. 2622 to 2628
TUBULAR TYPE DAYLO



Nos. 2630 to 26.32


Nos. 26,33 to 26.34
SEARCHLIGHT DAYLO
 rately ground lonses. "lohrows a long, penetrating bean of light.



Nos, 26.37 to 26.38


Nos. 2683 102684

SEARCHLIGHT NICKEL PLATED DAYLO


## VEST POCKET TYPE DAYLO

This type is popular with professional and business men．They give an umsually strong light in pro－ portion to their size and are conveniently carried in a vest pocket．


No． 6900

W．E．List
（＇omplete
IV．I：．Lisist

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |
| :---: |
|  |  |
|  |
| 1：0til |
| （9）63） |
| （i）\％ 5 |
| 6970 |
| 13971 |
| 6972 |


| Size <br> Inches |
| :---: |
|  |
| $216 \times 138 \times 3 / 4$ |
| $\underline{16} 18 \times 2 \times 3$ |
| $3{ }^{1} \mathrm{~S}^{1} 1^{7} \mathrm{8} \times 1$ |


| Batter： | IV．F．Iist | Mazda |
| :---: | :---: | :---: |
| Jist No， | Wach | List No． |
| 700 | 80.70 | 1179 |
| 750 | .70 | $11 \searrow 0$ |
| 751 | .80 | $11 \times 1$ |
| 750 | .70 | 1183 |

Barh
80.20
.20
.20
.20

NICKLE PLATED．TOP OPENING
6970
10971
6972

| $\left.\begin{array}{llllll} 21 & 6 & x & 13 & 8 & x \end{array} \right\rvert\,$ |
| :---: |
|  |  |
|  |  |

$\$ 1.80$
70
S（）． 70
1179 11 NO
$\$ 0.20$
.20
.20


NICKLE PLATED．SIDE OPENING

| 69900 |  | \＄2．40 | 700 | 8 80．70 | 1179 | 80.20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| （i）9）1 | $31 / 1 \times 178{ }^{1}$ | 2.10 | 750 | ． 71 | 1180 | 20 |
| （i）9） | $3^{1}+\mathrm{x}^{3} 3_{8} \mathrm{x}_{4}{ }_{4}$ | 3.00 | 751 | ．NO | 1181 | 20 |

SILVER PLATED．BOTTOM OPENING
（qualruple silver plated．A very attractive design，suitable for gifts， prizes，ete．

| prize |  |  |  |  | 9 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6980 | $212 \times 114 x$ | \＄3．00 | － 0 | \＄0． 70 | 1179 | $\cdots$ |
| （6）心1 | $21_{16}^{15} \times{ }^{3} \times 8 \times 3 / 4$ | 3.00 | 750 | .70 | 1180 |  |
| 19042 | $2{ }_{6}^{15} \mathrm{x} 2 \mathrm{x} 3 / 4$ | 3.50 | 751 | S0 | 1181 |  |



No．6981

## CANDLE DAYLO

I＇soful as well as deoorative．Itas white emamoled taper and nickeled holder．lighted by a slight pressure of the thumb，and when pressure is removed the light goes out．

|  | List 1＇rice |  |  |  | Jist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1，ist | Complete， | Battery | List Price | Mazda | Price |
| No． | Each | list No． | Each | List No． | Each |
| $16: 50$ | \＄9．00） | 723， | \＄1．00 | 1113 | 80.90 |

This candle is lighterl by a dover switeh and is partion ularly convenient about the home．Nickle finish throughout．


## HANDY LAMPS

 of continuous burning．Black enamel finish．

List Ni．
1716
4718
1.451

Reflector at top．less battery
IV．F．List Price Each

Re

Rehertor at side，bail hamad
Nazala renewal， $11 / 2$ volts．

No． 1657


## CAP DAYLO

Two pins are located at the bank of this Datyo so that it can be fastened in the rap）．


No． 4716 The battery ease is carried in the pocket and on it is a switeh by whirh the light ean be turned on and off．With 5 erell battery．

|  | W．Fi． |  |  |  | W．E． |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | Battery | W． E ． | Mazda | list |
| 1，ist | Com－ | list | List | list | Price |
| No． | plete | No． | Each | No． | Fach |
| －sが | ＞13．00 | 731 | 81.80 | 119.5 | \＄0．20 |

## WITH 3 CELL BATTERY

$2877 \quad \$ 12.00 \quad 734 \quad \$ 1.10 \quad 1199$
$\$ 0.20$

## LAPEL DAYLO

Similar to the（ap Daylo，but smaller． $370.3 \quad \$ 5.00 \quad 752 \quad \$ 1.10 \quad 1109 \quad \$ 0.20$


Nos．2876－3703

## DAYLO FLASHLIGHTS

## SPECIAL MILITARY TYPES

These are dosigned for sodiers, sators, ambulane drivers,


No. 36.511 ate., to give light and leave both hamds free. No other portahle lamp is so casily carriod, so useful and at practical.

## EVEREADY MILITARY DAYLO

Whe mast pranticallamp for military or any outdoor serviere. ( 'an be hung on the eoat hut ton of elipued on the belt. Supplied with or without compass.

With (ompass



No, ${ }^{6650}$

## SOLDIER BOY DAYLO With Belt Clip

Small but very offective and (rquiped with a convenient bolt. ©lip) Can be clipped on belt, pocket edge, shat ving mirror, old

| List |  | W. E. Hist |
| :---: | :---: | :---: |
| No. |  | Price lach |
| 2629 | Gun metal finish. lenghe $\mathrm{s}^{3}$ tins. | 83.50 |
| 20:3!) | Nickle finish, longth Fistins. | 3. 519 |
| 791 | Tungsten battery remewal. | 70 |

118゙2 Mazda lamp romewal ................................... 20

## EVEREADY CARTRIDGE TYPE DAYLO

A practical light which fits the poeket comfortably and is attractive in appearance. It is lighted by removing bullet head. Brass hase and niekle-plated heard.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | W. I: List Price lach |
| :---: | :---: | :---: |
| 2090 | (1) $1 / 2 \times 11 / 4$ inches | \$3.00 |
| 791 | Tungston battery remmal. | . 70 |
| 1182 | Mazda Lamp renewal. | 20 |

## PISTOL DAYLO

## Gun Metal or Nickle Finish

A very compact flathlight. Itas two-piece, gun motal finish case. the but being hinged at the bottom. ("atm may be one ned for insert:on or withdrawal of battery or hamp by depressing the sight. Coutart is mate by pulling the triggor.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | W. F.. List l'rice Jach |
| :---: | :---: | :---: |
| 2635 | $3 \times 3{ }^{5}$ | 83.50 |
| 750 | Tungsten battery renewal | 70 |
| 1180 | Mazda lamp renewal | 20 |

## EVEREADY DAYLO TROUBLE LAMPS

Designed especially for antomobiles and motor boats. Has highly polished silvered parabola reflector, 31,2 in, diametrer and heavy beveled plate glass lens. This lamp will throw a powerful beam of light over 100 feet. Equipped with Etyle (i-ti, 4 C.P'. single contact bidiswan base lamps and attaching plug.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | II. E. List I'rice lach |
| :---: | :---: | :---: |
| 3751 | Double eontact | S6.00 |
| 37.52 | Single contact. | 6.00 |
| 65.5 ${ }^{\text {c }}$ | Mazda lamp renewal | 54 |

## LIONEL ELECTRIC TOYS

In construetion, finish and general appearance Lioned Eleetric 'Toys have no equal.
All locomotive bodes are of sheet steel, not east iron. They are enameled and ornamented in gold, with hand rails, bells, headlights and other fittings of nickeled steel. Every Lionel locomotive has an electric learllight.

All cars are hand enameled, not lithographed. They are decorated in gold, have removable roofs, seats in the interior, amd imitation glass in windows and transoms. Being mate of a heavior gatuge of metal, they are more durable than any others. Wheels are nickeled steel. Trucks are flexible, which enables cars to stay on trakk at high speed.

Track is vory riginly constructed. Track ties are wider than any others. Insulated third rail makes shont circuits impossible.


## Electric Type Locomotive for $21 / \nmid$ Inch Track

List Price Each

No. 33. Length 11 ins., wilth 3 ins., height 41 ins. Outfit inchades 8 sections enryed track, making a circle 816 ft . in diameter. Ilas electric headlight and connection fur lighting interior of passenger car.

No. 38. Is ngth 12 ins., width $31 \frac{1}{2}$ ins., height 5 ins. Ontfit includes 8 sertions curved track, making at circle $31,2 \mathrm{ft}$. in diameter. Has electric heallight. Reversing eontroller and comection for lighting interior of passenger cars.

No. 53. Length 13 ins., width $31 / 2$ ins., height 5 ins. Outfit inchades 8 curved and 4 straight soctions of track, making an oval $31 / 2 \mathrm{ft}$. wide by 5 ft .9 ins . long. Has electric headlight, reversing controller and connection for lighting interior of passenger cars.

No. 42. Length $15 \frac{1}{2}$ ins., wirlth 4 ins., height 6 ins. Outfit includes 8 curved and 4 straight sections of traek, making an oval $31 / 2 \mathrm{ft}$, wide hy $\overline{\mathrm{ft}} 9 \mathrm{ins}$. long. Has electric headlight, reversing controllor and comection for lighting interior of passengor cars. Has 8 driving wheels, comected in pairs.

No. 54. Dimensions same as No. 42. Locomotive of nickel amd brass, beatifully finished.


# Steam Type Locomotive for $21 / 4$ Inch Track List Price Each 

Outfit No. 5. Commrises locomotive with electric headlight and reversing controller, 8 S and 4 ( track, making an oval $31 \frac{1}{2} \mathrm{ft}$. by 5ft. 9 ins . Length of locomotive, 11 ins .

Outfit No. 51. Sime as No. 5 with the addition of a double-truck tender, 7 ins. long.
Outfit No. 6. Comprises locomotive and tender, 22 ins. long over all. Locomotive has eleetric headlight reversing controller and a 4 wheel pilot truck. Included are 8 C and 4 S track, making an oval 3$\}$ ? 6 ft . by 5 ft .9 ins .

Outfit No. 7. Similar in appearance to No. 6 with same track equipment, but finished entirely in niekel and brass.

Deliviry F. O. B. Factory, New York City. For warchouse deliveries write nearest house.


OUTFIT NO. 160

List Price
Bach

 rheostat. Length of train 20 ins.

## OUTFIT NO. 161

Outfit No. 161. Comprises No. 150 locomotive with electrie headight, 1 No. Sol Box ('ar. 1 No. 801 Cabose, 8 sections ()( curved track, making a rirele $2 x 1 / 2$ ins. in dianeter, and 1 No. Ns controling rheostat. Length of train 20 ins.


## OUTFIT NC. 162





## OUTFIT NO. 164

Outfit No. 164. Comprises No. 15 t Kevarsing Locomotive with electrie headlight, 2 No. (001




## Outfit No. 166. Passenger Train De Luxe

Outfit comprises No. 150 Locomotive, 2 No. 610 Pullman ('ars, 1 No, 612 Ohservation ('ar, 8 sections OC; curvel track and 6 sections OS straight trak, making an ovil ? 2s, by 69 ins., also i No. 88 controlling rheostat. Length of train 39 ins.

Delivery F. ©. B. Factory, New York City. For warehouse deliveries write nearest house.

## LIONEL ELECTRIC TOYS

TRAINS FOR STANDARD GAUGE TRACK $21 / 1$ INCHES WIDE

I.ist IPrice

Fach
Electric Freight Train Outfit No. 37. Comprises No. 33 Locumotive, 1 No. 112 (iomblala
 train, 31 ins

Electric Freight Train Outfit No. 39. Comprises No. 38 Locomotive, 1 No. 116 Coal (ar, 1 No. 117 (aboose and 8 sections curved track, making a eircle $3 \frac{1}{2}$ it. in diameter. Length of train 32 ins


Electric Pullman Outfit No. 34. Comprises No. 33 Locomotive, 1 No. 35 Pullman Car, 1 No. 36 ()hservation ('ar, 8 curved and 2 straight sections of track, mating an oval 4 ft . 8 ins. long hy $3_{2} \frac{\mathrm{ft}}{}$. wide. langth of train 34 ins

Electric Pullman Outfit No. 40. Comprises No. 38 Iocomotive, 2 No. 35 l'ullman Cars, 1 No. 34 ()hservation. ( $a r$, 8 curved and 4 straight sections of track, making an oval 5 ft .9 ins. long and $3 \frac{1}{2} \mathrm{ft}$. wide. Length of train, 4 ft

Electric Freight Outfit No. 41. Comprises No. 38 Locomotive, and 1 each Nos. 112 (iondola, 113 ('atile Car, 114 Box Car. 11f Coal Car, 117 Caboose. 8 curved and 4 straight sections of track, making an oval 5ft, ! ins. long by $3^{1 / 2} \mathrm{ft}$. wide. Length of train, $\overline{\mathrm{f}} \mathrm{ft} .4$ ins.


Outfit Nos. 420. Passenger Tram I)e Luxe. Comprises No. $\because \because 2$ Lowomotivo, 1 (ach Nos. IS Pullman (:ar, No. 19) Pullman and Begrage Car, No. 190 Ohsorvation Car, \& curbed and 8 straight sections of track, making an oval $31 / 2 \mathrm{fk}$. wide by Sft . 2 ins. long. The outtit also includes a series of 3 lights complete with eords for interior illumination of the cars

Outfit No. 421. Similar to ()utfit No. 420, but equipped witl Locomotive No. 54 , finished in nickel and brass

Electric Passenger Outfit No. 44. Comprises No. 42 Locomotive, 2 No. 29 I ayy Coaches, $\$$ curved and 4 straight sections of track, making an oval $31 / 2 \mathrm{ft}$. wide by 5 ft .0 ins . long. length of train, 5: ins.


Steam-Type Electric Pullman Outfit No. 620. Equipment and cars are same as cieseribed in Ouffit No. 420, but has steam-type Locumotive No. 6 instearl of the electric-type No. 42.

Steam-Type Electric Pullman Outfit No. 621. Nimilar to Outfit No. W20 described above, but has steam-type Locomotive No. 7, finished in nickel and brass; a strong, beautiful outfit

Electric Pullman Outfit No. 52. Comprises No. $5: 3$ Locomotive, 1 each Nos. 180 Pulhnan Car, 181 l'ullman and liaggage C.ir, $18 \div$ Observation Car, 8 curved and 4 straight sections of track, making an oval $31 / 2 \mathrm{ft}$. wide by 5 ft . 9 ins. long. Length of train, $5 \pm$ ins.

Delivery I*, O. B. Factory, New York City. For warehouse deliveries write nearest house.

## LIONEL ELECTRIC TOYS

## CARS FOR STANDARD AND' "O" GAUGE TRACK



Pullman-Baggage Car


Observation Car

FOR "O" GAUGE TRACK 1!' INCHES WIDE

List Price
Each
Pullman Car No.600. 6 ins long, 2 ins. wide, $\boldsymbol{3}^{3}$ ins. hugh................................. $\$ 1.00$
Pullman Car No.601. 7! 2 ins. long, $2 \frac{3}{2}$ ins, wide, $3 \frac{1}{2}$ ins. high............................. 1 . si)

Pullman Car No. 610. 83.1 ins. long, $21 / 2$ ins. wide, 4 ins. high. . . . . . . . . . . . . . . . . . . . . . . 4.00
Observation Car No. 612. $8 \frac{3}{4}$ ins. long, $2 \frac{1}{2}$ ins. wide, 4 ins. high......................................
Box Car No. 800. 6 ins. long, 2 ins. wide, 3 ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.010
Cattle Car No. 802. 6 ins. long, 2 ins. wide, 3 ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.00
Caboose No. 801. 6 ins. long, 2 ins. wide, $31 / 4$ ins. high . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.00
Box Car No. 820. $71 / 2$ ins. long, $23 \frac{1}{8}$ ins. wide, $3 \frac{1}{2}$ ins. ligh. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0
Caboose No. 822. $71 / 2$ ins. long, $23 / 8$ ins. wide, $3 \frac{1}{4}$ ins. high................................. . . . . . . Nt


List Price

## FOR STANDARD GAUGE TRACK 21毛 INCHES WIDE

Pullman Car No. 35. 11 ins, long, 3 ins. wide, 5 ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . 813.00
Observation Car No. 36. 11 ins. long, 3 ins. witlo, 5 ins. high............................. . . . . . . . . . 0 )

Pullman and Baggage Car No. 181. 12! !2 ins. long, 3!2 ins, wide,



Observation Car No. 190. 16! 2 ins. long. $3^{1}$ ² ins. wide, (; ins. high. ....................... . . . 10,00
Day Coach No. 29. 16 ins. long, 3 ins. with, 16 ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7 , (0)

Cattle Car No. 113. $9 \sqrt[2]{2} \mathrm{ins}$. long, 3 ins. wide, $4 \frac{1}{2}$ ins. high................................ . . 3.00



Flat Car No. 11. 11 ins. long, $3 \frac{1}{2}$ ins. wide, $3^{12}$ ² ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . .
Gondola Car No. 12. 11 ins. long, $33_{2}^{2}$ ins. wide, $3^{1} 2$ ins. high............................. . . . 4.00
Cattle Car No. 13. 11 ins. long, $3 \frac{1}{2}$ ins. wide, $5 \frac{1}{2}$ ins, high. . . . . . . . . . . . . . . . . . . . . . . . . . . . (n)
Box Car No. 14. 11 ins. long, $3!\frac{1}{2}$ ins. wide, $5 \frac{1}{2}$ ins, high. . . . . . ............................... . . . . 01
Oil Car No. 15. 11 ins. long, $3!\frac{1}{2}$ ins. wide, 514 ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5.00
Ballast Car No. 16. 11 ins, long, $3 \frac{1}{2}$ ins. wide, $4 \frac{1}{4}$ ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . 5.00
Caboose No. 17. $93 / \frac{1}{4}$ ins. long, 315 ins. wide, $61 / 2$ ins. high. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5.00
Delivery F. O. B. New York City. For warchouse deliveries write nearest house.


STANDARD GAUGE TRACK, $21 / 4$ INCHES WIDE
No. C, $16 \frac{1}{2}$ ins. long, curved . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Per section $\$ 0.50$
No. CC, $161 / 2$ ins. long, curved, with batlery comuertions. . . . . . . . . . . . . . . . . . . . . . . l'er section . 70
No. S, 14 ins. long, straight. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Per section
No. 1 gs, $71 / 2$ ins. Tong, straight
l'er section


## "O" GAUGE TRACK, $11 / 1$ INCHES WIDE



O (curved track, 11 , ins. long ....................................................... ${ }^{\text {. }}$ 'er section
OCC curved track, $111 / 2$ ins. long, with battary comections. . . . . . . . . . . . . . . . . . . . l'er section


Switches No. 22, 21, 022 and 021


Crossing No. 20, 020 and 020X

## FOR "O" GAUGE TRACK, $111 / \nmid$ INCHES WIDE

Switch No. 022. (Right and left hand). Construction is similar to No. 22 switch. Length $111 / 2$ ins.; width 51.2 ins.; height $: 3$ ins.

List I'rice
 switch. Iength $11 \frac{1}{2}$ ins.; width $5!2$ ins.; height 8 ins.


FOR STANDARD GAUGE TRACK, $21 / 4$ INCHES WIDE
Switch No. 22. (Right and Left Hand.) Length $16 \frac{1}{2} \frac{2}{2}$ ins.; width 8 ins.; height $4 \frac{1}{2}$ ins.
Comerets with track in same manmer as straight or curved sections.
Electric Switch No. 21. (Right and Left Hand.) This


Lamp Post


Semaphore is similar in construction to No. 22 deseribed above, but is equipped with an electric signal, having a 14 volt bulb, which can be easily remowerl.

Crossing No. 20. lior use in conjunction with switches, enabling the formation of Fig. \& and ligg. 8 loop, Measures 12 ins. siluare. Cross rails are mounted on a solid base..........

Lamp Post No. 61. 1 light, complete with electric globe...
Lamp Post No. 67. '2 lights, complete with 2 electric globes 5.101

Semaphore No. 63. 1 arm, no lighc........................
1.50

Semaphore No. 64. 2 arins, no light....................... 2.0 . (1)
Semaphore No. 65. 1 arm, 1 light. . . . . . . . . . . . . . . . . . . . 3. ()
Semaphore No. 66. 2 arms, 2 lights. ..................... . 1 (\%)
No. 118 Tunnel for ' O '" Gauge, 11 in. Track. . . ...... 2.5 ()
No. 119 Tunnel. $1 t$ ins. long, for either " 0 " ( (atuge or Lionel standard (iatuge track . 20 ins long for both ................... . . . . .

Tunnel No. 120. 20 ins. long, for both gatuges. . . . . . . . .
No. 121 Station. Substantially constructed ind fincly finished in colors. Size, $14 \times 10 \times 9$ ins.

Delivery l'. (). 13. l'actory, New York City. For warehouse deliveries write nearest house.

## HEAT REGULATORS



Western Elecricic Heat Regulaturs are intended for the home. The function of these regulators is to automatically maintain a given temperature in the home and to antomatically open the draft of the furnace at a predetermined hour in the morning so that the house will be warm and confortable when the oce upants arise.

The equipment consists of an electrie thermostat, which is monnted on a wall in the home. Connected to this is a three-wire cable ruming to a motor in the

The thermostat is so constructed that when the temperature reaches a certain degree the thermostat arm closes an clectrical circuit. This starts the motor in the bascment, which in turn closes the furnare draft and opens the check damper.

If the honse shonld cool below a certain degree the thernostat arm contracts in the opposite direction, closing another circuit, arain starting the motor. This time the motor opens the draft and eloses the check damper, therehy increasing the fire

The thermostat can be adjustedtooperate on a hang of emperature of one degree
If it is desired to have the house cooler at night than during the day the thermostat may besct to mantain a lower dogree of heat by simply turning the indicator on the thermostat to the night temperature desired. Then the tenperature will not fall below this point and the danger of frozen water pipes or frosted flowers or plants

Each thermostat is equipped with a high-grade one-day clock. The alarm dial of the elock can be set to turn the heat on at any desired hour in the morning. When the thermostat operates at that hour in the morning it automatically throws the indicator to the day temperature of fix and will hold the temperature at that point until the indieator is set back at night.
Western Electric I Ieat Regulators absolutely prevent fucl wastage.

Western Electric Heat Regulators come in two styles. The No. 100 Regulator is equipped with a spring motor that operates the dampers of the furnace. This motor has a heavy suring that repuires winding every cen days or two weeks. C'urrent for the thermosiat is supplied by two batteries or by a bell-ringingtransformer. When the thermoshat operates it starts the spring motor, whieh in turn opens or choses the dampers of the furnate.

The No. 200 outfit is exactly the same as the No. 100, exeept that instead of having a spring mot or it is furnished with a 110 -volt A. ('. notor together with a transformer that supplies the current for the thermostat. It can be equipped to operate on 25 cycles, A.C. circuit at a slight additional eost. No hatteries are needed with the No. 200 Reralator. The principaladvantage of the No. 200 Regulator is that the motor does not require winding - it is alwass ready forservice.

Western Electric Heat Regulaturs may be applided to hot water, steam, hot air, gas, vapor, valcuum and combination heaters. These regulat ors may be installed eppally well in oll homses or new ones. When installed in an old house, the thermostat is mounted on a partition wall, the cable dropped on the inside of the wall to the basement and there connerted to themotorwhich is mounted on the wall conveniently located to the furnare.

At a slight increase in price, the No. 100 Regulator cam be furnished, mounted on a special display-board and connected to two furnace dampers. We recommend the purchase of a display outfit for your store. With one of these display out fits in your store it will be easy to explain the operation of the regulator to prospective purchasers.

| List |  |  | $\dagger$ List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Weight | Each |
| 100 | Westorn Electric IIcat Regulator Spring Motor Trpe | 30 lbs . | \$61. 10 |
| 200 | Western Elecrric Heat Regulator A.C. Motor 'Tvpe | 30 lbs . | 87.10 |
| 1000 D | No. 100 spring motor outfit mounted on display boart |  | 70.60 |
| 200 D | No. 200 A.C. motor outfit mounted on display board. |  | 96.60 |

200 D No. 200 A.C. motor outfit mounted on display board..................
Each regulator is packed in a wooden box. The equipment includes thermostat, motor, necessary pulleys, brackets, chain and cable.

All thermostats are finished in sand-blasted bronze.
$\dagger$ Delivery F. O. B. Minneapolis, Minn. For wawhousw deliveries write nearest house.

# Pyrene Fire Extinguisher 

This extinguisher is the most efficient and praetical device known for the protection of electrical risks. It is used extensively by steam railroads, traction companies and power plants throughout the Conited states and Canada.

J'yrene is also recognized as the most effective extinguisher of incipient fires in highly inflammable materials, such as gasoline, benzine, kerosene, oils, ete.

## PROPERTIES OF PYRENE

J'yrene liquid is a combination of purely organio; materials, having an aromatic odor and a high speceific gravity. I'yrene contains neither acid, alkali, salts nor moisture, and will not injure materials with which it may come in contact. Pyrene liquil does not lose its strength nor deteriorate with age. It will not freose at, a temperture of कo degrees $F$. below zero. When Pyrene liquid is subjected to a temperature of 200 degrees F . or over, it is immediately transfomed into a heavy, dry, cohoring, non-poisonous gas banket, which surrounds the burning matorial, cutting off the air supply necessary for the life of the fire, and thereby extinguishing it.

Fire Extinguisher


Fire Jixinguisher

## PYRENE DOUBLE ACTING PUMP

The devier in which lyrene is used is a double acting punp, casily operated by hamd, of one quart capacity, strongly built of brass and white motal throughout. I'yrene extinguisher will throw acontinuous stream to a distance of about thirty feet. The extinguisher is :' inches in diameter and 14 inches in length, and weighs (filled) 0 lbs . It is not necessary to return extinguishers to the factory to be refillecl. They may be recharged by removing the filler cap and pouring in the :mount used.

## THE ELECTRICAL USES OF PYRENE

The resistance of Pyrene liquid is 30,000 megohms por cubic inch. Its dielectric, strength is 13,210 volts per $1 / 10$ inch. Owing to its extremely high rexistanees, P'yrone will always be servireable on the highest voltages commervially used and on all chasses of electrical equipment, It may be directed between the commutator and brushes or the ammature and ficld of any moving rotary without in any way causing damage to the apparatus or injuring the operator, irrespertive of voltage used. This applies as well to controller boxes, rheostats, transformers, switchboarls and all other electricul equipment. P'yrene will break an are cansed by short circuit and, when broken, the are will not reëstablish.

|  |  |  | Metal | Wooden |
| :---: | :---: | :---: | :---: | :---: |
| 361807 | lhoxes for (1) | ) extinguisher with glass front. | \$2.00 | \$3.00 |
| 361808 | Boxes for (2) | extinguishers with glass front. | 3.00 | 4.00 |
| 361809 | Boxes for (3) | extinguishers with glass front. | 4.00 | 5.00 |

Note: Wooden boxes furnished painted or varnished. Metal boxes furnished in red enamel.


Type A Vibrator


Type D Vibrator


No. 2233
Medical lBattery


No. 2204
Home Medical Apparatus

# VIBRATORS AND MEDICAL BATTERIES 

## New Life Vibrators

New life vibratom are made in three ditferent styles, 'Types $A$, ('and D). SIl of these typer give both the rubbing and pereussion stroke so essential in high grade vibrators.

## New Life Vibrator Type A

The 'lype $A$ vibrator has an aluninum casing making it light and compact. A speed regulating swite enables the motor to be run fast on slow. Standard voltages, $110-120$ volts $1 . C .25$ to 60 cyoles and D. (. 100-120 volts. The current consumed without load is . 32.5 amperes; with load .35
 A.C. or D.C. circuits.

| List |  | Not | Shipping | *List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Weight | Weight | Each |
| 1 | Vibrator complete with six (6) applieators, cord and phag |  |  |  |
|  |  |  |  |  |
|  |  | 1/210s. | 5) 1 /4 lbs. | 823.50 |

## New Life Vibrator Type C

1) esigned esperially for professional use. Widely used in hospitals, sanitarimms and turkish baths. A sperd regulating switch enables the motor to run fast or slow. Stameard voltages, $110-120$ volts A. (\% . 2.5 to (6) 'yrdes, and D.C. 110-120 volt.s. The motor is 12011.1 '. of 7,000 R.P.N1. List No. Net
Weight $\begin{gathered}\text { Shippiny } \\ \text { Weight }\end{gathered} \quad$ *List Price $\quad$ Each
(" Vibrator complete with six (ti) applicators, cord and plug
i) lbs.
(i lls.
$\$ 32.00$

## New Life Vibrator Type D

This typo has no speed regulator, but it may be stopped or started instantly byenas of a push hutton in the handle. This vibrator is provided with it universal motor which will work on either A.C. or D. ©. currents. Standard voltages, $110-1 \geqslant 0$ volts A.C. 25) to (60) eycles and D.C. $100-120$ volts. Current consumed is 3.5 without load .325 amperes.
$\begin{array}{ll}\text { List } \\ \text { No. } & \text { *List } \\ \text { Price }\end{array}$
D Vibrator with universal motor and six (i) applicators. $\$ 19.50$ Extras
Songe applicators, per foz. . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 12.00$
brush applicators. ...................................................... 1.50
Rectal applimators. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.00
All other type applicatoes, per doz . . . . . . . . . . . . . . . . . . . . . . . $\quad$. 0 .

## The Appollo Medical Battery

This is a two-cell medical battery, and is recommended where more current is desired than can be ohtaine from the single ecll type, dimensions $9 \times 71 / 4 \times 8$ inches high. All metal parts heavily nickel plated and highly polished. It has battery and pole changing switches. Fiurnished with two metal hand electrodes, ono massage roller clectrode, one hair brush clect rode two wooden electrode handles and one pair of green and red silk conducting cords.

| List |  | $\dagger$ List l'rice |
| :---: | :---: | :---: |
| No. |  | Each |
| 2233 | Appollo medical battery | \$18.00 |

## Home Medical Apparatus

The dlome modical battery is contaned in a highly polished oak or mahogany ease with nickel plated handle. Dimensions of the rase $83 / 4 \mathrm{x}$ $51 / 4 \times 11 / 2$ inches. Weight $51 / 2$ lho.
 write nearest house.


Norm: Motors can be furnished as follows:
$32,(60,110,220$ volt D. C.
100 volt, $25,40,60$ eycles A. ${ }^{\circ}$ ',
220 volt, 60 cycles $A$. C.
110 volt universal A. C. or D. C.

No. 11 Vacuum Cleaner with Tools
No. 11 Portable Type
With a Western Electric Vacumm Cleaner you can clean in one-fourth the time that it takes with the broom and dust rag. In ordinary swesping and dusting, the surface dirt is simply dislodged to scatter its unhealthful germs in the air we breathe.

With a Western Eleetric Vacuum Cleaner-the modern, sanitary method of cleaning-the dirt and dust are actually drawn out of the carpets, rugs and draperies by a vacumm into a bag which may be casily detached and emptied.

The extension tool-furnished as a part of the regular equipment-will enable one to reach the outof the-way places-undor heavy furniture that cannot be moved.

The comfortable horizontal handle-not foumd in any other machine-provides the most natural way for pushing a cleaner. A special device in the cleaning tool picks up, all the dirt, threads and ravelings. This is the cleaner not set like a broom.
liy means of the hose attachment and different nozales, the Western Electric Vacum Cleaner can be used for many diflicult cleaning operations. Dirt that cannot be gotten at in any other way is easily removed.

A thin nozzle is very elfective in chaning the raliators. It gets in between the pipes and removes the dust and dirt. It reaches the corners which are always difficult to clean.

The hande of the cleaner remains in an upright position when not in use.
For cleaning upholstered furniture, mattresses, ete., the hose attachment is most valuable. The dust and particles of dirt which camnot be besien out or reached with the whiskbroom are easily drawn out by the strong suction of the vacmum cleaner. By disconnecting the bag and attaching the hose to the bag connection, the cleaner may be used as a blower for blowing the dust out of the crevice, renovating pillows and drying the hair.

The old method of beating the druperies not only destroys their crispness and luster, but soon wears them out. With the extension handle and hose attachment, one can take all the dust and dirt out of the draperies withont injury to the most delicate of fabries. It enables the user to reach the tops of the doors and moldings, the plate rails and pictures high above the head.
for use with this cleaner.
$16 i t$
General cleaning tool. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 4.00$
5.50
127 liight foot length of hose . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 00
128 lpholstery tool. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 80
129 I3rush for walls, moldings, draperies, etc . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3.00
130 Short handle for use with tonk 128 and 129 at end of hose. . . . . . . . . . . . . . . . . . . . . . . . 1.20
13142 in. extension handle for use at end of hose. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 400
132 Elbow attachment for changing angle of tools. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.50
133 Library tool for radiators, bookcases, etc. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 20
135 Extension toul for cleaning urder furniture, etc . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.50
136 Dust bag. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.00
137 Special device used in general cleaning tool for picking up threads . . . . . . . . . . . . . . . . 1.00
Delivery F. O. B. destination.


No. 2 Cleaner


No. 3 Cleaner

## Nos. 2 and 3 Vacuum Cleaners

These are larger than the No. 1 Cleaner, and are adapted to use in rather large residences with somewhat heavier rugs and furnishings.

They have the same superior features in respect to the arrangement of the bian, large elentance, high efficiency of the fan, low conter of gravity and ouner essential respects. They are built almost entirely of almminum with the exception of the drum and the motor, giving an exceeringly light but styong construction. The motor and fan are mounted on the same shaft and run in self-aligning ball bearings in a dust-proof casing.

Twelve feet of high-grade, non-collapsible rubber hose and twenty feet of electric cord are furnished with each cleaner, giving the machines a radius of operation of thirt $\mathbf{y}$-t wo feet from the lamp sochet. Several roons can be cleaned withont taking down the cord. A slight pull on the hose will draw the eleaner over the floor. They roll casily over door sills and rugs, and beriase of the horizontal mounting will not topple over like many vertically mounted cleaners. being perfectly badaned on large cushion tired wheds, they can be rolled from step to step in moving up or down stairs like a jerambulator. The ease with which they can be handled is in striking contrast to other cleaners which have to be lifted botily:

| List No |  | Shper Wers. with Tools | Lisi Price Fach |
| :---: | :---: | :---: | :---: |
| 2 | Cleamer eomplete, with fools as listed below. | milbs. | $\$ 230.00$ |
| 3 | Chamer complete, with tools as listel below. | 140 lbs | 250.00 |



Tools for No. 2 Cleaner


Tools for No. 3 Cheaner

## Tool Equipments

Tools ordered extra; prices are as follows
Tool No

| Inst Price Each |  |
| :---: | :---: |
| No. 2 | 入ı, 3 |
| 81.50 |  |
| 8. 51 | \$N. 50 |
| 2.20 | 2.20 |
|  | 11.00 |
|  | 6.10 |
| $17.04)$ | 17.00 |
| 7.50 | 7.50 |
| 4.01 | 4.00 |



## No. 4 and No. 5 Cleaners

These are exentionally high powered portable cleaners. They are designed for the exacting reguiremonts of la:ge office buildings, sehools, chuhouses, and other public buikings, where eonsiderable quantities of dirt and litter must be disposed of rapidly and effectually.

Features of Construction
They are equipped with multiple fans. The No. 4 has two fan units and the No. $\overline{\text { o }}$ has four fan units. In the so-called multi-stage fans the air is drawn into the first lan and propelled into the fan ahearl, receiving an impulse from cach fan until it is finally diseharged into the exhaust pipe. This gives a much higher velocity and suction than emblt be attaned with a single fan. They have the same superior features of design and eonstruction as the smaller eleaners.

Attention is especially ealled to the fact that the motors for Western Filectric-Sturferant Vacuum Cleaners have bern drsigned throughous especially for vacumm elcaner work; one objoet having heen to avoid exeessive starting currents on altermating eurrent eireuits. All sizes of portahle cleaners up to and including the No. is can be oprated from the ordinary lighting eircuits winhout change of fuses. For most other cleaners the fuse eapacity mot be raised. particularly for the higher powered portable cleaners, beyond the limits nemitted by the underwriters. I.i.t No.

Shag Wigt
with Touls
140 lhs
$\left.14^{\prime}\right) 11 s$
(325) lhs.
list Price
$\$ 1.0 .00$
4130.00
(i.j). (0)




No. 6 Cleaner

## No. 6 Cleaner

The No. 6 is an exceedingly porerful cleaner. It has a multi-stage fan of five fan units driven by a 2 II.P. motor. It has a dust bag capacity of 4600 cu . in. when mounted in the cleaner drum. It is the most powerful and eflicient portahle cleaner on the market. Designed for street railway, factory and heavy industrial work and will successfully take care of any scrap litter or dirt which would be within the scope of any vacuum cleaning systen. It has been built in recognition of the principle that losses of electrical energy transuitted throngh wires are very low, while losses in velocity, volume and suction of air moving through a piping and hose systen are-comparatively-very high. Wherever conditions will permit bringing the cleaning apparatus close to the work this cleaner will give results superior to most stationary cleaner installations of similar capacity and cost.


## No. 7 Cleaner

The No. 7 eleaner se designed to use either as a portable or stationary machine.

The No. 7 has a two-stage fan and a powerful motor. It is attached to the piping system and elect ric servier as shown in the cut. This cleaner will do thoronghly satisfactory work in nooderate sized homes of ten or twolve rooms or less where the system can be operated through $2 \pi$ foct of 2 ingh pupe and 2.5 feet of 112 inch hose.

| 1, ist |  | W't. | List Pri |
| :---: | :---: | :---: | :---: |
| No. |  | I.bs. | Each |
| 7 | ( heaner eomphete with tools as listed below | 150 | \$450.00 |

## TOOL EQUIPMENT

Took ordered'extra; prices are as follows:
For No. 7 cleaner.
Tool List Priee

No.
bach
8 in. general eleaning tool. . . . . . . . . . . . . . . . . . . . . 88.50
3 C'pholstery tool. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2. 20
16 1//4 in. curved floor handle. ........................


13825 ft . No. 16 electrie cord with phugs and switch. $\quad 7.00$
Always specify in ordering whether the eleaner is to be used as a portable-stationary or as a portable cleaner only.

TABLE OF DATA-ALL CLEANERS

|  | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 | No. 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Horse power. . . . . . . | 1/12 | 1,6 | 1/6 | 3/10 | $1 / 2$ | 1 | 3/10 |
| Notor universal or not | Yes | No | No | Yos | les | No | Yes |
| Net weight less tools. | 16 | 41 | 50 | 70 | 112 | $5 \mathrm{ti})$ | 75 |
| Net export. | 75 | 109 | 150 | 151 | 220 | 850 | 165 |

Motors can be furnished as follows:
No. 6-110, 2: (1. 500, volts direat current.
Combined Portable Stationary Cleaner
No. 7-110 and 220 volts universal.

## WASHER AND WRINGER



Stationary Wringer

All moving parts of the Western İledric washer are cnelosed.
This machine can be operated with perfeet safety by any woman or child.

It is the safest washer male and the safest wather mode is the safest washer to sell.

It is the only mathe that has three free sides aromend which the ouerator can work without obstruction.

It occupies less floor spate than any other machine of equal (appacify.
Has patented safoty release on wringer which prewents tearing of clothes due to clogued wringer.
'There are no folts or chains to slip or break-no complated machinery to get out of order. The athonatic reverse is areomplishod by moms of an absolutely new med anical mowement, having by far fewer parts than any other reversing eylinder machine on the marlat.

Simple. The mathine is combensed of but 3as mats agathit more than one humpred in the next simplest machine. Uperated by only 2 levers-ome for washing and one for wringime.

Operation. Machine onerites on the reversing eylingler principle, which is conceded her experts to be the only eorreet methon for washing elothes elean and withont injury. The wringer has 2 golls, reversible, and the rolls are made of the hent Jiara rubber. This machine will do the washing of a family of four in one hour at only 2 e "ents for cleretricity.

Sanitary. 'Tub is completely lined with metal, leaving no ereviees or eormers for the collection or ahsorption of impurities. Sasily emptied by mesms of a faued in bot tom of machine.
 thorough washing, metal top, no warping, metal lining throughout, rust-prof swivel castors easily moved,
 protected, shaft drive, no troublesome belts or chains, safoty rolease for wringer rolls.

| Type | Material of Bady | Capacit |  |
| :---: | :---: | :---: | :---: |
|  |  | Sheets | Shirts |
| A | Stery | 6 | or 14 |
| As | Siterl | 6 | or 14 |
| A ${ }^{\text {c }}$ | (omper | 6 | or 11 |
| A 'S | ('mprer | ( | or 14 |
| 13 | Sterel | $!$ | (19 - 0 |
| 130 | Sterd | 9 | (1) 20 |
| 130 | Copper |  | or 20 |
| 13'S | Conper | 9 | (r) 20 |


| -Wringer |  | Shipping |
| :---: | :---: | :---: |
| Size | Type | Wricht |
| 11 ins. | Stationary | 2.00 lhs. |
| 11 ins. | Swinging | - 20 (1bs |
| 11 ins. | Stationary | 2.016 |
| 11 iぃs. | Swinging | 250 lb |
| 12 mas . | Stationtiry | 210 (1)s. |
| 12 ins. | Swinging | 2630 |
| 12 ins. | Stationary | 2 tan 115 |
| 12 ins. | swinging | $2 \mathrm{ta}) \mathrm{ll} \mathrm{s}$. |


| l:act of | West of |
| :---: | :---: |
| Ruckios | Rockies |
| \$2.0.00 | S260.00 |
| -7\% 00 | 2sin. (0) |
| 300.00 | 310.00 |
| :3\% 0 . 00 | 340.00 |
| :30.0) | $2 \% \mathrm{O}$ (0) |
| 26000 | 372.00 |
| 400.00 | 412.00 |
| 420.00 | 432.00 |



## Small Cylinder Type "AA"

 for small size families of two or there people where the wash is not large or where spare for doing weekly watis is limited, such as in suall apartmonts partioulaty where lambly fubs are located in the kit chen. It has al caparity of $t$ sherets or 8 shirts Except for its smaller raparity, this washer is essentially the same as the large size Western biow ric (elimder tape. It has a two roll reversible 10 ibela winger. The cytinder antomatieally reverses every six aml ome half times, like in the larger wather: and the grade of material used throughout is the sane as in the higher pried washer. The mathene is equipued with a friction cluteh of the cover type insteat of multiple dise chuteh, which is used on larger type machines. The foor spare reguired be machine is only $22^{3}{ }_{4} \times 27$ inches, the uarrow dimension heing width from side to side.



Washer for Gasoline Engine or External Motor Drive


Washer Without Wringer

## Washer for Gasoline Engine or External Motor Drive

In order to make the Western Electrie Washing Machine practical for use where electric serviee is not available, it is supplied when required without a notor, but equipped with a grooved pulley of $13 / 4$ ineh diameter, so that, it may be operated by a gasoline engine. The capacity of the engine may be anything from $1 / 211$ I. up, and the pulley on the washing machine is designed for a $1 / 4$ inch or $3 / 8$ inch round leather belt or rope drive. The engine speed and diameter of pulley should be such as to drive the pulley on the washer at 17:0) R.P.M.

| Type | Ilaterial of Body | -- Capacity |  |  | ---Wrincer |  | Shipping Weight | ———hist lrice_-_ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sheets |  | Shirts | Size | Type |  | Ruchies | Rockies |
| I | (andvanizod steel | 1 | or | 1.4 | 11 ins. | Stationary | 295 lbs. | \$170.00) | \$180.00 |
| As | (ablvanized stoel | ${ }^{1}$ | Or | 1.4 | 11 ins. | Swinging | 225 lbs | 200.00 | 210.00 |
| A | ('оирен | ${ }^{1}$ | Or | 1.1 | $11 \mathrm{ins}$. | itationary | 22.5 lb | 200 (\%) | 230.00 |
| ICs | ('oppery | ${ }^{1}$ | O1 | 14 | 11 ins. | Swinging | 22.5 lb | 2 E 0 (0) | $2{ }^{2}(1) .00$ |
| 13 | (ialvanized stued | 9 | Or | $\because$ | 12 ms. | Stationary | 203 515 | 2300 | 242.00 |
| 1350 | (ialvanizod sterel | 1 | or | 21 | 12 ins. | Swinging | 23.3 1bs | 270.00 | 282.00 |
| 136 | ( coper $^{\text {a }}$ | 9 | or | 30 | 12 ins. | itationary | 2055 lhs | ?90.0) | 302.00 |
| 13 CH | ('oppror | 1 | or | 20 | 12 ins. | Awinging | $2 \cdot 3515$ | S30.00 | :3i32.00 |
| ( | Galvanized stoel |  | (1) | 3) | 14 ins. | Stationary | 245 lbs | ?(1). (1) | 30200 |
| ( ${ }^{\text {c }}$ | ('opper | 12 | or | :3) | $1+\mathrm{ins}$ | Stationary | $\underline{2}+5 \mathrm{lb}$. | 380.00 | 3392.00 |

## Washer Without Wringer

All standand sizes and types of Western Electric Washing Machines are a a ailable without the wringer attachment. These are particularly desirable for institutions, small public laundries and others where the drying is done by a hydro-extractor. Thus the additional expense and complication of a wringer is avoided. The motor is the same size as on the standard washer, no reduction being made, due to the elimination of the wringer:

This machine is exceedingly simple as shown in the cut, and only one lever is required to operate.

| Type | Material of Bordy | C'apacity- |  | Shipping Weight | - list Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Fast of Rockies | West of Rockies |
| A | Calvanized sterd | (f) 01 | - 14 |  | 23:35 lhs. | S20). 00 | S210.00 |
| $A^{\prime}{ }^{\prime}$ | (opper | 6 or | r 14 | 23.5 lis. | 250.00 | 260.00 |
| B | Galvamized sterel | 9 or | r 20 | 240 liss. | 250.0 | 262.00 |
| B ${ }^{\circ}$ | Copper | 9 or | r 20 | $\underline{20} 0 \mathrm{lbs}$ | 310.00 | 322. 00 |
| ( ${ }^{\prime}$ | Galvanimedster | 12 O | - 30 | 200) lis. | 3:30.0) | 342 (0) |
| ('1) | ( ${ }^{\text {apprer }}$ | 12 or | - 30 | 2.50 lbs. | 420.00 | 4:32.00 |

## Use of Washing Machine for Driving Other Equipment

All standard washing machines are shipped out already equipped with a $13 / 4$ inch grooved pulley on the motor shaft. This enables the user, if he desires, to use his washing machine to operate other household utilities like an ice cream freezer, ironing machine or mangle.

The pullcy is designed for a $1 / 4$ inch or $3 / 8$ inch round leather belt or rope drive, and operates at 1750 R.P.M.

Delivery F. O. B. Chicago, Ill. For warehouse deliveries write For Driving Other Equipment nearest house.

## WESTERN ELECTRIC <br> "DOLLY"



Type "D"
Washer and Wringer


Standard Motors 32, 110 and 220 Volts D. C., 110 Volts, 25,40 and 60 Cycles A. C., 220 Volts 60 Cycles, A. C.
The Western Electric "Dolly" washer and ringer will wash and wring the clothes far better than the most skillful laundress could do at a cost not mueh greater than guning an electric fan. Fourteen shirts or six shects washed and wrung in fifteen to twenty minutes-wrung without putting a hand to the wringer-and at a cost of less than 4 oro cents for current. All moving parts are enclosed and all machinery is loeated
 underneath the tub oat of the way. The cover of the machine is not duttered up with machinery. There is oot a single piece of mechanism on it, and it can be usod as a table when wringing clothes back through the wringer. No exposed, complicated farts. No beits and chains to get out of order or to endinger the user or chiddren.

## Features

Capacity. Fourteen shirts or 6 sheets. It will wash and wring a tub of clothes in 15 to 20 minutes.

Height. Thirty-fou: inches from bottom of floor to top of tub. This is 4 inches higher than the ordmary machine of this type. The machine does not hive to be set up on a special platform for stationary tubs in the laundry.

Dolly tope is made of the best quality white maple, poished smootin as glass to prevent any possibility of injuring the most delicate fabries.

Body is made of the best quality fouthern Cypress with reinforsed cypress cover attached.

Wringer is the very latest improved swingingReversible typ. It an be swung to any position. thus climinating the bother of pushing the machine from one tuh to another. The rolls are $11 \times 13 / 4$ inehes and are made of the best pure Para rubber.

Motor. Machine is equiperd with a guaranteed motor that operates the washer and wringer.

Direct Gear Driven. Helical cut gears packed in grease-absolutely noiseless.

Type

1) Dolly washer and wringer. . . . . . . . . $\$ 170.00 \quad \$ 180.00$ Shipping weight $2: 2$ Its.

Delivery 1i. O. B. Factory, Chicago, 11l. For warehouse deliveries write nearest house.

## "SIMPLEX" IRONING MACHINES



Nos. 48 and 5o Ironers, Miotor Driven

## Simplex Ironing Machines

The "Simplex" I roners are simple and durable ant can be operated with ease and safety by inexperienced help. The principal features of tle "Simplex" are: A well vadded roller, "perating under adjustable spring pressure against an accurately mochined and highly polished shoe, its concave face forming contate with the circumference of the padded roll. This shoe inelines to the rear ard draws its heat from a burner which extends across its back for the full length. Motor attached machines are furnished with pheg connected to ordinary light socket with the exception of the 48 and 5 ti inch ironers, on which connection should be made direct to the line. I'rices include gas or gruvity gasoline burners.

Nos. 32, 37, 42 and 46 'SSimplex' Ironers

| Roll <br> Length <br> Inches | $\begin{gathered} \text { IIIP. } \\ \text { of } \\ \text { Motor } \end{gathered}$ | Gas Consumed Cubic Feet per Hour | $\left\|\begin{array}{c} \text { Gasoline } \\ \text { Pints } \\ \text { per llour } \end{array}\right\|$ | F.W. Hour E'onsumption E:gh | $\begin{aligned} & \text { Zist } \\ & \text { I } \alpha, \end{aligned}$ | Lanc lower |  | Belt Driven |  | Motor Driven |  | *Extra for Electric Heat Coil |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | *List |  | *List |  | *List |  |
|  |  |  |  |  |  | IV't. Lbs. | Price | Wt L's. | Price <br> Fach | $\mathrm{W}_{\mathrm{t}} \mathrm{t}$. <br> Lbs. | Price |  |
| 32 | 1/8 | 17 | 7/8 | 2. | $3:$ | 145 | 4isil. 100 | 1tit) | $\frac{\text { Each }}{\text { \$134.00 }}$ | 200 | $\frac{\text { Lach }}{2200.00}$ | \$130.00 |
| 37 | 1/8 | 20 | /8 | 2.4 | 38 | 14.5 | 144.00 | $181)$ | 174.00 | 295 | 240.00 | 160.00 |
| 42 | 1/6 | 23 | 11/8 | 4 | 49 | 190 | 164.00 | 200 | 194.00 | 210 | 260.00 | 180.00 |
| +46 | 1/6 | 26 | 11/4 | 4.8 | 46 | 3:4 | 230.00 | 359 | 260.00 | 420 | 3330.00 | 200.00 |

Note: Cast iron base can be furnished ais to 42 inches, at $\$ 24,00$ additional list.
$\dagger$ Prices No. to cover ironer and stand.
Nos. 48 and 56 "Simplex" Ironers

| Roll <br> Length <br> Inches | II.P. <br> of Motor | Gas Consumed Cubic Feet per Hour | Gasoline Pints per Ilour | K.W. Hour Consumptien High | $\begin{aligned} & \text { List } \\ & \stackrel{N}{0} \text {. } \end{aligned}$ | Hand Power |  | Belt Iniven |  | Motor I)riven |  | *Extra for <br> Electric <br> Heat Coil |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | *List |  | *List |  | ${ }^{*}$ List |  |
|  |  |  |  |  |  |  | Price | 15. | Price | Iit. | Price |  |
|  |  |  |  |  |  |  | Each |  | Each |  | Each |  |
| 48 | 1/4 | 27 | $11 / 4$ | 5 | 43 | 5\%) |  | 515 | \$3>0.00 | 650 | S 560.00 | \$240.00 |
| 56 | 1/4 | 33 | 11/4 | 6 | 53 | 5-5 |  | 5.80 | 4:30.00 | 670 | 510.00 | 280.00 |

Ironing speed per minute, $32,37,42$ and $44^{4}$ inch rolls, 7 feet; 48 ani 56 inch rolls, $8 \frac{1}{2}$ feet.
Speed of pulley on 32, 37 , 42 and 46 inch ironers, 600 R.P.M.; 48 and 56 inch ironers, 370 R.I.M.
Diameter of pulley for $11 / 4$ inch flat belt, 4 inches; grooved, $\frac{5}{16}$ inch round belt for Nos. $32,37,42,46$, 5 inches; for Nos. 48 and 56,8 inches. Nos. 46,48 and 50 are furcished with iron stands. For other than 60 cycle A.C. price is special.

Note: Furnished for 110 volts, 60 cycles or 110 volts D.C. Voltages or frequeney offer upon application.
-Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

## SIMPLEX IRONING MACHINES



The Simples Special Ironer

## The Simplex Special Ironer

This ironer is intended for hotels or institutions where the exquisite finish of the regtalar Simplex is not so important, but where a little greater speed is required, or where the ironer is to be usel partly as a dryer. The roll is of steel, $101 / 2$ diameter, meated by a very powerful burner, supplied with a lland mixer, securing absolutely perfect combustion and thorough heat regulation; has an ironing speel of $13 \frac{2}{2}$ feet per minute. The roll can be ratisel clear of the carrying apron to save from scorching, and to facilitate removing and replacing apron on thee rolls.

The drive is right angle and by worm. The ironer operates noiselessly,
By a simple change in gear ratio of ironing roll and apron roll the machine can be had to be used with excellent results as a dryer for prints of all kinds; can also be furnished without hase at $\$ 22 . \%$ allowance.

| Size | Pulley | R. P. M. | II. P. | Weight | Floor Space | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 45 in., gas | . $\times 11 / 2$ | 300 | 1/4 | 1625 lbs. | 34 x lit ins. | \$360.00 |
| Same with motor |  | 300 | 1/4 | 685 lbs. | $3 \mathrm{t} \times 6.4 \mathrm{ins}$. | 4330.00 |

Can be had any size smaller at sane price.

## PRESSURE GASOLINE TANK

For pressure gasoline tanks with 20 feet of hollow wire add to list price of 32 inch to 54 inch inclusive at $\$ 50$ to the 48 inch and 50 inch at $\$ 60$.

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house,

## Western Electric

OSCILLATING AND NON-OSCILLATING FANS


12 Inch Oscillating A. C. 4 Blades-Desk Position


12 Inch Non-Oscillating D, C. 4 Blades-Rear View Desk Position


9 Inch Oscillating Universal Wall Bracket Position

## Black Enamel Finish-Polished Brass Blades

UNIVERSAL-FOR 110 VOLTS DIRECT OR ALTERNATING CURRENT, 25 TO 60 CYCLES

| List No. (i00) | $\begin{gathered} \text { Size } \\ \text { !) } \end{gathered}$ | $\begin{gathered} \text { 'l'spe } \\ \text { Nom-( Scillating. } \end{gathered}$ | Xo. <br> Mades 4 | Speed |  |  | Watts at High Speed 3.$)$ | Weight Ibss.Net Shpg. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 16:10) | 1200 | 1000 |  | 8 | 1.5 |
|  |  |  |  | on A. $\%$ to | on A.C.to | on A.C. to | on A.C.to |  |  |
| (1)00) | 9 | Oscillating. | 4 | 2300 on D. ('. | 1700 on I). ${ }^{\text {c }}$. | 1400 on D. ${ }^{\text {c }}$ | 45 on D.C. | 8 | 15 |

FOR ALTERNATING CURRENT 110 VOLTS- 60 CYCLES

| (520)4 | 12 | Nom-Osallating. |
| :---: | :---: | :---: |
| (6:30) 4 | 12 | ( Sirillaline |
| (50.7 | 16 | Non-()arillating. |
| (635) 4 | 16 | Oscillating. |

$1500-1275-1125$
$11750-1250-1100$
$1475-1550-1150$

| 160 | 17 | 35 |
| :--- | :--- | :--- |
| 6.5 | 18 | 31 |
| 65 | 20 | 43 |
| 90 | 21 | 44 |

## FOR DIRECT CURRENT 110 VOLTS

| (i.401 | 12 | Nom-()acilating. | 4 | 1500-125!-1100 | 45 | 15 | 3:3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (iv) 1 | 12 | (Nacillatingr. | 4 | 1475-1175-1000 | 30 | 1ii | 31 |
| (isiol | 14 | Non-()acillating. | 4 | 1175-1295-1075 | 55 | 18 | 41 |
| (6.). 1 | 16 | Osprllating. | 4 | 1450-1150-975 | (i) | $1!$ | 42 |
| FOR DIRECT CURRENT 32 VOLTS |  |  |  |  |  |  |  |
| (i0)03 | 9) | Non-()wcrillating. | 4 | 16:50-1:300-1000 | 30 | 9 | 16 |
| (i1):3 | ! | (keillating. | 4 | 16:50-1300-1000 | 30 | 9 | 16 |
| (i.40) | 12 | Non-( )xcillating. | 4 | 1500-1250-1100 | 45 | 1\% | 3:3 |
| 1:300 | 12 | Oxcilating. | 4 | 1175-1175-1000 | 50 | 110 | 34 |
| (15) 5 | 16 | Non-()sidlatingr | 4 |  | 3 | 18 | 41 |
| (iv5) | 16 | (saciltating. | 4 | 1450-1150-975 | (i) | 1!) | 42 |

## ALTERNATING CURRENT 60 CYCLES AND DIRECT CURRENT 220 VOLT CIRCUIT

| Size | Type | No. Blades | $\begin{aligned} & \text { A.C. Bin ('ve } \\ & \text { list Nio. } \end{aligned}$ | les 1). ${ }^{\text {. }}$. List No. | Size | Type | No. <br> blades | A.C. Cyeles I.ist ※̌o. | I). ${ }^{\circ}$. <br> List No. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | Nun-Oscillating. | 4 | (i0)2 | (0)0t | 12 | ()acillatinu | 1 | (8:30.5 | (950) |
| 9 | ( Sicillating | 4 | (1102 | (610) |  | Non-()arillating | 4 | (6) ${ }^{\text {a }}$ | (6452 |
| 12 | Nom-( )rcillating. | 4 | (i2) 0 | 6.402 | 16 | O.acillating | 4 | (3:35) | (6553 |

Voltage Range. All of the direct current fans will operate on voltages 10 per eent higher or lower than the normal 110 volts and 5 per cent higher or 10 per cent lower than the normal ter volts.

Alk of the altermating current fans will operate on woltages 10 per cent. higher of of per cent. lower than the momiall 10 volts or 220 volts.

Fans (exeept for export) are pateked one in a ease and include $\mathcal{S}$ feet of hack new eode reinforeed cord with separable plug attached to base of fan.

Fins can be allusted to any desirel cievation and can be used either in desk or bracket position. They man also be used as an oseilating or stationary fan as desired with slight adjustments.
pribes on application.


No. S- 20.3088
'Iripod Cotter lin Suspension Style


No. 203087
Stay Rod Suspension


8 Inch Battery Fan

## Telephone Operating Room Fans

These fans have been designed to mect the sperial requirements of telephone companios for a slow sheed, noiseless, casy running fanf for use in telephone oprating rooms.

These fans, which are modified types of Western llectric standard fans, are fumishod in two styles, tripod cotter pin suspension type and the stay rod suspension type. Fach type of fan is furnishod for both direretand alternating current. The tripod cotter pin suspension type in the 16 inch size and the stay rod suspension type in the lo inch size. both types are furnished with blade drawn sted frame fans with bade guards and serows finisherl in batek.

| $\begin{aligned} & \text { style No. } \\ & \text { of l'an } \end{aligned}$ | Style Nio. Suspension | Size | Current or C'ycles | Volts | Speed R.P.XI | *List I’rice liarh |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2+45^{2} 4$ | S-203088 | 16 ins. | (i) | 100-125 | 10.50 |  |
| $\underline{2485}$ | S-2030388 | $1 \mathrm{tims}$. | (i) | 200050 | 1050 |  |
|  | S-2030)28 | $11 \mathrm{ins}$. | 1). ${ }^{\text {\% }}$ | 100-11.5 | 10.50 | Prices |
| 244820 | S-203308S | $115 \mathrm{ins}$. | D. ${ }^{\circ}$ | $2001-230$ | 1050 | on |
| 244゙20 | 20:30) 7 | $12 \mathrm{ins}$. | 60 | 100-125 | 1050 | Aprl. |
| $\cdots+4 \times 2$ | -20308 | 12 ms . | 60 | $2000-20$ | 1050 |  |
| $2+4 \times 20$ | 203087 | 12 ins | I). ${ }^{\circ}$ | 100-11.5 | 1200 |  |
| $\cdots$ | $\underline{20: 3087}$ | 12 ins. | D. ${ }^{\prime}$. | $200-230$ | 1200 |  |

## Battery Fan

Type B. F.
A portable model of simplicity for the home, office or siekroom.

## POINTS OF CONSTRUCTION

Amature laminated. Jield. fwo-pole. Commutator, drawn copper segments, insulated with mica. Brushes, copper gatuze, selfadjusting. Oil cups, wiek fred. lBase, fitted with starting switeh. Finish, black japan, with hrass polished fan and guarl.

## BATTERY

This is an ideal outfit with at 6 volt storage battery. Twonty good dry cells, $6 \times 2^{1}$. connected 5 in series, 4 multiples, if run three hours per day will last for 200 hours upward; more continuous work will lessen the total rum.

The box for 20 dry eells is wired complete and a diagrum furnished, showing how to put in the cells and conmert.

Performance: Speed, 1 (i0) R.I'M. Volts, if. Amperes, 1.2.

| List | List Prices and Data | $\dagger$ List Price |
| :---: | :---: | :---: |
| No. |  | Each |
| 145 | B. F', motor, 8 in. fan and guard (no cord or battery) | \$10.08 |
| 112 | Box for 20 cells (less cells) | 1.36 |
| 110 | 6 ft . comnecting corrl, flexible | . 68 |
|  | Delivery F. (). 13. Factory, Newark, N. J. For warehou Delivery F, (). B. New lork. For warehouse deliveries |  | Quoted on Request

## VENTILATING (EXHAUST) FANS FULLY ENCLOSED MOTOR-SIX BLADES



Fully Finclosed
A.C. and I).C.

Ventilating (Exhaust) Fans
The Western Flectric line of cxhaust and rentilating fans has been developed through years of experience in solving ventilating poohems of all kinds. Their eflicient operation, with the small amount of care required, renders them partioularly adeppod to the installations for which they have beon designed.

The 12 inch and 16 inch ventilating fans are recommended for ventilating restamrants, cafes, small moving pieture theatres, halls, hotel and apartment house kitehens, ete. They are very light in weight and can he instalked with suall expense and without the necessity of special construction work. They have of flat polished brass finishod blades and the frame is finished in black enamed.

They are intended for mounting in walls or partitions and echatusting into open space (free air). They may be mounted in a vertical position either upwat or downward diseharge as the bearings are provided with hardened sted and thrust washers.

Fully enclosed. The motors are fully enclosed, thus making them practieally dust and moisture proof, and affording protection against grease, grit, acids or other substances which might deteriorate the winting or commutator.

Dimensions. 12 inch size-diameter of fan blades 12 inches; diameter of tripod ring inside $133 / 4$ inches, outside 16 inches. 16 ind size-diameter of fan blates 16 inches; diameter of tripod ring inside 173 inches; outside 20 inches.

## FOR ALTERNATING CURRENT 110 VOLTS- 60 CYCLES

| List |  | No. of 13tades | Speed with 3 Speed Regulator | Waits Il:gh cubre Fert per |  | Weight Liss. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Size |  |  |  |  |  |  |
| 7004 | 12 | ${ }_{6}$ | 1550-1350-1150 | 85 | Minmom $1.000-20100$ | Net | Shpr. |
| 7054 | 16 | 6 | 1300-110)-900 | 120 | 2:30-3:30) | 39 | 3 |
| 7101 FOR DIRECT CURRENT-110 VOLTS |  |  |  |  |  |  |  |
| 7101 | 12 | 6 | 1500-1350-1150 | 65 | 1506-2000 | 30 | 56 |
| 7151 | 16 | 6 | 1.450-1250-1050 | 100 | 2230-3:300 | 35 | 3 |

## Alternating Current 60 Cycles and Direct Current-220 Volt Circuit



The Western Flectric Cciling Fans for alternating and direct current circuits offer a wide choice of fans for solution of ceiling fan installations of all kinds.

In their construction special attention has been given to the electrical and mechanical devign, thus insuring exceptionally high operating efficiencies, reliability and serviceability, with a minimum of maintenance and current consumption.

Complete information covering prices and description upon application.

A.C. Exhaust Fan Outfit l'ype R Repulsion Motor

A.C. Exhaust Fan Outfit

Polyphase Ind. Motor

D.C. Exhaust Fan Outit Constant Speed D).(., Motor D.C. to Ventura Desk Fan

Ventura A.C. Exhaust Fan Outfit-Direct Connected


Inctes (.iprox. $C$ OSTANT SPEED OUTFITS WITH 60 CYCLE SINGLE-PHASE MOTORS (TYPE SA)

|  | COI | S | UTF | I | 倍 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 103 ${ }^{3}$ | 720 | 1, 00 |  |  | 55 | 1/30 | 325 | $89+5.80$ |  |  |
| 121: | 7 OH | 1200) | 110 | 213 | 60 | 1/30 | 325 | 113.40 |  |  |
| $14 \%$ | 111.5 | 1200 | , and | $23 / 3$ | 65 | 1/30 | 325 | 110.100 |  |  |
| $1 \mathrm{i}^{\text {i }}$ | 15* | -200 | 220 | 3 | 90 | 1/15 | 137 | 15\% (10) |  |  |
| 183: | 1860 | 900 |  | 318 | 130 | 1/10 | 1.17 | 11.3 (0) | . . . | . $\cdot$ |
| CONSTANT SPEED OUTFITS WITH SINGLE-PHASE MOTORS (TYPE R) |  |  |  |  |  |  |  |  |  |  |
| 211 | 2900 | 950 |  | 4 | 190 | 1/7 | 504 5.36 | 8209.60 264.100 | 5.266 .60 .31 .86 |  |
| $28 ; 1$ | 4800 | 750 000 |  | 6 | 285 375 | $1 / 4$ $1 / 3$ | 5.26 5.4 | 264.00 374.010 | 281.60 404.80 |  |
| 32 | fin) | (6)0 | , 110 | 6 | 375 | $1 / 3$ $1 / 2$ | 549 564 | 374.00 440.00 | $40-80$ <br> 475 <br> 10 |  |
| 3714 | Stis) | 450 | $\left\lvert\, \begin{aligned} & \text { and } \\ & 220\end{aligned}\right.$ | 8 | 585 | $3 / 4$ | 584 | 860.00 | 710.80 |  |
| $48^{3} 8$ | 18500 17.100 | $47 \%$ 4.10 | 220 | $\stackrel{8}{9}$ | 7 | $1^{3 / 4}$ | 588 | 718.00 | 70. 6 |  |


| CONSTANT SPEED OUTFIT |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 211 | 2 M 00 | 90 |  | 4 | 205 | 1/7 | 110 190 | \$209.06 | * * ${ }^{\text {• }}$ |  |
| 20.4 | 4200 | 720 | 110 290 | 5 | 290 390 | $1 / 4$ $3 / 8$ | 120 120 | 26.1 .00 .308 .00 | $\cdots$ |  |
| 32. | (3.)00 9y) | 600 (1)0) | 220 440 | 6 7 | 390 460 | $3 / 8$ $5 / 8$ | 120 1.40 | 308.00 3065 | . |  |
| 37! 403 | 9900 113004 | 600 450 | 440 550 | 7 8 | 460 620 | $5 / 8$ $3 / 4$ | 140 160 | 3616.06 +10.04 | $\cdots$ |  |
| 4 C | 1\% 500 | 450 |  | 9 | 8.50 | 1 | 180 | $5 \mathrm{5i0} 001$ | 1 |  |







Constant sporel ontfit with three or two-phase motor consists in each case of go cycle motor, fan and tripod. liforizontal Ventura D.C. Exhaust Fans-Direct Connected

| 1 )itm of | Air Delivery Cu. I't. |  |  |  | Ship. Wt. | II. P. | I.ist |  | I.ist I'rices |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fin <br> in Inclies | $\begin{gathered} \text { per } \\ \text { Min. } \\ \text { (Aprox.) } \end{gathered}$ | Speed R.1'. MI, (Approx.) | Volts | $\begin{aligned} & \text { 1an } \\ & \text { No } \end{aligned}$ | Ontfit (Approx.) | Rheostat (Approx.) | Speed Keg. | Motor Frame | $\begin{aligned} & \text { Ilori- } \\ & \text { zontal } \end{aligned}$ | $\begin{array}{r} \text { Verti- } \\ \text { cal } \end{array}$ |
| 103 | 650 | 1500 | 115 | 2 | 35 | 1/40 | S1-30008 | R'T-1/20 | S85. 010 | \$165.60 |
| 103\% | 650 | 1706 | 230 | 2 | 35 | 1/40 | SP-30009 | I'T-1/20 | 88.00 | 105. 60 |
| 121\% | 8.511 | 1290 | 115 | 21/3 | 45 | 1/40 | SP-3000 | 1T'-1/20 | 94.00 | 11690 |
| 121\% | 8501 | 1290 | $3: 30$ | $21 / 2$ | 45 | 1/40 | SP-30009 | 1 ${ }^{\prime} \Gamma-1 / 20$ | 99.00 | 116.60 |
| $1.11 /$ | 1171 | 1200 | 115 | $02 \%$ | 3 in | 1/30) | SP-30008 | *335 | 110.06 | 127.60 |
| $11 \%$ | 1170 | 1200 | 230 | $23 / 3$ | 5] | 1/30 | SP-30009 | *335 | 110.00 | 127.60 |
| 16 | 1501 | 1070 | 11: | 3 | 60 | 1/20 | S $1^{\prime}-30000$ | *335 | 121.00 | 143.00 |
| $1 ;$ | 1510 | 1070 | 230 | 3 | 10 | 1/20) | 59638 | *335 | 121.00 | 143.00 |
| 183, | $2 \cdot 300$ | 1010 | 115 | $3!6$ | 80 | 1/8 | 59607 | *246 | 132.00 | 154.00 |
| 153 | 2900 | 1000 | 230 | $31 / 2$ | 80 | 1/8 | 59619 | *246 | 132.00) | 154.00 |
| $211 \%$ | 29110 | 900 | 115 | 4 | 120 | 1/7 | 59607 | $\mathrm{R} \mathrm{l}-1 / 4 \mathrm{D}$ | $\cdots 09.00$ | 231.00 |
| 211 | 9900 | 000 | 230 . | 4 | 12. | 1/7 | 59619 | I' $\Gamma$-1/41) | 209,00 | 231.00 |
| 211\% | 2900 | 900 | 5.50 | 4 | 12\% | $1 / 7$ | 59631 | $1 \mathrm{R}^{\prime} \Gamma-1 / 4 \mathrm{D}$ | 290.100 | 2.12 .00 |
| $263 \%$ | 1800 | 750 | 115 | 5 | 250 | 1/4 | 59608 | 1TT-1/2 D | 275,00 | 297.00 |
| 263 | 48190 | 750 | 230 | 5 | 2.10 | 1/4 | 59120 | $1{ }^{\prime} 1 / 2 \mathrm{l}$ | 275.00 | 297.00 |
| $26^{3}$ | 48010 | 750 | 550 | 5 | 300 | 1/4 | 59632 | 1210-1D | 3111.00 | 352.00 |
| $3{ }^{2}$ | 6904 | 62.3 | $11 \%$ | 6 | 300 | $1 / 3$ | 59603 | 11'1-1/2D | ${ }^{297} 9070$ | 319.00 319 |
| 32 | (it) ()0 | 695 | 230 | 6 | 3011 | 1/3 | 59620 | 12'1/-1/2D | 297. (0) | 31900 |
| 32 | 6900 | 69 | 50 | 6 | 1010 | 1/3 | 59632 | I'J-11) | 35: 00 | 385.00 |
| $371 / 1$ | 47700 | 350 | $11 \%$ | 7 | 1011 400 | 1/2 | 59600 | 12' $\left.{ }^{\prime} \Gamma-11\right)$ | 363.00 36.3 .00 | 396.00 361100 |
| 371 | 97611 | 500 | 230 | 7 | 400 | 1/2 | 59691 59633 | 1RT-1D | 36.3 .00 410.00 | 396 O 49.7 |
| 351 | 97010 | 4 min | 115 | 8 | 5\% 57 | $3 / 4$ | 59610 | 17-2] | 473.00 | 528.00 |
| $42: 3$ | 12500 12500 | 47\% | 113) | 8 | 575 | $3 / 4$ | 59622 | 1RT-2I) | 473.00 | 528.00 |
| $423 / 4$ | 12.500 | 475 | 50 | S | 375 | $3 / 4$ | 59631 | RT'-21) | 484.00 | 533 , 130 |
| 48 | $16: 300$ | 4.10 | 115 | 9 | 700 | 1 | 59611 | I'T-31) | 550.00 | 594.00 |
| 4 s | 113300 | 410 | 230 | \% | 710 | 1 | 59623 | KT-3D | 550.00 | 594.00 |
| 48 | 1 (3300) | 440 | 500 | ! | 700 | 1 | 59635 | R'T-31) | 504.00 | 649.00 |

[^26]
# Western Electric ventilating outfits 



Single Phase Motor. Direct Connected to Davidison Propeller Fan


Polyphase Induction Motor 1)irect Connected to Davidson Propeller Fan

1).C. Motor Direct Connected 10 Dividson Propeller Fan

## Davidson Exhaust Fan Outfits DIRECT CONNECTED

Single-phase outfit consists of single-phase 'Type R enclosed repulsion motor, fan and tripod. The outfit may be used for constant speed work comnecting the motor directly across the line. For variable speed work $\mathrm{Cl}-1212$ regulator as listed giving 33 per cent. sped reduction is used, air delivery varying in direct proportion to the speed.

Direct Current outfit consists in each case of a series wound motor with totally enclosing covers, fan, tripod and $\mathrm{CR}-1225$ armature speed regulator, with low voltage release, capable of reducing speed 50 per cent. The air delivery varies in direct proportion to the speed.

Note: 'The air delivery and H.1'. required for Davidson fans given herewith, are based on free intake and delivery. Hence these outfits are not designed for use with any great quantity of duct work, either in the intake or outlet. Air deliveries are supplied by the fan manufacturers, hut are not guaranteed by the Company.
A.C. OUTFITS WITH 60 CYCLE SINGLE PHASE MOTORS

| Diam. <br> of <br> Fan <br> in <br> Inches | Air <br> Delivery in Cu. Ft. per Min. (Approx.) | Speed Sync. R.P.M. | Volts | Ship. Wt. in Lbs. Outfit (Approx.) | H.P. <br> (Approx.) | List No. Speed Reg. | Motor <br> Frame | List Price Outfit |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Without | * |  |
|  |  |  |  |  |  |  |  | Regu- | With | Verti- |
|  |  |  |  |  |  |  |  | lator | Regulator | cal |
|  |  |  |  |  |  |  |  | Unorizontal | Horizontal | Motor |
| 18 | $28(1)$ | 925 |  | 175 | 1/2 |  | 50.4 | \$198.60 | \$211.20 | \$259.60 |
| 24 | 4800 | 675 | 110 | 255 | 1/3 |  | 546 | 308.00 | 3:38. 80 | 391.60 |
| 30 | 8400 | 600 | and | 385 | 1/2 |  | 564 | 385.00 | +20.20 | 475. 20 |
| 36 | 12:00 | 510 | 220) | 570 |  |  | 588 | 10.3s.00 |  |  |
| 42 | 154(0) | 400 |  | 710 | $11 / 2$ | . $\cdot$ | $59 \%$ | 748.00 | 7 OS (6) |  |

A.C. OUTFITS WITH 60 CYCLE POLYPHASE MOTORS

| 18 | 2700 | 900 |  | 160 | 1/5 |  | 110 | \$191.40 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 24 | $4: 300$ | 600 | 110 | 225 | $1 / 5$ |  | 120 | 24200 |  |  |
| 30 | 8400 | 600 | 220 | 375 | 1/2 |  | 140 | 30800 |  |  |
| 36 | $1+600$ | 600 | 440 | 545 | 1 |  | 160 | 3!fi. 00 |  |  |
| 42 | 17400 | 450 | 550 | 655 | 1 |  | 180 | 16.4 .00 |  |  |
| 48 | 259\%0 | 450 |  | 730 | $\underline{2}$ |  | 201 | 594.00 |  |  |

D.C. OUTFITS WITH SERIES WOUND MOTORS

| 18 | 2800 | 925 | 115 | 140 | 1/5 | 59007 | RT-1/41) |  | \$176.00 | \$198.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 280\% | (025) | 230 | 140 | $1 / 5$ | 59619 | (R'1-1/41) |  | 176.00 | 108.00 |
| 18 | 2800 | 025 | 550 | 140 | 1/5 | $59 \% 31$ | R'T-1/4) |  | 157.00 | 209.00 |
| 24 | 5200 | 725 | 115 | 250 | $1 / 3$ | 59608 | 12'1-1/2 |  | 242.00 | 26.4 .00 |
| 24 | 5200 | 72: | 230 | 250 | $1 / 3$ | 59620 | RT-1/2 |  | 212.00 | 2154.00 |
| 24 | 5200 | 725 | 550 | 250 | $1 / 3$ | 59332 | 121-1/21) |  | 2-3. 00 | 275.00 |
| 30 | 8.100 | $(600$ | 11.5 | 400 | 1/2 | $59(009$ | RTT-1 |  | 308.00 | $3+1.00$ |
| 30 | 8400 | 600 | 230 | 400 | 1/2 | 59621 | R'1-11) |  | 302.00 | $3+1.00$ |
| 30 | 7800 | 550 | 550 | 400 | $1 / 2$ | $5!433$ | 12' ${ }^{(11)}$ |  | 319.00 | 359.00 |
| 36 | 12400 | 510 | 115 | 575 | 1 | 59611 | R'1-21) |  | 418.00) | 451.00 |
| 36 | 12400 | 510 | 230 | 575 | 1 | 59623 | R'T-2]) |  | +18.00) | 451.00 |
| 36 | 11700 | 480 | 550 | 575 | , | 59635 | R'1-21) |  | +40.00 | 473.00 |
| 42 | 16400 | 425 | 115 | 750 | 11/2 | 59611 | R'T-31) |  | 495.00 | 528.00 |
| 42 | 16400 | 400 | 230 | 750 | $11 / 2$ | 59623 | 12'T-31) |  | 4 $5 \%$ \% 00 | 52 S .00 |
| 42 | 14600 | 380 | 550 | 750 | 1 | 59035 | R'T-35) |  | 317.00 | 550.00 |
| 48 | 21300 | 370 | 115 | 1000 | 2 | 59612 | 12T-51) |  | 693.00 | 7.3700 |
| 48 | 21300 | 370 | 230 | 1000 | 2 | 59624 | (2T-i5) |  | 693.00 | 737.00 |
| 48 | 21300 | 370 | 550 | 1000 | 2 | 59636 | li'T-51) |  | 71.500 | 759.00 |

*ClR-121:2 regulator is used with single phase outfits; CR-1225 regulator with direct current outfits.
Note: Single phase motor may be operated on cither 110 or 220 volt circuits by suitably interchanging the lead connections.

# Western Electric <br> PAUL PUMPS 



Fig. 803-Motor Driven

# Western Electric <br> Paul Type E Pump, Motor Driven <br> FOR SHALLOW: WELLS 

 the vertical suction lift is 20 fect or less. On incount of their vertical design and very smath floer space oreupich, these pmons may eonvoniently be comerted th the piping of existing systems when replacing hand pumps, water hifts or other power pumps. "These panps are also conveniently arranged with tanks, automatie dectric pressure cont rollers and fitting assombled and monnted on cast iron bases, thus forming complete systems.

## SPECIFICATIONS

The slow spoed pump of arery sperial. yot extremely simple design fatent applied for is bolted to the outside of at how shaped east iron frame, fully aterestithe. It is double anting, hrasi fitwed, with high grade rubber valves on brases seats and enp leather parleing. The suction pipe entering below and the discharge pipe above can be swang in any desirsb direction. 'The frame also carries a perfeetly silent and efficient drive, consisting of pulleys and flat bett with a hew ration of seed reduetion in comnection with a sot of mathine cut, slow speod, spar gears. Large removable bearing bolted to the fare of the frame, insuring abeurate alignment carry the intermediate shaft with pulley and pinion and the crank shaft with gear. The gears are went mal betwern bearings inside the frame, theroby rompletely entased. ('onveniently lowated grease aups are provided for crank pin and all bearings. 'The crossheat end of the comnecting rod Works in a bath of oil. It parts subjert to wear are (asily renewable.

List Prices of Paul Type E Pumps, Motor Driven

| $\begin{aligned} & x_{1 s} \\ & o f \\ & p_{14 \ldots p} \end{aligned}$ | (:uparity of 1'ump, (bitlons pro Home | $\begin{aligned} & \text { Hi. I' } \\ & \text { of } \\ & \text { Hotsr } \end{aligned}$ | Filectric Current |  |  |  | List Priro of l'unap and learts |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | For Open Tank servic. |  |  | For Pmomatio Tank |  |  |  |
|  |  |  |  |  |  |  | Pиmp and Motor for Hamel Control |  |  | 「amp. <br> Notor and Air ('harying 1)n-ver Itand Conter |  |  |  |
|  | $\begin{aligned} & 1.50 \\ & 300 \\ & 150 \\ & 3001 \end{aligned}$ | 14, | 1. C. 1 Phase (6) C'ycle $110:-20$ b blt or 1)(. 110-世20 Volt Mntor With 1).(. 32 V VIt M(etor |  |  |  | $\begin{array}{r} \$ 191.26 \\ 303.88 \\ 225.78 \\ 361.26 \end{array}$ | 3242.24343.38279.98421.46 |  | $\begin{array}{r} 8214.54 \\ 312.38 \\ 334.80 \\ 370.28 \\ \hline \end{array}$ |  |  | $\begin{array}{r} \$ 22: 3.12 \\ 344.26 \\ 259.66 \\ 413.20 \\ \hline \end{array}$ |
| Dimensions of Paul Type E Pumps, Motor Driven |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N(\%. nf l'unı |  |  |  |  | Sice of Jiping |  | Spare (becupied |  |  |  | Approx. Shipping Weight l.hs. |  | H.I. Required |
|  |  |  | Suction | Disrharge | T.encth | Width | Height |  |  |  |  |
| 90 E |  |  |  |  | 50 $\therefore 3$ | 115 115 |  |  | $\begin{aligned} & 18 \text { ins. } \\ & 20 \text { ins. } \end{aligned}$ | 12 ins. <br> $1: 3$ ins. | $\begin{aligned} & 39 \text { ins. } \\ & 45 \text { ins. } \end{aligned}$ |  | $\begin{aligned} & 210 \\ & 315 \\ & \hline \end{aligned}$ |  | $\begin{aligned} & 1 / 1 \\ & 1 / 2 \\ & \hline \end{aligned}$ |

Delivery F. O. B. Factory, Fort Wiane, Ind. For warehous deliveries write nearest house

## Western Electric <br> PAUL PUMPS



Type $1 /$ Deep Well Puinp

## TYPE H DEEP WELL PUMP AND WATER SYSTEMS

Capacity of pump 150 gallons per hour. Maximum working pressure 50 lins. Maximum depth to cylinder bo feet.

| No. of Pump | Drive | H. P . | $\begin{aligned} & \text { Approx. } \\ & \text { Shpe. } \\ & \text { Wt. } \end{aligned}$ | tist I'rion |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Equipment A Well Cylinder for Any Nystem with Hand Control | Liquipment <br> Well CyI- <br> inder and <br> Float switch Cisntroller <br> Open Tank Systems | Equipment <br> Well Cylinder <br> Air Compressor <br> and Pressure Controller for Pneumatic <br> Tank Systens |
| 511 II 31 | Electric motor A.C. single phase, 60 cycles, $110-220$ volt or D.C.110-220vo t | 12 | 27.7 | \$277.38 | 8330.56 | \$290. 14 |
| 5011 M 50 HE | Flectric moter A. © simgle phase, 2530 or 40 cy cle, 110 -220 volt, or I).C. 30-665 volt Gasoline engine. | ${ }^{1}$ | $\begin{aligned} & 285 \\ & 500 \end{aligned}$ | 320.44 340.80 | 377.62 | $\begin{aligned} & 367.34 \\ & 362.80 \end{aligned}$ |

GENERAL DATA AND DIMENSIONS

| No. of Pump | Lengthof Stroke | " ${ }^{\circ} \mathrm{p}$ <br> Strohes per <br> Minsto | Inside Diameter of Well Cylinder | Size of Drop Pipe | Size of Discharge Pipe from Pump | Smallest W'ell Casing Cevlinder and 1)rop l'ipe Will Enter | Size of Stecl Sucker Rod | Jimensions-Inehes |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | length | Wislth | Height |
| $\begin{aligned} & 5011 M \\ & \tilde{\sim} 0 \mathrm{HE} \end{aligned}$ | 5 ins. 5 ins. | 45 48 | 13/4 ins. | 11/4 ins. | ain. | 2 l ins. | 3/3 | 281\% | 131/2 | $\begin{aligned} & 25 \frac{1 / 2}{2} \\ & 251 / 2 \end{aligned}$ |

## MOTOR AND GASOLINE ENGINE DRIVEN

Specifications: Wach Paul system consists of the following equipment of sizes and capacities as listed below. (One) P'an Type II deep well pump (patent applicel for) fitted with elect ric motor or gasoline engine as selerted. (One) paul air compressor attacher to pump. (One) Paul special cylinder. (One) Paul pheumatic tank. (One) Paul automatic clectric pressure eontroller (patent applied for) if automatic service is required. (One) each water gange, pressure gange, gafe valve, check valve, relief valve, stop and waste coek, hose bibb, anil a complete set of malleable iron fittings but no pipe.

Motor Drive Rating $1 / 2 \mathrm{H}$. P.


Capacity of Pump 150 Gallons per Hour-Maximum presure 50 Lbs.-Maximum Depth to Cylinder 50 Feet

| EOHMA | $2 \mathrm{tims}$. x 5 ft . | 120 | 62.5 | 8.121, 06 | \$472.32 | \$ 492.88 | 8516.38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| E1911 M1: | 2 l iss. $\times \mathrm{sft}$. | 190 | $7 \times 5$ | $442 .(1)$ | 496.62 | 518.22 | 571.72 |
| FHHIMC | 30 ins. x fi 1 t . | 2:0 | 825 | 45) 72 | 502.02 | 523.96 | 577.36 |
| Eullal | 2.4 ing د 90 ft . | 2.35 | $8!5$ | 453.76 | 5109.07 | 532.32 | 585.82 |
| FHIMMS | 30 i: m x 8 ft. | 293 | 97.5 | 475.06 | 526.32 | 「-49.21 | 602.73 |
| कuldic | $36 \mathrm{ins.t}{ }^{\text {a }} \mathrm{ift}$ | 315 | 9 OL | 479.26 | 530.84 | 554.84 | 608.37 |
| 5H1] | $30 \mathrm{itms}. \times 10 \mathrm{fr}$. | 36.5 | 1090 | 493.62 | 547.92 | 571.72 | 625.26 |
| 50HM1I | $30 \mathrm{ins} . \times 12 \mathrm{fi}$, | 440 | 1210 | 577.10 | 569.64 | 594.27 | 647.79 |

Note: 1: I rop pipe and ?s's inch steel sucker rod is not included in the above prices.
lumps will be furnished as standard with standard diseharge head. If frostproof head is wanted, specify same on order.

Delivery 1'. O. 13, Factory, Ft. Wayne, Ind. For warehouse deliveries write nearest house.

# Western Electric PAUL hOUSE PUMP 



Tjpe "F" Electric House Pumiv

## Western Electric House Pump

The Paul Type "F" Folectric Itouse Pump has been designed especially to supersode the water motor driven pump. to positively do away with all the troubles connected therewith and to practically coliminate (are and repair. Jeing moiseless in ation, sumble in size, simple, strong and self-montaned, it fills the requirements for residence service in the most ideal manner.

The pump bolted to the fuily enclosed rank case frame is of the piston type. fully brase fitted. It is good for a suction lift of twentr-five fort. For lifts bolow twonty foet, no prining is required when starting up dry. The lubrication is entirely automatio and of the splash system.

## DIMENSIONS AND WEIGHT

Space ocrupied, wall or floor bracket mounting, length, 30 inches; width, 10 inches; height, 23 inchesSize of suction, $3 / 4$ inch; disharge, $\frac{3}{4}$ inch.
Approximate shipping weight of pump with motor, 100 ll ,
Capacity of No. 95F Pump, 150 Gallons per Hour. Rating of Motors, ${ }_{6}$ to ${ }^{1}$, H.P. Working Pressure, 40 and 50 Lbs.

| Jist <br> No. <br> of <br> P'unıp | Capacity of I'ump Galluns per Ilour | $\begin{aligned} & \text { II.I'. } \\ & \text { of } \\ & \text { Mlotor } \end{aligned}$ | Electric Current | *List Price of Pump and Equipment |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | $\begin{gathered} \text { For Open Tank } \\ \text { Service } \end{gathered}$ |  | For J'neumatic Tank Senvice |  |  |
|  |  |  |  | ${\underset{A}{\text { Fquipment }} \text {, }}^{2}$ | $\underset{13}{\text { liquipment }}$ | Equipment | $\underset{\mathrm{D})}{\text { Equipment }}$ | F:quipment E |
|  |  |  |  | l'ump with Motor, Hand Control | I'ump with Notor and Automatic Flectric Float switch | Punp with Motor and Air ('harging Device, Hand Control | Pump with Motor Air Charging Device, dutomatic Flectric C'ontroller | Pump with Motor Air Charging Device, Automatic Jlectric rontroller (52) Gal. (ialvanized Range l3oiler, Tapped Sipecial, Pressure Cange and Relief Valve |
| 95 F 965 | 150 $1: 50$ | $1 / 6$ $1 / 4$ |  | 8172.26 194.92 | $5 \geq 26.60$ 249.06 | $\begin{array}{r} \$ 179.010 \\ 197.16 \end{array}$ | $\begin{array}{r} 8194.92 \\ 221.16 \end{array}$ | 8294.66 317.32 |
| $\begin{aligned} & 95 \mathrm{~F} \\ & 6 \mathrm{~F}^{4} \end{aligned}$ | $\begin{aligned} & 150 \\ & 150 \end{aligned}$ | $1 / 6$ $1 / 4$ | D.C. 32 Volt | $\$ 192.66$ 2021.16 |  | $\begin{array}{r} \$ 194.92 \\ 219.86 \end{array}$ | $\begin{aligned} & 8215.00 \\ & 240.52 \end{aligned}$ | 8314.38 <br> 340.02 |

Note: 1. Specify pump with Equipment A B, (', D or E; sive electric current available.
2. Pumps will be shipped with wall bracket mounting, as standarl. If floor bracket mounting is wanted, specify same on order.
*Deliver I'. O. B. Factory, Ft. Wayne, Ind. For warehouse deliverios write nearest house.

## Western Electric SEWING Machines



No. 1 Vibrator Type


No. 2 Rotary Type


No. 3 Automatic Type

## Portable Electric Sewing Machine

The Western Electric sewing machine is a combination of the standard Western Electric sewing mathine motor and a high-grade sewing machine of national repute, the combination resulting in a compact, selfcontaned and easily bortable electrically operated sewing madhene.

The Motor. Theolectric motor is of the universal type, which ean be operated on direet or alternating current circuits. The standard motor is designed for operation on 110 volts and will operate efficiently on alternating current frequencies of $25,30,40,50$ or 60 cecles. Motors can be furnished for 220 volts and for 1333 cudes at a slight additional cost.

The speed of the motor is controled hy a foot rheostat, and the sowing speed can be varied from show to fast through several intermediate sipeds by a slight presinre of the operator's foof.

No. 1 Type. The present ivestern Lilectric portable sewing machine is of the vibrating shut fle type, the oldest and most popular type of sewing uatehine on the market.

No. 2 Type Rotary Sewing Machine. "The rotary sewing machine is larger than the present viturating shuttlotype, the head being the same as that used in the standard podal type mathine.

No. 3 Type-Low Arm Single Thread Machine. This marhine is bilt on the primeple of the Wilcox \& Gibhs mathine, and weareadvisel hy the factory that the parts arepractically inturehangeable.

No. 4 Type-Two Spool Rotary Sewing Machine. This machine sews direct from two ordinary commercial spools of thread.


No. 4 Two Spool Rotary Type


Sewing Machine enclosed in carrying


This foot control regulates perfectly. A pressure of the fool starts the notor. produces any desired speed and stops the motor.

## Proper Needles for W. E. Sewing Machines

No. 1 Vibrator Type. Nildralge F . N , neelles, sizes $1-2-\mathrm{X}$ inchusive.
No. 2 Rotary Type. N.s. lkotary nerdles, sizes 1 to $\bar{S}$ inclusive.
No. 3 Automatic Type. Eldredge anto nedles, sizes () to 4 ind hivive.
No. 4 Two Spool Type. Ehlredge two spool needles, sizes $00-1)-13-\frac{1}{2}$ and 1 to 4 inclusive.

## Complete With Motor and Set of Attachments



The above for 110 to 120 volts D C, or $A(6), 50,40,30$ or 25 cycle circuits.
For priees west of the Rockies, and $S t$ list.

## Extras

For 220 volts A.C. or D.C., 32 volts I).C. or 13.3 (...cle $A . C$ and to above priees.
Cork pulley

| 80.75 | $\$ 1.50$ | $\$ 0.75$ | $\$ 1.50$ |
| ---: | ---: | ---: | ---: |
| 4.50 | 7.20 | 4.50 | 7.20 |
| 3.50 | 6.00 | 3.75 | 6.00 |
| 3.85 | 6.16 | 3.85 | 6.16 |
| 2.50 | 4.00 | 2.50 | 4.00 |

## WESTERN ELECTRIC <br> Bracket and Tailor Type Sewing Motors



The bracket type of Western Flectrie Sowing Motor is exactly the same in operating principle as the Jack Rabhit type. It is designed to fasten the motor permanently to the head of the machine and permits it to be swong under out of the way when the mathine is closed.

The Holdfast Bracket will fit and operate any mako of high head home sewing machine. The lugs of the bracket dropping into the belt holes of the madhinc, are tightened in position instantly hodding the motor rigid.

Special brackets have been desigued specially for the following mathines:
Singer-All Types National-l Rotary amd Automatic
White-Rotary, Vibrator
New Ilome-Vibrator, Rotary, Automatic
Free-All Types
Stamlari-Rotary
Wileox di (ibbs-Automatic
Eldridge-Two Siool
King-All Types
Specify type ind model of madine and mamufacturer's name.

## TAILOR TYPE MOTOR



Tailor Type Motor

The 'Tailor Type Motor offers to the manufacturer of overalls and shirts and tailor shops a big opportunity to lower over-head and increase production. Attached to the machine without the use of tools and changes any make of any tailor sewing machine into a selfoperating electric. A slight pressure of the foot on the control pedal regulates the speed from 300 to 1800 stitches a minute. It lowers operating cost because it consumes eurrent only when it is sewing. Light, portable and can readily be changed from one machine to anothor. (iuaranted for a year against mechanical and electrical defects.

## DESCRIPTION

## W. E. List

IIoliffast Bracket Typer, 110 ta 120 A.C. or D.C.. . . . . . . . . . $\$ 24.00$
Holdfast Bracket 'lype, Special Voltages.................. . . . 25.50
Sperial Brackotw, 110 to 120 A.C. or D.C.................... 23.00
Spercial Brarkets, Suecial Voltagers........................ . 24.50
T'ailor Trpe Motor, 110 to 120A.C. or D.C.............. 35.00
Tailor 'ype Motor, special Voltages....................... 36.50
Delivery: F. O. B. Factory. Racine, Wis. For warehouse deliveries write nearest bouse.

# WESTERN ELECTRIC <br> Jack Rabbit or Home Motor 



Runs your Sewing Machine

Easy to Attach and Operate. No bolts or brackets.

Sew fast or slow.


Speed Regulator


As a Cream Whipper


As a Grinder


As a Polisher


As a Fan

The greatest labor saver you've ever had in your home. Takes all the fatigue out of ruming the sewing machine, sharpens knives, polishes silverware, whips cream and beats eggs and on hot days brings cooling breezes with its strong fan. Attached to your sewing nachine in a moment. Just slip off the bolt, set the pulley of the motor agsinst the handwheel of the machine and when the plug is attached to the electric light socket it is all ready for sewing any material from the finest to the eonrsest. The pressure of your foot on the control perlal regulates the sjeed from a stitch at a time to 800 a minute. Fconomical in operation, comsuining scarcely more current than an 8 candle power lamp. (iuaranterd for a yar against mechanical or electrical defects.

Fan Attachment: The nickel-plated steel blades are sct in place of the pulley on the motor. A pressure of the fingers sots the guarl in prosition.

Grinder and Polisher Attachment: (iriuler is of best " A " grade carborundum and buffer of 30 ply cotton buff.

Cream Whipper: Finisbed in highly polished aluminum, furnished with two quart glass bowl.

## DESCRIPTION


N. E.

List
Tack Rabhit or IIome Motor, 110 to 120 volt, A. C. or D. C............. . $\$ 23.00$
Jack Rahbit or IItome Motor, Sperial Voltages. . . . . . . . . . . . . . . . . . . . 24.50
Cream Whipper Attachment. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7.50
Fian Attachment. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
('ombination Grinder and ludfer Attachment . . . . . . . . . . . . . . . . . . . . 1.90
Delivery: F. O. B. Factory, lacine, Wis. For warehouse deliveries write nearest house.

## WESTERN ELECTRIC



No. 1 Jeweler's Lathe Motor
No. 2 Jeweler's Lathe Motor


No. 3 Jeweler's Lathe Motor


Portable Electric Grinder

I neressity to every jeweler and wateh repairer. Strong enough to operate any jeweler's bench lathe and still small enough not to he in the way, built in three styles they are the prodnct of a factory with years of experience in small m: tor construction.

No. 1 Jeweler's Lathe Motor is equipuerl with $1-20$ Itorse Power Motor, weight $21 / 2$ pounds, height $5 \frac{1}{2}$ inelhes Reversible at the turn of the switeh. When it is ruming in one direction at high speed a turn of the switch changes it to slow spred in the opposite direction. Will operate on 110 to 120 volts, 2.5 to bio reales. IBe sure to sperify A. ('. or I). (\%

No, 2 Jewelers lathe Motor' This motor is a miversal motor operating on cither . I . ('. or 1 ). ('. ancl the spead is regulated by the cont mod pedal shown in the illustration. A slight pressure of the foot starts the motor and a harder pressure increases the sped. Direction can be reversed by rasing or lowering the carbon brushos. The motor is rated at 1-20 horse power.

No. 3 Jeweler's Lathe Motor. Is practieally the same as the No, 2 motor, exeept that it is a $1-12$ horse power motor and has a larger lasise to take care of its larger size.

## Portable Electric Grinder

Fivery machine shop, fool room and garage needs this grimicr. I special feature is the dustproof bearing caps, which eliminate the possibility of any grit or dirt coming in contact with the high speed nickel babbit buarings. Equipped with any emery where of the best grade carbormand A feed through switel placed wear the grinder enables the oprerator to shat off the power without laving his work. 1-12 Horse I'ower Iniversal motor operating on 104 to 120 volts I. C' or D. C.

DESCRIPTION
Jeweler's Jathe Motor N゙n. 1......................... . . $\$ 21.00$
Jeweler's Lathe Motor No. 2...... . . . . . . . . . . . . . . 27.50
Jeweler's lathe Motor No. 3 ........................ . . . 34 .50
Portable Electric Grinder.. . . . . . . . . . . . . . . . . . . . . . $3: 3.00$

## WESTERN ELECTRIC

## Hair Dryers, Shoe Dryers and Drink Mixers



No. 2 ilair liryer


Shoe Iryer


No. 2 Electric Drink Mixer


No. 1 IIair Iryer

## ELECTRIC HAIR DRYER

Makes shampooing a real pleasure. Dries the heaviest head of hair in a fow moments. Changes from hot to eold blast at the turn of the switch. Light weight, portable and troubleproof. The fan is fully enclosed, eliminating any chance of catehing the hair. The No. 2 Dryer is for ordinary lome use, while the No. 1 is a heavier type for professional use. Operates on 105 to 120 volts A. C. or D. C.

## SHOE DRYER

A time saver for every up-to-date shoe shining partor. Light weight and gives a strong blast of either hot or cold air and is foolproof. Equiphed with universal suppert that fits any type of shoe shining stand. A universal motor operating oin either $\lambda$. ('. or I). ('. 105 to 120 volts.

## CYCLONE DRINK MIXERS

A habor saving device that brings trade to every sodat fountain. Mixes any drink into a smooth creamy consistemy in a fraction of the time taken by any other method and enalles the diepenser to serve other customers while the drink is being mixed. The No. 1 is the original model white the No. 2 has the added feature of a detachable agitator, which can beromoved and rinsed after ead serving. Both styles made in two finishes, niekel and silver.

## DESCRIPTION

## W. F. <br> List

Electric Ilair Dryer, No. 1 Model . . . . . . . . . . . . . . . . \$36.0)
Eilectric Hair Dryer, No. 2 Model. . . . . . . . . . . . . . . . . 24 . ()
Electric Shoe Dryer. . . . . . . . . . . . . . . . . . . . . . . . . . . . 26. 00
Ekectric Drink Mixer No. 1 Model Nickel Finish . . . . 20. 50
Flectric Drink Mixer, No. 1 Model Silver Finish . . . . 3. 50
Electric Drink Mixer, No. 2 Model Niekel Finish. . . . . 3:3.00
Electric Drink Mixer, No. 2 Model Silver Finish . . . . 39.00
Delivery: F. O. B. Factory, Racine, Wis. For warehouse deliveries write nearest house.

No. 1 Electric Drink Mixer


No. 1 Electric Iron

## Western Electric No. 1 Iron

The Western Electric No. 1 Iron has round silver non-corroding removable contacts. The heating elenment is wound with chromium nickel ribbon designed so that heat will be distributed where it will be most effective. The cord is most attractive. Color black and white. The fine copper conductors are stranded, not breakable. Non-kink spring protects the cord at the iron. The handle support is made of one piece of metal, held by two hexagon eap nuts. The handle is of wood, shaped to fit the hand. Finished black. Bolt runs clear through the handle, holding it tight. The base is machine milled and polished. The pressure plate is also machine milled, and holds the elements tight against the bottom of the iron. The plug is composition, liberal in size. The contacts are phosphor bromze. This iron is made in one size only, $61 / 2 \mathrm{l}$ bs., and each is packed in a separate box. six in a standard package. Retail Price List Price List No. Western Electric Iron..... Watts Carton Std. Pkg. Weight Each Each
 Voltage ranges are $95-104,105-114,115-125,190-209,210-229,230-250$ volts. Always specify voltage when ordering.

"American Beauty" Iron

"Little Beauty" Iron

## "American Beauty" Iron

This iron represents the highest art of raking electric flat irons. It is not only a beautiful looking iron, finished in polished nickel, but has every refinement. It is suitable for all around household or laundry work. The service which it gives the user is in every way as perfect as can be given. Sufficient heat is generated and concentrated evenly on the ironing surface without wasteful loss from the top and sides.

The edges and point of the iron are beveled and rounded. This iron is furnished complete with stand, cord, suspension spring, and cord having detachable plug and lamp socket attachment plug. The heating element is guaranted for one year from date of purchase.

Always specify voltage when ordering. Voltage ranges are: $95-104,105-114,115-125,190-209$, 210-229, 230-250.


This little electric iron is perfect for light ironing such as handkerchiefs and laces, and because of its light weight it is most attractive to travelers. Another useful feature of the "Little Beauty" is that curling iron tougs can be slipped into the stand, which comes with every iron, and be heated quickly without fire, soot, odor or danger. It is furnished complete with stand, and cord having detachable composition plug and lamp socket attachment.

Always specify voltage when ordering. Voltage ranges are: 95-104, 105-114, 115-125, 190-209, 210229, 230-250.
$\begin{array}{lllllllllll}3-\mathrm{B} & 57 / 8 & \mathrm{ins} . & 31 / 8 & \mathrm{ins} . & 350 & 3 \mathrm{lbs} & 5 \mathrm{lbs} . & 311 / 2 \mathrm{lbs} . & \$ 7.00 & \$ 10.50\end{array}$
For devices to operate on voltages other than listed add 75 cents to list.


## No. 9, 12 and 16-lb. "American Beauty" Pressing Irons

The No. 9 lb . iron is adapted for heavy laundry work and is used in hotel laundries, ete. The 12 and 16 lb . irons are for light pressing of all kints such as coat work or ladies' tailor work. Always specify voltage when orfering. Voltage ranges $95-104,105-114,115-125,190-229,23(0-250$.

| List No. | Length | Width | Watts | $\begin{aligned} & \text { Net } \\ & \mathrm{H}: \text {. } \end{aligned}$ | Shpg. H.t. | Retail Price Each | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 913 | $7{ }_{10}^{3} \mathrm{ins}$. | $4{ }^{1 / 8}$ ins. | (i) 5 | 9 lbs . | 111/413s. | \$10.50 | \$15.7 |
| 12B | $00^{5} \mathrm{~B}$ ins. | $3{ }_{16}^{56}$ ins. | (12, 0 | 12 lbs | 16 lhs. | 15.00 | 22.50 |
| 16B | 95\% ins. | $3{ }_{16}^{56}$ ins. | (50) | 16 lis. | 20 lbs. | 16.00 | 24.00 |

Furnisherl complete with stand and six foot coml having detachable metal sheathed phig.


## 16, 20 and 24-lb Pressing Irons

The 16 VB and 20 V 13 irons are sometimes called "pant" irons as they are "V" shapod, madetogive off large vohumes of hat and are adapted for heavy work of all kinds.

The 2013 is our most popular pressing iron because it is of the proper size and weight for general all around work of tailors.

The 20IIB is the same size and weight as the 20 B . The only difference is that it is arranged to give off a larger volume of heat, thus being adapted especially for manufacturers.

The $241 I I S$ is the very heavy pressing iron and is especially adapted for use by manufarturers on very heavy work. Furnished with stand and 6 foot cord having detachable metal sheathed plug, but no lamp socket plug, as these irons should not be attached to lamp socket. Made in following voltage ranges: $95-104,10 \overline{5}-114,115-1 \because 5,190-209,210-229,230-250$.

| List No. | Length | Width | Watts | Net Wt. | Shpg. Wt. | Retail Price Each | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16 VB | $81 \%$ ins. | 55' ${ }^{\text {ins. }}$ | 1100 | $16 \mathrm{lhs}$. | 25 lbs . | \$18.00 | \$27.00 |
| 20 VB | 81/2 ins. | $55^{5 / 8}$ ins. | 1100 | 20 ltss | 28 lins. | 19.50 | 29.26 |
| 20B | 11 ins. | $3^{3 / 4} \mathrm{ins}$. | 750 | 20 Hs s. | 25 lbs. | 17.50 | 26.26 |
| 20 HB | 11 ins. | $3{ }^{3} \mathrm{ins}$. | 1000 | 20 lhs. | $25 \mathrm{lls}$. | 18.50 | 27.70 |
| 24 Hl 3 | 11 ins. | 33.4 ins. | 1000 | 24 lbs. | 30 lbs . | 20.50 | 30.76 |


For devices to operate on voltages other than listed and 75 conts to list.


No. 5825 G


## "American Beauty" Toaster

With this utensil two sliers of toast can be made at one time, on the dining-room table. Made of sheet sfer, finished in highly pelished nickel, and copupped with double hase, having eomposition, heat, insulating legs, which prevents marring or scorching the surface upon which it stambs. Furnished with 6 feet of cord, and detachable pluss

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Length | Wirdth | Ilmight |  | Net Weight | Shipping Weight | Reptail Price | W. F. <br> List I'rice |
| No. | Inches | Inches | lnches | Watts | Lhs. | Lbs. | Sach | lach |
| 58254 | 8 | $!$ | 7 | 440 | 1\% | 21 ¢ | \$1,.50 | 89.75 |

Orders should specify voltage. Standard voltages are: $95-104,105-111,11:-121,190-209,210-229$, 230-250)


No. 3320


No. 3310 Stove Parts

## Triangle Lektrik Toaster Stove

With this Toastor Stove of many uses a meal can be prepared right at the dinmg table. The heating coils are phated as shown in the above illust ration, so as to make it easy and convenient to make two slices of toast at a time, one above and one below the heating coils. Or a slice of toast can be made below the heating coils and at the same time a flat bottomed utensil can be placed on top of the Toaster Stove, in which can be made tea, coffee, breakfast food, ete, or eggs may be fried in a skillet placed on the top of the Toaster Stove. It is made of sheet, steel finished in ponished nickel, and is provided with three heats, and insulating legs of fibre, so that the surface upon which the stove rests will not be marred or scorched. Furnished with 6 fect of cord and detachable plugs.

|  | Top |  |  | Shipping | Retail | IV. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Diameter | Height | Weight | Weight | Price | List Price |
| No. | Inches | 1 nches | Lbs. | Lbs. | Each | Each |
| 3320 | (i) ins. | $31 / 2$ | 11/4 | 13. | S5. 50 | \$8.25 |

## Electric Combination Disc Stove

" 5 -in 1"
There are five distinct classes of household service that this deviee will give, any one of whioh ('an be varied in many ways. You can use the Gikillet No. 1 to fry, the Tomster No. 2 to towst, the (iridelle No. 3 for pancakes, the Pot No. 4 to stew and the Dise Stove No. 5 hats a variety of cooking functions.

It has three heat regulations-low, medium and high.
As listed below, it comes complete with all utensils, all ready for use by attachment to an ordinary elertric lampsocket. Furnished with six-foot triple conductor cord (for series multiple three heat comnection) having detachable porcelain phugs.

|  |  |  | Metail | Mist |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| List |  | Max. | Net | Shpg. | Mrice |

Orders should sperify voltage. Standard voltages are: 9.7-109, 110-12\%, 190-209, 200-250.
For devices to operate on voltages other than listed add 7 os cents to list.


No. 2316
Pot Style Percolator


No. 2417
Pot Style Percolator


No. 2326
Urn Style Percolator


No. 2427 and 2429 Urn Style Percolators

## "American Beauty" Percolators

The "American Beauty" percolators come in two styles, plain and fancy. Each of these can he furnished in either the pot or urn type. All devices, both plain and fancy will be supplied with a 6 foot gray silk cord. The standard finish is nickel. They are of heavy copper, polished niekel, lined with pure tin, fittings of aluminum. These devices are equipped with safety fuse plugs. If the temperature reaches a dangerous point, the special safety fuse phag in the base of the device melts open the circuit and saves the heating element from destruction. Plain trays in nickel finish for any of the above can be supplied for $\$ 3.00$ Retail W. E. List, \$4.50.

| List |  | Shipping | Retail Price | W. E. Sist |  |
| :---: | :---: | :---: | :---: | ---: | ---: |
| No. | Capacity | Watts | Weight, Lbs. | Each | Price Each |
| $2316 A-32$ volts | 6 cups | 420 | 5 | $\$ 12.00$ | $\$ 18.00$ |
| 2316 | 6 cups | 420 | 5 | 11.50 | 17.26 |
| 2326 | 6 cups | 420 | 10 | 15.00 | 22.50 |
| 2417 | 7 cups | 420 | $51 / 2$ | 15.00 | 22.50 |
| 2427 | 7 cups | 420 | 10 | 17.50 | 26.26 |
| 2429 | 9 cups | 420 | $101 / 2$ | 19.50 | 29.26 | Orders should slecify voltage. Standard voltages are $95-104,105-114,115-125,215-225,235-245$.


"American Beauty" Chafing Dishes
The design of these chafing dishes is handsome. They are made of heavy spun copper finished in polished nickel, are double timed lined, are equipped with safety fuse plugs which prevent burning out the heating element. They have ebony finished wood handles and with ordinary care will last for years. Arranged for two heats, and furnished complete ready for attachment to any lamp socket, with 6 foot gray silk cord detachable plug. Plain trays in nickel finish, for any of the above can be supplied for $\$ 3.00$. Retail W. E. List. $\$ \mathbf{4} .50$.

| List. <br> List |  |  | Shipping | Retail Price | W. E. List <br> No. | Capacity |
| :---: | :---: | :---: | :---: | :---: | ---: | ---: |

Orders should specify voltage. Standard voltage ranges $95-104,105-114,115-125,215-225,235-245$.

## "American Beauty" Electric Grills

This handsome grill boils, broils, toasts, fries, and performs these operations in a satisfactory manner right on the table. It is made of sheet sicel, finished in polished nickel, has reinforced composition, heat insulating legs which prevent marring and scorching the surface upon which it is placed. It has ebony finished wood handles, and is equipped with a three heat, practically indestructible open coil heating element. Furnished with 6 foot three conductor cord, and detachable plugs.

| List | Diameter |  |  | Retail Price | W. E. List |
| :---: | :---: | :---: | :---: | :---: | ---: |
| No. | At Top | Watts | IIeats | Each | Price Each |
| 3375 complete | $71 / 2$ ins. | $66(j 0$ | 2 | $\$ 10.00$ | $\$ 15.00$ |
| $3375 S$ Stove only | $71 / 2$ ins. | 660 | 3 | 8.50 | 12.75 |

Orders should specify voltage. Standard voltages are $95-104,105-114,115-125,190-209,210-229$,
230-250. SPARE PARTS FOR PERCOLATORS AND CHAFING DISHES
Fuse plugs . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 0.15$. $\$ 0.22$

## "AMERICAN BEAUTY" UTENSILS



Tea Samovar


Tea Kettle


Water Heater

TEA SAMOVAR
Made of heavy copper, lined with pure tin, and finished in highly polished nickel. Furnished with 6 ft. silk cord, detachable phug, reach to use on any lamp socket.

| List |  |  | Tretail | W. E. List |  |
| ---: | :---: | :---: | ---: | ---: | ---: |
| No. | Watts | Capacity | Shipping | Meirht | Price |

## TEA KETTLE

Made of heavy sjun copper, lined with pure tin and finished in highly polished niekel. Furnished with 6 foot silk cord, detachable phag, ready to use on any lamp socket. 5415

500
1 quart
$33 / 4 \mathrm{hs}$.
$\$ 16.00$
$\$ 24.00$ WATER HEATERS
Made of spun copper, finished in polished nickel, the imer surface being heavily timmol. lurnished with cord and detachable phug, fouly to use on any lamp socket.

| $52(05$ | 300 | 1 pint | $21 / 2 \mathrm{lhs}$ | 89.00 | $\$ 13.50$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5215 | 500 | 1 quart | $31 / 2 \mathrm{lbs}$ | 11.00 | 16.50 |

Samovar, tea kettle and water heaters are male in the following voltages: $95-104,105-114,115-125$, $190-209,210-229,230-250$. Always specify vultage when ordering,


Furnished complete with 10 foot cord and detachable plug. Voltage 100 to 125 only.

|  |  | Shipping | Shipping | Retail | W. E. List |  |
| ---: | :---: | :---: | :---: | :---: | ---: | ---: |
| List |  | Weight | Weight | Price | Price |  |
| No. | Watts | Capacity | Lach | $(1$ Doz.) | Fach | Each |
| 2510 | 200 | 1 pint | $21 / 2 \mathrm{lbs}$ | 28 lbs. | $\$ 5.00$ | $\$ 7.50$ |

## RITE-HEAT GLOWER STOVE

Casing is made of sheet steel, heavily nickeled, and highly polished. Furnisher with 6 foot cord, detaehable plug, ready to use on any lamp socket. Made in the following voltages: 95-109, 110-125, 190)-219, $220-250$. Orders should specify voltage.

| I.ist |  | - -Siz |  |  | 崖 | Weight- | Retail Price | W. E. list |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Watts | Top | Height | Weight | Single | Case of 12 | Each | Price Each |
| 3350 | 500 | 5 ins. st. | $35 / 8$ ins. | $11 / 4 \mathrm{lls}$. | 2 lbs . | $231 / 2 \mathrm{ll}$ s. | \$5.00 | 87.50 |

This utensil frios, toasts, grids, stews, and boils. Furnished complete with all utensils, 6 foot triple conductor cord, detarhable phag, ready to ase on any lamp sueket. Specify choiee of voltage: 95-104, $105-114,115-125,190-209,210-229,230-250$.

| List |  |  | Heat | Net | Sh | ight | Retail Price | W. E. Ijst |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Watts | Diameter | Reg. | Weight |  | (1/2 Doz.) | Each | Price Each |
| 3310 | 600 | (6ins. | 3 | $81 / 4 \mathrm{lbs}$. | $99^{3} 4 \mathrm{lbs}$. | $581 / 211 \mathrm{~s}$. | \$17.50) | \$26.26 |
| 3210 | 450 | 4 ins. | 1 | 2 lis. | $21 / 2 \mathrm{lhs}$. | 20 lis. | 6.00 | 9.00 |
| 3221 | 550 | 5 ins. | 1 | $23 / 4 \mathrm{lbs}$. | $31 / 2 \mathrm{lbs}$. | 20 llis. | 7.00 | 10. \%) |
| 3231 | 600 | ${ }^{6}$ ins. | 1 | $31 / 2 \mathrm{lbs}$. | $41 / 2 \mathrm{lbs}$. | 20 lbs. | 9.00 | 13.50 |

For deviees to operate on other than listed add $\$ 0.75$ to list.


No. 1815


No. 111


No. 112


No. 601


No. 2720

| List |  |  |
| :--- | ---: | :--- |
| No. | Width | Length |
| 2720 | 9 ins. | 12 ins. |
| 2730 | 9 ins. | 18 ins. |
| 2740 | 12 ins. | 18 ins. |
| 2750 | 12 ins. | 24 ins. |
| 2770 | 18 ins. | 24 ins. |
| 2790 | 18 ins. | 30 ins. |

Voltages: Always syecily voltage when ordering.
Made in following voltage ranges: 95-104, 10:-114, 115-125, 190-209, 210-229, 230-250. Furnished with 5 foot cord and No. 812 three heat porcelain switch for series multiple connection.

FLEXIBLE CORDS

| List |  |  | Retail Price | List Price <br> No. | Size |
| :--- | :---: | :---: | :---: | ---: | ---: |

For deviees to operate on voltages other than listed add 75 cents to list.


Every important part of this heater is instantly and easily removable and replaceable. No tools of any kind are necessary. The wire guards can be snapped on and shapped off and the reflectors thus made easily aceessible for dusting and polishing. The heaf ing clements, or burners, slip out just as easily and the reflectors may, if desirel, be removed in a moment's time. The reflectors are adjustable and ean be arranged to throw the heat in any direction desired. Thes features are all important and exelusive.

The heater can be used anywhere where an ordinary lanp soeket is available. There are no special connections to make and it is light and easily portable and thus ean be carried from rom to rom and used wherevor desired. Finished in antigue eopper. Furnished eomplete with 8 feet of eord, lamp socket attachment phug and detachable plug for connection to the heater.

It is substantially constructed and will, with ordinary usage, give many years of satistactory service.

## PACKED 6 HEATERS TO A SHIPPING CASE

| List | Wattage | Carton | Mfrs. | W. E. |
| :--- | :---: | ---: | ---: | ---: |
| No. | of Each Burner | Weight | List Each | List Each |
| 6215 | 330 | 4 lhs. | $\$ 12.50$ | $\$ 17.50$ |

## "AMERICAN BEAUTY" HEATERS



N゚ย. 1735


Portable Type

## "American Beauty" Electric Radiant Radiators

The heating element consists of two rows of small cone-shaped buttons of resistance wire, and when they become hot they glow like a bed of live coals. liandes are provided so that the radiator may be easily carried. Furnished with 8 foot brown silk cord, detachable composition phug and attachment phag. The legs are removable, Bronze is stantarl finish.

|  | Bronz |  |  | Retail | II. E. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Iist | Size |  | Weight | Price | List Price |
| No. | Inches | Watts | Lhs. | Jach | liach |
| 1210 | $10 \times 11 \times 8$ | $1: 00$ | $61 / 4$ | 80.00) | \$13.50 |
| $\begin{gathered} \text { Oril } \\ 10 \bar{j}-1 \end{gathered}$ | huould spereif $90-209,210$ | oltage <br> 0. | Stanlar | voltages | 95-104, |

## "AMERICAN BEAUTY" LUMINOUS RADIATORS

Heat is generated in large frosted lamps. These lamps can be for aither 2 of or 500 watts, making the three lamp type consume 1500 watts. Threestyles of these radiators are made, two of which are portable. The three lamp reflecting type, and three lamp, round type. The latter trpe is designed for use where heat is desired on all sides. Nos. 6020 and 6125 are regularly finished in brush brass. (Other finishes to order. Trpe No, $\mathrm{b}_{2} 35$ is for permanent installation in the wall, taking the place of any ordinary grate. This type is finishe! in white enumel, and dimensions are syecial.

| List |  | Shipping Weight | Retail Price | W. E. <br> List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Lhs. | Jach | Each |
| 61195 | 3 lamp round. | 363 | £25.00 | \$37.50 |
| (0)20 | 2lamp sumare | 37 | 20.00 | 30.00 |
| (623) | Wiall trux. | 7 () | 45.00 | 67.50 |

( Orders should speciîy voltage.

## ADJUSTABLE AIR HEATERS, NAVY TYPE One Heat Only

Designed to meet the demand for a durable heater which ean be used as a portable heater. Lags are adjustable for either floor or wall use. Nade of sterl with malleable iron castings, with heating units of flat sheathed type. each for a small wattage, and arranged to be easily removable. Finished in black japan, and provided with terminal connection only. All heaters are equipped with heat reflector.

| ListNo. | Height | Length | Width | $\begin{aligned} & \text { Net } \\ & \text { W't. } \end{aligned}$ | Shepg. WI. | Watts | Retail Price | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Price |
|  | Ins. | Ins. | Ins. | L.ds. | Lbs. |  |  | Fach |
| 4712 | 123. ${ }^{\text {a }}$ | 153\% | 516 | 83.4 | 13'2 | 750 | \$13.50 | \$20.24 |
| 4722 | 123 | 153 | $81 \%$ | 9 | 1:3/4 | 1000 | 15.00 | 22.50 |
| 4730 | 1519 | 153 | 51 | 1! ! | 171/ | 1500 | 17.50 | 26.26 |
| 4735 | 151 | 29 | \% $1 \%$ | 16 | $23^{3}$ | 2000 | 24.00 | 36.00 |
| 4750 | 151 | 29 | 5! ${ }^{2}$ | 1!1! | $301 \%$ | 3000 | 30.00 | 45.00 |

Orders should sperify viltage. Standard voltages are 95-104, $105-114,115-125,190-209,210-29,220-250$.

## ELECTRIC PORTABLE AIR HEATERS

Jinisherl in black japan, with prlished nickel trimmings. The No. 4512 is made for single heat only and furnished with a single hatat smap) switch. All others are for three heat or equipped with a three heat indicating switch.

| Lis* |  |  |  |  |  | Net | Approx. | Retail | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Heats | Watts | Height | Length | Width | Wt. | Shpg. Wt. | Price | Price |
| 4512 | 1 | 1600 | 13 ins. | 1stins. | $8^{1}$. ins. | 20 ll s s. | $30 \mathrm{lhs}$. | \$18.50 | \$27.7if |
| 4530 | 3 | 1500 | 19 ins. | $24 \%$ ins. | $81 \%$ ins, | -5 llos. | 4 s ll s s. | 22. 50 | 33.76 |
| $45 \% 5$ | 3 | 2000 | 19 ins. | 24 ins. | $81 / 2 \mathrm{ins}$. | 28 llss . | 48 lbs. | 27.00 | 40. 50 |
| $45+5$ | 3 | 2500 | 19 ins. | 241/2 Ins. | $81 / 2$ ins. | $28 \mathrm{lhs}$. | 48 lbs . | 31.50 | 47.26 |
| 45.5 | 3 | 3000 | 19 ins. | 30 ins. | $101 / 2 \mathrm{ins}$. | 5:3 lis. | $70 \mathrm{lhs}$. | 37.00 | 55,50 |
| 45; 0 | 3 | 4000 | 19 ins. | 30 ins. | 1012 ins. | 531 1!s. | 70 lbs . | 42.00 | 63.00 |

Made in following voltage ranges: $95-104,105-114,115-125,190-209,210-229,230-250$.


Industrial Type Disc Heater
These heaters are especially adapted for use in laboratories, or for industrial purposes. The maximum surface temperature is approxumately 750 degrees $F$. They are equipped with a combination terminal box rearly for direct connection to line wires. Furnished with three heat indicating snap switch, and terminal connection.

This type dise stove is suitable for use in laboratories, for industrial purposes, or for heavy work in the household or kitchen.

| List | Maximum |  | Net | Shpg. | Retail Price | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Watts | Diameter | Weight | Weight | Each | Each |
| 3240 | 1000 | 8 ins. | $15 \mathrm{lhs}$. | 20 lls . | \$19.00 | \$30.40 |
| 3245 | 1400 | 10 ins . | $191 / 2 \mathrm{lbs}$. | $20) \mathrm{lbs}$. | 23 (0) | 36.80 |
| 3250 | 1800 | 12 ins. | $23 \mathrm{lls}$. | $32 \mathrm{lhs}$. | 27.5) | 44.00 |

Plug and cord not included in prices. See cords Nos. 852 and 854 and phag No. 806.
Made in following voltage ranges: $95-104,105-114.115-125,190-209,210-229,230-250$.

## "American" Electric Glue Pot

They entirely eliminate the fire hazard. Always keep the glue contents at the same even temperature and eonsistency. Outer vessel is of cast iron thoroughly galvanized before painting. The controlling switeh or receptacle is connected at the end of a six foot cord and may be attached to the wall or elsewhere. Are arranged for three heats with multiple winding.

| List | Maximum |  |  | Shpg. | Retail Price | List Price |
| :--- | :---: | :--- | :---: | :---: | ---: | ---: |
| No. | Watts | Capacity | Heats | Wt. | Each | Each |
| 181 | 440 | 1 quart | 3 | 18 lhs. | $\$ 20.00$ | $\$ 30.00$ |
| 182 | 570 | 2 quarts | 3 | 2.5 lbs | 23.00 | 34.50 |
| 145 | 880 | 4 quarts | 3 | 50 lbs. | 35.00 | 52.50 |

Furnished with 6 foot cord and No .812 three-heat porcelain switch for series multiple connection.
Standard voltage ranges: $05-104,105-114,115-125,100-209,210-229,230-250$.


Electric Soldering Iron

## "American Beauty" Electric Soldering Iron

The element core and the shank of the copper tip are heat treated, and will not readily corrode or oxidize. The heating element is of nickel chromine ribbon, insulated with pure mica. Copper tips are of standard size rods, $3,8,5 / 8$ and $7 / 8$ inches in diameter. This soldering iron is of a very simple construction, and is made on the unit system so that every part is casily removable, replaceable and interchangeable.
Made in standard voltage ranges: 95-104, 105-114, 115-125, 190-209, 210-229, 230-250.

| List No. | Diameter of Tip | Outside Diameter Overall | Length Overall | Watts | Weig | Net Retail Each | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3138 | $3 / 8 \mathrm{in}$. | $11^{3} \mathrm{ins}$. | $12 \frac{1}{16}$ ins. | 100 | 18 oz . | \$8.00 | \$12.00 |
| 31.58 | $5 / 8 \mathrm{in}$. | $1{ }^{1 / 8}$ ins. | $12 \frac{3}{32}$ ins. | 20) | 26 o\%. | 11.0 | 16.50 |
| 3178 | $7 / 8 \mathrm{in}$. | $1 \frac{1}{2} \mathrm{ins}$. | $13 \frac{1}{3}$ ins. | 300 | 42 oz . | 13.00 | 19.50 |

For deviees to operate on voltages other than listed add 75 cents to list.
"AMERICAN BEAUTY" ACCESSORIES


## Detachable Cords

| Color | For I'se On |
| :---: | :---: |
| Gold amd blark |  |
| Gold ant blark | $3 \mathrm{~B}, 6, \underline{2} \mathrm{~B}$ |
| Gold and black |  |
| Red and black |  |
| Red and black | 3RII, 6RIL |
| Ihed and lhatk |  |
| No. 14 blark | OP and all |
| No. 14 bliatk | Leavier irons |
| l3rown silk | 6210 |
| lfrown silk |  |
| IRed and grren |  |
| licrland mremil | 3320 |
| Gray silk | Tonsters, |
| Gruy silk | Persolators, |
| Med and black | Water hoaters, |
| Red and black |  |
| Gray silk | Chafing dishes, |
| Gray silk | Combination dise |
| Jfed and blark | and other clovices |
| Red and black | haviug 3 heats |


| Description | Net Retail Each | List <br> Price |
| :---: | :---: | :---: |
| ¢ Cord compıete. . . . . . . . . . | Each | Each |
| Cord and 803 pleg only | 1.50 | 2.25 |
| Six foot cord oni. | 1.0) | 1.50 |
| Cord complete | 1.75 | 2.6.3 |
| $\left\{\begin{array}{c}\text { Cord and } 80!\text { plur only }\end{array}\right.$ | 1.50 | 2.25 |
| Six foot cord onls. | 1.00 | 150 |
| Cord ant 806 phay | 2.0 .5 | 3.08 |
| Cord complete. | 1.15 | 1.73 |
| Cord and 80.3 pleg only | 1.7.5 | 2.63 |
| Wight foot cord anly | 1.25 | 1.94 |
| Cord complete, ind plugs. | 1.75 | 2.6:3 |
| Twin, six foot ecral only | 1. (H) | 1. 50 |
| Cord complote, su7 plues | $2 .(1)$ | 3.00 |
| Twan, six foot cord only. | 1.2.7 | 1.98 |
| Cord romplete, six plues | 1.75 | 2.63 |
| Corin complete, 807 plugs. | 1.00 | 1.50) |
| Triple six forot cord onlys. | $\because .40$ | 3.69 |
| Corde complete, sal mings. | 1. 60 | 2.40 |
| Triple sis foot card only. | 1. 40 | 3.15 |

Heating Elements


[^27]

By means of these Regulators or Rhcostats, the temperature of the irons or other devices can be regulated from full heat to just enough to keep them warm. Nade in following voltage ranges, $95-125,1!00-250$. A separate rheostat is necessary for each iron or device.

| List No. | Size |  | Height | No. of Heats | For Devices Consuming not more than |  | Shpg. W't. | Net Retail Fach | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 400 | 10 | ins. | $101 / 2 \mathrm{ims}$. | 5 | 400 watts | 9 | lbs. | \$8.30 | \$13.60 |
| 401 | 10 | ins. | $101 / 2 \mathrm{ins}$. | 5 | 600 watts | 9 | lbs. | 8.50 | 13.60 |
| 402 | 10 | ins. | $101 / 2$ ins. | 5 | 800 watts | 9 | lbs. | 9.80 | 15.20 |
| 403 | 10 | ins. | 101/2 ins. | 5 | 1000 watts | 9 | lhs. | 9.50 | 15.20 |

## Three-heat Plug and Receptacle Switches

Adapted only for use with devices containing two heat elements arranged for serics mult iple connection. Switches are made entirely of porcelain with heavy brass contacts. May be used for open or concealed wiring, and have a capreity of twenty amperes at 250 volts.

| Net Retail | Price |
| :---: | :---: |
| Wach | Each |
| \$2. 20 | \$3.38 |
| 1.5) | 2.2 |
| .75) | 1.1 |

Detachable Composition Plugs and Parts


For Use on $3 \mathrm{~B}, 61 / 213$, (i2 11 ) and Luminous Radiators

3 RH
© I KH

4530 to 4560
4630 to 4660
All irons 9 B
and heavier 4510, 451:2 4610,4612, $3240,3215,3250$ Toasters lercolators, etc. Specify red or (Black

| Description |  |
| :---: | :---: |
| Plug comp | Each |
| Composition parts only | Per Pair |
| Contact sleeves only | Per Pair |
| Non-kink spring and bushing only | Each |
| Assembling screws and nuts. | Per Set |
| l'lug complete | Wach |
| ('omposition parts only | Tach |
| Contact sleeves only | Each |
| Non-kink spring and bushing only | Eac |
| Assembling screws and n | Per Set |
| Plug complete. | Fac |
| Composition parts only | P |
| Contact sleeves only | Per P |
| Non-kink spring and bushing only | Each |
| Assembling screws and nuts. | Per Set |
| I'lug complete. . . . . . . | Each |
| Porcelain parts only | Per Pa |
| Contact sleeves only | Per Pa |
| Non-Kink spring and bushing only | Each |
| Assembling screws and nuts. | Per Set |
| Plug complete. | Each |
| l'orcelain part only | Each |
| Contact sleeve, washer and spring | Each |
| Small spring only . | Each |


| Each List Price |  |
| ---: | ---: |
| $\$ 0.50$ | $\$ 0.75$ |
| .30 | .45 |
| .20 | .30 |
| .10 | .15 |
| .05 | .08 |
| .50 | .75 |
| .30 | .45 |
| .20 | .30 |
| .10 | .15 |
| .05 | .08 |
| 1.75 | 2.630 |
| 1.00 | 1.50 |
| .60 | .90 |
| .20 | .30 |
| .10 | .15 |
| 1.00 | 1.50 |
| .50 | .75 |
| .40 | .60 |
| .15 | $.2: 3$ |
| .05 | .08 |
| .25 | .38 |
| .15 | .23 |
| .15 | .23 |
| .05 | .08 |



No. C: 18 Electric Range

## List No.

| List N |  |  | Tit.L.bs. | Mirs. List | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fhectrice liange, plair hack enatn |  | 220 | \$121.00 | \$201.60 |
| 48 N | Fhectrie lange, nickeled |  | 220 | 131.00 | 209.60 |
|  | Llevalend IVarming Shelf, extra |  |  | 7.50 | 12.00 |
|  |  | C-18 | 37 |  |  |
| Flowr | Space | $18 \times 2.5$ ins. | $26 \times 291 / 2$ |  | $1 / 2$ ins. |
| Meight | t of cooking surface | $355^{16} \mathrm{ins}$ |  |  | $4 \text { ins }$ |
| Area of | of cooking knrface | $25 \times 14 \mathrm{ins}$. | $281 / \times 2 \cdot 1$ |  | 1 í |
| Dimen | asion of oven. | $18 \times 12 \times 12$ ins. | $8 \times 18 \times 12$ |  |  |
| Height | with wamming shelf | 58 ins. | 58 i1 |  | in |

## Type 27-Two Burner

Two hurner cooking surface. entumeled spitsher.

Two burner oven. Finish: either jlain enamel or nickeled, with white

| entu | led spisisher. | Wt. | Mfrs. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| List |  | Lhis. | List | Each |
| 27 | Whetrie lange, plain hatk enamme | 1.50 | \$80.75 | \$129.20 |
| $27 \times$ |  | 150 | 85.75 | 137.20 |
|  | Levatel W:arming Shelf, extra, either typ |  | 7.00 | 12.00 |

## Type 30-Three Burner

Sunc: st was above three bumer cooking surface, two burner oven. Finish: fither phan chamed or nickeled, with white conameled splashor.


## Type 40-Four Burner



No. 40 Electric Range

Same sive as above four burner cooking surface. Two burner oven. Finish: cither plain enamel or nickeled, with white enameled splasher.

| List |  | Wt. Lbs. | Mfrs. List | List Price |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Each |  |
| 40 | Flectric Range, phain black |  | \$10:\% 0) |  |
| 40N | Flectric Range, nicke Elevated wamine extra, cither type. |  | d. . 195 | 110.00 | 176.00 |
|  |  | shelf, | 7.50 | 12.00 |
|  |  | 27 | 30 | 40 |
|  |  | Ins. | Ins. | lns. |
| Floor space, |  | $18 \times 25$ | $3+1 / 4 \times 20$ | $27 \times 291$ |
| Ficight of cooking surface. |  | 34 | 31 | 31 |
| Areat of coting surface. .Dimensions of owen. |  | $25 \times 14$ | $33 \times 141 / 4$ |  |
|  |  | $18 \times 12 \times 12$ | $18 \times 18 \times 12$ | $18 \times 18 \times 12$ |
| Dinnensions of oweh. . . .Ineight with wamme sholl |  | 58 | 58 | 58 |

All ranges are equipped with a lamp sorket attachment. If not wanterl, derluct $\$ 1$.fid from list price. All the above ranges, exepet wo burner rames, will be furnished with one 4 -ineh 500 watt 3 heat burnor for small base utensils, pereolators, ete. This small burner will rephere the left-hand rear $8 * 0$ watt burner. Ikanges are made in the following voltages: 95 , 100, 105, $110,115,120,125$ and 220. Always specify voltage when ordering and he sure there is not a variation of over 3 per cent between the lime and range voltage.

Delivery: F'. O. B. Fictory, ('hieago, IIl. For warehonse deliverios write nearest houso

## Westert Electric ELECTRIC RANGES



No. 47 Electric Range

## TYPE 47 THREE BURNER

Three burner cooking surface, two burner oven, warming closet, outside elevated warming shelf, outside lower shelf

Finish: either black enameled or nickeled, with white enameled

| splasher |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List |  | Wt. | Mfrs. | List Price |
| No. |  | Lbs. | List | Each |
| 47 | Flentric range, plain black enamel | 400 | \$117.75 | \$188.40 |
| 47 N | Electric range, nickeled. | 400 | 122.75 | 196.40 |

TYPE 56 FOUR BURNER
Four burner cooking surface, two burner oven, one burner broiler, warming closet outside warming shelf, outside open shelf.

Finish: either black enameled or nickeled, with white enameled splasher.

| 56 | Electric range, plain black enamel | 435 | $\$ 143.75$ | $\$ 230.00$ |
| :--- | :--- | :--- | ---: | ---: |
| 56 N | Electric range, nickeled......... | 435 | 150.00 | 240.00 |

## TYPE 50 FOUR BURNER

Four burner cooking surface, two burner oven, warming closet, outside elevated warming shelf, lower open shelf.

Finish: either black enameled or nickeled, with white enaneled splasher. W.E.

Wt.
No. Lectic Lias.
50) Electric range, plain black enameled. . . . . . . . . . . . . . . . . . . . . . . . . . . 365

50 N Electric range, nickeled.

Mrrs. List Price
İst Each
$\$ 128.25 \quad \$ 205.20$
$133.25 \quad 213.20$

## TYPE 60 SIX BURNER

Six burner cooking surface, oven broiling compartment, warming closet, and two outside shelves. Finish: either black enameled or nickeled, with white enameled splasher.

| 60 | Electric range, plain | 470 | \$164.75 | \$263. 60 |
| :---: | :---: | :---: | :---: | :---: |
| 60 N | Electric range, nickeled. | 470 | 170.00 | 272.00 |

DIMENSIONS
$47 \quad 56$
$271 \frac{1}{2} \times 51$ ins. $321 / 2$ ins.
$231 / 2 \times 27$ ins.
$18 \times 18 \times 12$ ins. 58 ins.
$211 / 4 \times 20 \times 9 \mathrm{ins}$
$271 / 2 \times 51$ ins. $321 / 2$ ins.
$231 / 2 \times 27$ ins.
$18 \times 18 \times 12$ ins. 67 ins.
$211 / 4 \times 20 \times 9$ ins

50
$271 / 2 \times 51$ ins.
$321 / 2$ ins.
$231 / 2 \times 27 \mathrm{ins}$
$18 \times 18 \times 12$ ins
58 ins.
$211 / 4 \times 20 \times 9$ ins.

60
$271 / 4 \times 591 / 2 \mathrm{ins}$
$321 / 2$ ins.
$231 / 2 \times 35$ ins.
$18 \times 18 \times 12$ ins.
67 ins. $211 / 4 \times 20 \times 9$ ins.


No. 33

Three burner cooking surface, two burner oven. lower open shelf
Finish: either black enameled or nickeled, with white enameled splasher.
W. E.

| List | Wt. | Mfrs. | List Price |
| :--- | :---: | :---: | ---: |
| No. | Lbs. | List | Each |
| 33 | Electric range, plain black enamel | 230 | $\$ 103.75$ |
| $33 N$ | $\$ 166.00$ |  |  |
|  | Electric range, nickeled... . . . . . . | 230 | 108.75 |

## TYPE 44 FOUR BURNER

Four burner cooking surface, two burner oven, lower open shelf, Finish: either black enameled or nickeled, with white enameled splasher
$44 \quad$ Electric range, plain black enamel $\quad 260 \quad \$ 117.50 \quad \$ 188.00$

## DIMENSIONS

|  | 33 | 44 |
| :---: | :---: | :---: |
| Floor space. | 291/2 $\times 301 / 2 \mathrm{ins}$. | $301 / 2 \times 321 / 4 \mathrm{ins}$. |
| Height of cooking surface. | $311 / 2 \mathrm{ins}$. | $311 / 2 \mathrm{ins}$. |
| Area of cooking surface. | $221 / 4 \times 261 / 4 \mathrm{ins}$. | $241 / 4 \times 261 / 2 \mathrm{ins}$. |
| Dimension of oven. | $18 \times 12 \times 12 \mathrm{ins}$. | $18 \times 18 \times 12$ ins. |
| Height of stove | 65 ins . | 65 ins. |

Ranges are made in the following voltages: $95,100,110,115,120,125$ and 220 . Always specify voltage when ordering and be sure there is not a variation of over 3 per cent. between the line and range voltage. All ranges are equipped with a lamp socket attachment. If not wanted, deduct $\$ 1.60$ from list price. Delivery: F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

## Western Electric ELECTRIC RANGES

TYPE C-2-TWO BURNER
Two burner cooking surface, two burner oven, clevated outside warming shelf and outside lower shelf.

Finish: Plain black enamel, with white enameled splasher.


| List | Weight | Nifrs. | List Price |
| :--- | :---: | :---: | ---: |
| No. | Lbs. | List | Each |
| ('-2 | Flectric range, plain black enamel 240 | $\$ 86.00$ | $\$ 137.60$ |

## TYPE C-4-THREE BURNER

Same style as above, three burner cooking surface, two burneoven, clevated outside warming shelf and outside lower shelf.

Finish: Plain black enamel, with white enameled splasher.

| List |  | Weight | Mifrs. |
| :--- | :---: | :---: | :---: |
| No. | List Price |  |  |
| C- | Lbs. | List | Each |
|  |  | $\$ 161.60$ |  |

## TYPE C-3-THREE BURNER

Same as C-4, but has a smaller oven, three burner cooking surfare, two burner oven, elevated outside warming shelf outside lower shelf.

| List |  | Weight | Mirs. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Lbs. | List | Each |
| ( -3 | loloetric range, plain black enamel | 200 | \$9\%.00 | \$153.60 |

DIMENSIONS

|  | C 2 | $C 4$ | $C 3$ |
| :--- | :---: | :---: | :---: |
| Flonr space............ | $26 \times 361 / 2$ | $20 \times 491 / 2$ | $26 \times 43$ |
| Height of cooking surface. | 34 | 34 | 34 |
| Area of cookingsurface. . | $23 \times 18$ | $223 / 4 \times 241 / 2$ | $223 / 4 \times 241 / 2$ |
| Mimension of oven. | $18 \times 12 \times 12$ | $18 \times 18 \times 12$ | $18 \times 12 \times 12$ |
| Ifeight of warming shelf.. | 54 | 54 | 54 |

## TYPE C-17-TWO BURNER

'Two burner cooking surfare, a detachable oven without burners of its own fits snugly over the cooking surface. Plain black enamel finish.

| List |  | Weight | Mfrs. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Lbs. | List | Each |
| ( -17 | Electric range, without oven. | 47 | \$24.00 | \$38.40 |
| ( -176 | Flectric range, with oven. | 90 | 39.00 | 62.40 |
| ()-17 | ()ven only .......... | 5 | 15.00 | 24.00 |

All ranges are equipped with a lamp socket attachment If not wanted, deduct $\$ 1$. 10 from list, price. All the above ranges except two buner ranges will be furnished with one 4 -inch 500 watt 3 -heat burnor for small bave utensils, percolators, ate. This small burner will replace the left-hand rear $8(0)$ watt burner.

Ranges are mate in the following voltages: 95, 100, 105, 110 $115,120,125$ and 220 . Always specify voltage when ordering and be sure there is not a variation of over 3 per cent. between the line and range voltage.

## JUNIOR No. 6 RANGE

An electrical range for children, its six burners will actually cook and bake, with every range is furnished free four nickle plated cooking utensils and a cook book in language children can under-


Junior Range No. 6 (Height 15 Inches) stand. Current consumption 500 watts.


All runges are made in the following voltages: 95, 100, 105, 110 , $115,120,125$ and 220 . Always specify voltages when ordering and be sure there is not a variation of over 3 per cent. between the line and range voltage.

All ranges are equipped with a lamp soeket attachment. If not wanted, deduct $\$ 1.60$ from list price.

Delivery F. (). 13. Factory Chicago, Ill. For warehouse deliveries write nearest house.

## Western Electric ELECTRIC OVENS



Nos. PO-35 and PO-45


These ovens are portable, occupy but little space and are designed for all round service. They are constructed of stell, with cast-iron legs. Equipped with one top and one bottom burner and a broiler attachanent.

| List | TYPE PO-35 |  |  | W. F. |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Wt. | MIfr's. | List Price |
| No. |  | Lbs. | List | Each |
| PO-35 | Filectrie oven, plain blark |  |  | 8720 |
| $\mathrm{P} \mathrm{O}-35 \mathrm{~N}$ | Electric oven, nickelerd. | 10) | $47.30)$ | 76.00 |
| TYPE PO-45 |  |  |  |  |
| $]^{3} \mathrm{O}-45$ | Wlectric oven, plain black chamel | 125 | \$17.70 | \$76.00 |
| $\mathrm{PO}-15 \mathrm{~N}$ | İlecticoven, nickled.. | 125 | $5(1.10)$ | 80.00 |
| DIMENSIONS |  |  |  |  |
|  |  |  |  | PO-45 |

Insinle moasurenents.
$18 \times 12 \times 12$ ins. $18 \times 16 \times 12$ ins. TYPE PO-9
A portable oven large enough for two pies, two loaves of braid. small roasts, ete., one burnor, two adjustable ratcks, cord and plag, Floor spuce, $17 \times 15$ inches; height, $153 / 4$ inches; inside dimensions $9 \times 11 \times 11$ inches.
P()-9 Buty and door dill
black cnamol; cornors,
legs, and doorsujpurt, nickel-plated.
$5.5 \quad 820.00$
$\$: 30.00$

## TYPE 1015

Similar to ahove, hut laving no heat umit of its own, for use with No. 10 sinale electrie hot plate from which it gets its loat, Inside dimensions, $8 \times 10 \times 111$ '́ inches; combined height, 17 inches; black mammel, nidkut trim.
1015 Purtable oven, one arljust-
able rack........... $35 \quad \$ 15.00 \quad \$ 22.50$
TYPE 1511
Simila to type 1015, exeret, that it is designed for No, 15 two burner lout plate, from which it grots its hoat. Inside dimensions, $8 \times 17 \times 11^{1} \frac{2}{2}$ inches. Combined height, 19 inches; nickel finish on linck enamel.
1.jll Portatile overn, one aljustalble rats

## Electric Plate and Food Warmer TYPE PW-15

Equiphed with two lurners, one on each side, and three switches, black emanel finish, niekel trimmerl. Insidedimensions, $30 \times 20 \times 17$ inches.

$$
W . F
$$

$\begin{array}{ccr}\text { List No, } & \text { Mifr's List. } & \text { List lrice Fach } \\ \text { PlV-1.) } & \text { Es.j.(1) } & \$ 136.00 \\ \text { Hotel Type Electric } & \text { Toaster } \\ & \text { TYPET-316 } & \end{array}$
IIas a rapacity of sixteen slicos. Eanippord with two triys, one above and onc below the heat unit. Finished in buack emamel throughout. Outside dinuensions, 22 $\times 21 \times 15$ inch's. 15 ch tohtiting rack measures, 8 : 181,2 inches.

| Inst | Wit. | Mir's. | List Price |
| :---: | :---: | :---: | :---: |
| No. | 1.hs. | List | Ea $h$ |
| T-316 | 6.5 | \$60.00 | \$96.00 |

Panges and ovens are mate in the following voltagw $05,100,105,110,115,120,125$ and 220. Alwavs specify voltage when orkerma, and be sure there is not a variation of uver '3 per cent. between the line and rage voltage.


## ELECTRIC OVENS




No. 150

## Western Electric <br> Bake Ovens

These ovens have groven to give better results than fuelovens. Especially adapted for hotels, bakeries, restaurants, etc. They are clean and compact, and have the advantage of perfect control ot the heat supply. They are heavily insulated and radiate practically no hest. They occupy about one-fifth of the spate required by brick ovens of the same mapacity. In these ovens there is an absolutely ideal beat distribation. Instead of placing the heating elements in the bottom and lepending on an uncertain and variable circulation of air the heat has been distributed for even baking through all parts of the article being cooked. In these ovens heat is more perfectly controlled, correctly applied aud more uniform than in any other type in use, including the standard brick ovens. The body of these ovens rests on a substantial angle iron frame. The outside is of galvanized iron. The insible, which is entirely separate, is black steel. Won't it pay to eliminate ashes, smoot, soot, or the fumes of gis from your baking process, heat at the throw of a switclh, heat that you can turn off the instant you are throngh, heat that is positively uniform and perfectly distributed, bake bread almost automatically and without attention.

|  | No. 1-Lb. Loaves |  |  |  |  |  | W. |  | H. |  |  |  | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 150 | 30 | 3 | 3 | 18 | 27 | 10 | 26 | 33 | 63 | 41/2 | 800 | 4 |  |
| 175 | 40 | 4 | 4 | 18 | -7 8 | 13 | 26 | 33 | $66^{5}$ | $41 / 2$ | 900 | 5 |  |
| 200 | 60 | 6 | 3 | 37 | 27-8 | 20 | 45 | 33 | 63 | 51/2 | 1050 | 7.3 | $\square$ |
| 215 | 80 | 8 | 4 | 37 | 27 8 | 27 | 45 | 33 | (it) | 51/2 | 1250 | 10 | - |
| 220 | 120 | 12 | 3 | 37 | 53 8 | 41 | 47 | 60 | 6.4 | $61 / 2$ | 1250 | 1.5 | E.e. |
| 300 | 180 | 18 | 3 | 37 | 80 9 | 61 | 47 | 90 | ¢7 | $61 / 2$ | 6000 | 23 | 를 |
| 315 | 270 | 27 | 3 | 51 | S0\|9 | 90 | 64 | 90 | 67 | 8 | 9000 | 32 | 䫆 |
| 400 | 400 | 40 | 2 | 74 | $132 \quad 10$ | 138 | 84 | 1.42 | 7.4 | 9 | 10009 | 50 |  |
| 415 | 600 | 60 | 4 | 56 | 1134.10 | 208 | 122 | 1:4 | $7 \cdot 1$ | . . | 13000 | 75 |  |

[^28]
# Western Electric <br> ELECTRIC WATER HEATER, RANGE AND GRIDDLE 



Electric Water Heater No. WH2003


Kitchenette Range C-1


Electric Fryins Griddle


Electric Water Heater No. WHi 750

List
No.
 WII 750 Continuous service, 700 W . single heat, no switeh, 2 wire. . . . 110 20 lhs. 18.00 S2. 80

## Kitchenette Range

The IVestern Flectric Kitchenette Range is designed for one, two and three room spartments. For cabinet or "In-a-wall" type kitchen.

Equipment. It has two surface burners and a medimm sized oven. The right sufface burner consumes 500 watts and the left 1,100 watts. The oven has a top and bottom burner, each consuming 600 watts. The top burner is used for broiling. Total connected load, 2.920 watts.


## Electric Frying Griddle

This griddle is made expressly for frying fish, eggs, bacon. chops, steaks, etc., and also for use as a cake griddle. It is solidly constructed of steel and cast iron, and supported on four nickel-plated legs. Dimensions, $18 \times 18$ inches; height 6 inches. The maximum current consumption is 3 K.W.

Mrrs
list
$\$ 60.00$
W. F. List Price $\$ 06.00$

345


Western Electric " 10 " Hot Plate


## Electric Hot Plates

No. HP20 Three-burner Hot Plate. I las a cooking surface $14 \times 321 / 2$ inches, stands $6 \frac{1}{2} 2$ inehes high. Equipped with one 500 , one 1100 and 1500 wat $t$ rurner.

No. HP10 Hot Plate. Single burnor cooking surfare $101 / 2 \times 101 / 2$ inehes, stands $41 / 2$ inches high.
No. 15 Two-burner Hot Plate. Cooking surface $10 \times 21$ inches, stands $6 \frac{1}{2}$ inches high. IRight-hand burner 1500-750-375 watts. Left-hand burner $880-140-230$ watts.

| List |  | Wit., | Mirs | Price Each |
| :--- | :--- | :--- | ---: | ---: | ---: | ---: |
| Nickel |  |  |  |  |

All hot plates can be supplied in white enanel finish at $\$ 1.60$ list additional per burner.


No. Ts5 Table Stove TS " 5 " Table Stove


Coffee Urn Heater

No. TS5 Table Stove. Has cooking surface $7 / 1 / 2$ inches diameter. Heating unit $61 / 2$ inches diameter. Height: 5 inches.
Current consumption, 660 watts. Accessories, attachment cord and plug switch is situłated right on cord

| A single heat, fed through switch. |  | Wt. | Mirs. | W. F. List |
| :---: | :---: | :---: | :---: | :---: |
| List No. | Finish | Lbs. | List | Price Each |
| 'Ts. Table stove, single heat, 660 T ' | Nickel | 5 | \$9.00 | \$12.60 |


| Ts. | Table stove, single heat, 660 | Nickel | 5 | 89.00 | 812.60 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TS53 | Table stove, three heat, 660 W. | Nicked | 5 | 10.50 | 14.70 |

## Coffee Urn Heater

The Western Flectrie coffee urn heater is made in three sizes. Capacities 1500-1100-800 watts, each having three heats.

['Il-8 Coffer urn heater, 880 watt size, dia. $6 \frac{1}{2}$ inches, height 10 inches... $13 \mathrm{lbs} \quad 11.00 \quad 17.60$


## Radiators

| List | Wattage | Length | Width Base | Height | Wt. | Heat | Mfrs. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | List |
| No. |  | Inches | Inches | Inches | Lbs. |  |  | Price |
| AH101 | 1000 | 15 | 9 | 171/2 | 12 | 1 | \$14.00 | \$22.40 |
| AH103 | 1000 | 15 | 9 | 171/2 | 121/2 | 3 | 16.50 | 26.40 |
| AH203 | 2000 | 15 |  | 231/2 | 141/2 | 3 | 22.50 | 36.00 |
| AH303 | 3000 | 191/2 | 9 | 23 | 231/2 | 3 | 30.50 | 48.80 |
| AH403 | 4000 | 221/4 | 9 | 23 | 25 | 3 | 34.50 | 55.20 |

Nos. AH101 to AIE20.3 are furnished with seven feet of cord without aftachment plug. Single heat raliators are not equipped with a switch.

Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.

Western Electric Radiator

# Western Electric SUNBEAM INCANDESCENT LAMPS 



15,25 and 40 Wiatis 25 Watts $105-125$ Volts $105-125$ Volts


T－10


C－35
100 Watts 105－125 Volis


S－14
5 Watts 50－65 Volts 2 后 and 5 Watte 71 and 10 Watts 2 and 10 Watt
$105-125$ Volts $105-125$ Volts
（Siぬt Lanup）


S－14 $10 \frac{1}{2}$ and $12^{1 / 2}$ Volts （Sign Lamp）
MAZDA LAMPS FOR ORNAMENTAL LIGHTING SERVICE－ROUND AND TUBULAR BULBS 110 TO 125 AND 220 TO 250 VOLTS

| Size of Lamp | Lumens per Wiatt | WattsperSpherical（＇．I． | Type <br> and <br> Size <br> Bulb | Diam． <br> Bulb <br> Inches | Maximum Overall Length Inches | Base Regularly supplied | Stel． <br> 1 lkg ． Quantity | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \mathrm{n} \\ & \text { Watts } \end{aligned}$ |  |  |  |  |  |  |  | （＇lear | 1 Frosted |
| $\dagger 110$ to 125 Volt Round（Mazda B Lamps） |  |  |  |  |  |  |  |  |  |
| 15 | ¢．7！ | 1． 1.3 | ＊（i－25 |  |  |  |  | \＄1．00 | 81．10 |
| 25 | 9.31 | 1.35 | ＊（ $\mathrm{x}-25$ | $3{ }^{1} 8$ | 43 | Med．screw | 0 | \＄1．00 | \＄1．10 |
| 40 | ${ }^{9} .45$ | 1.33 | $(\mathrm{r}-25)$ |  |  | Med．serew |  |  |  |
| $\begin{array}{r}60 \\ 100 \\ \hline\end{array}$ | 10．23 | 1．23 | $\mathrm{Cl}_{\mathrm{G}-30}^{\mathrm{C}-35}$ | 3 4 4 | 518 | Med．serew | 24 | 1.40 2.00 | 1204 |
| $\ddagger 200$ to 250 Volt Round（Mazda B Lamps） |  |  |  |  |  |  |  |  |  |
| 25 | 7.71 | $1.6: 3$ | （i－25 | $31 / 8$ | 431 | Med．surew | 50 | 81.20 | \＄1．30 |
| 50 | 8．3：3 | 1．i3 | （ $1-25$ | 31\％ | $4^{3}$ | Med．sorew | 50 | 1. | 1.30 |
| $\dagger 110$ to 125 Volt Tubular（Mazda B Lamps） |  |  |  |  |  |  |  |  |  |
| 25 | 9.11 | 1．3N | T－10 | 11／4 | 57\％ | Med．serew | 100 | \＄1．10 | 1． 0 |
| 25 | 8.73 | ． | T－8 |  | 12 | Med．serew | 50 | 2.00 | 2.20 |
| 40 | 9.04 |  | 1－8 |  |  |  |  |  |  |


$\dagger 1$ amps of voltages of 100 to 109 and 126 to 130 indusive are not regularly carried in stock，but may be obtained at the same list prices．
$\ddagger$ damps of voltages of 200 to 219 and 2510200 inclusive are not regularly varried in stork，but may be obtained at the same list prices．
MAZDA B LAMPS FOR SIGN LIGHTING SERVICE STRAIGHT SIDE BULBS－ 11 TO 1212,55 TO 55 AND 110 TO 125 VOLTS

| Volts | Size of <br> Lamps in Watts | Lumens per Watt | Watts per Spherical C．P． | Type and Sizo Bulb | Diam． Bulb Inches | Max． <br> Overall <br> Length <br> Inches | Base <br> Regularly Supplied | Std． I＇kg． （enty． | List I＇rice |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | Clear | Frosterd |
| Straight Side（Mazda B Lamps） |  |  |  |  |  |  |  |  |  |  |
| ＊11 | $21 \%$ | 8.27 | 1．5） | S－14 | $i^{3}$ 年 | 4 | Med．screw | 100 | 80．54 | \＄0．60 |
| 1212 | 5 | 8.61 | $1.46)$ |  |  |  |  |  |  |  |
| to | 5 | 7.26 | 1.73 | S－1．t | 13.4 | 4 | Med．serew | 100 | ． 60 | 66 |
| 65 |  |  |  |  |  |  |  |  |  |  |
| $\ddagger 110$ |  |  |  | S－14 | $1^{3 / 4}$ | 4 | Med．serow | 100 | ．60 | （i0 |
| to 125 | 10 | 7.26 | 1.73 | S－14 | $13 / 4$ | $\pm$ | Mert．serew | 10 | ， 0 | ． 6 |

＊Lamps of voltages of $10,10^{\frac{1}{2}}$ and 133 are not regalarly carried in stock，but may be obtained at the same list priees．
$\dagger$ hamps of voltages of 00 to $5 t$ inclusive are not regularly carried in stock，but may be obtained at the same list priece．
$\ddagger$ lamps of voltages of 100 to 109 and 126 to 130 inclusive are not regularly carried in stock，but may be obtained at the same prices．


MAZDA LAMPS FOR STANDARD LIGHTING SERVICE－STRAIGHT SIDE AND PEAR－SHAPE BULBS．${ }^{*} 110$ TO 125 VOLTS

| Size of Lamp in Watts | Lumens per Watt | $\begin{gathered} \text { Watts } \\ \text { per } \\ \text { Spherical } \\ \text { ('.P. } \end{gathered}$ | $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { Size } \\ & \text { Bulb } \\ & \hline \end{aligned}$ | Diam． lualh Inches | Maximum <br> Overall <br> Length <br> Inches | l3ase <br> Rerularly <br> Supplied | Std． Pkg． Quantity | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | （＇lear | Frosted |
| 110 to 125 Volts Straight Side（Mazda B Lamps） |  |  |  |  |  |  |  |  |  |
| 10 | 7.52 8.55 | 1.677 | S－17 | 21／8 | 45／8 | Med．screw | 100 | \＄0．（i） |  |
| 15 | 8.55 9.17 | $1.47\}$ | S－17 | 21／8 | 4／8 | Med．screw | 10 | \＄0．06 | \＄0．66 |
| 40 | 9.45 | $1.373\}$ | S－19 | 238 | $51 / 4$ | Med．screw | 100 | （6） | ． 66 |
| 50 | 9.52 | 1.32 | S－19 | $2^{3} 8$ | 51／4 | Mem．screw | 100 | ． 60 | 66 |
| （i） | 9.74 | 1.29 | S－21 | 238 | 5112 | Mod．serew | 100 | ． 70 | ． 78 |
| 100 | 10.13 | 1.24 | S－30 | $33^{3}$ | $7^{\text {\％}}$ | Mod．sorrw sokt | 24 | 1.40 | 1.54 |
| 110 to 125 Volt Pear－shape（Mazda C Lamps） |  |  |  |  |  |  |  |  |  |
| 75 | 11.53 | 1.09 | 12 ${ }^{\text {a }}$ | $23 / 4$ | $61 / 8$ | Med．screw | 50 | \＄1．40） | \＄1．54 |
| 100 | 12.57 | 1.00 | PS－25 | $31 \%$ | $71 / 8$ | Mied．serew | 24 | 2.20 | 2.20 |
| 150 | 13.66 | 0.92 | ア以－25 | 314 | $71 / 8$ | Med．screw | 24 | 3.30 | 3.40 |
| 200 | 14.61 | 0.86 | P心－30 | 33 | 8338 | Med．screw | 24 | 4.40 | 4.54 |
| 300 | 16.11 | 0.78 | P心－35 | $4^{3} 8$ | $0^{3} 4$ | Mog．screw | 24 | 6.50 | 6.70 |
| 400 | 15.32 | 0.82 | P－40 | 5 | 10 | Mog．screw | 12 | 8.60 | 8.90 |
| 500 | 16.11 | 0.78 | PS－40 | 5 | 10 | Mog．strew | 12 | 9．40 | 9.70 |
| 750 | 16.98 | 0.74 | P心－52 | （0） $1 \times$ | $1: 3^{3} 8$ | Mog．screw | 8 | 13.00 | 13.50 |
| 1000 | 17.95 | 0.70 | PS－52 | $61 / 2$ | 1：33／8 | Mog．serew | 8 | 15.00 | 15.50 |

220 to 250 Volt Straight Side（Mazda B Lamps）

| 25 | 7.62 | 1.65 | S－19 | 23 \％ | $51 / 4$ | Med．serew | 100 | \＄0．70 | ． 76 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 8.43 | 1.49 | S－19 | 238 | $51 / 2$ | Med．screw | 100 | ． 70 | ． 76 |
| 100 | 9.04 | 1.39 | S．－30 | $3{ }^{3}$ | $71 / 8$ | Med．screw sekt | 24 | 1.70 | 1.81 |
| 120 | 9.45 | 1.33 | S－35 | $4^{3} 8$ | 531 | Med．screw sekt | 24 | 2.60 | 2.80 |
| 250 | 10.47 | 1.20 | S－40 | 5） | 10） | Med．serew sekt | 12 | 4.40 | 4.70 |
| 220 to 250 Volt Pear－shape ¢Mazda C Lamps） |  |  |  |  |  |  |  |  |  |
| 200 | 12.57 | $1.01)$ | PS－30 | $33 / 4$ | $83 / 8$ | Med．serew | 24 | \＄4．80 | \＄4．94 |
| 300 | 13.66 | 0.92 | PS－35 | $43 \%$ | $93 / 4$ | Mog．screw | 24 | 7.80 | 8.00 |
| 400 | 14.61 | 0． 86 | PS－40 | 5 | 10 | Mog．serew | 12 | 10.20 | 10.50 |
| 56 | 14.78 | 0.85 | 19－40 | 5 | 10 | Mog．screw | 12 | 11.20 | 11.50 |
| 750 | 15.32 | 0.82 | PS－52 | 61／2 | $133 \%$ | Mog．serew | 8 | 13． 40 | 15．90 |
| 1000 | 16.11 | 0.78 | PS－52 | $61 \frac{1}{2}$ | 133\％ | Mog．srrew | 8 | 1s．00 | 18．50 |

[^29] obtained at the same list prices．

Lamps of voltages of 200 to 219 and 251 to 260 inclusive are not regularly carried in stock but may be ohtained at the same list priess．
t（ ）rders for Mazda（ lamps should specifically state if lamps are for use in other than pendent position．
$\ddagger$ Medium screw Skirted Base（the lamp having maximum overall length of $101 /$ inches and light eenter length $71 / 3$ inehes）will he supplied at same price if demanded but attention is called to the fact that the use of Mazda C lamps of this wattage in Medium Screw Sockets is contrary to the Rules of the L＇nder－ writers．


PS－35 250 C．P．


S－241／2 60,80 and 100 C．P．PS－40 400 C．P． 15 Amps．


S－19 40 Watt
PS－25 100 Watts MAZDA C LAMPS FOR USE IN SERIES ON STREET LIG̈HTING CIRCUITS－STRAIGHT SIDE：

| Amperss | Nominal Rated （．P． | Total <br> Lumens |  | Size <br> Bulb | Jiam． Bulb Inches | Overall Length Inches | Base Regularly Supplied | stal． Pkg． Qnty． | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | Clear | Frosted |
| 5.5 | 60 | 600 | 8.5 | $5-24 \frac{1}{2}$ | $3_{16}^{16}$ | 714 | Mog．screw | 50 | \＄2，00 | \＄2．10 |
|  | 80 | 800 | 10.8 13 | S－24\％${ }^{1}$ | $3{ }_{16}^{16}$ | 71／4 | Mog．screw | 50 | 2.40 | 2.50 |
|  | 100 250 | 1000 2500 | 13.05 29.7 | PS－35 | 316 43 | 93 | Mog．screw | 24 | 4.70 | 4.90 |
|  | 400 | 4000 | 47.4 | P＇s－40 | 58 | $10^{\circ}$ | Mog．screw | 13 | 8.00 | 8.30 |
| 6.6 | 60 | 600 | 7.1 | S－241\％ | ${ }_{3}{ }_{16} 1$ | 71／4 | Mog．screw | 50 | 2.00 | 2.10 |
|  | 80 | 800 | 9．1） | S－241／2 | $3 \frac{1}{16}$ | 71 | Mog．screw | 50 | 2.40 | 2.50 |
|  | 100 250 | 1000 2500 | 10．9 ${ }_{2} 3.5$ | 1＇S－35 | 316 43 | 93. | Mog．screw | 24 | 4.70 | 4.90 |
|  | 400 | 4000 | 37.1 | 1 | 5 | $10^{-1}$ | Mog．serew | 12 | 8.00 | 8.30 |
|  | （i）0 | 60000 | 55.7 | 1「ぐ10 | 5 | 10 | Mog．serew | 12 | 10.00 | 10.30 |
| 7.5 | 60 | 600 | 6.4 | $5-2416$ | $3{ }_{16}^{16}$ | 71／4 | Mog．screw | 50 | 2.00 | 2.10 |
|  | 80 | 800 | $\left.\begin{array}{l}8.0 \\ 9.6\end{array}\right\}$ | S－24！ | $3 \frac{1}{16}$ | 7114 | Mog．screw | 50 | 2.40 | 2.50 |
|  | 105 | 15\％ | ${ }_{19.6}^{9.6}$ | 18－35 | 438 | 93.4 | Mog．screw | $\because 4$ | 4.70 | 4.90 |
|  | 400 | $40 \times 10$ | 30.5 | Ps－40 | 5 | 10 | Mog．screw | 12 | 8.00 | 8.30 |
|  | 600 | 6000 | 45.8 | I＇s－40 | 5 | 10 | Mog．screw | 12 | 10.00 | 1030 |
| 15.0 | 400 | 4000 | 15.3 | 1＇S－40 | 5 | 121名 | Mog．screw | 12 | 8.00 | 8.30 |
| 20.0 | $\{600$ | 6000 | 15.5 | I＇S－40 | 5 | 12\％ | Nog．screw | 12 | 10.00 | 10.30 |
| 20.0 | $\{1000$ | 10000 | 25.9 | IS－40 | 5 | $12^{1} \frac{1}{2}$ | Mog．screw | 12 | 12.00 | 12.30 |

Orders for lannes of $250 \mathrm{C} . \mathrm{P}^{\prime}$ ．and higher should specifically state if they are to be burned in other than pendent position．The light center length of the 15 and 20 ampere Mazda C；lamps shown above is $91 / 2$ inches for burning in pendent position and $81 / 4$ inches where ordered for burning tip up．
＊Mediun screw skirted base also surpplied at same price，except the 400， 600 and 1000 C．P．lamps，which are supplied only with Mogul screw base as indicated．

Mazda lamps for street series service selected for use on multiple compensators or for any other purpose where a single voltage or a range of voltages closer than stated are required will take a special price which may be obtained upon application．
MAZDA LAMPS FOR USE WITH COUNTRY HOME LIGHTING OUTFITS－STRAIGHT SIDE AND PEAR－SHAPE BULBS－16 CELL（28－32 VOLTS）

| Labeled <br> Watts Nominal | Lumens per Watt | Watts per Spherical C．P． | $\begin{gathered} \text { Type } \\ \text { and } \\ \text { Size } \\ \text { Bulb } \\ \hline \end{gathered}$ | Diam． <br> Bulb <br> Inches | $\begin{gathered} \text { Naximum } \\ \text { Overall } \\ \text { Length } \\ \text { Inches } \\ \hline \end{gathered}$ | Rase Regularly Supplied | Std． <br> Pkg． <br> Quantity | List Prices |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | Clear | Frosted |
|  |  |  |  |  |  |  |  |  |  |
| 16 Cell（28－32 Volts）Mazda B Lamps |  |  |  |  |  |  |  |  |  |
| 5 | 8．73 | 1.44 | S－11 | 13／4 | 4 | Med．screw | 100 | \＄0．60 | S0． 69 |
| 10） | 9.17 | 1.37 | S－17 | 21\％ | 4，8 | Mord．screw | 100 | ． 60 | ． 616 |
| 20 | 9.74 | 1．29） | S－17 | 218 | $45 \%$ | Mord．screw | 100 | ． 60 | ． 610 |
| 40 | 10，1：3 | 1．2t | S－19 | $23 / 8$ | 51／4 | Med．screw | 100 | ． 60 | （jt） |
| 16 Cell（28－32 Volts）Mazda C Lamps |  |  |  |  |  |  |  |  |  |
| $5)$ | 13．36 | （）． 90 | Ps－30 | 21／2 | 51／2 | Med．selew | 50 | 4 1． 40 | 31.50 |
| 75 | 14.78 | 0． 8.8 | PS－2\％ | $23 / 4$ | 61／8 | Mod．surew | 50 | 1.60 | 1．70 |
| 100 | 15.71 | 0.80 | PS－35 | $31 / 8$ | 71／8 | Mord．smew | 24 | 2.40 | 2.411 |

Notr：The watts per horizontal c．p．of the Mazda $B$ lanus are as follows： 5 watt 1．14， 10 watts 1.16 and 40 watt 0.98 ．


G-181/2
10, 15, 20 and
25 Watts 25-34 and 50. 60 Volts


S-17
10. 15 and 20 Watts $25-34$ and 50-65 Volts


G-25
100-150 Watts 30-34 Volts


G-25
72 Watts $51 / 2$ and 6 Volts


G-30
40 Watts
25-34 and 50-65 Volts
75 Watts
30-34 and 60-65 Volts

## MAZDA LAMPS FOR TRAIN LIGHTING AND LOCOMOTIVE HEADLIGHT SERVICE STRAIGHT SIDE AND ROUND BULBS-51/2 AND 6, $30-34$ AND $60-65$ VOLTS

The 30-34 and 60-65 volt lamps are generally operated from locomotive headlight outfits or 16 and 32 cell battery lighting systems respectively. These lamps are used for ordinary train lighting service.

The 51/2 and 6 and 30-34 volt concentrated filament Mazda C lamps are used for locomotive headlight service and are also operated from locomotive headlight outfits or battery lighting systems.

| Total Lumens | Labeled Watts (Nominal) | Lumens per Watt | WattsperSphericalC.P. | $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { Size } \\ & \text { Bulb } \end{aligned}$ | Diam. Bulb Inches | Max. Overall Length Inches | Base <br> Regularly <br> Supplied | Std. <br> Pkg. <br> Qnty. | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | Clear | Frosted |

$\ddagger$ 30-34 Volts Straight Side (Mazda B Lamps)

| 85 | 10 | 9.17 | 1.37 |  |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 125 | 15 | 9.59 | 1.31 |  |  |  |  |  |  |
| 175 | 20 | 9.74 | 1.99 |  |  |  |  |  |  |
| 250 | 25 | 9.74 | 1.29 |  |  |  |  |  |  |
| 500 | 50 | 17 |  | $21 / 8$ | $45 / 8$ | Med. serew | 100 | $\$ 0.60$ | $\$ 0.66$ |

§60-65 Volts Straight Side (Mazda B Lamps)

| 85 | 10 | 8.73 | 1.44 | S-17 | 21/8 | 45/8 | Med. screw | 100) | \$0.60 | \$0.6it |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 125 | 15 | 9.11 | 1.38 \} |  |  |  |  |  |  |  |
| 175 | 20 | 9.24 | 1.36 |  |  |  |  |  |  |  |
| 250 500 | 25 50 | 9.24 10.13 | 1.361 | S-19 | 238 | 51/4 | Med. screw | 100 | .60) | . 16 |
| 50 | 50 | 10.13 | 1.241 |  | - 8 | 514 | 2el. seren | 1 | . | . |

$\ddagger 30-34$ Volts Round (Mazda B Lamps)

| 85 | 10 | 8.73 | 1.44 | ( $\mathrm{r}-181 / 2$ | $2 \frac{5}{16}$ | $33 / 4$ | Med. screw | 100 | 80.80 | \$0.86 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 125 | 15 | 9.11 | 1.38 |  |  |  |  |  |  |  |
| 175 | 20 | 0.24 | 1.36 |  |  |  |  |  |  |  |
| 250 | 25 | 9.24 | 1.36 | (1-181/2 | ${ }^{2} \frac{5}{16}$ | $33 / 4$ | Med. screw | 100 | . 80 | 86 |
| 500 | 50 | 10.30 | 1.22 | (i-30) | $33 / 4$ | 611/4 | Med. sc. sk. | 24 | 1.40 | . 54 |

§60-65 Volts Round (Mazda B Lamps)

| 85 | 10 | 8.32 | $1.5 i$ |  |  |  |  |  |  |
| ---: | ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 125 | 155 | 8.73 | 1.44 |  |  |  |  |  |  |
| 175 | 20 | 8.85 | 1.42 |  |  |  |  |  |  |
| 250 | 25 | 8.85 | 1.42 | $(i-181 / 2$ | $2 \frac{5}{16}$ | $33 / 4$ | Med. serew | 100 | $\$ 0.80$ |
| 500 | $5-181 / 2$ | $2 \frac{5}{16}$ | $33 / 4$ | Med. screw | 100 | 80.86 |  |  |  |

* $51 / 2$ and 6 Volt Round Mazda C Lamps for Locomotive Headlight Service


30-34 Volt Round Mazda C Lamps for Locomotive Headlight Service

|  | 100 | 12.57 | 1.00 | (i-25 | $31 / 8$ | $43 / 4$ | Med. screw | 50 | \$3.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 150 | 13.96 | 0.90 | ( $\mathrm{x}-25$ | 31/8 | $43 / 4$ | Med. screw | 50 | 4.00 |  |
|  | 250 | 15.71 | 0.80 | + $\mathrm{Ci}-30$ | $33 / 4$ | $51 / 2$ | Med. screw | 24 | 6.00 |  |

*The 36, 72 and 108 watt lamps (nominal ratings) consume 6,12 and 18 amperes respectively.
$\dagger$ Can be burned in any position except within 45 degrees of vertically, base up.
$\ddagger$ Lamps of voltages of 25 to 29 inclusive are not regularly carried in stock but may be obtained at the same list prices.
§Lamps of voltages of 50 to 50 inclusive are not regularly carried in stock but may be obtained at the same list priees.

The reduction factor of the Mazda 13 lamps in straight side bulbs is 79 per eent.; in $\mathrm{G}-181 / 2 \mathrm{bulb}, 81$ per cent. and in G-30 bulb, 82 per cent.

# Western Electric 

## SUNBEAM INCANDESCENT LAMPS



P．S．22，25， 30 and 40， $75,100.150,200$ and 500 Watts

## MAZDA B LAMPS FOR ELECTRIC STREET RAILWAY SERVICE－STRAIGHT SIDE BULBS

| Nominal Watts | Amperes | Lumens per Watt | $\begin{gathered} \text { Watts } \\ \text { per } \\ \text { Spherical } \\ \text { C.P. } \end{gathered}$ | Type <br> and Size Bulb | Dian． 13ulb Inches | Max． Overall Lensth Inches | Base <br> Regularly Supplied | Std． Pkg． Onts | dist Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | Clear | rosted |

5 in．Series－ $525,550,575,600,625$ and 650 Volts

| 23 | 0.214 | 8．73 | 1.44 | S－19 | $23_{3}^{3}$ | $51 / 4$ | Merd．serew | 100 | \＄0．60 | \＄0．66 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 36 | 0.342 | 8.91 | 1.41 | S－19 | 23. | 51 | Med．screw | 100 | .60 | ． 66 |
| 56 | 0.519 | 0.52 | 1.32 | S－21 | 25\％ | 512 | Med．screw | 100 | 70 | ． 78 |
| 94 | 0.863 | 9.89 | 1.27 | S－241官 | $33_{1 \%}^{1 \%}$ | 71. | Merl．se．sk． | 50 | 1.40 | 1.54 |

Only the above lamps，which are selected for amperes and for one－fifth the voltage on which they are labeled for use in series，will be supplied at these pries．

These Mazda lamps are selected for amperes and habelea for use five in series on the 525，550，575，600， （i25 and 650 volt circuits ordinarily used by electrie st reet railway companies．

As consilerable voltage fluctuation is sometimes found in this class of cireuits，these lamps are only manufactured for $t$ voltage gromps and ware should be taken to see that the voltage group of lamps supplied rorresponds to the mean average voltage found on the circuit．

## MAZDA C－2 LAMPS，PEAR－SHAPE BULBS， 110 TO 125 VOLTS

The following Mazda C－2 lamps are designeo to produce light of a quality which will ordinarily make colors appear as in the light of day．The bulbs of these lamps are made of a special blue ghass to filter out the excess red and yellow light rays，and for this reaton they are ealled Mazda C－2 lamps to distinguish them from clear bulb Mazda（＇lamps．

| Size of |  | Watts | Type | Maximum |  |  | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lamps in Watts | per Watt | Spherical C．P． | and Size <br> Bulb | Length Inches | Regularly Supplied | I＇kg． Quantity | Clear | Frosted |
| 75 |  |  | 12－23 | あり | Med．screw | 50 | \＄1．10 | \＄1．80 |
| 100 | ．．． |  | 1 $\mathrm{S}_{5}-25$ | 7！ | Merd．serew | 24 | 2.50 | 2.70 |
| 150 |  |  | P－2\％ | 71 | Merl．serew | 21 | 3.80 | 4.00 |
| 200 |  |  | P－30 | $8^{3}$ | Mred．serew | 2.4 | 5.00 | 5.28 |
| 300 |  |  | IN－3； | 93. | Mog．surew | $\cdots$ | 7．51） | 7.90 |
| 500 |  |  | 12－40 | 10 | Mos．sirew | 12 | 11.00 | 11.60 |

Lamps of voltages of 100 to 109 and $1: 6$ to 130 inclusive are not regularly earried in stock but may be obtained at the same list prices．

# Western Electric SUNBEAM INCANDESCENT LAMPS 


(i-25
100-150 Watts 30-34 Volts


C-25
72 Watts
512 and 6 Volts


S-17 and 19
20. $30,40,50$ and 60 Watts Gen Type


S-19
60 Watts
Mill Type Gem Type


G-25
50 Watts Gem Type

## MAZDA C LAMPS WITH, CONCENTRATED FILAMENTS FOR FOCUSING PURPOSES ROUND BU゚LBS 5 亿 AND 6, 30 TO 34 AND 110 TO 125 VOLTS

| Size of <br> Lanip <br> in <br> Watts | Lumens per Watt | Watts per Spherical C. P. | $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { Size } \end{aligned}$ | Diam. Bulb Inches | Naximum Overall Length Inches | liase Regularly Supplied | Std. Pkg. Quantity | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Clear | Fros |


| 100 | 12.57 | 1.100 | (1-25 | 31/8 | 5 | Med. screw | 50 | \$3.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +2i0 | 15.71 | 0.80 | (i-30 | 334 | 51\% | Med. serew | 24 | 6.40 |  |


| *51/2 and 6 Volt Round Mazda C Lamps for Locomotive Headlight Service |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 36 | 14.78 | 0.85 | (1-181/2 | $2{ }^{\frac{5}{16}}$ | $33 / 4$ | Med, serew | 100 | \$2. 70 |  |
| 72 | 15.71 | 0.80 | (1-25 | $31 \%$ | $43 / 4$ | Med. screw | 50 | 3.20 |  |
| 108 | 16.76 | 0.75 | (i-30) | 338 | 57\% | Mog. screw | 24 | 3.80 |  |

30 to 34 Volt Round Mazda C Lamps for Locomotive Headlight Service

| 100 | 1.3 .57 | 1.00 | $\mathrm{G}-25$ | $31 / 8$ | $43 / 4$ | Med. screw | 50 | 83.00 | $\ldots .$. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 150 | 13.96 | 0.90 | $(3-25$ | $31 / 8$ | $43 / 4$ | Med. serew | 50 | 4.00 | $\ldots .$. |
| 250 | 15.71 | 0.80 | $8(i-30$ | 33 | $51 / 2$ | Med.srew | 24 | 6.00 | $\ldots .$. |

*The $36,7^{2}$ and 108 wat tamps (nominal ratings) consume 6,12 and 18 amperes respectively,
§Can be burned in any position exeept within 4 ) degrees of vertically, base up.
$\ddagger$ This lamp may he supplied without extm charge fitted with Thskirted Mogrul Serew Base, giving a light eenter length of $31 / 2$ inches and a maximum overall length of $57 / 8$ inches.
$\dagger$ tamps of voltages of $10(0)$ to 109 and $12(j$ to 130 inchasive are not regularly carried in stoek but may be obtained at the same list prices.

## LAMP PRICE SCHEDULE G-1

Gem Lamps for Standard Lighting Service, Straight Side and Round Bulbs, 110 to 125 Volts

| Size of Lamp $\ln$ Watts | Efficiency W.I', C. | Type and Si\%e Bulh | Diam. Bulb Inches | Maxinum Overall Length Inches | Base <br> Regularly <br> Supplied | Std. J'kg. Quantity |  | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Our Stel. and Shpg Quantity | Minimum Number |  |  |
|  |  |  |  |  |  |  |  | Clear | Frosted |


| 20 | $4.00)$ | S-17 | $21 / 8$ | $41 / 2$ | Med. screw |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3) | 3.001 | S-18 | 21/8 | 41/2 | Med. screw | 250 | 200 | \$0.44 | \$0.49 |
| $1)$ .00 | 2. 260 | S-19 | 23/8 | 51/8 | Med. screw | 250 | 200 | 4 | 45 |
| 60 | $2.50)$ |  |  |  |  | 250 | 20 | .44 | .45 |


| 10 | 1 | 2.6 | 1 | S-19 | I | 23/8 | 1 | $51 / 8$ | 1 | Med. screw \| | 250 | 1 | 200 |  | 0.44 |  | 0.49 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\dagger 110$ to 125 Volt Round |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | 1 | 2.5 | 1 | *(a-2\% | 1 | $31 / 8$ | 1 | 45\% | 1 | Med. serew I | 100) | \| | 10) |  | 80.54 |  | 30.60 |

*The 50 watt round bulb Gem lamp is regularly supplied in (G-25 bult but ean be supplied in G-181/2
 $\ddagger$ amps of voltages oi 100 to 109 and 126 to 130 inclusive are not regularly carried in stock but may be ohtained at the same list priers.

The prices given above cowrer lamps with a tip unless otherwise indicated; for tipless lamps the additional charge is 10 per cent, on (iem lamps.

For anehoring filaments to the bulb in (iem lamps, exeept in the ease of such lamps as are regularly standardized with bulb anchored filaments, an aldidional eharge of \$0. Of list, for each anehor shall be rade.

The charge for etching letters or designs on all sizes of Gem lamps is $\$ 0.001 / 4$ Net eash, subjeet to no discount.

# Western Electric SUNBEAM INCANDESCENT LAMPS 




G-6. 8 and 10 Sidelight Rear or Speedometer
3 Cell 6-8 Volts


C-12 and $161 / 2$ Meadlight Mazda $B$
3 Cell 6-8 Volts

MAZDA B MINIATURE FLASHLIGHT LAMPS
Fitted with Miniature Screw Base (Style 600)

| Deseription and T'se | $\begin{aligned} & \text { Ratin } \\ & \text { Volts } \end{aligned}$ | poraring <br> mps <br> Amperes | Type and size Ifull) | Diam. <br> Bulb <br> Inche.s | Maximum (Jverall lengeth lnches | Unit I'kg. Quty. | T.ist Price Clear |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *For Two Cell Flashlight Batteries |  |  |  |  |  |  |  |
| Fhat end opal baek bulb for case type battery . . | $\left\{\begin{array}{l}2.5 \\ 3.5\end{array}\right.$ | 0.35 0.25 | FEF-33/4 | 㨞 $\frac{1}{3}$, | 13 | 10 | 80.30 |
| Round plain buib for tubular type battery | $\left\{\begin{array}{l}2.7 \\ 2.9\end{array}\right.$ | 0.35 0.35 | (1-31/2 |  | 18 | 10 10 | . 30 |
| $\dagger$ For Three Cell Flashlight Batterics |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Round plain bulb for aase or tubular type | $\int_{3}^{3.8}$ | 0.35 0.35 | (1-31/2 | ${ }^{18}$ | $1{ }^{18}$ | 10 | . 30 |
| battery | (3.8 4 | 0.35 0.35 | (i-41/3 | - ${ }_{\text {\% }}^{18}$ | 118 | 10 | .30 .30 |
| $\ddagger$ For Five Cell Flashlight Batteries |  |  |  |  |  |  |  |
| Round plain bulb for tubular type batters | (i.2 | 0.35 | ( $-511 / 2$ | ${ }_{11}^{18}$ | $1{ }^{3} 8$ | 10 | \$0.30 |
| For One Cell Standard Dry Battery (Actual Volts 1.35) |  |  |  |  |  |  |  |
| Round plain bulb | $\left\{\begin{array}{l}1.50 \\ 1.80\end{array}\right.$ | 0.60 0.70 | T](a-5) 3 | 18 | $1{ }^{3} 6$ | 10 | \$0.30 |
| §For Two Cells of Standard Dry Batteries (Actual_Volts 2.7-2.8) |  |  |  |  |  |  |  |
| Round plain bulb | $\left\{\begin{array}{l}3.0 \\ 3.0\end{array}\right.$ | $\left.\begin{array}{l}0.12 \\ 0.80\end{array}\right\}$ | (:-512 | 11 | $1 \frac{3}{18}$ | 10 | 80.30 |

*Can be supplied 2.5 t 0.3 .0 volts, 0.21 amperes instead of 0.25 and 0.28 instead of 0.35 amperes without extra charge.
$\dagger$ Can be supplied 3.5 to 4.0 volts and 0.38 amperes without extra charge.
tCan be supplied 6.5 to 6.2 volts and 0.28 umperes without extra charke, but if fitted with candelabra serew (Style 500 ) or
Bayonet candelabrat single contact (Ntyle 1100) or double contant (Style 1000) base, $\$ 0.15$ list additional.

Slf fitted with bayonet candelahra double contact (Style 1000 ) or single contact (style 1100 ) base, 80.12 list additional.
Note: Flat end hulbs ( $1 \cdot 5-33_{i}$ and $F \cdot \overrightarrow{-4}-4$ ) ean be supplied plain instead of opal back at the sume price.

MINIATURE MAZDA B AND MAZDA C AUTOMOBILE LAMPS
For Three Cell (Lead Type) Storage Battery-Generator Lighting Systems (6-8, volts)
Fitted with either bayonet candelabrat single or doulde contart (Sityle 1100) or 1000) bases.


The following lamps are regularly carricd in stoek and should be ordered whenever possible.

| Rear and speedometer (two in series) . . 3-4 | 0.84 | 2 | 1.35 | (i-t | $3 / 4$ | 13/8 | 10) | \$0.46 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rear and speedometer............... $\mathrm{i}_{\text {- }-\mathrm{K}}$ | 0.42 | 2 | 1.35 | G-fi | $3 / 4$ | $13 / 4$ | 10 | . 0.46 |
| Side . . . . . . . . . . . . . . . . . . . . . . . . . . 10-8 | 0.84 | 4 | 1.18 | G-8 | 1 | 1118 | 10 | .46 |
| Ilcadlight (Mazda B) . . . . . . . . . . . . i-S | 2.50 | 15 | 0.95 | $\left\{\begin{array}{l}\text { G }-12 \\ G-161\end{array}\right.$ | $11 / 2$ | $21 / 3$ | 5 | . 60 |
| Headlight (Mazala C) . . . . . . . . . . . 6-8 | 1.50 | 12 | (0.80) | G-8 | ${ }_{1}^{18}$ | 17\% | $1{ }_{10}^{5}$ | . 60 |
| Spotlight (Mazda C) ............. $\left\{\begin{array}{l}\text { ci-8 } \\ \text { - }\end{array}\right.$ | 2.010 | 15 | 0.80 | Ci-10 | $11 / 4$ | 21/ | 10 | . 70 |
|  | 1.50 | 12 | 0.80 | C-12 | 113 | $21 / 2$ | 5 | . 80 |
| Ifeadlight (Mazda C) . . . . . . . . . . . $\left\{\begin{array}{l}\text { di-8 } \\ 6-8\end{array}\right.$ | 2.50) | 31 | 0.80 0.80 | $\mathrm{G}_{\mathrm{G}-12}$ | $111 / 3$ | $21 / 2$ | 5 5 | .70 1.00 |

The following lamps, for which there is a limited demand, will not be regularly carried in stock.

| Rear and speedometer | ti-8 | 0.8 .4 | 4 | 1.35 | G-4 | $3 / 4$ | $13 / 8$ | 10 | \$0.54 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Side. . . . . | 15-8 | 1.25 | 6 | 1.18 | G-8 | - | 118 | 10 | . 0.54 |
| Side (focusing) | 68 | 1.00 | 6 | 1.010 | S-8 | 1 | $21 /$ | 10 | . 70 |
| Headlight (Mazda 13) | () 8 | 1.50 | 9 | 1.00 | G-10 | 11/4 | $21 / 4$ | 10 | . 60 |
| Headlight (Mazda 13) | (i-8 | 1.50) | 9 | 1.14 | Ci-12 | $11 / 2$ | $21 / 2$ | 5 | . 60 |
| Headlight (Mazda 13) | 1-8 | 2.00 | 12 | 0.95 | G-12 | $11 /$ | $21 / 2$ | 5 | . 60 |
| Spotlight (Mazcla 13) | 1-8 | 3.00 | 18 | 0.95 | G-12 | 11/2 | $21 / 3$ | 5 | . 60 |
| Ifeallight (Mazdaj) | (6-8 | 3.00 | 18 | 0.95 | G-161/7 | $2{ }_{1}^{1 / 8}$ | $31 / 8$ | 5 | . 60 |
| Headlight (Mazda 13). | (5-8 | 312 \& 4 | 2 i \& 24 | 0.95 | G-161/2 | $2 \frac{1}{18}$ | $31 / 8$ | 5 | .70 |
| Headlight (Mazda C) . | (i-8 | 3.00 | 24 | 0.80 | G-12 | $11 / 3$ | $21 / 2$ | 5 | 1.100 |
| Leadlight (Mazda C) . | 6-8 | 4.00 | 36 | 0.80 | G-161/2 | $2 \frac{1}{15}$ | $31 / 8$ | 5 | 1.50 |

Customers are requested to order in unit paekage quantities to facilitate prompt deliveries.

# Western Electric <br> SUNBEAM INCANDESCENT LAMPS 


(i-6, 8 and $161 / 2$
Rear, Side and llead Light 6 Gell 12-16 Volts


G-10, 12 and 161/6 Electric
Eectric
Vehicle


G-12
Mazda C
Headlitht


Side Ligh
9 Cell
18-24 Volts

For 6 Cell (Lead Type) Storage Battery-Generator Lighting Systems (12-16 Volts) Fitted with either bayonet candelabra single or double contact (Style 1100 or 1000 ) bases.

| Description | Ratings Appearing on Lamps |  | Approx. (.). | Watts <br> per <br> Sphericai <br> C.P. | $\begin{aligned} & \text { Type } \\ & \text { and } \\ & \text { Sizo } \\ & \text { Bulb } \end{aligned}$ | Diam. Bulb Inches | Max. Overall Length Inches | Unit Pkg. Qnty. | List <br> Price <br> Clear |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volts | Amperes |  |  |  |  |  |  |  |
| The following lamps are regularly ranred in stock and should be ordered whenever possible. |  |  |  |  |  |  |  |  |  |
| Rear and speedometer (two in series). |  |  | 2 | , | G-6 |  |  |  |  |
| Rear and speedometer... . | 12-16 | 0.26 | 2 | 1.35 | -6 | $3 / 4$ | 13 | 10 | 0.4 |
| Side | 12-16 | 0.42 | 4 | 1.18 | G-8 |  | 1 | 10 |  |
| Headlight (Mazda B). | 12-16 | 1.00 | 15 | 1.00 | $\{\mathrm{C}-12$ | 11/2 | $21 / 2$ | 5 | 6 |
| Spotlight (Mazda C) | 12-16 | 1.00 | 21 | 0.80 | $\underbrace{}_{\substack{\mathrm{G}-161 \\ \mathrm{G}-10}}$ | $2 \frac{1}{16}$ | $31 / 8$ | 5 | 6 |
| Headlight (Mazda C) | 12-16 | 1.50 | 24 | 0.80 0.80 | $\xrightarrow{\mathrm{G}-10}$ | 11/4 | 21/4 | 10 | 74 |
| The following lamps, for which there is a limited demand, will not be regularly earried in stock. |  |  |  |  |  |  |  |  |  |
| leadlight (Mazdat 3) | 12-16 | 11/4 \& $11 /$ | 18 \& 21 | 1.00 | ( $\mathrm{F}-161 / 2$ |  |  |  |  |
| Meadlight (Mazda C) | 12-16 | 2.00 | 40 | 0.80 | C-161/2 | $2{ }^{216}$ | $\begin{aligned} & 318 \\ & 31 / 8 \end{aligned}$ | 5 | $\begin{array}{r} \$ 0.66 \\ 1.50 \end{array}$ |

('ustomers are requested to order in unit package quantities to facilitate prompt deliveries.

## MINIATURE MAZDA B AND MAZDA C AUTOMOBILE LAMPS

litted with either bayonet candelabra single or double contact (Sityle 1100 or 1000) bases.

| Description | Ratings <br> on | pearing <br> mps | Approx. C.P. | $\left\|\begin{array}{c}\text { Watts } \\ \text { per } \\ \text { Spherical } \\ \text { C.I. }\end{array}\right\|$ | Type and Size Bulb | Diam. Bulb Inches | Max. Overall Length Inches | Unit  <br> Pkg. List <br> Quan- Price <br> tity Clear |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volts | Amperes |  |  |  |  |  |  |  |

Lamps for 9 Cell (Lead Type) Storage Battery-Generator Lighting Systems (18-24 Volts)
The following lamps for which there is a limited demand, will not be regularly earried in stock.

| Rear and speedometer (two in series). | 10 | 0.26 | 2 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rear and speedometer... . | 18-24 | 0.17 | 2 | 1.35 | G-6 | $3 / 4$ | 13/8 | 10 | \$0.60 |
| Side.. | 18-24 | 0.26 | 4 | 1.35 1.18 | G-6 | $3 / 4$ | $13 / 8$ | 10 | 70 |
| Headlight (Mazda B) | 18-24 | 1.00 | 21 | 1.00 | C-161/2 | $2 \frac{1}{18}$ | $3^{\frac{1}{18} / 8}$ | 10 5 | .80 1.00 |
| Ifeadlight (Mazda C) ... | 18-24 | 1.00 | 24 | 0.80 | (i-12 ${ }^{\text {2 }}$ | $11 / 2$ | $21 / 2$ | 5 | 1.50 |

## Lamps for Ford Magneto Lighting System*

The following lamps are regularly carried in stork.

| *Headlight (Mazda B) (two in series). | 9 | 2.00 | 18 | 0.90 | $\left\{\begin{array}{l}\text { ( } \mathrm{i}-12 \\ \mathrm{G}-161 /\end{array}\right.$ | $11 / 2$ | 21/2 | 5 | \$0.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * Headlight (Mazda C) |  |  |  |  | ( $\mathrm{G}-161 / 2$ | $2 \frac{1}{16}$ | $31 / 8$ | 5 | . 60 |
| (two in series). | 9 | 2.00 | 27 | 0.72 | C-12 | 11/2 | 21/2 | 5 | 70 |

Lamps for Use Upon Lead and Alkaline Type Electric Vehicle Storage Battery Circuits (30-34, 40-44, 60-64 and $80-84$ Volts)
The following lamps are regularly carried in stock.

| Watts | $\begin{aligned} & \text { Watts per } \\ & \text { Spherical } \\ & \text { C.P. } \end{aligned}$ | Type and Size Bulb | Diameter Bulb Inches | Maximum Overall Length. Inches | Unit Pkg. Quantity | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Clear } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | 1.31 | C-10 | 11/4 | 21/4 | 10 | \$1.20 |
| $\dagger 15$ | 1.20 | G-12 | 11/2 | $21 / 2$ | 5 | 1.20 |
| $\dagger 25$ | 1,15 | (r-161/2 | $2 \frac{1}{16}$ | $31 / 3$ | 5 | 1.20 |

*These lamps are designed for use on the Ford magneto lighting system and are regularly fitted with double contact bayonet candelabra (Style 1000) base.
$\dagger$ If fitted with medium serew base (Style 100) or with medium bayonet base (Style 800) $\$ 0.07$ list addi. tional.

Customers are requested to order in unit package quantities to facilitate prompt deliveries.

## Western Electric

SUNBEAM INCANDESCENT LAMPS


S-17 and 19 20, 30, 40, 50 and 60 Watts and Gem Type

S-19
60 Watts
Mill Type Gem Type

G-25


Gem Type


S-14 10 and 20 Watts 05-125 Volts


S-17 and 19
20. 30.50 and 60

Watts
105-125 Volts


P-19 and 21 30. 35 and 60 Wats 220-250 Volts

Gem Class-Large Style-Straight Side and Round Types


*The 50 watt round bulb Gem lamp is regularly supplied in (i-25 bulb but can be supplied in (i-181/2 3.0 w. p. c. (standard package quantity 200 ) at $\$ 0.25$ clear and $\$ 0.271 / 2$ frosted, but is not recommended.
s. $\ddagger$ Lamps of voltages of 100 to 109 and 126 to 130 inclusive are not regularly carried in stock but may be obtained at the same list priees.

The prices given above covor lamps with a tip unless otherwise indicated; for tipless lamps the additional charge is 10 per cent. on Cem lamps.

For anchoring filaments to the bulb in Gem lamps, except in the cases of such lamps as are regularly standardized with bulb anchored filaments, an additional eharge of $\$ 0.03$ list for each anchor shall be made.

The charge for etching letters or designs on all sizes of Gem lamps is $\$ 0.00 \frac{1}{4}$ Net each, subject to no discount.

## Carbon, Large Style

REGULAR TYPE, 105-125 AND 220-250 VOLTS
Plain Lamps-Standard Medium Screw Base STRAIGHT SIDE

| Size of Lamp in Watts | Voltage | Base Regularly Supplied | Efficiency W.P.C. | Bulb |  | Maximum Overall Length in Inches | Std.Pkg.Quantity | Price Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Diameter |  |  |  |  |
|  |  |  |  | Style | in Inches |  |  | Clear | Frosted |
| 20 |  | Med. screw | 4.15 | S-17 | 21/8 | $41 / 2$ | $\ddagger 200$ | \$0.32 | \$0.37 |
| 30 | 105 | Med. screw | 3.23 | S-17 | 21/8 | $41 / 2$ | +200 | . 32 | . 37 |
| 50 | to | Med. screw | 2.97 | S-19 | $23 / 8$ | $51 / 8$ | $\pm 200$ | . 32 | . 37 |
| 60 | 125 | Med. screw | 2.97 | S-19 | $23 / 8$ | 51/8 | $\pm 200$ | . 32 | . 37 |
| 35 | 220 to \{ | Med. screw | 4.40 | P-19 | $23 / 8$ | 45/8 | $\pm 200$ | . 36 | . 41 |
| 60 | 250 ( | Med. screw | 3.69 | P-21 | 25/8 | 5 | 200 | . 36 | . 41 |

STRAIGHT SIDE-SIGN

| 10 | 105 to \{ | Med. screw | 5.00 | S-14 | 13/4 | $\ddagger+31 / 2$ | $\ddagger{ }^{2} 00$ | \$0.32 | \$0.37 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | 125 , | Med. screw | 4.15 | S-14 | $13 / 4$ | $\ddagger 31 / 2$ | $\ddagger 200$ | . 32 | . 37 |
| 30 | $\left.\begin{array}{c}220 \\ 250\end{array}\right\}$ | Med. screw | 5.9 | P-19 | 23/8 | $\ddagger 45 / 8$ | $\ddagger 200$ | . 36 | 41 |

$\ddagger$ Standard shipping quantity of these lamps is 250 .
Standard package discounts for lamps in the above schedule can be given only on orders for not less than a standard package quantity g one size or assorted sizes of bulbs. For any one size of bulb, lamps of different voltages, wattages and finish of bulb may be combined in one paciage.

## Western Electric

## SUNBEAM INCANDESCENT LAMPS



Type 1-10


Type T-8


Type S-121/2


Itylo Economical Lamps

Mazda B Miniature Candelabra Lamps
105-125 VOLTS
Regular Fitted With Unskirted Candelabra Screw Base (Style 500) Unit Package Quantity 5 Lamps

| Description | Watts |  | Type and Size Bulb | Dianeter Bulb Inches | Maximum Overall Length Inches | $- \text { Clist Price }-$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Candelabra, Style 13. | 15 | 1.67 | B-91/2 | $11_{1} \frac{3}{16}$ | $33 / 4$ |  |  |
| Candelabra, Style D. | 15 | 1.67 | D-10 | $11 / 4$ | $33 / 4$ |  |  |
| Candelabra, style E. | 15 | 1.67 | T-8 | $1{ }^{1}$ | $33 / 4$ | \$1.10 | \$1.20 |
| Candelabra, Style (i. | 15 | 1.67 | (:-16 ${ }^{\text {c }}$ | $2 \frac{1}{16}$ | $31 / 8$ |  | \$1.20 |
| Candelabra, Style F. | 15) | 1.67 | S-121/2 | $1 \frac{19}{16}$ | $31 / 2$ |  |  |

Customers are requested to order in unit package quandities to facilitate prompt deliveries.

## Hylo-Economical Lamps

## MAZDA AND CARBON LAMPS-TURN-DOWN TYPE (110 TO 125 VOLTS)

Lamps on this schedule do not count in determining diseounts in the sale of other lamps.
Turn-down Lamps. An incandescent lamp with one or more filaments to give two or more combinations of candle power at the same voltage and adapted for use in standard sockets.

Economical and Hylo Lamps. Fitted with mediurn serew type of turn-down bases. lither pull string or turn bulb style. Ilylo pull string type of base, $\$ 0.02$ Net extra.

| Watts | C.P. | Voltare | List Price Each |
| :---: | :---: | :---: | :---: |
| 25 | $20 \times 1.2$ | $110-125$ | $\$ 1.45$ |
| 40 | $33 \times 1.2$ | $110-125$ | 1.45 |

## CARBON (105 TO 125 AND 220 TO 250 VOLTS)


Voltage
$105-125$
$105-125$
$105-125$
$220-250$
$220-250$

List Price Each
$\$ 1.20$
1.20
1.40
1.30
1.30

For frosting or coloring carbon lamps the following Net additional charges are made per lamp: frosted or superficially colored, $\$ 0.05$. Natural colored glass, all colors, $\$ 0.25$.

For etching letters or designs on lamps, see sheet entitled "Extra Charges."

## HUBBELL LOCKING LAMPS



Locking Lamp


Fis, 1


Fig. 2

## Hubbell Locking Lamps

Schedule "L""
The base of the I fubbell locking lamp consists of two parts: an outer, or rotating shell, and an inner shell cemented to the lamp,

The filament of the lamp is attached in the usual manner.
Figure 1 illustrates a cross-sectional view of lamp base ready for use, showing both the leading-in wires A and 13 soldered to the inner shell and to the center contact respectively.

A lampecpuipped with the Hubbell locking base may be serewed into any standard Edison base soeket, but cannot be removed therefrom by turning the lamp in the opposite direction.

Burned ont or broken lamps may be removed by a slight downward pull of the lamp. This action will break the learling-in wire $B$, comnecting the center contact to the lamp filament as shown in Figure 2 .

In this lowered position the outer shell of lamp base engages a reverse ratchet and the lamp may then be unscrewed.

When the lamp is removed from the socket, the electrical connections are permanently destroyed and the lamp beeomes valueless.

Hubhell locking lamps are absolute proof against removal, and have for their object the furnishing of a lamp which may be readily attached to a socket, but when in place eannot be detached, thereby preventing the improper removal or changing of lamps by unauthorized persons. They are especially recommended for mblic buildings, railway stations, hotels (where sockets are frequently used for heating devices) and many other places where it is not desired to remove the lamps except for replacement.

STRAIGHT SIDE-FITTED WITH MEDIUM SCREW BASE
Size of Lanlp Size and Type

105 to 125

220 to 250
of Bulb
Diameter
in Inches

| Overall Length in Inches | Standard Package Quantity | -List Prics Each- |  |
| :---: | :---: | :---: | :---: |
|  |  | Clear | Frosted |
| $45 / 8$ | 100 | \$0.92 | \$1.00 |
| $45 / 8$ | 100 | . 92 | 1.00 |
| 45/8 | 100 | . 92 | 1.00 |
| $51 / 4$ | 100 | . 92 | 1.00 |
| $51 / 4$ | 100 | . 92 | 1.00 |
| $51 / 2$ | 100 | 1.16 | 1.24 |
| $51 / 8$ | 100 | 1.08 | 1.16 |
| $51 / 8$ | 100 | 1.08 | 1.16 |
| 57\%8 | 100 | 1.36 | 1.46 |

## STRAIGHT SIDE (S $\begin{cases}21 / 2 & \text { S-14 } \\ 5 & -14 \\ 5 & S-14 \\ 10 & S-14\end{cases}$

| FITTED | WITH |
| :---: | :---: |
| $13 / 4$ | 4 |
| $13 / 4$ | 4 |
| $13 / 4$ | 4 |
| $13 / 4$ | 4 |

SCREW BASE
10 to 13
50 to 05
ROUND B
105 to 125

105 to 125

220 to 250

| [15 | (i-25 | $31 / 8$ | $43 / 4$ | 50 | \$1.38 | \$1.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | (i-25 | $31 / 8$ | $43 / 4$ | 50 | 1.38 | 1.50 |
| 40 | (i-25 | $31 / 8$ | $43 / 4$ | 50 | 1.38 | 1.50 |
| (i) | (i-30 | $33 / 4$ | $51 / 2$ | 24 | 1.84 | 2.00 |
| ) 25 | (i-25 | 31/8 | $43 / 4$ | 50 | 1.62 | 1.72 |
| $\{40$ | G-25 | $31 / 8$ | $43 / 4$ | 50 | 1.62 | 1.72 |

Instructions for ordering lamps:
In order to facilitate the work of our office and to avoid misinterpretation of orders, we would request that customers mention the following facts on each order:

1. Quantity (number of lamps desired).
2. Size of lamps (in watts, whether 40 watts, 60 watts, ete.).
3. Circuit voltage (voltage at the lamp socket).
4. Style and size of bulb (for example, S-19-(i-25, ete.).
5. Finich of bulb (clear, howl frosted or all frosted).

All lamps-medinm serew only.
Delivery F. (), 13, Factory, Bridgeport, Conn. For warehouse deliveries write nearest house.

## CHRISTMAS TREE AND DECORATIVE OUTFITS




## Christmas Tree Outfits

For Use on 32 V . House Lighting System

|  | T | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | V. Lighti | Circuits |  | House Lighting |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | List Price Cotton Cord | List | List Price | List List Price No. Cotton Cord |  |
| Lights | With Lamps |  |  | No. | Silk Cord |  |  |
| 8 | 9, 1 in round, 14v. | *2330 | \$8.0) | 2301 | \$9.00 | 2370 | \$8.00 |
| 16 | 18, 1 in. round, 14 r . | *2331 | 16.00 | 2302 | 18.00 | 2371 | 16. |
| 24 | 27,1 in. round, $1+\mathrm{v}$. | $\dagger 2332$ | 24.00 | 2303 | 27.00 | 2372 | 24.0 |
| 32 | 36,1 in. round, 14 r . | $\ddagger 23.33$ | 32.00 | 2304 | 36.00 | 2373 | 32.0 |
|  | Ex. Festoon, 9, 1 in . round 14 v . | 23334 | 8.00 | 2305 | . 00 | 2374 |  |

The above equipped with 8 foot lealer, green composition sockets, porcelain junction boxes, and swivel attachnent plugs. Lamps assorted colors.

## Battery Type, Multiple Burning

## MERCERIZED, COTTON COVERED, TWISTED CORD

List
List No.
 23108 light storage battery outfit less batteries... 1 in. round $\quad 6 \quad 1$ of $8 \quad 7.00$ lamps assorted colors.

## Series Type Mazda Decorative Lamps

For 100-120 V., 8 Lamp in Series List List No. Color Style Price 01315 (lear 3 C.P., 14 v., (i-8, $1 \mathrm{in} . \$ 0.42$ 01317 Red 3 ('.P., 14 v., (i-8, 1 in. 46 01318 Blue 3 C.P., 14 v., ( $\mathrm{C}-8,1 \mathrm{in} . \quad .46$ 01319 Green 3 C.P.,', $1+$ v., (i-s, 1 in. . 46

For 32 V., House Lighting, 8 Lamps
List

No. $\quad$ Color \begin{tabular}{rl}
in Series <br>
Style

$\quad$

List <br>
Price
\end{tabular} 01337 Clear 1 C.P., 4 v., G-8, 1 in. Price 01338 Red 1 C.P.', 4 v., G-8, 1 in . on 01339 131ue 1 C.P.,', 4 v., G-8, 1 in . appli01340 Green 1 C.P., 4 v., G-8, 1 in. cation

## Battery Type, Multiple Burning

For Use on 3 Standard 6 In. Dry Cells 045 Clear 1 C.P., $31 / 2$ v., (i-8, 1 in. $\$ 0.38$ For Use on 6 Volt Storage Batteries

046 Red 1 C.P., $31 / 2 \mathrm{v}$ v., (i-8, $1 \mathrm{in} . \quad 42$ 018 Blue 1 C.P., $31 / 2$ v., (i-8, 1 in .42 047 Green 1 C.P., $3 \frac{1}{2}$ v., (i- $\$, 1 \mathrm{in}$. . 42

Fancy Mazda Lamps<br>3 C. P. 14 Volts-Miniature Base

Small Fruit
Large Fruit


Fancy Misda lamps are packed in holly paper boxes- 10 lamps of one type to a box *Stendard package 100. †Standard package 50. $\ddagger$ Standard package 25.

## Western Electric

COMPENSARCS FOR MOVING PICTURE ARC LAMPS


Alternating Current Compensarc


Direct Current Compensarc

# Alternating and Direct Current Compensarcs alternating current compensarcs 

The compensarc is a transforming device built with special rcference to operating an alternating hand-feed are lamp such as used with picture machines, requiring approximately 35 volcs across the arc and a stealy current of from 30 to 60 amperes.

The construction of this device is very substantial and embodies all the careful features of design and finish that is carried out in our atandard lines of transiermers.

## Electrical Characteristics

The following embodies some of the principal characteristics of the aliernating current compengarc:
The device has an electrical characteristic which enables it to hold the are steady at predeternined current values through a considerable range in the length of the arc.

The currenr. value at short circuit is such that it will not blow the frose, providing the fusc has a capacity slightly in excess of the normal operating current.

It is higtly efficient, having low core loss and ropper loss, resulting in a low operating temperature.
Each of the three adjustments of the swith is so designed that in short circuiting from step to step the circuit is at no time open. This obviates thickering at the lamp.

The power iactor of the current operating lamp is as high as can be utatained and at the same time maintain the atability at the arc abich is necessary for steady pictures.

## Connectiona

The compensarc is a self-contained device and requires no auxiliary theostat or other controlling incehanisms. Through the top of the cover of the compensarc four leads are brought through porwelain bushinge, two of which are marked "Lamp. and these should be connected to the lamp terminals. The other two snould be concected to the operating circuit or line. No other connestione are necessary.

As this is an alternating current device, there are no positive or negative wires

## DIRECT CURRENT COMPENSARCS

In communities where direct current is supplied to moving pictwre pouses, rheostats are gererally used to cut down the line voltage to tbe required voltage at the arc. This is, of course, a very inefficier.t method and in guch cases the direct current compensarc should be sold. This device consists of a direct current moter built to operate an direet current circuits of 115 , 230 or 500 valta, directly connected to a direct current generator which cuis down the voltage to the voltage required at the arc, approximately 55 volts This device shows a very good efficiency and is a very economical device as compared with the rheostat.

## General Mechanical Construction

The direct current compensare is construeted by using two frames connected together by means of a special casting. The sets have two bearings, two freld frames and two armatures. The armatures are mounted on one shaft. The sets are not furnished $w^{\prime}$ :th a subbase.

## Electrical Characteristics

The electrisal characteristics are similar to those of the ordinary direct current balancer sets. However, each frame is equipped with special windings, so as to give a volt ampere characteristic enrve, such that when the current at the arc reduces, the voltage increases, thus insuring a stable arc. These results are obtaned without using any lamp steadying reaistance. the voltage increases, thus insuring a stable arc. These results are obtaned without using any lamp ateadying

On account of the characteristics of the set, if carbons are held in coniact, the mains are not short circuing
The field rheostat can be adjnsted to deliver the arc current from 20 to 45 amperes,
These sets are designed on the basis of an arc consumption of 35 amperes. 50 volta.

## Connections

The motor end of each set will have three terminals, and the same procedure will be followed in connecting up as in a shunt wound motor, the middle lead being the lead from the field coils, the two outside being for the main line leads.

The generator end will be equipped with two leads for connecting direct to the arc lamp.
In addition to this, two smali leads from the two inner bushings are eoncected direct to a closed circuit rheostat, which rheostat is to be used for adjusting the current of the arc.

Note: See following page for prices.

# Western Electric <br> COMPENSARCS (Continued) <br> Alternating Current Type A, Form 4 <br> <br> GENERAL MECHANICAL CONSTRUCTION 

 <br> <br> GENERAL MECHANICAL CONSTRUCTION}

The compensare is a transforming device built with special reference to operating an alternating handfeed are lamp, such as used with picture machines, requiring approximately 35 volts across the are and a steady current of from 30 to ( 30 amperes.

The construction of this device is very substantial and embodies all the careful features of design and finish that is carried out in our standard lines of transformers.

The core is made of the highest grade of sheet steel laminations, the outer surface being fully exposed to the air. The coils are mounted within the core and are completely protected and thoroughly insulated. Core and coils are given vacuum treatment, making them moistureproof and weatherproof.

The assembled core and coils are supported by a cast iron base with four legs which hold the compensare at a convenient height from the floor.

The case is also of cast iron and rests on the top of the core. It is liberally ventilated, encloses the ends of the coils and protects the connections on the inside.

A slate top supports the switch blade and clips, which are protected by cast iron cover. The slate top, cover, case and hase are securely held together by four long, heavy bolts, one passing through each corner of the slate top, case and base outside the core.

A horizontal, three-step, contimuous switeh is monnted on the slate top, providing three arjustments. The switch handle projects through a slot in the top of cast iron cover, which slot is plainly marked for the three adjustments referred to.

The cast iron cover over the slate top) completely encloses the switch blade and contacts, eliminating danger of handling current carrying parts; it also encloses the switching meehanism climinating danger from fire and accidents.

| List <br> No. | K.W. | Volts | Cycles | Ship. Weight in labs. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 04312 | $\underline{2}$ | 110 | 60 | 1600 | 596.80 |
| 94313 | 21/2 | 220 | 60 | 18() | 116.00 |

For compensares equipped with ammeter, add $\$ 24$ to above pries.
Note: Compensares can be built for any three suecified ratings of current at 3 a volts at the arc. Standard rating of 30, 40, (i0) amperes, 35 volts, should be furnished wherever it is possible.

## DIMENSIONS

|  | 110 Volts | 220 Volts |
| :---: | :---: | :---: |
| Ueioht from floor to top of switeh | 60 Cycles | 60 Cycles |
| Width from floor to top of switch | $221 / 4$ ins. | $231 / 4 \mathrm{ins}$. |
| Length | 10 ins. | 10 ins. |
| Net weight. | 125 hbs | 150 lbs . |

## A.C. TO D.C. COMPENSARCS

Jist No. covers the compensare complete including the motor-generator, starting compensator for the 50, and 70 -ampere, multi-phase equipment; sted calbinet pancl with ammeter and generator field rheostat; and two short-circuiting switches, one of which is mounted at each picture machine.

The 35, 50 and 70 -ampere equipments will he listed with multi-phase motors only. Where operating conditions will allow $5,71 / 2$ and $10 \mathrm{II} . \mathrm{P}$. single-phase motors we can supply these outfits single-phase. Such cases will be subject to special quotation.

A steel calinet panel is furnished as part of the two-lamplerics out fits. Mounted in the pand is a field rheostat and on the face of the pand an ammeter. The small panel for two 3 -ampere lamps alternately has an ammeter with a 50 -ampere seale; the panels for the $\overline{0} 0$ and 70 -ampere outfits have an 80 and 100 ampere scale respectively,

## 60 CYCLES 1800 R.P.M. <br> 35-AMPERE OUTFIT <br> For Two 35-Ampere Arc Lamps Alternately

| List |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Phase | Approx. <br> Ship Weisht | W. E. |
| 192111 | 110 | 2 | Ship. Weight | List Price |
| 192112 | 220 | 2 | 1100 | \$807.50 |
| 192113 | 110 | 3 | 11100 | 807.50 |
| 192114 | 220 | 3 | 1100 | 807.50 |
|  |  | PRE Ar | ately |  |
| 192117 | 110 | 2 | 1200 | \$90ki. 50 |
| 192118 | 220 | 2 | 1200 | 906.50 |
| 192119 | 110 | 3 | 1200 | 9045 |
| 192120 | 220 | 3 | 1200 | 906.50 |
|  |  | PERE Ar | ately |  |
| 192123 | 110 | 2 | 1500 |  |
| 192124 | 220 | 2 | 1500 | 1147.50 |
| 192125 | 116 | 3 | 1500 | 1147.50 |
| 192126 | 220 | 3 | 1500 | 1147.50 |

## Western Electric DAVIS FLOOD LIGHTS



500 Watt Flood Lamp with Base


500 Watt Flood l.amps with Brackets

## Davis Flood Lights

Western Electric Davis 500 Watt Flood Lamp is designed for close-up lighting and is oquipped with a reflector that gives a very wide diffusion. The maximum spread of the direct beam is : 8 to 40 degrees.

## CONSTRUCTION

Hood. The hood is a one-piece spinning of No. 20 gange Armco auto body stock with wire beaded edge for strength. It has an adjustable arm which moves the lamp bulb backward or forward to secure the proper illumination. This adjustment is hand operated from the outside of the lamp.

Reflector. The reflector is made of glass, silvered and copper plated. It iss $133 / 4$ inches in diameter and $1 / 4$ inch thick and is held in place by four brass lugs which are quickly removable.

Door. The door hinges from the bottom and is locked in position at the topy by a special cam.
Universal. The universal is arranged so that the lamp may be adjusted in a vertieal plane, atso in a horizontal plane. When once adjusted the lamp can be rigidly locked into prition.

## MOUNTING

Pipe and Base. The portable type is supplied with 1 inch pipe 18 inches long. One end of the pipe screws into a round cast iron base 14 inches in diameter. The upper end of the pipe fits into a soeket on the universal casting.

Bracket. For mounting on building or poles these flood lamps can be furnished with a strong bracket triangular in shape like the illustration above.

Finish. The finish is dark gray, Before the final coat of gray is put on the lamp is first treated with Japan and baked to a high temperature. This will prevent the lamp from rusting.

Weight. With pipe and base and bracket, 27 lbs . Hood alone 20 lbs .
Height. Overall, with pipe and base, 38 inches; from bottom of universal 10 top of hood, $201 / 2$ inches.
Depth. From back to front of case, $81 / 2$ inches.
Bulbs. It can be used with three bulbs. With 500 or 400 watt type P. A. 40 Mazda lamp or 300 watt Type P. S. 35 Mazda lamp.

Price of lamps of other voltages upon request.

# Western Electric <br> <br> Western Electric <br> <br> Western Electric DAVIS FLOOD LIGHTS 

 DAVIS FLOOD LIGHTS}

363


Flood Lamp with Base


Flood Lamp with Brackets

## Davis Flood Lights

The Western Eleetric Davis Flood Lights are designel for use with 7.50 watt or 1000 watt Type C Mazda Lamps and they are supplied with refleetors of a suecia! design which diffuse the light over Jarge areas. This is the style lamp used for lighting yards of industrial plants, drill grounds, bathing beaches and other work where it is advantageous to have a powerful light distributed evenly over a large area. reflector. This refector eoneen Electrie Davis Flood Lamps ean be supplied with a searchlight type of of reflector are used on bouts and fos the light into a solid an.l powerf ul beam. Flood lamps with this style

Reflectors. The reflectors are other work in plaee of are somphlights.
Cases. The cases are furnished either of silver plated and treated with heavy heat resisting baeking case is hinged for opening both front and rear. An east iron. Both wre heavily black enamelert. The

Portable Type. "The portable type is mounted on a $\dot{y}$, foot is provided by ducts in the chimmey round base, which is amply large to give stability.

Bracket Type. For jole mounting the bracket type is reeommended.

## List

No.
410439
410439 Western Electric I avis Flood Light, sted case, without damp bulh .
410440
410440 Western Eleetrie I avis Flood Iight, cast iron case, without lamp buib
$410441 \quad 1000$ watt Mazda tyve lamp bulb p' cast iron 'ase, without lamp bulb.

Weight Packed
Portable Bracket List Price
Type Type Each

| Type | Type | Each |
| :---: | :---: | ---: |
| .73 | 72 | $\$ 100.00$ |
| $9 \%$ | 95 | 100.00 |
| $\therefore$ |  | 14.00 |

Delivery F. O. B. Factory, Chicago, Ill. For warchousc deliveries write nearest house. system:


Specify when ordering whether portable or bracket type is desired.



No. 180 Spot Lamp Windshield Attachment

For safe clriving, for convenience in reading road signs and street numbers, ald for a dependable trouble light, every antomobile should be equipped with a spot light. This spot light clamps on the windshield or may be fitted with a bracket for attaching to the foredoor. It is always within easy reach of the driver and can be tilted to any angle or position for reading signs along the road, or for ganging the width of the road when passing other cars.

When used as a trouble lamp, it is only necessary to remove one mut and lift the spot light from its brarket.
These lamps are finished in all black, except door and hexagon nuts on brackets, which are furnished in either brass or niskel finish.

Twenty-one C. P. nitrogen bulbs are used. They are shipped with 6 volt double contact unless otherwise specified. Throws 37,500 (. P. light.

Mirror Attachment. One of the chicf advantages of the No. 50 Western Flectric Victor Spot Light is the mirror which is mounted on the back of the lamp and furnishes the driver with a clear view of the road in back of the car during the day. The use of the Western Electric Victor Spot Light not only assures the car owner a maximum of safety at night, but, by means of the mirror attachment, during the day as well.

|  |  | Retail | List Price |
| :---: | :---: | :---: | :---: |
| List |  | Price | Fach |
| No. | W | \$6.00 | Sti.00 |
| 180 | Filertrie Spot lamp, diameter of lamp $61 / 2$ inches, with windshield attarhment | 7.50 | 8.00 |
| 181 | Same as No. 180, exeept foredoor attachment. | 7.50 | S.(\%) |

## Model B Autoreelite



Model " $B$ " Autoreellte

This is known as the 3 inch 1 lamp spot light. Trouble light-pleasure light. This light is ahways clectrically comected with the battery, theredy chiminating troublesome extension cords and rounections. Simply loosen the round knurled nut above the bracket and withdraw the lamp with its 12 foot extension cord and relieve towing of one of its most disagreseble fatures-the fear of a breakdown on a dark road. A handy lamp for pienies, camping trips, etc.. by hameing on a convenient tree. Makes tire changing as easy by night as by day.
Operation. The adjustable cord reel is located in the ball casing just buck of the lamp. "To use as a "trouble" or "insuection-light" simply unscrew the knurled nut and withdraw the lamp to the desired length; it enables the moterist to carry light exactly where he wants it. The cord reel winds and muwinds just like an ordinary curtain roller.

Clamps. Three pairs of windshield clamps-round, oval and rectangular-included with cach lampto insure minimum trouble in mounting.

Construction. Lamp and bracket in black enamel, fitted with chear or "non-glare" lens, backed by a Mazala (" (nitrogen) lamp in a silvered parabolic reflector of carefully determined contour to increase and direct the light rays. Switch conveniently lowated at the back of the lamp. A $31 / 2$ inch reduring mirror giving complete view of the road behind is an added feature if desired.
Living complete view of the roan MODEL B-621 C. P. LAMP

## MODEL B-7 30 C. P. LAMP

31317 inch lens, withont nirror for rear view. ..... $\$ 8.00$Flat hase brackets for attaching to closed cars or trucks framo$\$ 1.00$

Mounting stanis for motor boats.
Note: Prices are complete with 6 volt lamp; 12 or is volt lamp supplied if specified.
Delivery F. O. B. Factory, Cincinnati, O. For warehouse deliveries write nearest house.


No. 005R Thermo-Wynk


No. 005 V
Verrical" Baby" Thermo-Wynk


No. 0152 Thermo-Wynk-Tu-Way Size $21 / 18 \times 3 \frac{3}{8} \times 93 / 8$ Inches

## Automatic Motorless Thermo-Wynks

No. 005R Receptacle. For 20 to 100 watts. Adapted for small window transpareneies.
No. 005P Wynk-A-Lyte Flashing Plug. ()perates on a $20,25,40$ or 60 watt lamp on 50 to 220 volts inclusive. Can beadjusted without removing from socket and is compensated for temperature changes.

No. 005 Vertical "Baby" was brought out for use where it is impractieal to install other types.

| List |  | Caparity | Watts | Iist Price |  | Capacity |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Volts | per Circuit | per Circuit | Each | Volts | Der Circuit | Whats | List Price |
| 005 L | 110 | $1 / 2 \mathrm{amp}$. | 60 | \$1.44 | 220 | $1 / \mathrm{amp}$. | ${ }_{60}$ | S1.68 |
| $005{ }^{\text {P }}$ | 110 | $1 / 2 \mathrm{amp}$. | 60 | 1.60 | 220 | $1 / 1 \mathrm{amp}^{1 / \mathrm{mp}}$. | 60 | \$1.68 |
| 005 V | 110 | $1 / 2 \mathrm{amp}$. | 60 | 1.20 | 220 | $1 / 4$ ar | 60 | 1.44 |

## Thermo-Wynk-Tu-Way

The Tu-Way will nash two lamps or two cireuits of lamps alternately, one set remaining lighted while the other is out, and so on. It is useful for flashing colored sets of lanps alternately, for switching two portions of a sign, for illusion where the face lights up through the back of the sign, ete.


## Automatic Motorless Thermo-Wynks

Vacu Type
Nos. 005, 015, 020 and 030 Flashers are wound with special resistance wire, and Nos. 020 and 030 have a spark eliminator. Like the Vacu Type, Thermo-Wyns are compensating and will work in zero weather the same as in a temperature of 100 degrees $F$.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Length Ins. | Volts | Capacity <br> Amps. | Watts | List Price Each | Volts | Capacity Amps. |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 005 | 2 | 110 | 1/2. | 60 | \$1.20 | 220 | Amps. | Watts | Each |
| 010 | - | 110 | 1 | 110 | 1.60 | 220 | $1 / 2$ | 110 | \$1.44 |
| 015 | 6 | 110 | 11/2 | 165 | 2.40 | 220 | $8 / 4$ | 165 | 2.80 |
| 020 | 31/2 | 110 | 2 | 220 | 6.40 | 220 | $1^{-4}$ | 220 | 2.80) |
| 030 | 6 | 110 | 3 | 330 | 8.00 | 220 | 11/2 | 330 | 9.60 |

An instantancous breaking, single or double circuit, will operate on direct or alternating currents.

| List | Capacity | Watts | Volts | Size | List Prices |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Single | Double |
|  | per Circuit |  |  |  | Circuit | Circuit |
| 51 V | 5 amps . | 550 | 110 | 31 x $7 \times 14$ | \$36.46 | \$39.20 |
| 101 V | 10 amps. | 1100 | 110 | $31 / 2 \times 7 \times 14$ | 39.20 | 42.00 |
| 151 V | 15 amps . | 1650 | 110 | $316 \times 7 \times 1$. | 46.20 | 49.00 |
| 201 V | 20 amps. | 2200 | 110 | $31 / 3 \times 7 \times 14$ | 49.00 | 51.80 |

The Vacu Type prices are based on 110 volts. If used on 220 volts, reduce rating 50 per cent. and add $\$ 1,40$ each to the single circuit, and $\$ 2.80$ to double circuit.

Delivery F. O. B. Factory, New York, N. Y. For warehouse deliveries write nearest house.

## ELECTRIC SIGN FLASHERS



No. 151 with (abinet


No. 4 H. II. S.

## On and Off or Spelling Type CAPACITY—1 TO 550 WATTS PER SWITCH AT 110 VOLTS

| $\begin{aligned} & \text { List } \\ & \text { No, } \end{aligned}$ | No. of Switches | Size | Shpy. Wt., |  | *List l'rices-___ |  |  | For Each Additional |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | With |  | Steel |  |
|  |  | Inches | Lbs. |  | Motor |  | Cabinet Only | Switch Add |
| 51 | 1 | $11 \times 12 \times 14$ | $\mathrm{fiO}_{0}$ |  | \$5.5.50 |  | \$16.50 | \$3.00 |
| 52 | 2 | $11 \times 12 \times 14$ | ${ }_{60}$ |  | 58. 50 |  | 16.50 | 3.00 |
|  | CAPACITY-550 TO 1100 |  | WATTS P | PER | SWITCH | AT 110 | VOLTS |  |
| 101 | 1 | $11 \times 12 \times 14$ | bit |  | \$60.00 |  | \$16.50 | \$4.50 |
| 102 | $\underline{2}$ | $11 \times 12 \times 15$ | 6.5 |  | 64.50 |  | 16.50 | 4.50 |
|  | CAPACITY-1101 TO 1620 |  | WATTS | PER | SWITCH | AT 110 | VOLTS |  |
| 1.51 | 1 | $11 \times 12 \times 14$ | 6. |  | \$64. 50 |  | \$16.50 | \$6.00 |
| 152 | 2 | $11 \times 12 \times 15$ | (i) |  | 70.50 |  | 17.10 | (i.00) |

Do not allow nore than 15 anjeres ( 16.50 watts) at $110-220$ volts for any one switch, Heavier loads should be divided among two or more switehes. Where several switches are used there is an extra charge for feeders, ete.

## No. 4 Heavy Highspeed Type

Usually wired in four cireuits or a multiple of four vi $: 1,2,3,4-1,2,3,4$, etc. All the $1^{\prime}$ 's on one cirruit, 2 's on the seom cireuit, 3 's on the third cirenit and 4's on the fourth circuit.

CAPACITY—PER SWITCH 110-120 VOLTS, 330 WATTS— $10-13$ COLTS, 150 WATTS

CAPACITY-PER SWITCH 110-120 VOLTS, 660 WATTS-10-13 VOLTS, 300 WATTS
$\begin{array}{lllllll}\text { HHHS } & 4 & 11 \times 12 \times 19 & 80 & \$ 76.50 & \$ 20.18 & \$ 0.00\end{array}$
No. 35 Script Type
CAPACITY-PER SWITCH 100-120 VOLTS, 110 WATTS-10-13 VOLTS, 50 WATTS 20心 $20 \begin{array}{llllll}20 & 11 \times 12 \times 22 & (1) & \$ 8 \% .50 & \$ 18.00 & \$ 1.50\end{array}$
 are 60 cycles. For 25 to 50 eyeles, add $\$ 9.00$. An extra charge of $\$ 6.00$ per switeh is made for 3 pole machines.

## No. 6 Lightning Type

CAPACITY—PER SWITCH 330 WATTS, 3 AMPERES- 150 WATTS, 15 AMPEPES
4 L
$11 \times 12 \times 15$
$70 \quad \$ 64.50$
$\$ 16.116$
83.76

No. 12 Snake Chaser Type
The number of circuits should he a multiple of the number of snakes or objects employed, viz.; 60 lamps, 3 snakes would require 20 cireuits. Wire accordingly.

CAPACITY-PER SWITCH 220 WATTS, 3 AMPERES- 100 WATTS, 15 AMPERES
108C:
$11 \times 12 \times 18$
SO $882 . \overline{5} 0$
817.40
\$3.00

## Waving Flag Type

CAPACITY—PER SWITCH 330 WATTS, 3 AMPERES- 150 WATTS, 15 AMPERES
$\begin{array}{rrr}11 \times 12 \times 15 & 70 & \$ 64.50 \\ \text { INSTRUCTIONS FOR ORDERING }\end{array}$
1st. Number and candle power of lamps to be controlled by each switch
2d. Whether Mazdat (Thugsten) or carbon lamps.
3d. If Mazda (Tumgsten) lamps whether they are to be used on low voltage transformers.
4th. If direct or alternating curront. If alternating, the frequency (number of cyeles.)
5 th . If two or three-wire swism.
6th. Voltage.
7th. If design is complicated, give complete deseription of the sign, and preferably a sketch showing number of lanps for circuit and how they are to be flashed.

8th. Shipments: express or freight.
*Delivery F. O. B. Factory, New York, N. Y. For warchouse deliveries write nearest house.

METAL CASE TIME SWITCHES


Door Open


Door Closed

Hartford Time Switches
This is a device by which clectrie current is automatically turned on and off at such times as desired with no further attention than the werkly winding.

It consists of a high-grade Seth Thonas marine clock movement, and a Standard Switch, so arranged that each in its operation is indepondent of the other. This permits of perfect regulation of the clock and assures accuracy of operation.

The switching mechanism is positive in operation; in the lower capacity-switches, it being a highgrade rotary switch, and in the larger capacity, a high-grade standard knife switch.

The mechanism is enclosed in a dust and weatherproof japanned iron cuse supplied with a SubTreasury lock and rubber gasketted door.

## STANDARD TYPES

Type "B"- Throws the current on and off once each day, seven diys per week.
Type "C"-The same as type "I3," excrpting that it automatically disconnects the switch one day each week, designed to omit Sunday operation.
Type " D "-Similar to type " 13 ," but arranged to throw light on and off two periods each day (this type requires winding twice a week).
Type "E."-Two rate meter service control.
Type " G "- Designed to control apartment house lighting.
All switches are provided with hand trip, by which the ewitch can be tripped independently by hand, and are also, with the exception of Type "C," equipped with a cut-out, permitting the disconnecting of the clock and switch, without stopping the clock.

Dimension-The enclosing cast-iron case up to 50 amperes, Double Pole, measures approximately 12 inches high, $71 / 2$ inches wide, $31 / 2$ inches deep.

SMALL TYPE
For use on circuits up to 250 V.-A. C. or D. C.

| Description | List Price Each |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Type B | Type C \& | Type ${ }^{\text {e }}$ E | Type G |
| 10 Amperes Single Pole | \$38.40 | \$41. 6t) | \$40.00 | \$43. 20 |
| 10 Amperes I Houble Pole. | 38.40 | 41.50 |  | 43.20 |
| 10 Amperes Triple Pole. | 40.00 | 43.20 |  |  |
| 20 Amperes Single Pole. | 40.00 | 43.20 | 41.60 |  |
| 20 Amperes I Oouble Pole. | 40.00 | 43.20 |  |  |
| 20 Amperes Triple Pole. . | 41.60 | 44.80 |  |  |
| 35 Amperes Single Pole. | 41.60 | 44.80 | 43.20 | 67.20 |
| 35 Amperes Iouble Pole | 41.60 | 44.80 |  | 67.20 |
| 35 Amperes Triple Pole. | 43.20 | 46.40 |  |  |
| 50 Amperes Single Pole. | 46.40 | 49.60 |  |  |
| 50 Amperes I ouble Pole. | 46.40 | 49.60 |  |  |

LARGE TYPE
For use on circuits up to 250 V-A. C. or D. C.

Description
50 Amperes Triple Pole
100 Amperes Single Pole
100 Amperes Double Pole
100 Amperes Triple Pole
200 Amperes Double Pole
200 Amperes Triple Pole.

Type B Type C\& D $\$ 86.40 \quad \$ 89.60$

Note: When ordering specify type by letter.
Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.



Wire Guard


## Combined Receptacle and Waterproof Globe

This receptacle is made entirely of non-abororbinh and non-corrosive material, and will last indefinitely in any climate.

## Style A. Pendant Type

The pendant type hangs suspended by its conducting wires. Unless otherwise speeified 8 inch wires are provided.

| List <br> No. |  | Watts | Quantity per case | W't. Lhs. per case | List Price Jach | *List Price per Doz. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4337 | Fd. base pentant type | 40 or 60 | 60 | 110 | \$2.00 | \$19.80 |
| 4337 X | Ed. base pendant type | 100 | 30 | 100 | 4.00 | 39.60 |

Style B. Bracket Type
The bracket type cover is threaded to screw on regular $\frac{1}{2}$ inch iron gas pipe or conduit.


Style C. Flange Type
The flange type cover is flanged and can be serewed to wall, $3 \frac{1}{4} \mathrm{IRd}$, wutlet box, ceiling or other support.

| List No. |  | Watts | Quantity per case | Wt. l.hs. per case | List I’rice Jach | *Jist Price per Doz. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4349 | Fd. base, flange type. | 40 or 60) | 60 | 140 | 82.45 | \$25.08 |
| 4349 X | Ed. base, flange type. | 100 | 30 | 120 | 4.35 | 44.88 |

Separate Parts for Receptacles

| For 40 Watt Size |  |  |  |  |  | For 60 to | Wat |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | List | *List |  |  |  | List | *List |
| List |  | Std. | Price | Price | List |  | Std. | Price | Price |
| No. |  | P'kg. | Each | per Doz. | No. |  | Pkg. | Each | per Doz. |
| 19043 | Caps | 60 | \$0.90 | 8900 | 19043X | Caps. | 30 | \$1.80 | 0 |
| 19041 | Clear globes | 60 | 1.10 | 11.00 | 19041X | Clear globes. | 30 | 2.20 | 22.00 |
| 19044 | 13 iron fittings. | 63 | . 65 | 600 | 19044X | B iron fittings | 60 | 65 | 6.00 |
| 19045 | C iron fittings. | 60 | . 75 | 7.00 | 19045X | C iron fittings | 60 | 75 | 7.00 |
| 4350 | Rubber gaskets | 60 | . 42 | 4.00 | 4350 X | Rubber gaskets | 30 | 84 | 8.00 |
| 19042 | Genuine colored globes. . . . . . . . | 60 | 2.10 | 21.12 | 19042X | Genuine color globes. | 30 | 4.55 | 47.52 |

## "Newgard" Wire Guard

Fits tightly over globe and is secured at top.

|  |  | Std. | List Price | *List Price |
| :---: | :---: | :---: | :---: | :---: |
| List |  | Pkg. | Each | per Doz. |
| 4351 | Wire guard for 40 watt size | 60 | \$1.10 | \$11.00 |
| 4351X | Wire guard for 60 to 100 watt size. | 30 | 1.80 | 18.00 |
| *Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house. |  |  |  |  |

## BENJAMIN MOISTURE AND DUST-PROOF FIXTURES



No. 662


No. 665


No. 672


No. 628


No. 634

Sockets Are National Electrical Code Standard

These fixtures are for use in damp places, such as refrigerating plants, engine rooms, plating rooms, ete. They are also protective lighting units in powder mills and other places where there is an accumulation of explosive dust.

The fixtures are so made that lamp and socket are completely enclosed. A heavy glass, threaded globe screws into hood. Asbestos gasket between globe and hood makes fixture tight.

Fixtures 660-665 have weatherproof hood of either aluminum or copper regularly tapped for $1 / 2$-inch stem; $3 / 8$-inch will be furnished without change in price if so specified. Socket is two-piece porcelain, easy-to-wire type. For Benjamin Lamp Grip, add $\$ 0.2$ '2 to list price.

| List <br> No. | Kind of Hood | Size of Globe |  | Size of Lamps, Watts | Mifrs. List Price |  | W. E. List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Diam. | Depth |  | Globe Only | Complete | $\begin{aligned} & \hline \text { Globe } \\ & \text { Only } \end{aligned}$ | Com plete |
| Gic) | Aluminum | $3^{1 / 4}$ | +1/4 | 25, 40 | \$0.40 | \$1.30) | 80.83 | \$2.70 |
| 06 | Aluminum | 4 | 5 | 50, 60 | . 50 | 1.50 | 1.04 | 3.11 |
| 664 | Aluminum | 5 | 6 | 75,100 | 80 | 1.90 | 1.66 | 3.94 |
| 661 | Copper | 3114 | $41 / 4$ | 25, 40 | 40 | 1.55 | . 83 | 3.20 |
| (ii3 | (opper | 4 | 5 | 50, 60 | . 50 | 1.75 | 1.04 | 3.78 |
| ( 68.5 | Copper | 5 | 1 | 75, 100 | .80) | 2.20 | 1.66 | 4.55 |

Wire guarded type fixtures 672-673 have strong wire guard which screws on outside of hood and encloses globe.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Kind of Hood | Size of Globe |  | Size of Lamps, Watts | Mirs. List Price |  |  | W. E. List Price |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { Diam. } \\ \text { Ins. } \end{gathered}$ | $\begin{gathered} \text { Depth } \\ \text { Ins. } \end{gathered}$ |  | $\begin{aligned} & \text { Globe } \\ & \text { Only } \end{aligned}$ | $\begin{aligned} & \text { Guard } \\ & \text { Only } \end{aligned}$ | $\begin{aligned} & \text { Com- } \\ & \text { plete } \end{aligned}$ | Globe Only | Guard Only | Complete |
| 2 | Aluminum | $\pm$ | 5 | 50, 10 | 50.50 | \$1.00 | \$2.50 | \$1.04 | \$2.07 | \$5.18 |
| (i83 | Copper | 4 | 5 | 50,60 | . 50 | 1.00 | 2.75 | 1.04 | 2.07 | 5.18 |

Fixtures 617-fi31 have weatherproof porcelain-lined socket and noncorroding globe holder. Tapping for $1 / 2$-inch stem is regularly furnished, but $3 / 8$-inch may be ordered without change in price. For Benjamin Lamp (irip add $\$ 0.22$ to list price.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size of Globe |  | Color of Globe | Size of Lamps, Watts | Mirs. List Price |  | W. E. List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Diam. Ins. | Depth Ins. |  |  | Globe Only | Complete | Globe Only | Complete |
| 617 | $31 / 4$ | $41 / 4$ | Clear | 25, 40 | S0.40 | \$1.30 | \$ . 83 | $\$ 2.70$ |
| 628 | 4 | 5 | Clear | 40,60 | . 50 | 1.50 | 1.04 | 3.11 |
| 630 | 5 | 6 | Clear | 100 | . 80 | 1.90 | 1.66 | 3.94 |
| 631 | 4 | 5 | Ruby | 40.60 | 2.40 | 3.40 | 4.97 | 7.04 |
| 1415 | crew | ire C | for 4 ns | Cilo |  | 1.00 |  | 2.07 |

Moisture-proof Outlet Box Units 634-648 have galvanized cast-iron outlet box with pipe openings tapped either $1 / 2$ or $3 / 4$ inch, as specified, and non-corroding globe holder, and porcelain receptacle. List prices apply to two-way outlet box; for three-way box, add $\$ 0.22$ list; for four-way, add $\$ 0.41$ list.

| 634 | 4 | 5 | Clear | $25,40,60$ | $\$ 0.50$ | $\$ 1.50$ | $\$ 1.04$ | 83.11 |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 646 | 5 | 6 | Clear | 100 | .80 | 1.90 | 1.66 | 3.94 |
| 647 | 4 | 5 | Ruby | $25,40,60$ | 2.40 | 3.40 | 4.97 | 7.04 |
| 648 | 2-Way |  |  |  |  |  |  |  |
| 1415 Sex, less Globe and | Holder | $\ldots$. | .80 | $\ldots$. | 1.66 |  |  |  |

Prices do not include wires or lamps.


For Regular Socket


For G. E. Split Socker


For Porcelain Socket


Holdfast Adjustable

## Matthews Holdfast Lamp Guards



Guard for Protecting 200 Watt Type C Pear Shaped Mazda Lamps and 100 Watt Old Style *714. Straight Side Mazda Lamps
14 \$19.68
*S14. . . . . . . . ................................... Old Style Straight Side Mazda Lamps
14
$\$ 23.52$

Guard for Protecting 750 and 1000 Watt Type C Pear Shaped Mazda Lamps, with Brass or 1014-14 b. w. g. Weatherproof Mogul Sockets

All guards will be furnished with a trap to prevent the unauthorized removal of lamps. List Prices for Extra Trap-locks for Renewal Purposes
Traps
$\$ 0.72$
*The letter "B" should be added after the trade number if guards for brass sockets are desired, and the letters "WP" if wanted for weatherproof sockets.

Prices are the same for brass or weatherproof socket guards. Collars for brass soekets $11 / 4$ inches diameter; for weatherproof socket guards $1 \frac{1}{2}$ inches dianeter.

## Matthews Holdfast Adjustable

It consists of two friction plates which areheld together by and which revolve on a rivet. It ean be moved with one hand and stops where it is put. List P'rice Mratthews Holdfast Aljustable
Carton
10

ListMatthews Easy Lamp Changers

For 2 and 4 C.P. Sign Lamps and lamps up to 5 watts. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 6.00$
2 For t. 8, 10 and 16 C.P. Lamps and lamps from 5 watts to 60 watts ..... 6.00
7.00


Protects against loss by breakage, by fire caused by the breakage of lamps or by lamps coming in contart with inflammable material.

| list No. |  | I ist l’rice per Dozen |
| :---: | :---: | :---: |
| 1425 | For $25-60$ watt 110 volt with standard socket. | Sti. 00 |
| 1426 | For $40-60$ watt 230 volt with standard socket | 10.30 |
| 1427 | For $25-60$ watt 110 volt with W', ${ }^{\prime}$. socket. | (i.00 |
| 1428 | For 40 -(if) watt 290 volt with $\mathrm{W}^{\circ}$. I' socket | - (5.3) |
| $\begin{gathered} \mathrm{Nr} \\ \text { keys, } \end{gathered}$ | 1 key with reory dozan guards. cents each, net so cents por dozen. | . Extra |

PROTECTOR " O "

| List |  |  |
| :---: | :---: | :---: |
| No. |  | n |
| 1429 | For 40 watt lamp, standard socket | St.00 |
| 1430 | For (i0) watt lamp, standard socket. | 4.40 |
| 1432 | For 40 watt lamp, weatherproof socket | - 4.00 |
| 1434 | For (60 watt lamp, weatherproof socket | +1 4.40 |



Protector "II"


Protector " A "
"LOXON" REFLECTOR
C'an be used among machinery parts whero roflectod light is nerded. A substantial combination guard and reflector.
List List ]Price No. per Ihozen
1.4.2 lor 15 watt, standard bass socket. . \$x.50

1443 leor 40 watt, standard hrass socket . . 9.00
1444 lor 40 walt, weatherproof socket. . . . 9.00
PROTECTOR "A"
1441 loor 15 watt lamp only . . . . . . . . . . . . $\$ 2.80$
PROTECTOR "H"



## Adaptable Lamp Changer

The only changer made which maturally adjusts itself to any style, shape or size of lamp, including tungstens and mazdas, slips on and grips lamp without jar or breakage of filament. Removes broken bases of lamps.

Constructed with spiral apring and sliding ring to which cord may be attached, enabling it to be used at any angle in removing or inserting lamps.

Works on any longth of pole and is furmished with or without sterel poles, in five foot sections ats desired.

In ordering, specify clearly as to length of poles.
List Price
Each
Changer only. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Si. S0
Steel poles up to thirty feet, in sections of 5 feet, 18 inches.
4.50

## HUBBELL LAMP GUARDS

Every joint of the Ilubbell lamp guards is electrically welded through and through. No solder or tie wires, spring catches, clamps or other devices are used. This method of welding insures strength and durability. They are made entirely of heavy steel wire.


For Standard Sockets
Schedule "E"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List per 100 | W. E. List Price per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5691{ }^{\text {® }}$ | For 15-25-40-i0 watt Tungsten lamps. | 12 | 150 | 42 | \$29.50 | \$6.37 |
| $5692^{\text {4 }}$ | For 75 Type C. . . . . . . . . . . . . . . . . . | 12 | 150 | 52 | 32.25 | 6.97 |

For Weatherproof Sockets


^National Electrical Code Standard.

## HUBBELL LAMP GUARDS




No. 107


Style C


No. 161


No. 5


No. 13

## MORSE LAMP GUARDS

New "Never-Break" Guards
Are made of steel wire, neat and attractive, with silver luster finish.

| List | Light | Std. | W. E. List | List | Heavy | Std. | W. F. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Size Lamp | Pkg. | per Doz. | No. | Size Lamp | Pkg. | per Do |
| 07 | 16 candle power |  | \$3.60 | 111 | 16 candle powe |  | 5 |
| 109 | 32 candle power |  | 4.50 | 113 | 32 candle pow |  | 7 |

Standard Self-locking Guards
With Cushion

| For Brass Sockets |  |  | For | Sockets |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Std. Pkg. | W. F. List per Doz. | List <br> No. |  | Std. Pkg. | W. E. List per Doz. |
| 16 candle jower. . . . 24 | \$3.60 | G | 16 candle prower. |  | \$3.60 |
| 32 candle power . . . 24 | 4.05 | H | 32 candle power. . . . | 24 | 4.05 |

List
No.
161
162

165
166

| Light <br> Size Lamp | Std. Pkg. | W. F. List per Doz. | List <br> No. | Heavy <br> Size Lamp | Std. Pkg. | W. E. List per Doz. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ndle pow | 24 | \$4.50 | 163 | 16 candle powe | 24 | \$.30 |
| 32 candle power | 24 | 5.40 | 164 | 32 candle |  | 8.10 |

## For Weatherproof Sockets

16 candle power. . .
32 candle power . . . 2
$\$ 4.50$
167
16 candle powe
24
$\$ 6.30$
32 candle power... $24 \quad 5.40 \left\lvert\, \begin{array}{lllll}168 & 32 \text { candle power.... } 24 & 8.10\end{array}\right.$

## Weatherproof Socket Guard

List
No.
5
6

Light Size Lamp 16 candle power. . . . 24
32 candle power . . . . 24
83.10
$4.50 \mid 8$
List
No.
7

| Heavy | Std. | W. E. List |
| :---: | :---: | :---: |
| Size Lamp | Pkg. | per Doz. |
| 16 candle power | 24 | \$5.40 |
| 32 candle power | 24 | 7.20 |

## Combination Reflector and Guard

## For Brass Sockets

| Light <br> Size Lamp | Std. <br> Pkg. | W. E. Iist per Doz. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Heavy <br> Size Lamp | Std. Pkg. | W. E. List per Doz |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 16 candle power. | 12 | $\$ 0.30$ | 15 | 16 candle power |  | \$8.10 |
| 32 candle power. | 12 | 8.10 | 16 | 32 candle power. |  | 10.80 |

List
No.
13
14

# PORTABLE LAMP GUARDS 

## CRESCENT PORTABLE GUARDS



No. 4645


No. 1453


No. 1447


No. 4672


## LOXON PORTABLE LAMP GUARDS <br> For 40 Watt Lamp

Are made with chonized handle and Loxon guard attached. Furnished both in plain wire guard and with half guard reflector. liey socket ineluded.

| List |  | List Price <br> Each |
| :--- | :--- | :--- |
| No. |  |  |
| 1447 | Kicy socket, without roflector . . . . . . . . . . . . . . . | $\$ 1.80$ |
| 1448 | Key socket, with reflector . . . . . . . . . . . . . . . . | 2.00 |

## STANDARD PORTABLE LAMP GUARDS

A substantial guard for heavy service made with Bessemer steel rods and stamped metal rings, eopper-plated, with mica weatherproof socket, firmly imberded in handle.

| List <br> No. |  | List Price Each |
| :---: | :---: | :---: |
| 4672 | Complete for 40 watt lamp. | \$2.80 |
| 4673 | Complete for 60 watt lamp. | 3.50 |

## NATIONAL PORTABLE LAMP GUARDS

Are of heavy construction with open bottom, male of steel heavily tinned, with mica weatherproof socket firmly imbedded in handle.

| List |  | List Price |
| :---: | :---: | :---: |
| No. $1451$ |  | Each |
| 1452 | Complete for 40 watt lamp ( Complete for 60 watt lamp) | \$2.50 |

## LAMP GUARDS



3001 Vaporproof Guard

## No. 2000 Cable Rack Portable

## Cable Rack Portable Lamp Guard

A very handsome portable with black enamel handle. The cage portion of this portable is half guard and half reflector so as to direct the reflected light where it is needed. The handle is equipped with a hook. This portable is designed principally for use around telephone switchboards. Furnished with key or keyless socket securely embedded in handle giving a firm and rigid basc. Takes a 60 watt 110 volt Mazda lamp. Cage and reflector portion heavy tinned finish.
List No.
List Price Each
2000 Key Cable Rack Portable Lamp Guard
$\$ 2.80$
2001 Keyless Cable Rack Portable Lamp Guard
2.80

## No. 3001 Safety Vaporproof Portable Guard

This guard is just what its name describes, and is designed to meet the requirements of the garage or wherever gases or inflammable inaterials may be used. A heavy steel frame, strong handle, handy grip hook, and vaporproof receptacle make this the best vaporproof guard on the market. Takes a 25 watt standard Mazda lamp. Heavy tinned finish.
3001 Safety Vaporproof Portable Guard
$\$ 5.00$


No. 4000




No. 1440 Style I)

## No. 1439 Style C <br> No. 1437 Style B <br> No. 4000 Dreadnaught Portable Lamp Guard

A very strong portable guard made of Bessemer steel built to withstand hard usage and can be recommended to give unusual service. Ilas a porcelain keyless socket fitted with spring contact firmly embedded in hand!e. Takes a 60 watt lamp. Metal part copper plated finish. Made only in one size and finish. List No.

List Price Each
4000 Dreadnaught Portable Lamp Guard
$\$ 3.50$

## Style C Wall Guard and Outlet Box Cover Combined

A device for which there is a demand in every theater, warehouse or outside platform, wherever a stationary out let box socket is in use. Very strongly constructed of lessemer stcel wire ribs, stamped rings and plate or cover which will fit either a 3 or 4 inch outlet box and will take standard outlet box receptacles. The plate or box cover forms the lower part of the guard itself forming a combined cover and guard. It reduces the contractors stock as only one device takes the place of different size covers and guards. Ileavy tinned finish. Diameter $31 / 8$ inches, depth $5 \frac{5}{16}$ inches.
1439 Style C Wall Guard Outlet Box Cover Combined
$\$ 1.20$

## Style B Wall Guard

For use in thealers, docks, warehouses and outdoor work where a stationary socket is used. Very strongly constructed of lessemer steel wire ribs and stamped rings. Has a removable base ring which is attached to the wall. Key hole slots in base ring make them easy to attach and detach. Copper plated finish. Diameter $31 / 8$ inches, depth $67 / 8$ inches.
1437 Style B Wall Guard
$\$ 1.80$
No. 1440-D Wall Guard
This device is the same as above excepting that it is fitted ith a trap or cover which is equipped with a key locking arrangement, thus preventing theft of lamps as well as breakage. Lleavy tinned finish. Diameter $31 / 8$ inches, depth $5^{\frac{5}{16}}$ inches.
1440-D Wall Guard.
$\$ 1.60$
*Delivery F. O. B. Factory, Valparaiso, Ind. For warehouse deliveries write nearest house.


No. 1400

Outlet Box Lamp Guards 1400 are particularly adapted to low ceilings, side walls, foot lights, etc., where lamps are used in outlet box receptacles, and require protection.

Guard bases are slotted to fit either 3 or 4 inch boxes, and will take 60 watt lamps. Guards are of strong steel wire, and are tinned after manufacture.

|  | Size | Size |  |  |
| :--- | :---: | :---: | ---: | ---: |
| List | Diam. | Depth | Mirs. | W.E. |
| No. | Inches | Inches | List Price | List Price |
| 1400 | 4 | $53 / 4$ | $\$ 0.80$ | $\$ 1.62$ |
|  |  | PENDENT | LOCK | GUARDS |

Have a grooved band and eyebolt for attaching' to the bead of an enameled steel reflector. This band has hinged connection and catch for holding guard in position. Padlock may be passed through the rim and eyebolt for locking.

|  | Size | Size |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List | Diam. | Depth | Mifrs. | W. E. |
| No. | Inches | Inches | List P'rice | List Price |
| 1377 | 6 | $11 /$ | \$0.90 | \$1.87 |
| 1378 | 7 | 111/4 | 1.00 | 2.07 |
| 1380 | 8 | 13/2 | 1.10) | 2.28 |
| 1382 | 9 | $13 / 4$ | 1,20 | 2.48 |
| 1383 | 10 | 234 | 1.30 | 2.70 |
| 1384 | 11 | $13 / 4$ | 1.40 | 2.90 |
| 1386 | 12 | $23 / 4$ | 1.50 | 3.13 |
| 1388 | 14 | 4 | 1.60 | 3.31 |
| 1390 | 15 | 63/4 | 2.00 | 4.14 |
| 1392 | 16 | 5 | 2.30 | 4.71 |
| 1394 | 18 | 53/4 | 2.80 | 5.80 |
| 1396 | 20 | 7 | 3.60 | 7.45 |
| 1398 | 22 | 71/2 | 4.20 | 7.94 |

## CEILING LOCK GUARDS

Have hinge adapted for attaching to the ceiling by two wood screws, and a fastening plate opposite the hinge, likewise


No. 1356 attached by screws. The plate is designed to receive a loop on the guard. Padlock may be used if desired.

| List | Size | Size |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Diam. | Depth | Mirs. | W. E. |
| Inches | Inches | Inches | List Price | List |
| $\dagger 1350$ | 10 | 7 | \$1.20 | \$2.48 |
| $\dagger 1352$ | 12 | 8 | 1.40 | 2.90 |
| $\dagger 1354$ | 14 | 9 | 1.60 | 3.31 |
| 1356 | 16 | (3) ${ }^{4}$ | 1.80 | 3.73 |
| 1358 | 18 | 83/4 | 3.00 | 6.21 |
| 1360 | 20 | 11 | 4.00 | 8.28 |

The two-piece ceiling lock guards Nos. 1362-1374 have strong cylindrical upper guard adapted for attaching to the ceiling by three or more serews, and a lower or shallower portion hinged to it at the bottom. They are particularly designed for single unit ceiling fixtures.

No. 1364


| List | Cylindrical | Guard, Ins. | Hinged | Guard, Ins. | Mfrs. Price | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Diam. | Depth | Diam. | Depth | Each | Price |
| $\dagger 1362$ | 11 | 8 | 11 | 13/4 | \$1.60 | \$3.31 |
| $\dagger 1364$ | 11 | 10 | 11 | $13 / 4$ | 1.70 | 3.53 |
| $\dagger 1366$ | 11 | 12 | 11 | $13 / 4$ | 1.80 | 3.73 |
| $\dagger 1368$ | 14 | 10 | 14 | 4 | 2.20 | 4.55 |
| $\dagger 1370$ | 14 | 12 | 14 | 4 | 2.50 | 5:18 |
| $\dagger 1372$ | 18 | 12 | 18 | $53 / 4$ | 4.20 | 8.69 |
| $\dagger 1374$ | 18 | 16 | 18 | 53/4 | 4.80 | 9.94 |

$\dagger$ These guards are furnished on special order only, and require two weeks' notice.

Wire parts are of strong steel, tinned after welding. Fittings are galvanized.

Prices for all of above lock guards are less brass padlock shown. For the latter with two keys, add $\$ 1.04$ to list.

## BENJAMIN ADJUSTABLE CLUSTERS FOR STAND LAMPS

## pULL CHAIN ADJUSTABLE CLUSTERS-FLAT TOP

Flat Top Adjustable Clusters for Stand Lamps consist of cluster body, pull chain sockets, malleable iron hickey, or double saddle, and six-inch stem with roupling, when indicated.

The top is in the shape of a cover instantly removable, exposing the interior for casy wiring. Wires le:ul straight inta binding terminals at top of sockets.

This type of cluster is termed "semi-adjustable" because the sockets may be placed in any position from 35 degrees above to 60 degrees below horizontal.

Supporting bushings attached to main socket shell secure the sockets to the cluster body; so that there is no strain on the caps. Cluster includes $1 / 4 \mathrm{in}, \mathrm{x} 1 / 8 \mathrm{in}$. hickey or double saddle.


No. 898

Standard finish is brush brass. Polished brass and dead black finish furnished without extra charge if specified. Prices on other finishes given on application.

## CLUSTERS ONLY-WITHOUT MOUNTING PARTS

| List | No. of |  | Std. | Mfrs. List l'rice | W. E. List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { No. } \\ & \text { sss } \end{aligned}$ | lights <br> 3 | Cluster only. | 10 | \$1.60 | $\$ 3.20$ |
| S88 | 3 | C'lustor only | 10 | 2.20 | 4.39 |
| 889 | 4 | C'luster only | 10 | 2.80 | 5.60 |

## CLUSTERS COMPLETE-WITH TOP ORNAMENTS AND 6-INCH STEMS

| 897 | 2 | Clustor complete. | 10 | \$2. 20 | \$4.39 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| sos | 3 | ('lustor complete. | 10 | 2.80 | 5.60 |
| 809 | 4 | ('luster complete. | 10 | 3.40 | 6.78 |

bottom coupling is tapped for $1 / 4 \mathrm{in}$. iron pipe.

## PULL CHAIN ADJUSTABLE CLUSTERS-BALL TYPE,

Ball Type Adjustable Stand Lamp Clusters have sockets which are adjustable to any angle from horizontal to vertical. This enables the lamp to be placed in that position which shows the shade to greatest arvantage.

In eonnection with narrow or very flat shate designs the adjustahle socket feature is made a part of the body shell. This relieves the socket eap of all strain and makes for strong, sturdy construction.
'lop of duster may be casily removed for wiring, and the wires lead straight into terminals at top of soekets.


Standard finish is brusla brass. Polished brass and dead black finish furnished without extra charge if specified.

Prices on other finishes given on application.

## CLUSTER BODY WITH SHADE SUPPORT AND ORNAMENT ONLY

|  |  | Cluster less bottom stem........ | 10 | $\$ 1.90$ | $\$ 3.80$ |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| 880 | 2 | Cluster less bottom stem........ | 10 | 2.50 | 5.00 |
| 881 | 3 | Cluster less bottom stem........ | 10 | 3.10 | 6.19 |

## CLUSTER WITH SHADE SUPPORT ORNAMENT AND SIX-INCH STEM

| 890 | 2 | Cluster complete. | 10 | \$2.25 | \$4.46 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 801 | 3 | Cluster complete. | 10 | 2.85 | 5.69 |
| 892 | 4 | Cluster complete. | 10 | 3.45 | 6.89 |

loottom coupling is regularly furnished tapped for $1 / 2$ in. iron pipe.

## BENJAMIN ADJUSTABLE CLUSTERS AND ADAPTERS

\author{

* National Electrical Code Standard
}


## ADJUSTABLE CLUSTERS

Schedule 3


No. 952


## 660 Watts, 250 Volts

Adjustable lhug ('lusters ! 5 )-9:7 are used in connection with ceiling or pendent dome fixtures. Sockets turn in half-eirele for aljustment of hams with reference to shape of dome or reflector. 'fwo-and four-light dusers may be ordered wired two in series without dange in price. Standard finish is brush brass.

KEYLESS

| List No. | No. of |  |  |  | Mfrs. | W. V. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Std. | W't. | List | List |
|  | Lights |  | I'kg. | I.bs. | Irice | Price |
| 9) $)^{2}$ | $\because$ | Wirrd. | 10 | \% | \$1.25 | \$2. 50 |
| 9)\%3 | ; | Wired. | 1) | 1 | 1.5i5 | 3. 0 ( ${ }^{\text {a }}$ |
| ()i 4 | + | Wirmd | 10 | 7 | 1.85 | 3. 3 ( ${ }^{\text {a }}$ |

PULL CHAIN

| 95) | 2 | Wired | 10 | 5 | \$1.85 | \$3.60) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 95\% | 3 | Wired. | 10 | 6 | 2.45 | 4.90 |
| $95 \%$ | 4 | lirex | 10 | 7 | 3.05 | (i. 10) |

Adjustablo Nocket Chasters 852-85a are for use with eroiling or pendent fixtures. Bushings tapped form or $1 / 1$ inch may be ordered without damge in priere. Stamdard finish is brush brass.

## KEYLESS

| KEYLESS W P |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | No. of | Size of | Std, | Wt. | Mifs. List | IV. F. List |
| No. | Jights | Bushing | Pkg. | Iths. | Price | Price |
| ${ }^{*} \mathrm{~S} 52$ | 2 | $3 / 8$ inch | 10 | 5 | \$1.00 | 82.00 |
| *85:3 | 3 | 3/8 inch | 10 | i | 1.30 | ?.5! |
| * $\mathbf{3}$ - 4 | 4 | $3 / 8 \mathrm{inch}$ | 10 | 7 | 1.10 | 3.20 |
| PULL CHAIN |  |  |  |  |  |  |
| * $\times$-5 | 2 | $3 / 8$ inch | 10 | \% | \$1.60 | \$3.20 |
| * $\times$. 13 | 3 | $3 / 8$ inch | 10 | 6 | 2.20 | 4.39 |
| * $\backslash 57$ | 4 | 3/8 inch | 10 | 7 | 2.80 | 5.60 |

## WITH TOP AND BOTTOM BUSHING KEYLESS

Adjustable Sorket ('lusters 867-879) are for use in commection with stand or table lanins. (iencral deseription follows that for Nos. $9.52-957$ above. Top bushing tapped up to ${ }^{3}$-inch size for iron pipe or solid studs for shade support furnished without change in price. Standard finish is brush brass.

| $* 867$ | 2 | $1 / 4 \mathrm{inch}$ | 10 | 5 | $\$ 1.20$ | $\$ 2.29$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $* \$ 64$ | 3 | $1 / 4 \mathrm{inch}$ | 10 | 6 | 1.50 | 3.01 |
| $* 869$ | 4 | $1 / 4$ inch | 10 | 7 | 1.80 | 3.60 |

## PULL CHAIN

| $* 877$ | 2 |
| :--- | :--- |
| $* 578$ | 3 |
| $*$ |  |
| $*$ | 4 |

No. 878


No. $9221 / 2$

## BENJAMIN WIRELESS CLUSTERS FOR STAND LAMPS <br> NATIONAL ELECTRICAL CODE STANDARD <br> Schedule 3

There are no sockets to wire. The two lead wires are simply brought to the top terminals and fastened. The wireless method takes care of other electrieal connections.

The entire mechanism is enclosed within the eluster shell; therefore there are no sockets or projecting parts to loosen or break off.

Lamps are always at the same angle and are gromped near the center: this gives perfect distribution of light, and shows off the good qualities of the shade.

Chasters with one pull chain pull all lamps on or off with one motion. Chasters with two pull chains operate either one and one or one and two lights at each pull.

Standard finish is brush brass. Polished brass and dead black furnished without extra charge, if specified. Other finishes are special.

CLUSTER ONLY, WITHOUT MOUNTING PARTS
With One Pull Chain

MOUNTING PARTS FOR BENJAMIN STAND LAMP CLUSTERS

50:1 'Top ornament, tapped $1 / 8$-inch iron pipe size.
100 . 10
20
$50{ }^{2}$ Top ornament, tapper $1 / 4$-inch- $27 \ldots .100 \quad . \quad 10 \quad .20$
5093 'Top shade support, of $1 / 8 \times 1 \quad 15 / 16-$ inch iron pipe, $5 / 8 \times 11 / 8$-inch brass sterve, and cupped contering washer, per set. ................... . .
5004 Fhange tapped $1 / 4$-inch iron pipesize. $1(0) \quad .10 \quad .20$
5095 (lose nipple $1 / 8 \times 1 / 2$ inch for use with top ornament only.
100.05 . 11
5090 Standard 6 -inch bot tom stem for wireless cluster only, consisting of 1/4inch iron pipe, $75 / 16$ inches long, threaded both ends, and 5) $7 / 16$ inches of $5 / 8$-ineh brass casing, one $1 / 4 \times 5 / 8$-inch finishing ring and $1 / 4 x$ 1/4-inch coupling. . . . . . . . . . . . .
bxtra length stem as above, per inch
70

$$
100 \quad .02
$$

.04
5097 Standard 6 -inch botom stem for ailjustable clusters only, consists of $1 / 4 \times$ ( i -inch iron pipestem, thread ent hoth ends, and 5\% $7 / 16$ inches of $8 / 8-$ inch brass casing to slip, $1 / 4 \times 5 / 8$ inch finishing ring, and $1 / 4 \times 1 / 4$-inch eoupling . . . . . . . . . . . . . . . . . . . .
inch. . ............................ . .
100.35
70

51099 Brass coupling $1 / 8 \times 1 / 4$ inch, each.... $100 \quad .12 \quad .23$
For top or bottom tappings other than standard, special quotations will be made on request.
WIRELESS CLUSTER STAND LAMP FIXTURES Pull Chain Type
Benjumin Wireless (Chister Stand Lamp Fixtures consist of pullwhain chaster, top omament, 6 -inch stem and casing, finishing ring and coupling.
CLUSTER COMPLETE WITH ORNAMENT, STEM AND FITTINGS With One Pull Chain

| List | No. of | , |  | Mifs. | W. Li. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Std. | Price | Price |
| No. | Lights | Description | Pkg. | Each | Each |
| -39 | 2 | Chuster complete... | 10 | \$1.90 | \$3.80 |
| S40) | 3 | Cluster complete. | 10 | 2.15 | 4.30 |
|  |  | With Two |  |  |  |
| 849 | 2 | Cluster complete. | 10 | 2.20 | 4.39 |
| 850 | 3 | C'luster complete. | 10 | 2.45 | 4.90 |

Coupling at bottom of stem is tapped for $1 / 4$-inch iron pipe.
Coupling tapped $1 / 8$-inch furnished without extra charge if specified.


No. 241


No. 342


No. 4410


No. 69


## BENJAMIN PORCELAIN SOCKETS

MEDIUM BASE SOCKETS
Schedule 3
Medium base sockets have pendant cap with $\frac{f z}{3}$-inch opening for accommodating re-enforced
Keyless, 660 Watts, 600 Volts

| Tist No. 250 |  | Description | Std. <br> Pkg. | Wt. Lbs. | Mfrs. Price Fach | W. E Jist Fiach |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 257 | Without lamp grip. |  | 250 | 69 | \$0.25 | O. m |
|  | With lamp grip. |  | 100 | 26 | . 30 | . 60 |
| Lever Key, 250 Watts, 250 Volts |  |  |  |  |  |  |
| 2.49 | With lamp grip. |  | 250 | 69 | 30 | \$0.60 |
|  |  |  | 100 | 26 | . 35 | . 70 |

## WALL SOCKETS

These sockets have wall base 2 inches in diameter for concealed wiring. Supporting screw holes are slotted, spaced for $1 \frac{1}{16}$ to $1 \frac{5}{18}-$ inch centers. For car lighting, lamp grip is an important
item.

Keyless, 660 Watts, 600 Volts


## COPPER CAP SOCKETS

These sockets have copper cap with threaded bushing. They can be used for cither indoor or outdoor service. Standard finish on cap is natural copper. Aill are listed equipped with Benjanin Lamp Grip.

Keyless, 660 Watts, 600 Volts

| 4412 | Without bead, $1 / 8$-ineh bushing |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4414 | Without bead, $1 /$-inch bushing | 100 | 27 | 80.40 .45 | 80.80 .90 |
| 4.16 | Without bead, $3 / 8$-inch bushing | 100 | 27 | . 45 | .90 |
| 4.418 4.420 | Without bead, $1 / 2$-inch bushing | 100 | 27 | . 50 | 1.00 |
| 4421 | With beard, 1/-inch bu | 100 | 27 | . 40 | . 80 |
| 4422 | With bead, 3 -inch bush | 100 | 27 | . 45 | 90 |
| 4423 | With bead, 1/2-inch bushing | 100 | 27 27 | .45 .50 | .90 1.00 |
| Lever Key, 250 Watts, 250 Volts |  |  |  |  |  |
| 4.430 | Without bear, 1/8-inch bushing | 100 | 27 |  |  |
| 4.431 | Without bead, 1/4-inch bushing | 100 | 27 | . 50 | \$0.90 |
| 1432 | Without bead, $3 / 8$-inch bushing | 100 | 27 | . 50 | 1.00 |
| 4133 | Without bearl, $1 / 2$-inch bushing | 100 | 27 | . 55 | 1.12 |
| Ci4425 | With bead, $1 / 8$-inch bushing | 100 | 27 | 45 | 1.120 |
| (i. 1426 | With bead, $1 / 4$-inch bushing | 100 | 27 | 50 | 1.100 |
| Ci. 427 | With bead, $3 / 8$-inch bushing | 100 | 27 | . 50 | 1.00 |
| Ci428 | With bead, $1 / 2$-inch bus | 100 | 27 | 55 | 1.12 |

## MOGUL BASE SOCKETS <br> 1500 Watts, 600 Volts

Porcelain sockets are arranged for attaching to a surface or bracket by means of screws passing throngh the base. Wires in Nos. 69 and 691 lead in at the sides; in Nos. 169 and 692 pussing the base. The latter are used in Benjamin Refector Sockets. Screw holes are spaced $1 \frac{5}{3}$ inches on centers.

| 69 | Open terminals. | 20 | 9 | 55 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 691 | Open terminals, with lamp grip | 20 |  | . 65 | ${ }_{1} 1.30$ |
| 169 | Concealed terminals. . . . . . . | 20 | 9 | . 65 | 1.30 1.12 |
| 692 | Concealed terminals, with lump grip. | 20 | 9 | . 65 | 1.30 |
| Cast Iron Fittings |  |  |  |  |  |
| 3846 | Open fitting, tapped $1 / 2$ inch. | 20 | 5 | . 15 |  |
| :3817 | Open fitting, tapped $3 / 8$ inch. | 20 | 5 | . 15 | $\$ 0.30$ .30 |
| 2569 | Weatherproof flange, tapped $1 / 2$ inch. | 20 | 4 | . 20 | . 40 |
| 2669 | Weatherproof flange, tapped $3 / 8$ inch | 20 | 4 | . 20 | . 40 |

Two-piece porcelain sockets have means for attaching to a flange or surface. Wires are brought in through side outlets in upper base of Nos. 693.3 and 695 , and screw holes are spaced 13 inches on centers; in Nos. 696 and 698 , through central opening, with serew holes slotted for $11 / 2$ to


| 693 | Without lamp grip | 20 | 12 | . 70 | \$1.40) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 695 | With lamp crip.. | 20 | 12 | . 80 | 1.60 |
| 696 | Without lampg grip | 20 | 12 | 70 | 1.40 |
| 698 | With lamp grip. | 20 | 12 | . 80 | 1.60 |
| Weatherproof Cast Iron Fittings for Nos. 696 and 698 |  |  |  |  |  |
| 2571 | Flange, tapped 1/2 inch. | 20 | 5 | . 30 | \$0.60 |
| 2573 | Flange, tapped $3 / 1$ inch | 20 | 5 | . 30 | 80.60 |
| 2575 | Flange, tapped 1 inch. | 20 | $\overline{5}$ | . 40 | . 80 |
| 2577 | Flange, tapped $11 / 4$ inch | 20 | 5 | . 40 | . 80 |

## SIGNAL SOCKETS

## 660 Watts, 600 Volts

These sockets are in keeping with the requirements of railway electric signal service. Furnished with Benjamin Iamp Grip. Ilave binding posts. as shown, adopted as standard by the Railway Signal Association. Type $C^{\prime}$. has round head brass maehine screw type of binding terninal. Base is $27 / 8$ $\mathrm{x} 13 / 4$ inches; height, $13 / 4$ inches; serew holes spaeed $2 \frac{5}{\text { s }}$ inches on centers.
 2074 Type C Terminals................................................. $50 \quad 1.20$ Standard metal finish is brush brass. For bronze finish, add 10 per cent.

# BENJAMIN SOCKETS 

## National Electrical Code Standard

## UNIT SHELL SOCKETS

Schedule 3
Unit Shell Sockets $4320-4234$ consist of one-picee brass shell with removable soeket interior acressible from the bottom. Standard finish is brush brass.

| Size of |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Bushing |  | Strl. | Wt. | Mfrs. Lis | I.ist |
| No. | Inches | Description | Pkg. | L.ts. | Price | Price |
| 4320 | 1/8 | Brass bushing. | 100 | 14 | \$0.28 | \$0.50 |
| 4322 | 1/4 | Brass bushing. | 100 | 15 | 32 | .65 |
| 4:324 | $3 / 8$ | Brass bushing. | 100 | 16 | 3.4 | 68 |
| 4326 | H | Insulated bushing | 100 | 14 | 28 | . 50 |

Nos. 4328-43.34 are expanded below into a threaded portion accommodating Type "S" sharle holders and serew-threarled shade holder reflectors. Standard finish is brush brass.


Angle Socket with Shade Ilolder


No. 412


| List | Size of <br> Bushing |
| :---: | :---: |
| Ino. | Inches |
| 411 | $1 / 3$ |
| 4.51 | $1 / 4$ |
| 431 | $3 / 8$ |

PULL CHAIN ANGLE SOCKETS 660 Watts, 250 Volts

| 435 | 1/8 | Pull | 50 | 8 | \$0.65 | \$1.30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 436 | $1 / 4$ | Pull. | 50 | 8 | . 71 | 1.42 |
| 437 | $3 / 8$ | Pull | 50 | 8 | . 71 | 1.42 |

## ANGLE SOCKETS WITH SHADE HOLDERS

Angle sockets above are furnished with sharde holders at advances in prices ndicated. Holders for full sockets have opening to pass chain and permit chain to come down inside the reflector, Standard finish is brush brass.

| Nize of | Form of | Std. | W't. | Advance in List | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Holder | Holder | Pkg. | I.bs. | Price | Price |
| Inches |  | 50 | 12 | \$0.10 | 80.20 |
| $21 / 4$ | $\stackrel{\mathrm{H}}{ }$ | 50 | 12 | . 20 | . 40 |

FIBRE-LINED
660 Watts, 250 Volts
Twin Sockets $412-452$ are esperially adapted for aconomical show case, window or cove lighting installations. Scries form will be furnished, if ordered, without change in price. Standard finish is brush brass.


## PORCELAIN-LINED

660 Watts, 250 Volts
Twin Sockets 455-457 are poreelain-lined, brass shell soekets particularly adapted for use in danip plaees, and where high insulation is desired. Staulard finish is brush brass.

| 45. | 1/8 | Multiple | 50 | 14 | \$0.70 | \$1.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 458 | $1 / 4$ | Multiple | 50 | 14 | . 75 | 1.49 |
| +57 | $3 / 8$ | Multiple | 50 | 14 | . 75 | 1.49 |

## PORCELAIN

## 660 Watts, 600 Volts

Twin Sockets 424-427 are adapted for extra heavy duty and have Benjamin Lamp (irip.

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 424 | 1/2 | 2-wire multiple. | 50 50 | $\stackrel{24}{24}$ | $\$ 0.90$ .90 | \$1.80 |
| 425 | $3 / 8$ | 2 -wire multiple. | 50 | $\stackrel{24}{24}$ | . 90 | 1.80 |
| 42.412 | $1 / 2$ | 2 -wire series. | 50 | ${ }_{24}^{24}$ | 90 | 1.80 |
| 4251/2 | 3/1/8 | 2 -wire series... | 50 | 24 | 00 | 1.80 |
| 426 | 1/2 | 3 -wire multiple. | 50 | 24 | .90 | 1.80 |
| 427 | 3/8 | 3-wire multiple. |  |  |  |  |

# Western Electric <br> BENJAMIN SOCKETS 



No. 4207


No. 4.366
No. $\mathbf{4 3 7 0}$


No. 4210


No. B4252


No. C4252

# BENJAMIN ATTACHMENT PLUGS 



No. 903
 903A


Bushing for 903G:


Bushing for 903C


Bushing for 903 F


No. 904


No. 90.31 I

## SWIVEL ATTACHMENT PLUGS

660 Watts, 250 Volts

Schedule 3
1'lugs $903-904$ have a rotating sleeve for attaching or removing. There are proxided with cord-gripping
 No. bize has a metal set serew with insulated tip for holding the outer braid. The emire eorel is grippedthe ends thus kept from fraying. No. oust is intended for use with small eord. No. owite with heavy
 adapted for flexible armored cable.

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Std. | W't. | Mfrs List | IV. E. |
| No. |  | Pkg. | Lus. | Lach | Each |
| *903 | With standard bushing | 100 | 9 | 80.25 | \$0.50) |
| * (1) 3 A | With counter-bored bushing. | 100 | 9 | .2; | . 50 |
| * (1):30 | With insulatedsetscrewtip.. | 100 | 10 | 25 | 56 |
| * 0 O310 | With ${ }^{\frac{9}{32} \text {-inch bushing. }}$ | 100 | 9 | .25 | . 50 |
| $90.3{ }^{\circ}$ | With $1 / 4$-inch fibre bushing. | 101 | 10 | , 50 | 1.00 |
| 903) | With $\frac{15}{32}$-inch steel bushing. | 100 | 10 | 50) | 1.00 |

So. 9033[ has five inches of flexible metallie tube attached to the swivel shell. This makes easy the attachment, partipularly where derp, narrow style of glasware is used. The flexible handle also protects the cord agamst the pulling and hard wear that damages the insulation.

No. 004 is similar to $90: 3$, exept that it has a molded ring instead of fibre washer: and hushing of suatler ontside diameter:
${ }^{*} 00.4$ Attachment phy with modted ring. . . . . . . . . . . . . . . . . . . . . . $100 \quad 10 \quad$ so. 2x 0.50


No. 919


No. 907

## SEPARABLE ATTACHMENT PLUG

## Schedule 3 " H "

This phug will break upon the :application of a small forec at any angle. An aceidental jork on the cord ean therefore do mo damage to fixture, wirse or appliance.

| Jist No. | Description | Std. Pkg. | Hit. Lhs. | IIfrs. List Price | W. F |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 919 | Bushing ${ }^{13}$-ineh |  |  |  |  |
|  | ing. . . | 100 | 10 | 80.25 | \$0. 45 |

## SOLID ATTACHMENT PLUG

90- Thushing ${ }^{\frac{13}{3}-\text {-inch open- }}$
ing. . . .

## DIM-A-LITES AND DIM-A-LITE SOCKETS



No. 3.4


No. 31


No. 32

Deviees for dimming or tuming down a single incandescent lamp. May be used with either Carbon or Mazola lamps, jo watts or less, I'roduees five rhanges of light, viz, Full, Half, IVim, "Nitelite" and (Out. Suitable for either direct or alternating current. Saves current, $30_{\text {e }}^{c}$ to $80^{\circ}$, depending upon degree of turn-down. Inited states Govermment test. Approved by Underwriters. The pull-chain may be made as long as desired. Guaranted five years.

## Dim-a-Lites

Nos. $2: 3$ and it fit standard modium serew socket. I'ortable or interchangeabletroms. No. Dis furnished on all orters unless other types are specified.

## Dim-a-Lite Sockets

Nos, 31 and 32 , dimming socket. Standard construction throughout ('ombines slamdard pull-chain socket, Dim-a-lite, and husk or shade holder. Dtached permanontly fo fixture stem by thread and set serew. Equiped with highest arauld dumbled unit brass chain.

No. +4 portable unit, Thiversal holder. Adjustable hinge bracket. Attaches to bod, (rib, chair, ete. Epuipped with 8 -foot cord and plug. No lamp lumishod.

| I ist No. | Description | Carton Quantit! | Std. Pkg. | *Std. <br> l'kg. <br> Ship. W't., Lbs. | Mfrs. <br> List <br> Earh | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2: | Brush brass or gun metal finish, 110 volts. | 12 | 48 | 18 | \$1.2., | \$1.88 |
| 34 | Holder for $2:$ in. shade brush brass or gum motal finish, 110 volts | 1 | 50 | 17 | 1.35 | - 2.02 |
| 31 | 13rush brats or gun metal finish, 110 volts. | 1 | 50 | 20 | 1.50 | 2.26 |
| 32 | Hodder for $21, \mathrm{in}$. shatde. brush brass or gun metall finish, 110 volts. | 1 | 50 | 22 | 1.50 | 2.26 |
| 4.4 | loush brass. | 1 | 21 | 40 | 3.75 | 5. 62 |



No. 44
*itandard package can lie raarde up of only one style or List No. sperial voltages to order and quotations made on foreign types of I im-i=lites upon request. Add W. E. List $\$ 0.15$ (Mfrs. List $\$ 0.10$ ) list for 2en volts or 32 volts.

Spereall finishes arhl IV. LE. List $\$ 0.39$ (Mfrs. List $\$ 0.25$ ) list for Din-a-lites and lim-a-lite sockets.

Sireial finishes I im-a-lite I'ortable, add W. E. List $\$ 2.00$ (Mfrs. List s1.00) list.


Locking Spring Shade Holder
Schedule "D"

| 55284 | $21 / 4$ | As illustrated above | Specify fin. | 50 | 30 | 17 | 85.70 | \$17.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5.528^{4}$ | $21 / 4$ | .Is illustrated above | Unfinished | 50 | 2:4) | 17 | 7.65 | 15.30 |



## 4-INCH SHADE HOLDER FOR BRASS SHELL MOGUL BASE SOCKETS

Schedule "D"


HUBBELL DIRECT THREADING SHADE HOLDERS
Schedule "C."

| 629! | 21/4 | IIolder, ventilated, three serew type. | rinished | $51)$ | 500 | $31)$ | \$3, 25 | \$12.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (i269 | $21 / 4$ | IIolder, ventilated, three scrow typo. | Unfinisherl | 50 | 500 | 30) | 5. 20 | 10.40 |
| 6271 | $31 / 4$ | Wolder, ventilated, three screw type. | lיinished | 25 | 250 | 37 | 12.50 | 25.00 |
| 6271 | $31 / 4$ | Holder, ventilated, three screw type. | Unfinisherl | 2.5 | 250 | 37 | 11.10 | 22.20 |
| (627\% | $\cdots 1 / 4$ | IIolder, ventilated, lockingspringtypo | liinishod | 5) | 350 | 20 | 8.70 | 17.40 |
| 627\% | $31 / 1$ | Holder.ventilated. lockingspringt vire | linfinisherl | $30)$ | 2.50 | 30 | 7.65 | 15.30 |

I'olished brase, brush brass and rich gilt are standard finishes. All uther finishes exeopting gold and silver, add to hist, prer 100, \$1.75. Mfrs. list \$3.50.
(boods shipued brush brass unless otherwise specified.


No. 501
Uno Screw Holder


No. 502
Uno Spring Holder

BRYANT SHADE HOLDERS


Showing position of parts as holder is being attached to socket


No. 443


Showing position of parts when holder is attached to socket

## Bryant Shade Holders

The spring shade fastening of Uno and New Wrinkle Shade Holders provides an improved means of securing the shade in the holder and has the following advantages: The locking wire expands and contracts uniformly at every point. The locking wire touches the shade at every point. The locking wire is free to expand as the shade expands from the heat of the lamp, without in any way lessening the security of the fastening. The shade is held absolutely central in the holder. The holder will support the heaviest shades with absolute security. Shades can be attached and removed in one tenth of the time required for holders with three screws.

UNO SHADE HOLDERS
Schedule "D"
A one-piece holder which threads directly on to Bryant-Perkins brass shell sockets and receptacles. Quickest and easiest to put on and stays put. The threading of the bead on the socket and receptacle shells does not prevent the use of other makes of shade holders. Mfrs. List W. F. List Mfrs. List W. E. List

| List |  | Size | Std. | per 100 | $\text { per } 100$ | $\text { per } 100$ | $\text { per } 100$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Description | Inches | Pkg. | Finished | Finished | Unfinished | Unfinished |
| 501 | Screw holder . . . . . . . | 21/4 | 500 | \$6.25 | \$11.25 | 85.20 | \$9.36 |
| 532 | Solid. | $21 / 4$ | 500 | 6.60 | 11.88 | 5.55 | 9.62 |
| 502 | Spring holder | $21 / 4$ | 250 | 8.70 | 15.66 | 7.65 | 13.77 |
| 533 | Solid. | 21/4 | 250 | 9.05 | 16.29 | 8.00 | 14.40 |
| 503 | Form "H" screw holder. | 21/4 | 250 | 9.40 | 16.92 | 8.85 | 15.93 |
| 504 | Form "H" spring holder | $21 / 4$ | 100 | 11.85 | 21.33 | 11.30 | 20.34 |
| 505 | Screw holder | 31/4 | 250 | 12.50 | 22.50 | 11.10 | 19.98 |
| 534 | Solid. | 31/4 | 100 | 12.85 | 23.13 | 11.45 | 20.61 |
| 506 | Spring holder | 31/4 | 100 | 19.00 | 84.20 | 17.50 | 31.14 |
| 535 | Solid. | $31 / 4$ | 100 | 19.35 | 34.83 | 17.85 | 32.13 |
| 511 | With screws | 4 | 100 | 16.35 | 29.97 | 15.25 | 27.45 |
| 536 | Solid. | 4 | 100 | 17.00 | 30.6) | 15.60 | 28.08 |

The above list prices cover brush brass, polished brass or rich gilt. Special finishes, except gold, silver and sand blast, add $\$ 2.10$ extra per hundred list. Brush brass shipped unless otherwise ordered.

## New Wrinkle Shade Holders

Schedule " $H$ ',
New Wrinkle Shade Holder is attached to the socket in a manner which is extremely simple and can be accomplished in a minimum time and yet with greater rigidity than is provided in many types of holders now on the market.

| List No. | Style | Carton | Pkg. | Std. Pkg. | per 100 | Per 100 |
| :--- | :---: | :---: | :---: | :---: | ---: | ---: |
| 440 | $21 / 4$ inch | 50 | 200 | 20 | $\$ 18.00$ | $\$ 39.60$ |
| 441 | Form H | 25 | 100 | 15 | 24.00 | 52.80 |
| 442 | $31 / 4$ inch | 25 | 100 | 15 | 30.00 | 66.00 |

## New Wrinkle Emergency Shade Holder

Schedule " H "
The New Wrinkle Emergency Shade Holder has the same method of securing the shade in the holder as described above. It is attached to the socket by means of a screw shell which, introduced between the screw shell and the porcelain wall of the lamp socket, engages with the screw shell of the lamp socket. The screw shell of the shade holder is thoroughly insulated from the holder itself.

It has always been impossible to make a satisfactory shade holder for use in connection with weatherproof and other porcelain sockets and receptacles, as not only do the porcelains vary in thickness but also they are frequently much away from a true circle. It has been mechanically impossible to make a practical holder that would fit porcelains of minimum and maximum thickness and all the various shapes. The New Wrinkle Emergency Shade Holder solves the problem.

| 443 | $21 / 4$ inch | 25 | 100 | $\ldots$ | $\$ 20.00$ | $\$ 44.00$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 444 | Form H | 10 | 50 | $\ldots$ | 25.00 | 55.00 |
| 445 | $31 / 4$ inch | 10 | 50 | $\cdots$ | 30.00 | 66.00 |

# GLASS REFLECTOR SHADE HOLDERS 



Form A. Holder (New Type)


## Holophane Holders for Electric Sockets <br> List Prices and Data

| List <br> No. | Designation | Finish | Diameter | Standard Quantity | Nffrs. List per 100 | W.E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 421953 | Form () Holder | Polished or brush brass | 21/4 ins. | 30 | 80.25 | \$0.12 |
| 421954 | Form 4 llolder | Polished or brush brass | $31 / 4$ ins. | 12 | 60 | 40 |
| 421055 | Form 11 llodder | Polisherl or brush brass | $21 / 4$ ins. | 30 | 40 | 16 |
| 421956 | Form T T lolder | Polished or brush brass | $15 / 8 \mathrm{ins}$. | 50 | 20. | 08 |

Note: Form T Holder for $1 \frac{5}{6}$ inch neek reflector is an exelusive design, and is furnished only with Holophane glassware.

Special Finisnes: The following additional net charges are made for special finishes on Form 11 and 0 holders: Oxidized copper or black 8 , cents each, net; when ordered in lots of 500 or more, one kind not assorted, 5 cents each, net. All other finishes, 13 cents each, net; when ordered in lots of 500 or more, one kind not assorted, 8 cents each, net.


P \& S 119


Victor Shade Holder

## P \& S Shade Holders

For Porcelain Sockets and Receptacles
Schedule "XA"

| List No. | Description | $\begin{gathered} \text { Carton } \\ \text { Quantity } \\ \hline \end{gathered}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wgt. } \end{aligned}$ | $\begin{gathered} \text { Mfrs. List } \\ \text { per } 100 \\ \hline \end{gathered}$ | $\begin{array}{\|} \text { W. E. List } \\ \text { per } 100 \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 119 | Shade holder, $21 / 4$ inch polished brass. | 24 | 288 | 24. | \$8.50 | \$12.24 |
| 1190 | Shade holder $31 / 4$ inch polished brass.. . . ..... <br> No extra charge for brush brass. For all other finishes,add per hundred to the W. E. list $\$ 2.52$, to the Mifrs. list \$1.75. | 12 | 144 | 16 lbs . | 16.25 | 23.40 |


| List $\mathrm{N}_{0}$. | Size | Victor Shade Holders | Std. Pkg. | Weight | W. E.. List per Gross |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{12}{126 t}$ | 21/4 inch | Vietor shade holder, polished or brush brass. | 1.4 | $\because \pm$ lis. | \$13.15 |
| $126 \%$ | $31 / 4$ inch | Vietor shatle holder, polished or brush brass. | 144 | 25 lbs | 24.40 |
| 172.5 | 4 inch | Vietor shade holder, polished or brush brass. | 1.44 | 26 lbs | 30.00 |
| 27.38 | $21 / 4$ inch | Victor shade holder, polished or brush brass. | 144 | 24 ths | 15.60 |
| 2787 | $31 / 4 \mathrm{imbh}$ | Vietor shade holder, polished or brush brass. | 1.44 | 25 lbs . | 24.75 |

# HUBBELL PORCELAIN SOCKETS AND GLOBE HOLDERS 



No. 3476
With Extension Guide


Nos. $34533 \frac{1 / 4}{}$ overali, 3454 $33 / 4^{\prime \prime}$ overall, $345541 / 8^{\prime \prime}$ overaill, 34564 ? ${ }^{\prime \prime}$ overall


No. 3480

Medium Base Porcelain Sockets
Pull 250 Watts, 250 Volts; Key 250 Watts, 250 Volts; Keyless 660 Watts, 250 Volts FOR REFLECTORS

| FOR REFLECTORS |  |  |  | dule 'C'] |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 1 )esscription | (arton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { P'kg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mfrs. <br> List | $\begin{gathered} \text { W. F. } \\ \text { pur } \\ \text { Curton } \end{gathered}$ |
| 3476 | Pull $3 / 8$ in, cast iron cap | 10 | 50 | 35 | \$1.35 | \$27.00 |
| 477 | Key, 3 in cast iron cap). | 10 | 50 | 40 | . 85 | 17.00 |
| 3445 | Keyless, ${ }^{\frac{1}{8} \text { iu. cast iron (ap }}$ | 10 | 50 | 30 | . 80 | 16.00 |
| 3478 | Pull, $1 / \underline{\text { in }}$ (ast iron cap. . | 10 | 50 | 35 | 1.35 | 27.00 |
| 3479 | Key tr in cast iron cap. | 10 | 50 | 40 | . 85 | 17.00 |
| 3410 | Keyless, 将 in. (ast iron cap. . | 10 | 50 | 30 | . 80 | 16.0) |

All brass and aluminum porcelatn socket caps listed elsewhere are interchangeade with above sockets. For sockets with cither Nos. $150,151,152$ or 153 caps listed elsewhere add to list ${ }^{3} 10.10$, Mfrs. List $\$ 0.40$. . Vor soekets with either Nos. 154 or 155 caps listed elsewhere add $\$ 0$. tif; to list. For sockets with No. 163 eaps liste:l clsewhere add $\$ 1.54$ to list. For sockets with No. 173 caus listed elsewhere add $\$ 1.10$ to list. For sockets cither Nos. $174,175,176$ or 177 carg listed elsewhere add $\$ 1.54$ to list.

## WITH VENTILATED CORRUGATED COVER FOR PAINT ENAMELED REFLECTORSSTRAP HOLDER ATTACHED

| 3412 | Keyless, $3 / 8$ in. iron cap with lock nut. | 10 | 50 | 55 | \$1.20 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3451 | Neyless, $1 / 2$ in. iron cap with loek nut. | 10 | 50 | 55 | 1.20 | 24.00 |

## FOR PORCELAIN ENAMELED REFLECTORS

| 3453 | lieyless, $1 / 2$ in. iron cap with lock nut, for reflectors with $5 / 8$ in. I-extension |  | 50 | 60) | \$1.22 | \$5.37 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3154 | keyless, $1 / \frac{1}{2}$ in. ironcap with lock nut, for reflectors with $11 / 8 \mathrm{in}$. L -extension. | 2 | 50 | 65 | 1.24 | 5.46 |
| 3455 | Keyless, $1 / 2 \mathrm{in}$. iron eap with lock nut, for reflectors with $11 / 2 \mathrm{in}$. I-extension. | 2 | 30 | 70 | 1.26 | 5. 54 |
| 345t | Keyless, $1 / 2 \mathrm{in}$. iron cap with lock nut, for reflectors with $21 / 4 \mathrm{in}$. L-extension. | 2 | 30 | 80 | 1.30 | 5.72 |
| 3459 | Keyless, $1 / 2 \mathrm{in}$. iron cap with lock nut, for $\mathbf{M 1 3 2 0 0}$ and MW 200 retlectors | 1 | 30 | 85 | 1.45 | 3.19 |

## Mogul Base Porcelain Sockets

For Reflectors. 1500 Watts, 250 Volts
With Cast Iron Cap-Strap Holder Attached
Schedule " $C$ "

| 3446 | Keyless, $3 / 8 \mathrm{in}$. east iron eap | 20 | 35 | \$1.80 | 87.92 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3413 | Keyless, $1 / 2$ in. cast iron cap | 20 | 35 | 1.80 | 7.92 | 3413 Feyless $1 / 2$ in cust iron cap

These sockets can be furnished with $3 / 8$ ineh, $1 / 2$ inch or $3 / 4$ inch aluminum caps instoad of the standard cast iron. For soekets so equipped add $\$ 1.00$ to list.

## WITH VENTILATED CORRUGATED COVER-STRAP HOLDER ATTACHED

| 3457 | lieyless, $1 / 2$ in. iron cap, lock nut, for reflectors with $11 / 8 \mathrm{in}$. |  | 10 | 35 | \$2.40 | $\overrightarrow{50} \cdot \overrightarrow{38}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 34.58 | Keyless, $1 / 2 \mathrm{in}$. iron cap, loek nut, for reflectors with $21 / 4 \mathrm{in}$. $1 .-\mathrm{ex}$ | 1 | 10 | 35 | 2.50 | 5. |
| 3485 | Keyless, $1 / 2$ in. iron cap, lock nut, for MD1000 and M W 1000 refl | 1 | 10) | 50 | 3.10 | 6.8\% |


| Corrugated Ventilated Globe Holders |  |  |  |  | Schedule "C" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3480 | $31 / 4 \mathrm{in}$. holder and corrugated, ventilated cover for medium keyless socket, for $3 / 8 \mathrm{in}$. pipe. |  | 30 |  | \$1.85 | \$4.07 |
| 3481 | 4 in . holder and corrugated, ventilated cover for medium base porcelain keyless socket, for $3 / 8 \mathrm{in}$. pipe |  | 30 |  | 2.10 | 4.62 |
| 3482 | 6 in . holder and corrugated, ventilated cover for medium base porcelain keyless socket, for $1 / 2$ in. pipe |  | 20 |  | 2.50 | 5.50 |
| 3483 | 6 in. holder and eorrugated, ventilated cover for porcelain Mogul socket, far $1 / 2$ in. pipe. |  | 10 |  | . 00 | . 60 |
| 3484 | 8 in . hokler and corrugated, ventilated cover for porcelain Mogul socket, for $1 / 2$ in. pipe. |  | 10 |  | 3.50 | 7.70 |
| Standard finish, baked-on black Japan. <br> For holders, finished in Flemish brass, add the following to list price: No. 3480, \$4.10; No. 3481, \$4.20; No. 3.482, \$5.50; <br> No. 3483, \$is.60; No. 3484, \$7.70. <br> Glassware not furnished. <br> These globe holders are furnished complete with porcelain keyless sockets. <br> Holders with medium base sockets tapped for $1 / 2 \mathrm{in}$. pipe or holders with Mogul base sockets tapped for $3 / 8$ inch pipe may be had without extra eharge. |  |  |  |  |  |  |
|  |  |  |  |  |  |  |



Nos. 173, 288, 175


No 6012


No. 6050


No. 6019

## Electric Shades

| List <br> No. |  | Size | List Price Each | List Price per Doz. |
| :---: | :---: | :---: | :---: | :---: |
| 173 | Roughed inside or roughed outside. | $43 / 8 \times 21 / 4$ ins. | \$0.50 | \$2.60 |
| 288 | Roughed inside or roughert outside. | $43 / 4 \times 21 / 4$ ins. | .60 | 3.10) |
| 175 | Roughed inside or roughed ousside | $51 / 8 \times 21 / 4$ ins. | . 80 | +.1.4 |
| (6)1? | Rougherl inside or roughed outside. | $5 \times 21 / 4$ ins. | . 80 | 4.30 |
| (10)\% | Roughed inside or roughed outside. | $4 \times 21 / 4$ ins. | . 70 | 3.44 |
| (6)19 | Rougherd inside or roughed outside. | $47 / 8 \times 21 / 4$ ins. | .70) | $3.41{ }^{1}$ |



## Electric Shades

| List <br> No. |  | Size | List Price Each | List Price per Doz. |
| :---: | :---: | :---: | :---: | :---: |
| 159 | Roughed inside or roughed outside. |  | 80.60 | \$2.60 |
| (0)72 | Roughed inside or roughed outside. | $5 \times 21 / 4 \mathrm{ins}$. | 1.00 | 4.66 |
| 295 | Roughed inside or roughed outside. | $4 \times 21 / 4 \mathrm{ins}$. | 1.00 | 5.16 |

## Nebulite Tungsten Electrics

A Dense White Glass of Great Purity and High Reflecting Power

| List <br> No. |  | Watts | Size | List Price Each | List Price per Doz. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6140 | Roughed inside or roughed outside. | 25 | $51 / 2 \times 21 / 4$ ins. | 80.80 | \$4.30 |
| 6159 | Roughed inside or roughed outside. | 40 | $61 / 2 \times 21 / 4 \mathrm{ims}$. | 1.10 | 5.50 |
| 6160 | Roughed inside or roughed outside. | 60 | $7 \times 21 / 4$ ins. | 1.20 | 6.20 |
| 6161 | Roughed inside or roughed outside. | 100 | $8 \times 21 / 4$ ins. | 1.30 | 6.88 |
| 6162 | Roughed inside or roughed outside. | 250 | $10 \times 31 / 4$ ins. | 2.00 | 11.18 |

Delivery F. O. B. Factory, Philadelphia, Pa. For warehouse deliveries write nearest house.

## OPAL PORCELAIN SHADES



Flat Opal


Flat Crimped Edge


Fluted Deep Cone


## Deep Cone Porcelain Shades



## Parabola Porcelain Shades

|  | Green Plated Plain Angle |  |  |  |  | Opal Plain Angle Shades |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Diam. | Height | Holder | List Price | List Price | List | Diam. | Height | Holder | List Price | List Price |
| No. | Inches | Inches | Inches | Each | per Doz. | No. | Inches | Inches | Inches | Each | per Doz. |
| 8516. | $41 / 4$ | 6 | 21/4 | \$1.96 | \$10.00 | 8516 | $41 / 4$ | 6 | $21 / 4$ | \$1.88 | \$6.60 |
| 8518. | 7 | 7 | $21 / 4$ | 2.28 | 18.00 | 8518. | 7 | 7 | $21 / 4$ | 2.19 | 12.00 |

# Imported Half Shades 

Opal Glass Porcelain Lined
For 16 C. P. Lamps. 2 $1 / 4$ inch Holder


## HOLOPHANE GLASS REFLECTORS

## FOR TYPE B LAMPS

EXTENSIVE TYPE XTRAFICIENCY REFLECTORS
Schedule " $R$ "

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Mazda Lamp Watts | Diameter Inches | Height <br> Inches | Holder Inches | $\begin{aligned} & \text { No. in } \\ & \text { Std. } \\ & \text { Plig. } \end{aligned}$ | $\begin{aligned} & \text { Wt. } \\ & \text { Std. } \\ & \text { Phg. } \end{aligned}$ | Mifrs. List Price Each | $\left\lvert\, \begin{gathered} \text { IV. W. } \\ \text { List I'rice } \\ \text { Each } \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 工1-20 | 15 or 20 | 578 | $3{ }^{3} \times$ | $21 / 40$ | 20 | 27 | \$0.80) | 50.88 |
| XE- 25 | 25 | $6{ }^{16}$ | $4^{1 \%}$ | 2140 | 20 | 32 | . 90 | . 99 |
| XE- 40 | 40 | 6\%\% | 433 | $21 / 40$ | 10 | 23 | 1.05 | 1.17 i |
| XE- 60 | 60 | $75 \%$ | 5 | 21/4) | 10 | 30 | 1.15 | 1.27 |
| XE-100 | 100 | $83 / 4$ | $53 / 4$ | 21/41 | 10 | 37 | 1.50 | 1.85 |
| XE-150 | 150 | 10 | 61 | $31 / 4.1$ | 10 | 52 | 2.75 | 3.013 |
| XF-200 | 200 "C" | 978 | 738 | $31 / 4 \mathrm{~A}$ | 10 | 62 | 3.25 | 3.58 |
| X1-250 | 250 | 113 | 73 | 31/4 | 6 | 48 | 4.10 | 4.51 |
| XW-500 | 400 or 500 | 1.41/x | $85 \%$ | $31 / 4$ | 4 | 54 | 9.35 | 10.29 |

INTENSIVE TYPE XTRAFICIENCY REFLECTORS

| XI- 20 | 15 or 20 | , | , | $21 / 40$ | 20 | 28 | \$0.80 | \$0.Ns |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| XI- 25 | 25 | 63/4 | 41/8 | 21/40 | 20 | 36 | . 90 | . 99 |
| XI- 40 | 40 | 73 | $45 / 8$ | $21 / 4$ | 10 | 23 | 1.05 | 1.16 |
| XI-60 | (i) | 73 | 5 | $21 / 40$ | 10 | 29 | 1.15 | 1.27 |
| X I-100 | 100 | $83 \%$ | $53 / 4$ | $21 / 4 \mathrm{II}$ | 10 | 35 | 1.50 | 1.65 |
| XI-150 | 1.50 | 105 | $63 / 4$ | $31 / 4 \mathrm{~A}$ | 10 | 57 | 2.75 | 3.003 |
| X 1-200 | 200 "C" | $10^{3}$ | $71 / 2$ | $31 / 4.1$ | 10 | 60 | 3.25 | 3.58 |
| XI-250 | 250 | 115/8 | 714 | 314 | 6 | 47 | 4.10 | 4.51 |
| XI-500 | 400 or 500 | 143/4 | $81 / 2$ | $31 / 4$ | 4 | 55 | 9.35 | 10.29 |

FOCUSING TYPE XTRAFICIENCY REFLECTORS

| XF-20 | 15 or 20 | $65 / 8$ | $37 / 8$ | $21 / 40$ | 20 | 29 | \$0.80) | 80.88 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| XF-25 | 25 | 7 | 4 | $21 / 40$ | 20 | 32 | . 90 | . 99 |
| XF-41P | 40 | 731 | $43 / 8$ | 2140 | 10 | 20 | 1.05 | 1.18 |
| XF-60 | (60) | $81 / 4$ | $43 / 4$ | $21 / 4$ | 10 | 28 | 1.15 | 1.27 |
| XF-100 | 100 | $93 \%$ | 51/8 | 21/4 | 10 | 32 | 1.50 | 1.65 |
| XF-150 | 150 | 115\% | 611 | $31 / 4.1$ | 10 | 56 | 2.75 | 3.0.3 |
| XF-2:0 | 250 | 1:3\% | $7{ }^{3}$ | $31 / 4$ | , | 49 | 4.10 | 4.51 |



REFLECTORS FOR WINDOW LIGHTING

## For Type C Lamps

Reflector 983 is used for windows of ordinary dimensions.
Reflector 903 is for very shallow windows.
Reflector 022 is used in corner, open, island, and mirror back windows.

| 983 | 100 | $10^{3}$ | (1312 | 21/11 | 1.5 | 65 | \$2.00 | 82.3) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 963 | 100 | 101/2 | $51 / 4$ | $21 / 411$ | 15) | 65 | 2.00 | 2.20 |
| 922 | 100 | 9 | (19 $1 / 2$ | 21/4II | 10 | (6) | 3.50 | 3.85 |
| 8300 | 100 | 105/8 | 538 | 21/11 | 1.5 | 65 | 2.00 | 2.20 |

## HOLOPHANE GLASS REFLECTORS

FOR TYPE C LAMPS



Extensive Type CSE


Intensive Type CSI

Superficiency Holophane Glass Reflectors
EXTENSIVE TYPE
Schedule "R"

| List <br> No. | Recom. "(") Lamp Watts | 1)imensions in Inches |  |  | Approx. Shpy. W't. Std. I'kg. | No. in Std. Pkg. | Mfrs. List Price Each | W. E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | IJiam. | Height | Holder |  |  |  |  |
|  | 75 | 71/2 | $5^{7 / 8}$ | 21/4 ${ }^{\text {a }}$ | 35 | 10 | \$1.40 | \$1.54 |
| CSW-100 VF | 100 | $81 / 8$ | 6 | 21/41] | 37 | 10 | 1.75 | 1.93 |
| CSF-200VF | 200 | $97 / 8$ | 738 | $31 / 4 \mathrm{~A}$ | 62 | 10 | 3.40 | 3.80 |
| CSE-500V V | 400-500) | 131/4 | $85 / 8$ | $31 / 4$ | 54 |  | 9.85 | 10.84 |

## INTENSIVE TYPE

| CSI- 750 H | 75 | 8 | $57 / 8$ | 21/4 1 | 35 | 10) | \$1.40 | \$1.54 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CSI-100) F | 100 | $85 / 8$ | 61/8 | 23/41 | 33 | 10 | 1.75 | 1.93 |
| CSI-200VF | 200 | 101/4 | $73 / 8$ | $31 / 4.1$ | 610 | 10 | 3.40 | 3.80 |
| CSI-500VF | 400-500) | 141/8 | $81 / 2$ | $31 / 4$ | ini | 4 | 9.8 .5 | 10.84 |



No. 02.560 V.s.

## HOLOPHANE-REALITE UNITS

## Large Units for Type C Lamps

Schedule " $R$ "
These Holophane-Realite Units are furnished with velvet-finished reflectors and satin-finished bowls, smooth outside, but with a sumburst of prisms inside. They diffuse the light, are lighly efficient, and do not change the color value of the lamps. The fixtures for these units are espocially ventilated for use with the new high efficiency Type ( lamp. $^{2}$.

Complete Unit, Velvet Reflector and S. F. Bowl

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\left\lvert\, \begin{gathered} \text { Recom. "C" } \\ \text { Lamp } \\ \text { Watts } \end{gathered}\right.$ | Dimensions in Inches |  |  | Approx. <br> Shp. Wt. <br> Std. Pkg. | No. in Std. Pkg. | Mfrs. List Price Each | W. E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Diam. | Ileight | Holder |  |  |  |  |
| 02560 VS | 100 | 105/8 | $151 / 4$ | $31 / 4$ | 70 | 4 | \$16.40 | \$7.04 |
| 02570VS | $\left\{\begin{array}{l}100 \\ 200\end{array}\right\}$ | 123/4 | 161/4 | $31 / 4$ | 72 | 3 | 21.00 | 16.80 |
| 06290VS | $\left\{\begin{array}{l}300 \\ 400 \\ 500\end{array}\right\}$ | 143/4 | 173/4 | 4 | 70 | 2 | 30.70 | 24.56 |



No. 2110 V. F.


No. $2120 \mathrm{~V}, \mathrm{~F}$.


Nos, 2130 V. F. and 2140 V. F. With Metal Clamps
No. 02760 V. F. and No. 02750 V. F. With Hood and Mogul Socket

REFLECTOR-REFRACTORS
Schedule " $R$ "

| List No. | Type C Bowl Lamp | [3ow! I)iam. Inches | Length Inches | Holder | W't., l.bs. Std. Pkg. | Std. Prig. | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2110 V.F. | 75 | $73 / 8$ | 47/8 | $21 / 4{ }^{(1)}$ | tis | 20 | \$2. 10 | \$2.31 |
| 2110 V゙「K1 | 100 | $73 / 8$ | 478 | 21/4. | (i8 | 20 | 2.10 | 2.31 |
| 2120 VF | 100 | $91 / 2$ | $61 / 4$ | 3140 | 76 | 12 | 4.50 | 4.95 |
| 2120 V.F.-2 | 200 | 91/2 | 611/4 | 3114. | 76 | 12 | 4.50 | 4.95 |
| 2130 V.F. | 300-400 | 121/4 | $81 / 4$ | 4 spres. | (i)3 | 1 | 10.50 | 10.50 |
| 2140 V.F. | $300,400,500$ | $141 / 4$ | $95 / 8$ | 4 spee. | $(6)$ | 3 | 15.00 | 15.00 |

GLASS, HOOD AND SOCKET

| $02760 \mathrm{~V} . \mathrm{F}$ | $30(0)-400$ | 121/4 | 121/4 | 4 speer. | 72 | 4 | 15.00 | \$15.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $02750 \mathrm{~V} . \mathrm{F}$. | $300,400,500$ | 141/4 | 137\% | 4 spee. | 70 | 3 | 21.00 | 16.80 |



No. 741

## HOLOPHANE TOTAL INDIRECT UNIT

## Schedule "I'"

This unit is complete with 20 inch white A No. 1 porcelain enameled steel bowl holder; $3 / 4$ inch conduit stem 21 inches long; Mogul poreelain soeket with medium base adapter and canopy, holder, canopy and sten finished white enamel to match bowl.

Because of special contour of bowl and special white porcelain enamel, this unit has very high efficiency, efficiency of utilization approximately $42 \%$ for large rooms and light walls and ceiling. Will take any size lamp, $75-1000$ watts, C or $\mathrm{C}-2$, and by adjusting sliding collar of holder, the correct lamp position is obtained for each. It is not necessary to remove lamp for cleaning bowl, neither can the lamp be tipped when removing or rephacing bowl, so the breakage of tip of lamp is eliminated. Holder is designed on the iee book principle-the harder the downward pull the stronger the grip. The bowl ean be removed and replaced in a second's time.

| List No. | Diam. Ins. | Bowl Height Ins. | Holder <br> Height Ins. | Stem Length Ins. | Height Overall Ins. | Std. Pkg. | Wt., Lhs. Std. Pkg. | Mfrs. List <br> Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 741 | 20 | $61 / 2$ | 13 | 21 | 24 | $\overline{5}$ | 100 | \$11.0) | \$18.70 |

## METAL REFLECTORS

## For Industrial Illumination

Thoroughly efficient illumination is more than a humanitarian necessity in industrial plants. It secures and perpetuates economies apart from the beneficial effect upon employees. Scientifically correct illumination may be reckoned in terms of time saved in producing a given amount of work, in'greater accuracy of operatives, in minimizing accidents and in promoting better working facilities by providing brighter and more cheerful surroundings.

The most important consideration in factory illumination is not to have more brilliant light but to make more and better usc of the light available. Light runs its free course unless controlled at its source. The light effused from lamps should be diffused by reflectors, otherwise it is lost; also its cost. It should be directed from where it isn't wanted to where it is needed-guided without deviation from the lamp to the object of illumination. This maty be accomplished with unerring precision by using reflectors selected with proper regard to their functional qualifications in association with various sizes and slapes of lamps.

The following reflectors are correctly designed for new installations and designed to correct existing faults in old lighting systems. They are shaped and finished to distribute light over extended areas, to concentrate it in a brilliant beam, or to give any intermediate distribution clesired.

## FINISHES

The bodies of reflectors are made of best quality open hearth steel, thoroughly annealed to insure uniform tensile strength and deep-drawing qualities. They are supplied in three standard inside finishes-matte aluminum, white porcelain enamel, white paint enamel. The standard color of the outside finish of all reflectors is green.

## MATTE ALUMINUM FINISH

Before the aluminum is applied, the reflector bodies are immersed in a chemical bath which removes from the pores of the metal all dirt and greasy substances. They are then scrubbed in a special solution and quickly dried to prevent rust formation. A binding coat of aluminum is then applied by air brush and heatdried, after which a heavier coat of aluminum is applied. They are then given a transparent coating which protects the aluminum and preserves its reflective qualities. The final coating forms a hard, smooth surface resistant to injury when reasonable care is exercised in cleaning.

## PORCELAIN ENAMEL FINISH

As the insille is the working sirle of a reflector it is most essential that the finish be smooth and uniform to prevent distorted reflection of light. The porcchan enamel finish is absolutely free from cracks, blowholes and indentations. The reflectors are given three coats of hest quality, pure white enamel, all of which are baked on at high temperature, forming a finish with the gloss and hardness of glass.

## WHITE PAINT ENAMEL FINISH

This finish, while closely resembling poreclain enamel, has individual characteristics which gratly enhance the appearance and service qualities of the reflectors. Several coats of pure white paint enamel are applied, and each is baked on at gradually increasing temperature in an automatically regulated oven. The veflectors are subjected to slow cooling after each baking to prevent formation of cracks, due to contraction of the metal. The finish in final form is smooth, tough, extremely durable and permanent in color.

## KEY TO LETTERS AND NUMERALS

Light distribution: 13 , diffusing; D, distributing; E, extensive; F , focusing; I, intensive; N, angle; W, wide.

Size, mumerals $2 \overline{5}, 40,60$, etc., inclicate the wat tage of lamps.
Holders: H, Hubbell screw holder; P, porcelain socket holder; S, cletachable screw casing; 3445, medium strap holder socket; 3413 , Mogul strap holder socket; $3151,3453,3454,3455,3456,3459$, medium covered strap holders; 3457, 3458, 3485, Mogul covered strap holders.

Inside finishes: A, aluminum; M, porcolain cnamel; T, paint enamel.

## METAL REFLECTORS



## List Prices and Data

Schedule "C"
Std.

| List | Std. |
| :---: | :---: |
| No. | Pkg. |
| MW-25II | 50 |
| MW-25] | 30 |
| MW-25S | 20 |
| \IW-25-3+45 | 50 |
| 111)-4011 | 50 |
| MI)-10P | 30 |
| (1) -40心 | 20 |
|  | 50 |
| M1)-40-3454 | 50 |
| MD-40 | 50 |

Mifrs. List
W. E. List

Mfrs. List
W. E. List

| Each | No. |
| :---: | :---: |
| \$3.63 | MW-25II |
| 3.96 | M ${ }^{\text {a }}$-25] |
| 4.84 | MW-2.5s |
| 4.84 | MW-25-345 |
| 5.81 | (11)-401I |
| 3.08 | (11)-40 ${ }^{2}$ |
| 1.76 | (II)-40' |
| 2.42 | MI)-40-3445 |
| 3.30 | M1)-40-345. |
| 3.30 | MD-40 |
| 4.18 |  |
| 1.54 |  |

Each
Earh
$\$ 1.13$
\$2.49
1.2
2.81
1.48
3.70
1.68
3.70
$1.51 \quad 3.32$
$1.66 \quad 3.65$
$2.0 \% \quad 4.53$
$2.04 \quad 4.53$
$2.50 \quad \mathbf{5 . 5 0}$
1.26
2.77

## METAL REFLECTORS

| DISTRIBUTING <br> These paint enameled reflectors are used for general lighung. They do not allow light to pass upward or horizontally. Spacing distance for general illumination is three times the mounting height of lamps. The shaflow bowl refector, mate alumin- um interior surface, is used for the same purposes as the shallow dome having white paint interior surface. |  | E K <br> These deep bow terior and exterio plants. The ey the light is reflec tion. lamps shou distance of the white paint ena inside use only. | NSIVE <br> reflectors are for inlighting of industrial are protected while <br> For even alluminabe spaced twice the ounting heigit. The interior finish is for | INTENSIVE <br> This deep bowl type is for even lighting of machines and benches and to shield the eyes from lamp glare. Spacing distance $11 / 1$ times the mounting height. | FOCUSING This type used for locallighting where a strong concentration of light is desired. Spacing distance 3, times mounting height for even Illuminy ation. roculinc |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Paint Enameled Green Outside-White Inside | Paint Enameled Green Outside Matte Aluminum Insade |  | Paint Enameled Creen Cutside Whate Inside | Paint Enameled Grten Cutside Matte Aluminum Inside | Paint Enameled Green Outside MatteAluminuminside |
| TD40H |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | * |  |  |  |  |
|  | $\hat{3}$ |  |  |  |  |


| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkq. } \end{aligned}$ | $\begin{aligned} & \text { Mirs. List } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { W. E. List } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{aligned} & \text { Mrrs. List } \\ & \text { Each } \end{aligned}$ | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| T1) -40 H | 50 | 80.90 | \$1.98 | TF-40P | 30 | \$1.25 | \$2.75 |
| TD-40P | :30 | 1.20 | 2.64 | CE-40S | 20 | 1.65 | 3.63 |
| (1)-40S | 20 | 1.60 | 3.52 | TE-40-3445 | 50 | 1.65 | 3.63 |
| 'T1)-40-34.45 | 50 | 1.60 | 3.52 | TE-40-3451 | 50 | 2.05 | 4.52 |
| T1) -40-3451 | 50 | 2.00 | 4.40 | T'E-40 | 50 | . 85 | 1.87 |
| TI)-40 | 50 | . 80 | 1.76 | . 11.40 H | 50 | 95 | 2.09 |
| A D -25II | 50 | . 65 | 1.43 | AI -40P | 30 | 1.25 | 2.75 |
| AD-25P | 30 | . 95 | 2.09 | AI -40S | 20 | 1.65 | 3.63 |
| A $\mathrm{S}^{\text {-25S }}$ | 20 | 1.35 | 2.97 | AI -40-3445 | 50 | 1.65 | 3.63 |
| A $)^{-25-3445}$ | 50 | 1.35 | 2.97 | AI $-40-3451$ | 50 | 2.05 | 4.52 |
| ME-40H | 50 | 1.25 | 2.75 | AI -40 | 50 | . 85 | 1.87 |
| ME-40P | 30 | 1.40 | 3.08 | - $\mathrm{F}^{\prime}-25 \mathrm{H}$ | 50 | 76 | 1.67 |
| 入16-4 ${ }^{\text {a }}$ | 20 | 1.80 | 3.96 | AF-25P | 30 | 1.06 | 2.33 |
| X15-4()-3445 | 50 | 1.80 | 3.96 | A F -25S | 20 | 1.46 | 3.21 |
| 115-40-345:3 | 50 | 2.22 | 4.89 | AF-25-34.45 | 50 | 1.46 | 3.21 |
| ME-40 | 50 | 1.00 | 2.20 | AF-25-3451 | 50 | 1.86 | 4.09 |
| TE -40H | 50 | . 95 | 2.09 | AF-25 | 50 | . 66 | 1.45 |

## METAL REFLECTORS

| REFLEC <br> FOR <br> 40 AND 50 <br> TYPE "B" | AN <br> These Reflectors ha an angle of $30^{\circ}$ shown. Spacing the distance the lam face to be illuminate ing surfaces of lath machines and to a | CLE <br> g approximately at istributing light as stance is $11 /$ times hangs from the sur. Designed for light. s, presses and other ford eye protection. | WIDE <br> These flat dome porcelain enamel reflectors are for spreading light over great areas where it is neither desired nor essential to have even illumination. | DISTRIBUTING <br> These shallow dome porcelain enamel reflectors are for general lighting. They do not ailow light to pass upward or horizontally Spacing distance should be three times the mounting height of lamp. |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\qquad$ | Porcelain Enameled Green Outasde-White Invide |
| H - Hubbell Screw Collar Holder. For all brass shell, me- dium base sock- ets, beaded or threaded shells. |  |  |  |  |
| P-Brass Clamp Holder For most any make of porcelain socket. |  |  |  |  |
| S-HubbellKeyless Porcelain Socket with aluminum detachable screw casing. For $3 / 8$ " pipe. |  |  |  |  |
| No. 3445-Hubbell Keyless Porcelain Socket with strap holder. For $3 / 8$ " pipe. |  |  |  |  |
| Nos. 3451. 3453, 3454 - Hubbell Porcelain Sockets with strap holder and Ja. panned ventilated corrugated cover For $1 /{ }^{\prime \prime}$ pipe. | $\underset{3454}{\text { MN40- }}$ |  | \% |  |
| L-Extension. For any standard 2Y" Holder |  |  | 3 | MD40 |

List Price and Data
Schedule "C"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Stal. Pkg. | $\begin{gathered} \text { Mfr's. } \\ \text { List } \\ \text { Earh } \end{gathered}$ | W. E. List Each | Jist No. |  | nitd. <br> 1 kg . | Mfrs list lenh | W.E. List Each |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AN -40 H | 50 | 80.80 | \$1.76 | M 11.4011 |  | 50 | \$1.tis | \$3.63 |  |  |  |  |
| AN - 40 P | 30 | 1.10 | 2.42 | \N-40P |  | 30 | 1.80) | 3.96 |  |  |  |  |
| AN-40S | 201 | 1.50 | 3.30 | 11)-40s |  | 20 | 2.20 | 4:84 |  |  |  |  |
| AN - $40-3.45$ | 50 | 1. 50) | 3.30 | MN-40-34-6is |  | 50 | 2.20 | 4.84 |  |  |  |  |
| A ${ }^{\text {c }}$-40-3.451 | 50 | 1.90) | 4.18 | M $\$-40-3454 & & 511 & 2.64 & 5.81  \hline AN-40 & 50 & . 70 & 1.54 & M N-40 & & 511 & 1.40 & 3.08  \hline M $\mathrm{D}-40$ | 50 | 1.26 | 2.77 | M W-25H |  | 50 | 1.13 | 2.49 |
| MD-40H | 50 | 1.51 | 3.32 | MW-25P |  | 30 | 1.28 | 2.82 |  |  |  |  |
| MD-40P | 30 | 1. 610 | 3.65 | \1W-25S |  | 20 | 1.68 | 3.70 |  |  |  |  |
| M D-40S | 20 | 2.06 | 4.53 | \$1W゙-25-3145 |  | 50 | 1.68 | 3.70 |  |  |  |  |
| \ID-40-3445 | 50 | 2.06 | 4.53 |  |  |  |  |  |  |  |  |  |
| \ID-40-34.54 | 50 | 2.50) | 5.50 |  |  |  |  |  |  |  |  |  |

## METAL REFLECTORS

| DISTRIBUTING <br> These pant enameled reflectors are used for general lighting. They do not allow light to pass upward or horizontally. Spacing distance for general illu. mination is three times the mounting height of lamps. The shallow bowl reflector, matte alumin. um interior surface, is used for the same purposes as the shallow dome having white paint interior surface. |  | EXT <br> These deep bow flectors are for lighting of indus are protected whil For even illumin spaced iwice the d heygh. The whit finish is for inside | NSIVE <br> porcelain enamel reerior and exterior plants. The eyes the light is retected. on, lamps should be ance of the mounting paint enamel interior se only. <br> Nsive | INTENSIVE <br> This deep bowl type is for even lighting of machines and benches and to shield the eyes from lampglare. Spac ing distance 11 times the mounting height. | FOCUSING <br> This type used for local lighting where a strong concentration of light is de sired. Spacing dis tance times mounting height for even illumination. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Paint Enameled Green Oulsude Matte Aluminum inside | Porcelain Kinameled Green Outside |  |  | Paint Enameled Green Outside Matte Aluminum Inaide |
|  |  |  |  |  |  |
|  | AD40P |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | 20 |  |  |  |  |
|  | s |  |  |  |  |


| I.ist | Stil. |
| :---: | :---: |
| No. | 1'kg. |
| TD -40H | 50 |
| TI)-401 | 30 |
| 「1)-40 | 20 |
| TI)-40-3445 | 50 |
| TD-40-3451 | 51 |
| TD -40 | 50 |
| AD-40H | 50 |
| AD-40P | 30 |
| AD-40S | 50 |
| AD -40-3445 | 50 |
| ME-40II | 50 |
| M P-40P | 30 |
| M1-40S | 20 |
| M E-40-3445 | 50 |
| ME-40-3453 | 50 |
| ME-40 | 50 |
| TE-40H | 50 | Stul.

1'ky.
50
30
20
50
50
50
50
50
30
50
50
50
30
20
50
50
50
50

Mifs. Tist
Ers. I $\$ 0.90$ 1.20 1.60 1. 60 1.60 2.00 .80
.80 .80
1.10 1.10
1.50 1. 50
1.50 1. 25 1.40 1.80
1.80 1.80
2.22 1.00 .95

List Prices and Data
W. E. List

| E. List | Ifist |
| :---: | :---: |
| Each | No. |
| \$198 | TE-40P |
| 264 | TE-40, |
| 3.52 | TE-40-31-35 |
| 352 | TE-4()-34 ${ }^{\text {a }}$ |
| 440 | T'F-40 |
| 1.76 | AI -40)I |
| 1.76 | A I -401' |
| 242 | AI -40s |
| 330 | A1-40-34.4.5 |
| 3.30 | A I -40-345) |
| 2.75 | A I -40 |
| 308 | A F-40II |
| 396 | AF-40P |
| 396 | AF-403 |
| 488 | AF-40-344 |
| 2.20 | AF-40-3451 |
| 2.09 | $\mathrm{AF}-40$ |

2.00

| Mirs. Tist Each | W. E. List Each |
| :---: | :---: |
| \$1.25 | \$2.75 |
| 1.65 | 3.63 |
| 1.65 | 3.63 |
| 2.05 | 4.51 |
| . 85 | 187 |
| . 95 | 209 |
| 1.25 | 275 |
| 1.165 | 363 |
| 1.65 | 3.63 |
| 2.05 | 451 |
| . 85 | 1.87 |
| . 84 | 1.85 |
| 1.14 | 251 |
| 1.54 | 339 |
| 1.54 | 3.39 |
| 1.94 | 4.27 |
| . 74 | 1.63 |

METAL REFLECTORS


List Prices and Data
Schedule " $C$ "

| List <br> No. | std. Pkg. | Mirs. List | W.E. List | List No. | Std, Pkg. | Mfrs. List | $\begin{gathered} \text { W. E. } \\ \text { List } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MN60-H | 50 | 81.92 | \$4.22 | 1N60 | 50 | \$1.00 | \$2. 20 |
| MN60P | 30 | 2.07 | 4.55 | MW6015 | 50 | 1.38 | 3.04 |
| MN60S | 20 | 2.47 | 5.43 | MW60P | 30 | 1.53 | 3.37 |
| MN60-3445 | 50 | 2.47 | 5.43 | MW60s | 20 | 1.93 | 4.25 |
| MN60-3454 | 50 | 2.91 | 6.40 | MW60-3445 | 50 | 1.93 | 4.25 |
| MN60 | 50 | 1.67 | 3.67 | MD601 | 50 | 1.73 | 3.81 |
| AN60H | 50 | 1.10 | 2.42 | MId ${ }^{\text {a }}$ | 30 | 1.88 | 4.14 |
| ANfiop | 30 | 1.40 | 3.08 | M1) 60 S | 20 | 2.28 | 5.02 |
| AN60S | 20 | 1.80 | 3.96 |  | 50 | 2.28 | 5.02 |
| AN60-3445 | 50 | 1.80 | 3.96 | MIDG0-3454 | 50 | 2.72 | 5.98 |
| AN60-3451 | 50 | 2.20 | 4.84 | M D60 | 50 | 1.48 | 3.26 |

## METAL REFLECTORS

| DISTRIBU <br> These paint enarreled reflect lighting．They da not allow horizontally．Sparing distance is three times the mounting shallow bowl reflector，matte is used for the same purpos having white paint interior su | TING <br> rs are used for general ght to pass upward or for general illumination height of lamps．The minum interior surface， as the shallow dome face． <br> no | EXTE <br> These deep bowl ref and exterior lightun The eyes are prote reflected．For eve should be spaced t mounting height． interior finish is for | NSIVE <br> ectors are tor interior of industrial plants． ted whule the light is illumination，tamps ce the distance of the ne white paint enamel sids use only． <br> 2 <br> NSIVR | INTENSIVE <br> This deep bowl type is for even lighting of machines and benches and to shield the eyes from lamp glare．Slacing dis－ tance $1 / 4$ huges the mouring heisht． | FOCLSING <br> This type used for local lightms where a strong concentretion of light is desired． Spacing distance 3／4 times mounting height for evert illuminatior |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Gret Paint Einarreled Green Outaide－ithite Inade | Paint Enameled Green Dutside Matte－Aluminum Inside |  | Paint Enameite Green Owsice White Itraide |  |  |
|  |  |  |  |  |  |
|  |  | $\begin{aligned} & \text { MEGP } 2 \pi \\ & \text { M/fin } \end{aligned}$ |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | 2 |  |  |  |  |
|  | 25 |  |  |  |  |


|  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Std． | Mfrs． List Each | W．E． List Each | List No． | Std． | Mirs． List lach | W．E． <br> List <br> Each | List No． | Std． Pkg． | Mfrs． T，ist Each | W．E． List <br> Each |
| TD－60H | $\overline{0}$ | 81.03 | \＄2．27 | ME－（0） | 20 | \＄2．0．4 | \＄4．49 | AI－60s | 20 | 81.80 | \＄3．96 |
| ＇TID－60］＇ | 30 | 1.33 | 2.97 | M 15－60－3＋45 | 50 | 2.04 | 4.49 | AI－60－3445 | 50 | 1.80 | 3.96 |
| ＇II）－（i）N | 20 | 1.73 | 3.81 | M $15 .-60-3453$ | 50 | 2.44 | 5.41 | ． 11 －60－3451 | 5 | 2.20 | 4.84 |
| ＇TI）－（i0）－3445 | 50 | 1.73 | 3.81 | M1：－fi） | 50 | $1.2+$ | 2.73 | AI－（60 | 50 | 1.00 | 2.20 |
| ＇TI）－（i）－3451 | 50 | 2.13 | 4.69 | T以－60II | 50 | 1.04 | 2.33 | AF－60H | 50 | 1.10 | 2.42 |
| ＇T＇D－60 | 50 | ． 93 | 2.05 | ＇19－601＇ | 30 | 1.36 | 2.99 | AF－60P | 30 | 1.40 | 3.08 |
| AI）－ 60 OH | 5） | ． 08 | 2.16 | T以゙－（0） | 20 | 1.76 | 3.87 | A $\mathrm{F}^{\prime}-60 \mathrm{~S}$ | 20 | 1.80 | 3.96 |
| AI）－（ioP | 30 | 1.28 | 2.82 | Tre－60－34ti | 50 | 1.76 | 3.87 | AF＇60－3445 | 50 | 1.80 | 3.96 |
|  | 20 | 1.68 | 3.70 | T4－60－3451 | 50 | 2.16 | 4.75 | AF＇－60－3451 | 50 | 2.20 | 4.84 |
| AI）－（i）－3445 | 50 | 1.68 | 3.70 | T以－－i0 | 50 | ． 96 | 2.11 | AF＇60 | 50 | 1.00 | 2.20 |
| M以－60］ | 50 | 1.49 | 3.28 | AI－6ioli | 50 | 1．1） | 2.42 |  |  |  |  |
| MFi－（iol） | 30 | 1.64 | 3.61 | AI－601 | 30 | 1.40 | 3.08 |  |  |  |  |

METAL REFLECTORS

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| V1 |  |  |  |  |  | 范 |
|  |  |  |  |  |  |  <br>  <br> - <br>  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |


|  | List Prices and Data |  |  |  |  | Schedule "C" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Std. | Mfrs. List | W. E. List | List | Std. | Mifrs. <br> List | W. E. List |
| No. | Phg. | Each | Each | No. | Pkg. | Each | Each |
| MN-75.5I | 50 | \$2.20 | \$4.84 | MW-75\% | 50 | \$2.20 | \$4.84 |
| MN-751 | 30 | 2.35 | 5.17 | MW-7.5P | 30 | 2.35 | 5.17 |
| MN-75-3445 | 50 | 2.75 | 6.05 | M $11 \mathrm{~W}-75-3445$ | 50 | 2.75 | 6.05 |
| M N-75-3455 | 50 | 3.21 | 7.06 | MW゙-75-345\% | 50 | 3.21 | 7.06 |
| MN-75 | 50 | 1.95 | 4.29 | M W-7.5 | 50 | 1.95 | 4.29 |
| AN-75) | 50 | 1.22 | 2.68 | (11)-7511 | 50 | 1.85 | 4.07 |
| AN-751) | 30 | 1.52 | 3.34 | (11)-751 | 30 | 2.00 | 4.40 |
| AN-75-(3+4.45 | 50 | 1.92 | 4.22 | M1) -7\%-3445 | 5) | 2.40 | 5.28 |
| AN -75-3151 | 50 | 2.32 | 5.10 | M11)-75-3455 | i0) | 2.86 | 6.29 |
| AN -75 | 50) | 1.12 | 2.47 | (11)-75 | 50 | 1.6i) | 3.52 |

## METAL REFLECTORS

| DISTR <br> These reflectors are used do not allow light to p Spacing distance for gener the mounting height of la flector matte aluminum in same purposes as the shan inside surface. | TING <br> general lighting. They upward or horizontally. umination is three times <br> The shallow bowl resurface is used for the w dome, having white <br> ing | EXTENSIVE <br> These deep bowl reflectors are for in terior and exterior lighting of industrial plants. The eyes are protected while the light is reflected. For even illumination, lamps should be spaced twice the distance of the mounting height.' The white paint enamel interior finish is for inside use only. |  | INTENSIVE <br> These deep bowl re. flectors arr for in. terior lighting where high mounting heights are necessary. Spacing distance $11 / 4$ times the mountind fieight. | FOCUSING <br> This type used for local lighting where a strong Jight is desired. Spacing dis, tance ${ }^{3}$ timek mounting height for even illymination. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Paint Erameled Green Outside-White Inside |  | Porcelain Enameled Green Outside White Inside <br> 4) <br> (190) |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| TD75-345 |  |  |  |  |  |
|  |  |  |  |  |  |

List Prices and Data

| List | Std. | Mfrs. List | W. E. List | List | Std. | Mfrs. List | W. E. list | List | Std. | Mfrs. List | $\begin{aligned} & \text { W. I. } \\ & \text { List } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each | No. | Pkg. | Fach | Each | No. | 1 kg . | Fach | Each |
| TD -75H | 50 | \$1.14 | \$2.51 | ME-751 | 50 | 1.59 | \$3.50 | AI -75II | 50 | 1.20 | \$2.64 |
| TD -75P | 30 | 1.44 | 3.17 | ME-75P | 30 | 1.74 | 3.83 | AI -75P | 30 | 1.50 | 3.30 |
| TD -75-3445 | 50 | 1.84 | 4.05 | ME-75-3445 | 50 | 2.14 | 4.71 | AI -75-3445 | 50 | 1.90 | 4.18 |
| TD -75-3451 | 50 | 2.24 | 4.93 | ME-75-3454 | 50 | 2.58 | 5.68 | МI -75-3451 | 50 | 2.30 | 5.06 |
| TD-75 | 50 | 1.04 | 2.29 | ME-75 | 50 | 1.34 | 2.95 | AI -75 | 50 | 1.10 | 2.42 |
| AD-75H | 50 | 1.14 | 2.51 | TE -75H | 50 | 1.12 | 2.46 | AF -75 H | 50 | 1.20 | 2.64 |
| AD-75P | 30 | 1.44 | 3.17 | TE -75P | 30 | 1.42 | 3.12 | AF -75P | 30 | 1.50 | 3.30 |
| AD -75-3445 | 50 | 1.84 | 4.05 | 'TE -75-3445 | 50 | 1.82 | 4.00 | AF -75-3445 | 50 | 1.90 | 4.18 |
| AD -75-3451 | 50 | 2.24 | 4.93 | TE -75-3451 | 50 | 2.22 | 4.88 | AF-75-3451 | 50 | 2.30 | 4.06 |
| AD -75 | 50 | 1.04 | 2.29 | TE -75 | 50 | 1.02 | 2.24 | Al -75 | 50 | 1.10 | 2.42 |

## METAL REFLECTORS



|  | List Prices and Data |  |  |  |  | Schedule "C" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Std. | Mfrs. List | W. E. List | List | Std. | Mfrs. List | W.E. |
| No. | Pkg. | Each | Eack | No. | Pkg. | Each | Each |
| MN-100H | 30 | \$2.75 | \$6.05 | MW-100H | 30 | \$2.35 | \$5.17 |
| MN-100P | 18 | 2.90 | 6.38 | NiW-100P | 18 | 2.50 | 5.50 |
| MN-100-3445 | 30 | 3.30 | 7.26 | NW-100-3445 | 30 | 2.90 | 6.38 |
| M N-100-3454 | 30 | 3.74 | 8.23 | MIW-100-3456 | 30 | 3.40 | 7.48 |
| MN-100 | 30 | 2.50 | 5.50 | MW-100 | 30 | 2.10 | 4.62 |
| AN -100H | 30 | 1.64 | 3.61 | MIS-100H | 30 | 2.75 | 6.05 |
| AN-100P | 18 | 1.94 | 4.27 | MD-100P | 18 | 2.90 | 6.38 |
| AN -100-3445 | 30 | 2.34 | 5.15 | MI)-100-3445 | 30 | 3.30 | 7.26 |
| AN -100-3451 | 30 | 2.74 | 6.03 | M1)-100-345 | 30 | 3.80 | 8.36 |
| AN -100 | 30 | 1.54 | 3.39 | M D - 100 | 30 | 2.50 | 5.50 |

## METAL REFLECTORS



List Prices and Data

|  |  | Mifr. | W. L. |
| :--- | ---: | ---: | ---: |
| List | Std. | List <br> List <br> No. | Pkg. |
| Each | Each |  |  |
| TD-100H | 30 | $\$ 1.36$ | $\$ 2.99$ |
| TD-100P | 18 | 1.66 | $\mathbf{3 . 6 5}$ |
| TD-100-344. | 30 | 2.06 | 4.53 |
| TD-100-3451 | 30 | 2.46 | 5.41 |
| TD-100 | 30 | 1.26 | $\mathbf{2 . 7 7}$ |
| AD-100H | 30 | 1.36 | $\mathbf{2 . 9 9}$ |
| AD-100P | 18 | 1.66 | $\mathbf{3 . 6 5}$ |
| AD-100-34455 | 30 | 2.06 | 4.53 |
| AD-100-3451 | 30 | 2.46 | $\mathbf{5 . 4 1}$ |
| AD-100 | 30 | 1.26 | $\mathbf{2 . 7 7}$ |


| List | Std. | Mfrs. List | IT. E. List |
| :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each |
| M1E-1001[ | 30 | \$1.75 | \$3.85 |
| ME-100P | 18 | 1.90 | 4.18 |
| ME-100-3445 | 30 | 2.30 | 5.06 |
| NE-100-345\% | 30 | 2.76 | 6.07 |
| ME-100 | 30 | 1.50 | 3.30 |
| TE -100H | 30 | 1.25 | 2.75 |
| ${ }^{\text {TE }}$-100P | 18 | 1.55 | 3.41 |
| TE -100-34 4 | 30 | 1.95 | 4.29 |
| TE $-100-3451$ | 30 | 2.35 | 5.17 |
| TE-100 | 30 | 1.15 | 2.53 |

List
No.
$A I-100 \mathrm{H}$
AI -100 P
AI $-100-3445$
AI $-100-3451$
$A I-100$
$A F-100 \mathrm{H}$
$A F-100 \mathrm{P}$
AF $-100-3445$
AF $-100-3451$
$A F-100$

Schedule "C"

|  | Mfrs. <br> Std. <br> List | W.E. <br> List |
| :---: | ---: | ---: |
| Pkg. | Each <br> Each |  |
| 30 | $\$ 1.30$ | $\$ 2.86$ |
| 18 | 1.60 | $\mathbf{3 . 5 2}$ |
| 30 | 2.00 | $\mathbf{4 . 4 0}$ |
| 30 | 2.40 | $\mathbf{5 . 2 8}$ |
| 30 | 1.20 | $\mathbf{2 . 6 4}$ |
| 30 | 1.50 | $\mathbf{3 . 3 0}$ |
| 18 | 1.80 | $\mathbf{3 . 9 6}$ |
| 30 | 2.20 | $\mathbf{4 . 8 4}$ |
| 30 | 2.60 | $\mathbf{5 . 7 2}$ |
| 30 | 1.40 | $\mathbf{3 . 0 8}$ |

## METAL REFLECTORS

|  |  |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
|  | 碳 |  |  |
|  | H |  |  |
|  | 离 |  |  |
|  | max |  |  |

List Prices and Data

| List | Std. | Mifs. <br> List | W. E. List | List | Std. | Mfrs. <br> List | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each | No. | Pkg. | Each | Each |
| MN-200P | 18 | \$3.00 | \$6.60 | MB-200P | 18 | \$3.28 | \$7.22 |
| MN-200-3445 | 30 | 3.40 | 7.48 | MB-200-3445 | 30 | 3.68 | 8.10 |
| MN-200-3455 | 30 | 3.86 | 8.49 | MB-200-3459 | 30 | 4.33 | 9.53 |
| MN-200 | 30 | 2.60 | 5.72 | MB-200 | 30 | 2.88 | 6.34 |

Schedule "C"
rs.
W.E.

List
Each
$\$ 7.22$
8.10
6.34

## METAL REFLECTORS

| WIDE <br> These flat dome porcelain enamel reflectors are for spreading light over great areas where it is neither desired nor essential to have even illumination. | DISTRIBUTING <br> These shallow dome porcelain enamel reflectors are for general lighting. They prevent loss of light upward or horizentally. Spacing distance for general illumination three times the mountug height of lamp. Shallow bowl reflectors with matte aluminum inside surface serve the same purposes as the shallow dome with white inside surface. |  | EXTENSIVE <br> These deep bawil reflectors are for interier and exterior lighting of industrial plants. The eyes are protected whule the light is reflected For even illumination lamps should be spaced twice the distance of mounting height. |
| :---: | :---: | :---: | :---: |
| Flat Dome-Porcelain Enameled Green Outeide-Whute Inside | Shallow Dome-Porcelain Énameled <br> Green Outside-- White Inside | Shallow Bowl-Prant Enamedec G-en Outside Matte Aluminum Inside | Deen Kowl-J'orcrlain Enameled Green Outgide-White Insude |
| MW200P | MDIOOP |  |  |
|  |  |  |  |
| MW200-3459 |  |  |  |
| MW200 | MDI00 |  |  |

List Prices and Data

| List | Std. 1'kg. | Mfrs. <br> list <br> Each | W. E. List Each | $\begin{aligned} & \text { L.ist } \\ & \text { No. } \end{aligned}$ | Std. l'kg. | Mirs. List Jach | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-200P | 18 | \$2. 88 | \$6.34 | (id)-201P | 18 | \$1.80 | \$3.96 |
| MIW-200-3445 | 30 | 3.28 | 7.22 | A1)-2(at-3445 | 30 | 2.20 | 4.84 |
| MW-200-3459 | 30 | 3.93 | 8.65 | AI)-2(n)-3451 | 30 | 2.60 | 5.72 |
| MW-200 | 30 | 2.48 | 5.46 | (1) -200 | 30 | 1.411 | 3.08 |
| MI)-100P | 18 | 2.90 | 6.38 | M15-200\% | 18 | 2.05 | 4.51 |
| M D-100-3445 | 30 | 3.30 | 7.26 | M W-2()-3445 | 30 | 2.45 | 5.39 |
| MD)-100-3456 | 30 | 3.80 | 8.36 | A1\%-20)-345 | 30 | 2.95 | 6.49 |
| MD-100 | 30 | 2.50 | 5.50 | \1]:-20) | 30 | 1.65 | 3.63 |

## METAL REFLECTORS

| REFL <br> 300 AND TYPE | ANGi.e <br> These porcelain enameled angle reflectors distribute light as shown. Spacing distance is $11 / 4$ times the distance the lamp hangs from the surface to be tlluminated. Recommended for bill-boards, building fronts and as side wall units in factories where cranes or other appar atus interfert with the general overhead lighting. | DIFFUSING <br> These refectors are recommended for general illumination. When fitted with opal globes they spread a soft diffused light. May be used in addition to local lights. |
| :---: | :---: | :---: |
|  |  | Flat Dome with $6^{\prime \prime}$ \| Iolder-Porcelain Enameled Green Outside- White Inside |
| No. 3413 Hubbell Mogu! Porcelain Socket with strap holder. For $1 / \mathrm{s}^{\prime \prime}$ pipe. |  |  |
| Nos. 3457 and 3458-Hubbell Mogul Porcelain Sockets with strap holder and Japanned ventilated corrugated cover. For $1 / 2^{\prime \prime}$ pipe. |  | MB400-3458 |
| L-Extension. Will fit any standard 31/" Holder. | MN500 |  |

List Prices and Data
Schedule "C"

| List | Std. | Mfrs. <br> List | W. E. List | List | Std, | Mfrs. List | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each | No. | Pkg. | Each | Each |
| MN-500-3413 | 10 | \$6.18 | \$13.60 | M13-400-3413 | 10 | \$5.6.4 | \$12.41 |
| MN-500-3458 | 10 | 6.88 | 15.14 | МВ-400-3458 | 10 | 6.34 | 13.95 |
| M N-500 | 10 | 4.38 | 9.64 | M13-400 | 10 | 3.84 | 8.45 |

## METAL REFLECTORS

| WIDE <br> These flat dome porcelain enamel reflectors spread light over great areas where even illumination is neither desired nor essential Especially suitable for warehouses, stock rooms and outside of buildings. | DISTRIBUTING <br> These shallow dome porcelain enamel reflectors are for general illumination the same as the flat dome type. They do not allow light to pass upward or horizontally. Spacing distance should be three times the mounsing height of tamp. | ExTENSIVE <br> These porcelan enamel deep bowl reflectors are for ether interior or exterior illuminatem of industral plants. Sutable for yards, wharis. etc., requiring even ulumination with hugh mounting herghts. Spacing distance (wice the mountung height |
| :---: | :---: | :---: |
| filat Dome - Porcelan Einameled Green Outside- White Inasle | Shallow Dume-Porcelain Enameled <br> Green Outside - White Inside |  |
| MW400-3413 | MD400-3413 |  |
| MW400-3458 | MD400-3458 |  |
| MW400 | MD400 | ME500 |

List Prices and Data

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Std. <br> Pkg. | Mfrs. List Each | W. E. List Each | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Std. <br> l'kg. | Mfrs. <br> List <br> lach | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| IIW-400-3413 | 10 | \$5.23 | \$11.51 | MD-400 | 10 | \$4.10 | \$9.02 |
| MW゙-400-3458 | 10 | 5.93 | 13.05 | MF-i00-341\% | 10 | 4.4) | 9.68 |
| MW-400 | 10 | 3.43 | 7.55 | MLS-50)-3457 | 10 | 5.00 | 11.00 |
| MD -400-3413 | 10) | 5.90 | 12.98 | ME-50) | 10 | 2.60 | 5.72 |
| MD -400-3458 | 10 | U.60 | 14.52 |  |  |  |  |

## METAL REFLECTORS

| REFLE <br> Fo <br> 500 WATT TYP | ANGLE <br> These porcelain enamcied angle reflectors distribute light as shown. Spacing distance is $11 / 6$ times the distance the lainp hangs from the sarface to be illuminated. Recommended for bill-boards, building irorits and as side wall units in factones where cranes or other apparatus interfere with the general overhead lighting- | DIFFUSING <br> These reflectors are recommended for general illumination. When fitted with opal globes they spread a soft diffused light. May be used in addition to local lights. |
| :---: | :---: | :---: |
|  |  |  |
| No. 3413 Hubbell Mogul Porcelain Socket with strap holder. For $1 /{ }^{\prime \prime}$ pipe. |  |  |
| Nos. 3457 and 3458-Hubbell Mogul Porcelain Sockets with strap holder and Japanned ventilated corrugated cover For $1 / 2 \prime$ pipe. |  |  |
| L-Extension. Will fit any standard 31/" Holder. |  |  |

List Prices and Data
Schedule "C"'

| List | Std. | Mifs. <br> List | W. E. List | List | Std. | Mifrs. Iist | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each | No. | Pkg. | Each | Each |
| MN-500-3413 | 10 | \$6.18 | \$13.60 | MB-500-3413 | 10 | \$6. 32 | \$13.90 |
| MN-500-345S | 10 | 6.58 | 15.14 | MS-500-3458 | 10 | 7.02 | 15.44 |
| MN-500 | 10 | 4.38 | 9.64 | M B-500 | 10 | 4.52 | 9.94 |

## METAL REFLECTORS

| WIDE <br> These flat dome porcelain enamel refiectors spread light over great areas where even illumination is neither ficsired nor essential. Especiaily suitable for warehouses, stock roorns and outside of buildings. | IISTRIBUTIING <br> These shallow dome parcelain enamel reflectors are for general illumination the sam.e as the flat dome type. They do not allow light to pass upward or horizontally, Spacing distance should be three tiress the inounting height of lamp. | EXTENSIVE <br> These porcelain enamel deep bow reflectors are for either interior or exterior illumination of industrial plants. Suitable for yards, whar/s, etc., requiring even illumination with high mounting heights. Spacing distance twice the mounting height. |
| :---: | :---: | :---: |
| Flat Lome-l'orcelan Enarmebed Green Outside- White Inside | Shathow Dome-Porcelain Enameled <br> Green Outsade-Whate lisude | Dey thewl-botcelain Endmeded <br> Green Cutsde - White Inade |
| MW500-3413 |  |  |
| MW500-3458 |  |  |
| MW500 |  |  |

List Prices and Data

| List No. | Std. <br> l'kg. | Mifrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ | List No. | $\begin{aligned} & \text { Sty. } \\ & \text { Prkg. } \end{aligned}$ | Mfrs. <br> List <br> Each | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-500-3413 | 10 | \$5.90 | \$12.98 | MI)-50) | 10 | \$4.38 |  |
| MW-500-3458 | 10 | (5.60 | 14.52 | М15-500)-3.113 | 10 | $\$ 4.38$ 4.40 | \$9.64 |
| M W-500 | 10 | 4.10 | 9.02 | N15-50) -3-15\% | 10 | 5.00 | 11.68 |
| MD -500-3413 | 10 | 6.18 | 13.60 | М以-50) | 10 | 2.60 | 11.00 5.72 |
| MI) -500-3458 | 10 | 6.88 | 15.14 |  | 10 | 2.60 | 5.72 |



List Prices and Data
Schedule "C"

| List | Std. | Mfrs. List | W. E. List | List | Std. | Mfrs. List | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | Each | No. | Pkg. | Each | Each |
| MN-1000-3413 | 5 | \$8.65 | \$19.03 | MB-1000-3413 | 5 | \$7.70 | \$16.94 |
| M N-1000-3458 | 5 | 9.35 | 20.57 | M13-1000-3458 | 5 | 8.40 | 18.48 |
| MN-1000 | 5 | 6.85 | 15.07 | M ${ }^{\text {P }}$-1000 | 5 | 5.90 | 12.98 |

METAL REFLECTORS


List Prices and Data

| List | Std. | W.E. | Mírs. |  |  | W.E. | Mirs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Pkg. | Each | List <br> Each | List | ${ }_{\text {Preg }}$ Std. | List | List |
| MW-1000-3413 | 5 | \$16.94 | \$7.70 | MD-1000 | 10g. | S13.57 | Each |
| MW-1000-3485 | . | 19.80 | 9.00 | ME-1000-3413 | 5 | 13.60 | 18 |
| MW-1000 | 5 | 12.98 | 5.90 | ME-1000-3458 | 5 | 15.14 | . 88 |
| MD-1000-3413 | 5 | 17.53 | 7.97 | ME-1000 | 5 | 9.64 | 4.38 |
| MD-1000-3485 | 5 | 20.35 | 9.25 |  |  |  |  |

## HUBBELL METAL REFLECTORS



No. 5429
Half Tin Retlector


No. 6151

## Half Reflectors

FOR 25, 40, 60, WATT LAMPS
Tin, Brass, Stecl a:.d Aluminum



No. 5461, $1 / 6$ Actual Size

# Parabola Reflectors <br> WITH HOLDER AT SIDE 

Schedule " C "

| List | Description | Watts | Carton <br> Quantity$\|$ | $\left\lvert\, \begin{gathered} \text { Pkg. } \\ \text { Wgt. Libs. } \end{gathered}\right.$ | Std. l"kg. | Mifrs. List | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | 61, in steel, green outside, frosted inside | 25-40-60 | 1 | 40 | 50 | \$0.65 | \$1.43 |
| 5571 | $6 \frac{1}{2}$ in. brass, brush brass outside, frosted inside. | 25-40-60 | 1 | 40 | 50 | 1.50 | 3.30 |
| 5461 | 6\%\% in. alumimum. green outside, frosted inside. | $25-40-60$ | 1 | 30 | 50 | 1.20 | 2.64 |

## WITH HOLDER AT TOP

| 6094 | $161 / 2 \mathrm{in}$. sted, green outside, frosted inside | 25-40-(i) |  | 35 | 30 | \$0.65 | \$1.43 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (i.)48 | $6{ }_{6}^{1}, 2 \mathrm{in}$. brase, brush brass outside, frosted inside. | 25-4()-(i) | 1 | 40 | 30 | 1.50 | 3.30 |
| 6549 | $161 / 2$ in. aluminum, green outside, frosted inside. | 25-40-60 | 1 | 30 | 30 | 1.20 | 2.64 |
| WITH HOLDER AT $30^{\circ}$ ANGLE |  |  |  |  |  |  |  |
| (35.50) | [ 6 ², in. steel, grem outside, frosted inside | 25-40-60) | 1 | 35 | 30 | 80.65 | \$1.43 |
| (50.51 | $61 / 2 \mathrm{in}$, brass, hrush brass outside, frosted inside. | 25-40-60 |  | 40 | 30 | 1.50 | 3.30 |
| 66552 | 6,1\%2 in. aluminum. green outside, frosted inside. | 25-40-60 | 1 | 30 | 30 | 1.20 | 2.64 |

Brass reflectors can be had in any desired special finish. Priees on application.
White interior furnished without extra charge.
Aluminum reflectors cannot be furnished in a plated finish.
If reflectors are desired for weatherproof sockets, place the letter "p" after the Jist No., and add to
W. E. list price $\$ 0.29$, to Mfrs. list $\$ 0.13$.

Parabola reflectors with perforated top, add to W. E. list price $\$ 0.33$, to Mfrs. list price $\$ 0.15$.

PORCELAIN ENAMELED STEEL REFLECTORS


Porcelain Enameled Steel Reflectors

working the socket shell ipart.

## Paint Enameled Reflectors

| 5431 | $\checkmark$ in. Hat, greer outside, white inside | 15-25 | 10 | 119 | 4. | \$37.50 | \$82.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 513132 | 10, in. flat, gre ${ }^{\text {a }}$ doutside, white inside | 25-40 | 10 | 109 | 5 | 49.10 | ${ }^{107} 880$ |
| 5440 | \& in. deatp cone, ureen uutsido inhice | 10-60 | 10 | 1101 | 819 | 70.00 | 154.00 |
| 5441 | 10 in, deap conc, green outsile, white insi | 15.5 | 10 | 100 | 54 | 46.010 | 101.20 |
| 5442 | 12 in. derp cone. green ontside, white insid | 40-4i) | 10 | 11010 | 115 | 52.00 100.01 | 114.40 22000 |



Porcelain Enameled Steel Reflectors

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Wescription |
| :---: | :---: |
| ${ }_{6} 107$ | 12 in. porcelain enameled steel, wide distribution, white outside, white inside. |
| 5604 | 12 in. porcelain enameled stcel, distributing, white butside, |
| 5710 | 12 in. purcelain enameled steel, distributing, green outside, white insido. |


| Watts | Carton | Std. <br> Pkg. | Prg. Wt. Iabs. |
| :---: | :---: | :---: | :---: |
| 40-6i1) | 5 | 50 | 75 |
| 40-6it | 5 | 30 | 1155 |
| 40-130) | 10 | 50 | 30 |

Schedule "C"

## Bowl Type Extensive

[^30]
## BENJAMIN SHADE HOLDER REFLECTORS



Shade holder reflectors are seientifically designel in different shapes for correct illumination under rarious conditions in industrial plants and elsewhere.

In these reflectors, the shade holder is built in and forms a solid part of the reflector. This idea of reflector building insures that the shade holder reflector will always be paced on the socket in the correct position, and that the utmost efficiency will be obtained from the lamp for which it is recommended.

Four types of shade holder reflectors are provided. Three of them in order that Benjamin reflectors may be applied to any standard socket already installed and in use.
'The fourth type, known as the Benjamin Type "S" screw thread, fits only IBenjamin sockets and Benjamin fixtures with the screw threaded arrangement. This form of shade holder reflector is very convenient, as it is possible to quickly interchange on any Benjamin screw threaded socket, any size or design of Benjamin reflector.

In connection with the "Benco" pull chain socket, the pull chain comes down inside the reflector, thus eliminating side strain and providing a straight down pull.

Type 13 holder for attaching to standard brass shell sockets.
'Type $N$ neck fits any of the standard shade holders.


Type P Ilolder


Type S IIolder

Three reflector finishes are provided: Porcelain enaneled steel, for weatherproof work and all around durability. Aluminum and paint enameled steel for interior installations.

Ventilation of reflectors for 75 -watt lamps and smaller, except Types, is provided by usual openings in the shade holders. All reflectors for 100 -watt lamps and larger, except where noted in listing, have ventilating openings in the neek. Enameled steel Type " $s$ " reflectors for outdoor use will be furnished less openings, when specified, without change in price, or with cup to shised ventilating openings at an advance of 20 cents list.

## BENJAMIN REFLECTOR SOCKETS



Flat Cone Reflector No. Xisus


Shallow Bowl Reflector No. X542.3


Deep Bowl Reflector No. 6168

## BENJAMIN REFLECTOR SOCKETS

Schedule 2F
Benjamin reflector sockets are durable, high efficiency lighting fixtures for use uncter any kind of industrial condition, indoors or outdoors. Design and construction alike have been proven by successful serviee covering actual test in every imaginable kind of installation.

These fixtures have a one piece porechain enameled steel reflector, furnished in the three styles as shown, together with an improved, extra heavy, separable fitting and casy-to-wire porcelain socket. Sockets have Benjamin lamp grip, a deviee which prevents the looscring and falling of lamps.

Wide bearing surfaces at top of reflector for the heavy fittings give naxinum strength against side pressure or vibration. Reflectors may be ratised on stem and socket wired in position. Standard finish is green outside, non-discoloring white porcelain enameled inside.

## SHALLOW BOWL REFLECTORS

Designed for general lighting, and should be used with a moderately high ceiling. They are adapted to the lighting of machine shops, ofte, where it is desirable to obtain an almost complete elimination of shadows.

To meet special conditions, they may be ordered with ventilating oponings for indoor use without extra charge; for outdoor use, with proteeting hood, at an arlvanee of 41 cents list.

| $\begin{aligned} & \text { List } \\ & \mathrm{N}_{0} . \end{aligned}$ | Reffector Diam., In. | Lamp Size Watts | Mifrs. Price Each | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: |
| X-5437 | 12 | 25, 40, 50, 60 | \$2.50 | \$5.18 |
| X-5421 | 12 | \% 5 | 2.50 | 5.18 |
| X-5423 | 14 | $1(1)$ | 2.80 | 5.80 |
| X-5425 | 16 | 150, 300 | 3.40 | 7.0 .4 |
| X-5427 | 18 | 2 K | 4.00 | 8.28 |
| X-5509 Mogul | 18 | $300,407,500$ | 4.20 | 8.69 |

FLAT CONE REFLECTORS
Flat eone reflectors are best adapted to the lighting of warehouses, railroud platforms and yards, or where it is desired that one unit light a large area.

| X-5431 | 14 | 25, 40, 20 ( 60 | \$2.50 | \$5. 18 |
| :---: | :---: | :---: | :---: | :---: |
| X-5401 | 14 | 7.8 | 2.50 | 5.18 |
| X-5402 | 16 | 100, 150 | 2.80 | 5.80 |
| X-5403 | 18 | 2 CH | 3.40 | 70.4 |
| X-5405 | 20 | $2(4)$ | 4.00 | 8.28 |

## DEEP BOWL REFLECTORS

Deep bowl roflectors are designed for localized and general illumination. All deep bowl reflectors are ventilated.

| X-616; | 7 | 40,60 | $\$ 2.20$ | $\$ 4.55$ |
| :--- | ---: | :---: | ---: | ---: |
| X-6161 | 8 | 7.9 | 2.30 | 4.77 |
| X-6167 | 8 | 100 | 2.30 | 4.77 |
| X-6168 | 9 | 100,200 | 2.40 | 4.97 |
| X-6171 Mogul | 11 | 300 | 3.60 | 7.45 |
| X-6172 Mogul | $1: 3$ | 400,600 | 4.90 | 10.15 |

No. 88


## REFLECTOR SOCKET RECEPTACLES - 600 WATTS, 600 VOLTS

Two-piece porcelain receptacles are designed for medium base reflector sockets and hood type fixtures. Nos. 87 and 88 have flat base, and have screws spaced $13 / 4$ inches on conters. Nos. 89 and 109 have rounded base, and serews are spaced $1 \frac{13}{16}$ inches.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. <br> Pkg. | Mifrs. List Eath | W. E. List Price |
| :---: | :---: | :---: | :---: | :---: |
| 87 | Less lamp grip | 100 | 80.40 | \$0.83 |
| 88 | With lamp grip | 100 | . 45 | . 94 |
| 89 | Less lamp grip. | 100 | . 40 | 83 |
| 109 | With lamp grip) | 100 | 45 | . 94 |

# BENJAMIN SHADE HOLDER REFLECTORS PORCELAIN ENAMELED STEEL 



Distributing


Extensive


Angle

SHALLOW BGWL-DISTRIBUTING
With Type B Holder for Brass Shell Socket


DEEP BOWL-EXTENSIVE
12040 B
12000 B
12075 I

12040 N
12040 N
12075 N

| $\begin{aligned} & 61 / 4 \\ & 71 / 4 \\ & 81 / 4 \end{aligned}$ | With Type B Holder for Brass Shell Sockets |  |  |  |  | $\begin{gathered} 100,150 \\ 2(N) \end{gathered}$ | $\begin{array}{r} \$ 1.25 \\ 1.70 \end{array}$ | $\begin{array}{r} \$ 2.48 \\ 3.37 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 25, 40, 50 | \$0.8t | \$1.71 | 12100]3 | 81/4 |  |  |  |
|  | (i) | 1.03 | 2.02 | 1220) | 81 |  |  |  |
|  | 75 | 1.22 | 2.41 |  |  |  |  |  |
| With Type N Neck for Standard $2^{\prime}$ '́ Inch Shade Holders |  |  |  |  |  |  |  |  |
| 611 | 25,40,50 | \$0.7K | 81.5.5 | 12100. | 814 | 100, 150 | \$1.16 | \$2.30 |
| 71/4 | (i) | . 93.4 | 1.85 | 12200N | 814 | 20 | 1. 64 | 3.24 |
| 81/ | 75 | 1.12 | 2.02 |  |  |  |  |  |

List
No.
12300N

| Ho |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Refleetor | Size of | Size of | Mirs. | $\begin{gathered} \text { W. F. } \\ \text { List } \end{gathered}$ |  | $\xrightarrow{\text { Re- }}$ fertor | Nize of | Size of | Mirs | W. E.ist |
| Dian. | Fitter | lamps | Price | Prica | Jist | Jiam. | Fitter | Lanips | Price | Price |
| Inehes | Inches | Watts | Each | Each | No. | Inches | Inchers | Watts | Each | Eael |
| 12 | $31 / 4$ | , 400, 500 | \$2.70 | \$2.23 | 12750 N | 15 | 31/3 | 750, 1000 | \$3. 60 | 87.13 |

List
No.
12040P
$120(60 \mathrm{P}$
12075 P

$* 12040 \mathrm{~S}$
$* 12060 \mathrm{~S}$
$* 12075 \mathrm{~S}$


With Type P Holder for Porcelain Sockets


| With Type B Holder for Brass Shell Sockets |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15040B | fi $1 / 2$ | 25, 40, 50 | 81.20 | \$2.50 | \| 15100 B | 10 | 100, 150 | $\$ 2.00$ 2.10 | $\$ 3.96$ +.16 |
| 15060 H | 8 | (6) | 1.12 | 2.81 | 15200R |  |  |  |  |
| 1507513 | 8 | 75 | 1.50 | 3.10 |  |  |  |  |  |
| With Type N Neck for Standard 2'f Inch Shade Holders |  |  |  |  |  |  |  |  |  |
| 15040N | 61/2 | 25, 40, 50 | \$1.16 | \$2.30 | $15100 \%$ | 10 | 100, 150 | 81.86 | \$3.88 |
| 15060 N | 8 | 60 | 1.32 | 2.61 | 15200N | 10 | 200 | 2.00 |  |
| 15075 N | 8 | 75 | 1.44 | 2.00 | \\| |  |  |  |  |
| With Type P Holder for Porcelain Sockets |  |  |  |  |  |  |  |  |  |
| 15040 P | 63/2 | 25, 40, 50 | \$1.30 | \$2.57 | (15100] | 10 | $\underset{0}{100} \times 150$ | $\$ 2.10$ 2.20 | $\$ 4.16$ 5.36 |
| 15060 P | 8 | 60 | 1.48 | 2.93 | 15200 P | 10 |  |  |  |
| 15075 P | 8 | 75 | 1.62 | 3.20 | \\| |  |  |  |  |
| With Type S Holder for Benjamin Screw Thread Sockets and Fixtures |  |  |  |  |  |  |  |  |  |
| *15040s | f11/2 | 25, 40, 50 | \$1. 26 | \$2.50 | 15100 N | 10 | 100. 150 | $\$ 2.00$ 2.10 | $\$ 3.96$ 4.16 |
| *150)60s | 8 | 60 | 1.42 | 2.81 | 15200゙ | 10 | $2(\%)$ | 2.10 | 4.10 |
| *15075s | S | 75 | 1.51 | 3.10 |  |  |  |  |  |

Standard finish on above reflectors is green outside. Holders have natural finish and are furnished as follows "Yye $B$, brass: 'Types $N$, $P$ and $S$, eopper.
*Not ventilating.

## BENJAMIN SHADE HOLDER REFLECTORS



Shallow Bowl


Deep Bowl


Cone

SHALLOW BOWL
With Type B Holder for Brass Shell Sockets
Schedule 2 R

List
No.
31020 B
31040 B
31060B
W. E. II Brass

| W. E. |  |  |  | W.E. |  |
| ---: | :---: | :---: | :---: | ---: | ---: |
| List |  | Reflector | Lamp Sizes | Mirs. | Wist |
| Price | List | Diam. | Recommended | Price | Price |
| Each | No. | Inches | Watts | Each | Each |
| $\$ 1.33$ | $3107.5 B$ | 12 | 75 | $\$ 0.89$ | $\$ 1.76$ |
| 1.44 | $31100 B$ | 15 | 100,150 | 1.09 | 2.16 |
| 1.64 | $31200 B$ | 15 | 200 | 1.24 | 2.45 |

With Type N Neck for Standard 2 $\frac{1}{4}$ Inch Shade Holders

| 31020 N | 8 | 10, 20, 25 | \$0.58 | \$1.15 | 3107.5N | 12 | 75 | \$0.80 | \$1.58 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31040 N | 10 | 25, 40, 50 | . 64 | 1.26 | 31100 N | 1.5 | 100, 150 | 1.00 | 1.98 |
| 31060 N | 12 | 50, 60 | . 74 | $1.4(\mathrm{j}$ | 3120 FN | 15 | 200 | 1.15 | 2.28 |
| With Type P Holder for Porcelain Sockets |  |  |  |  |  |  |  |  |  |
| 31020P | 8 | 10, 20, 25 | \$0.71 | \$1.40 | 3107.)P | 12 | 75 | \$0.93 | \$1.84 |
| 31040P | 10 | 25, 40, 50 | . 77 | 1.53 | 3110ヶP | 15 | 100, 150 | 1.13 | 2.23 |
| 31060P | 12 | 50, 60 | 87 | 1.73 | 31200 P | 15 | 200 | 1.28 | 2.54 |

With Type S Holder for Benjamin Screw Thread Sockets and Fixtures

| *31020S | 8 | 10, 20, 25 | \$0.68 | \$1.35 | *31075S | 12 | 75 | \$0.90 | \$1.78 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *31040S | 10 | 25, 40, 50 | . 74 | 1.46 | 31100 S | 15 | 100, 150 | 1.10 | 2.18 |
| *31060S | 12 | 50, 60 | . 84 | 1.66 | 31200 S | 15 | 200 | 1.25 | 2.48 |

## DEEP BOWL

With Type B Holder for Brass Shell Sockets

| 32040B | 61/4 | 25, 40, 50 | \$0.76 | \$1.51 | 32100 B | 81/4 | 100, 150 | \$1.01 | \$2.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 32060B | $71 / 4$ | 50, 60 | . 85 | 1.69 | 3220013 | $81 / 4$ | 200 | 1.16 | 2.30 |
| 32075B | $81 / 4$ | 75 | . 94 | 1.85 |  |  |  |  |  |
|  |  | With Type N Neck for Standard 21/4 Inch Shade Holders |  |  |  |  |  |  |  |
| 32040 N | 61/4 | 25, 40, 50 | \$0.67 | \$1.33 | 32100 N | 81/4 | 100, 150 | \$0.92 | \$1.98 |
| 32060 N | $71 / 4$ | 50,60 | . 76 | 1.51 | 32200 N | $81 / 4$ | 200 | 1.07 | 2.12 |
| $32075 N$ | 81/4 | 75 | 85 | 1.69 |  |  |  |  |  |
| With Type P Holder for Porcelain Sockets |  |  |  |  |  |  |  |  |  |
| 32040P | 61/4 | 25, 40, 50 | \$0.80 | \$1.58 | 32100 P | 81/4 | 100, 150 | \$1.05 | \$2.08 |
| 32060 P | $71 / 4$ | 50, 60 | . 89 | 1.76 | 32200 P | 81/4 | 200 | 1.22 | 2.41 |
| 32075 P | $81 / 4$ | 75 | . 98 | 1.75 |  |  |  |  |  |
|  | With Type S Holder for Benjamin Screw Thread Sockets and Fixtures |  |  |  |  |  |  |  |  |
| *32040S | 61/4 | 25, 40, 50 | \$0.77 | \$1.53 | 32100 S | $81 / 4$ | 100, 150 | \$1.02 | \$2.02 |
| *32060S | $71 / 4$ | 50,60 | . 86 | 1.71 | 32200S | 81/4 | 200 | 1.17 | 2.32 |
| *32075S | $81 / 4$ | 75 | .95 | 1.89 |  |  |  |  |  |

## CONE

With Type B Holder for Brass Shell Sockets


Porcelain Enameled Steel



No. H-410


No. H-316

## For Standard Shade Holders

Nos. H-508 to H-518 and II-410 to H-418, inclusive, are porcelain cnameled steel, green outside, white inside, and have heel to fit standard shade holders.

Schedule 4
Flat Cone

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Reflector Size, Ins. | Holder Size, Ins. | std. <br> Pl.g. | Wt. Lbs. | Mfrs. Price Each | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H-508 | 8 | $21 / 4$ | 10 | 5 | 80.60 | \$1.24 |
| H-510 | 10 | $21 / 4$ | 10 | ${ }_{6}$ | 70 | 1.46 |
| H-512 | 12 | 21/4 | 10 | 10 | . 90 | 1.88 |
| 11-515 | 15 | $31 / 4$ | 10 | 12 | 1.30 | 2.68 |
| H-518 | 18 | $31 / 4$ | 10 | 26 | 1.70 | 3.52 |


| $\mathrm{H}-410$ | 10 | $21 / 4$ | 10 | 7 | $\$ 0.70$ | $\$ 1.46$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\mathrm{H}-412$ | 12 | $21 / 4$ | 10 | 13 | .90 | 1.88 |
| $\mathrm{H}-414$ | 14 | $21 / 4$ | 10 | 15 | 1.10 | 2.28 |
| $\mathrm{I}-416$ | 16 | $31 / 4$ | 10 | 19 | 1.50 | 3.12 |
| $\mathrm{H}-418$ | 18 | $31 / 4$ | 10 | 31 | 1.90 | 3.94 |

## FOR BENJAMIN CLUSTER FIXTURES

Nos. H-10 to H-20, inclusive, are porcelain enameled steel, green outside, white inside, with hexagon fitting tapped for iron pipe stem.

| List <br> No. | Reflector Size, Ins. | Stem <br> Size, Ins. | Std, Pkg. | W't. Lbs. | Mfrs. Price Each | W, E. Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| H-10 | 10 | 1/2 | 10 | 7 | 80.80 | \$1.66 |
| H-12 | 12 | $1 / 2$ | 10 | 12 | 1.00 | 2.08 |
| H-15 | 15 | $1 / 2$ | 10 | 16 | 1.30 | 2.68 |
| H-18 | 18 | 1/2 | 10 | 21 | 1.80 | 3.72 |
| H-20 | 20 | 1/2 | 10 | 31 | 2.50 | 5.18 |

## FOR BENJAMIN CLUSTER BODIES

Nos. H-813, H-115, H-215, H-118, H-316 and H-318 are poreclain enameled steel, white both sides, fit the wireless duster back, and require no holders. Nos. H-316 and H-318 have deep neek.

| List | Reflector | Type of | Std. | Wt. | Mirs. Price | W. E. List |
| :--- | :---: | :---: | :---: | :---: | ---: | ---: |
| No. | Size, Ins. | Cluster | Pkg. | Lbs. | Each | Each |
| H-813 | 13 | 8 | 10 | 11 | $\$ 1.20$ | 82.48 |
| H-115 | 15 | 1,7 or K | 10 | 12 | 1.20 | 2.48 |
| H-215 | 15 | 2 | 10 | 12 | 1.20 | 2.48 |
| H-118 | 18 | 1,7 or K | 10 | 14 | 2.00 | 4.14 |
| H-316 | 16 | $3 T$ | 10 | 20 | 1.80 | 3.72 |
| H-318 | 18 | $3 T$ | 10 | 25 | 2.10 | 4.36 |

## CUTTER HOLDER-SOCKETS WITH SOL-LUX REFLECTORS



The use of the C'utter IFelier-Sockets, which are combination holders for standard-heel reflectors and sockets for Mazda lampen, is an important fartor in obtaining officient illumination for industrial , blants. The functions of Itolder-siockens, their simple eonstruetion and advantageous features recommend them for installatioms where utilits and efficioney are the determining factors.


Holder-Socket with Gap for Atrachment to 纹-inch Conduit


Holder-Socket with 4-inch Outlet

## ATTACHMENT TO OUTLET BOX Two Operations

Jïrst-Trim wires and skin insulation from them; loosen sarews on outlet box.
serond-l'ull wires through holes in porcelain body of IIolder-socket, eonnect wires to terminals and tighten serews on outlet box.
The Holder-sorket is then wired romplete, ready for reflector and lamp; no loose wires to st uff hack; reflectors at tached by adjusting one thumb-screw.

## ATTACHMENT TO CONDUIT

## Three Operations

First- Screw hood flange on contuit. trim wires and skin insulation from them. Feeond--Pull wires through holes in bedy of llollerzocelket and fasten the socket to the hoorl flange.
Third-Commet the wires to terminals. The Holder-tiocket is then wired combiete, ready for reflector and lamp; no loose wires to stuff bark; refloctors attached by aljusting one thumb-serew,
('utter Ifolder-sockets save 75 per cont. $21 /$ Inch cost of installation. 21/4 Inch Medium Screw Holder Sockets

30 Hint With porcelath bushing for reinforced drop-cord suspension. . . . . . . .

## 31/4 Inch Mogul Screw Holder Sockets <br> 31/4 Inch Mogul Screw Holder Sockets

30455
IVith (alp for atitachment to $1 / 2$ inch conduit stem. . . . . . . . . . . . .

| 30 | $\$ 1.25$ |
| :--- | ---: |
| 25 | 1.25 |
| 30 | 1.25 |
|  |  |
| 35 | 1.75 |
| 30 | 1.75 |
| 35 | 1.75 |



## CUTTER SOL-LUX INDUSTRIAL LIGHTING REFLECTORS With Standard Heels

One of the principal advantages of standard-heel reflectors is that different types of reflectors with the same size of heel may be used with the same holder, which permits changes in light distribution without disturbing the wiring. Other advantages are that reflectors may be removed easily for cleaning and that the heels prevent the chipping of the enameled surfaces, thus greatly lengthening the life of the reflectors. Copper heels are furnished with Cutter porcelain enameled reflectors and spun-steel heels with enam-aluminum reflectors. The $21 / 4$ inch heel is supplied on reflectors for 200 -watt lamps and smaller, and the $31 / 4$ inch heel on reflectors for 300 -watt lamps and larger. Standard heel reflectors used with Cutter Holder Sockets are recommended for conduit and reinforcel drop cord installations. Skeleton holders may be used for attaching $21 / 4$ inch standard heel reflectors to brass shell or porcelain sockets.


Dome or Distributing Type
Schedule "H"
 $\quad$ Por

Trade
No.
323040
323040
323075
323150
3233200
33335000
333000 Porcelain Enamel, White Interior, Green Exterior

| Baked | d Paint | Enamel, | White | Interior, | Green | Exte | r |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 123040 | 25-40 | 10 | $35 / 8$ | 20 | 30 | \$0.65 | \$1.22 |
| 1233(4) | 40-(i) | 12 | $41 / 8$ | 20 | 37 | 75 | 1.41 |
| 12:3075 | 75 | 12 | 47/8 | 15 | 35 | 80 | 1.50 |
| 12:3150 | 100-1:0 | 15 | 61/4 | 10 | 37 | 1.20 | 2.26 |

Bowl or Extensive Type


Bowl or Extensive Type


Focusing Type


Angle Type

## Focusing Type

| Enam-aluminum |  | Interior, |  | Baked |  | Exterior |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 225040 | 25-40 | 65/8 | 41/4 | 50 | 35 | \$0.47 | 80.88 |
| 225060) | (i) | 8 | 5 | 40 | 40 | 7) | 1.32 |
| 225075 | 75 | 8 | $53 / 4$ | 20 | 35 | . 85 | 1.60 |
| 225150 | 100-150 | 10 | $71 / 8$ | 20 | 35 | 1.10 | 2.07 |

## Angle Type

| Porcelain Enamel, White Interior, Green Exterior |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 324040 | $25-40$ | $63 / 4$ | $51 / 2$ | 50 | 40 | $\$ 1.15$ | $\$ 2.16$ |  |  |  |  |  |  |  |  |  |
| 324060 | 60 | 8 | $63 / 4$ | 30 | 40 | 1.30 | 2.44 |  |  |  |  |  |  |  |  |  |
| 324075 | 75 | 8 | $71 / 2$ | 20 | 40 | 1.45 | 2.73 |  |  |  |  |  |  |  |  |  |
| 324200 | $100-150-200$ | $101 / 8$ | $91 / 4$ | 20 | 40 | 1.95 | 3.67 |  |  |  |  |  |  |  |  |  |
| 334500 | $300-400-500$ | $121 / 4$ | $115 / 8$ | 5 | 20 | 3.55 | 6.67 |  |  |  |  |  |  |  |  |  |
| 334000 | $750-1000$ | $151 / 4$ | $151 / 2$ | 3 | 30 | 5.25 | 9.87 |  |  |  |  |  |  |  |  |  |


| Enam-aluminum |  | Interior |  | Baked | Paint Exterior |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 224040 | 25-40 | (i3/4 | $51 / 2$ | 50 | 40 | \$0.47 | \$0.88 |
| 2240 \% | 60 | 8 | $63 / 4$ | 40 | 40 | 70 | 1.32 |
| 224075 | 75 | 8 | $71 / 2$ | 20 | 35 | . 85 | 1.60 |
| 224100 | 100 | 101/8 | 91/4 | 20 | 35 | 1.20 | 2.26 |

## SCHEDULE "H" DISCOUNTS

Delivery F. O. B., South Bend, Ind. For warehouse deliveries write nearest house.

# CUTTER SOL-LUX INDUSTRIAL LIGHTING REFLECTORS <br> <br> With Snap Ring Holders for Brass Shell Sockets 

 <br> <br> With Snap Ring Holders for Brass Shell Sockets}

The snap ring holder forms an easy and dependable method of attaching reflectors to brass shell sockets. When attaching the shap ring holder to the soeket, the socket shell is placed over the reflector at an angle. The snap ring is expanded to let the bead of the socket shell slip into the groove in the snap ring, and the tension holds the reflector firmly in place. The snap ring holder is substantial in construction and positive in operation. lieflector styles Nos. $313150,313200,11: 3150,314200$ and 214200 are furnished with the clamp strap shown in the acompanying illustration. This strap is used on heavy reflectors and is recommended for use on those which are subjected to considerable vibration. When so ordered, clamp) straps will be furnished with reflectors other than those specified above for $\$ 0$, 13 list
additional.
"utter "Sol-hux" IReflectors equipped with snap ring holders are of the same quality and design as those equipped with standard heels.

## Dome or Distributing Type




Dome or Distributing Type


Bowl or Extensive Type


Angle Type


Focusing Type

## X-RAY REFLECTORS

In the design of these reflectors sufficient room has been allowed for cleaning without removing lamos from reflectors, thus reducing the lamp breakage to a minimum.

The inside glass protection to the silver plating is easily cleanea by simpy wiping (inside of reflentor only) with a damp eloth. They need not be cleaned as frequently as other types, and should never be immersed water.


## For 100 Watt Mazda C Lamps

The "Jupiter" is used for the brilliant illumination of show windows whose height equals about twice their depth.

The "Jove" is a scientifically corrent window lighting reflector with a high temperature backing, designed espenially for use with a 100 watt Mazda lamp.

|  |  |  |  | Weight | Mirs. | W. E. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: |
| List | Width | Depth | Height | Holder | Each | Std. | List | List |
| No. | Ins. | Ins. | Ins. | Ins. | Lbs. | Pkg. | Each | Each |
| 610 | 10 | $101 / 8$ | $75 / 8$ | $21 / 4 A$ | $21 / 4$ | 12 | $\$ 4.00$ | $\$ 6.80$ |
| 600 | 10 | $9 \frac{13}{16}$ | 75 | $31 / 4 \mathrm{~A}$ | $21 / 4$ | 12 | 4.00 | 6.80 |



Scoop No. 778


## For 75 Watt Mazda C Lamps

The scoop reflector was designed for windows of medium size where the depth is approximately equal to the height. This reflector gives a downward light of 450 candle power.

The hood reflector is designed to light low, shallow windows as efficiently as the Jupiter lights higher windows of the same type. The design of this hood reflector is such as to produce a high concentration in the window-cutting the light off sharply at the window plate.

| List | Width | Depth Ins. | Height Ins. | Holder Ins. | Weight Fach Lbs. | Std. Pkg. | Mirs. List <br> Each | W. E. <br> List <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ins. |  |  |  |  |  |  |  |
| 718 | $7 \frac{7}{16}$ | $6 \frac{11}{16}$ | $6 \frac{5}{16}$ | $21 / 4 \mathrm{O}$ | 1 | 24 | \$2,50 | \$4.26 |
| 731 | $87 / 8$ | $87 / 8$ | $6 \frac{3}{16}$ 。 | $21 / 4 \mathrm{H}$ | 11/4 | 16 | 3.00 | 5.10 |



Poke Bonnet No. 750


Midget No. 515

The Poke Bonnet is a sectional trough reflector with an adjustable holder which is easily attached to either the ceiling or transom har. Two lamps are held in this reflector by a nickel plated twin socket. The largest lamp bulb, which can be used in this reflector is a bo watt Mazda lamp.

This reflector is especially adapted to the lighting of low, deep windows, where the reflectors cannot be placed more than 6 ts. 10 feet above the bottom of the window.

The Midget uses the 25 watt tubular Masta lamp, and is the ideal reflector for lighting display eases, small store wimdows, wall cases, cornices, pietures, etc. Whade hodder is supplied with this reflector.

| List | Length | Depth | Holder | Weight | Fich | Std. | Mirs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |



The Hoodette is placed at the inside upper front edge of the case where it is hidden by the framework. The socket which is the same type as used with the Scoopette, takes a small 15 watt lamp. We cannot overemphasize the great saving in cost the use of these lamps makes possible with Scoopette and Hoodette equipment.

## Description

Height, including socket, $41 / 8$ inches. Depth, front to back, $53 / 8$ inches. Width of reflector, $3 \frac{17}{16}$ inches. For 15 watt G-16 $1 / 2$ candelabra base lamp. Holder, special supplied with reflector. Standard package quantity 10 . Shipping weight of standard package quantity, 10 lbs .


## X-RAY REFLECTORS

## For Direct Lighting



No. 570 A Distributor


No. 575 A Disiributor


No. 54 Jumbo

The X-Ray reflectors, known as the Beehive type, are designed along the latest scientific lines. They give a whe spread of light and hide the lamp from view without sacrificing the efficioney. This line is especially well adapted for the illumination of factories, shops of all kinds, gymnasiums, armorios, indoor ball and tennis courts, pressrooms, power houses, foundries, etc.

The Jumbo is designed for the illumination of very large moterionw, such as armories, coliseums, erectines shops, etc.

| List <br> No. | Dimensions, Diameter | Inches- <br> Height | Size of Holder 1nches | Size of Lamp Watts | Weight Each lbs. | Std. Pkg. | Mfrs. <br> List <br> Fach | W. J. I.ist |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * 535 | $53 / 4$ | $51 / 8$ | 21/4 H | 75.10 | 3/4 | 24 | \$1.25 | \$2.1\% |
| 570 | $71 / 8$ | 67/8 | $31 / 4 \mathrm{~A}$ | 100 B or C | $11 / 4$ | 16 | 1.75 | 2.98 |
| 575 | $93 / 8$ | 8 | $31 / 4 \mathrm{~A}$ | 200 C | $13 /$ | 8 | 2,40 | 4.08 |
| 580 | $117 / 8$ | $93 / 8$ | Special | 300, 400, 500 ${ }^{\text {c }}$ | $41 / 2$ | 4 | 6.00 | 10.20 |
| 54 | $161 / 2$ | 133/8 | Suecial | 750-1000C | 10 | 1 | $2 \% .00$ | 40.00 |



## Semi-concentrating Reflectors

The No. 700 reflector, which is similar in design to the No. 696 , as illust rated, is called a semi-concentrating refiector because it does not spread the light as far as the distributing reflectors, and yct does not confine the light into such a small area as do the concentrating reflectors shown. The No. 700 reflector is used with a 100 watt Mazda B or C lamps.

## Concentrating Reflectors

The concentrating reflectors should be used whenever a very intense light is wanted over a small area such as over desks, counters, special machinery, etc.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | -Dimensions, Diameter | $\begin{aligned} & \text { Inches-m } \\ & \text { Height } \end{aligned}$ | Size of Holder Inches | Size of Lamp Watts | Std. Pkg. | Mfrs. <br> List <br> Each | W. E. <br> List <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700 | 10 | $51 / 2$ | 21/4 H | 100 B or C | 18 | \$1.50 | \$2.56 |
| 696 | 8 | 5 | $21 / 40$ | 40,50 and 6013 or 75 C | 24 | 1.25 | 2.12 |
| 710 | 111/2 | 63/1 | $31 / 4 \mathrm{~A}$ | 200 C | 6 | 2.50 | 4.26 |

## SCOOPETTE FOR SHOW CASES

The Scoopette was designed primarily for show case lighting. It is used with the equipment, complete from floor outlet to lamp, as shown. Any show case can be lighted with Scoopettes.

The problems which have been successfully solved in the development of this equipment are: The least possible obstruction to a clear view of the interior of the case; even and efficient illumination with complete concealment of lamp; low current consumption and maintenance; smallest possible amount of heat in case; reasonable cost and expense of illumination; absolute safety from fire risks; complete equipment, floor outlet to lamp.


## Scoopette Lighting Unit

Specifications: Heights, including socket, $4 \frac{11}{16}$ inches; depth, front to back, $3 \frac{7}{16}$ inehes; width of reflector, 4 inches; for 15 watt ( $\mathrm{i}-161 / 2$ candelabra base lamp; standard package, 10.


## Complete Show Case Lighting Outfits

The list prices given are for finished material necessary for equipping square end cases of various sizes mentioned with number of Scoopettes specified. Material includes a special insulating joint, a push button switch, a special switch box, which is casily installed, all tubing elbows, 'T fittings, Scoopettes, straps or brackets for supporting tubing, cap for end of tubing and sufficient special flexible No. 18 stranded wire to wire entire case. Prices do not include assembling, wiring, installing or lamps.

## TABLE OF LIST PRICES FOR COMPLETE OUTFITS

Wood frame or all glass cases having square ends.

| Length <br> of <br> Cases | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { Scoopettes } \end{gathered}$ | Mfrs. List Price | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Price } \end{gathered}$ | $\begin{aligned} & \text { Length } \\ & \text { of } \\ & \text { Cases } \end{aligned}$ | Number of Scoopettes | Mfrs. <br> List <br> Price | W. H. List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 to 5 ft . | 2 | \$14.00 | \$23.80 | 9 to 11 ft . | 7 | \$34.00 | \$53.72 |
| 3 to 5 ft . | 3 | 17.70 | 25.08 | 9 to 11 ft . | 8 | 37.70 | 56.62 |
| 3 to 5 ft . | 4 | 21.40 | 30.10 | 9 to 11 ft . | 9 | 41.40 | 56.96 |
| 5 to 7 ft . | 2 | 14.75 | 30.94 | 9 to 11 ft . | 10 | 45.10 | 57.80 |
| 5 to 7 ft . | 3 | 18.20 | 32.14 | 11 to 13 ft . | 5 | 27.30 | 58.66 |
| 5 to 7 ft . | 4 | 21.90 | 36.38 | 11 to 13 ft . | 6 | 30.80 | 69.50 |
| 5 to 7 ft . | 5 | 25.60 | 37.24 | 11 to 13 ft . | 7 | 34.50 | 64.10 |
| 7 to 9 ft . | 3 | 18.90 | 38.08 | 11 to 13 ft . | 8 | 38.20 | 64.94 |
| 7 to 9 ft . | 4 | 22.40 | 39.28 | 11 to 13 ft . | 9 | 41.90 | 65.80 |
| 7 to 9 ft . | 5 | 26.10 | 43.52 | 11 to 13 ft . | 10 | 45.60 | 70.30 |
| 7 to 9 ft . | 6 | 29.80 | 44.38 | 13 to 15 ft . | 6 | 31.60 | 71.24 |
| 7 to 9 ft . | 7 | 33.50 | 45.22 | 13 to 15 ft . | 7 | 35.00 | 72.08 |
| 9 to 11 ft . | 4 | 23.10 | 46.42 | 13 to 15 ft . | 8 | 38.70 | 76.68 |
| 9 to 11 ft . | 5 | 26.60 | 50.66 | 13 to 15 ft . | 9 | 42.40 | 77.52 |
| 9 to 11 ft . | 6 | 30.30 | 52.36 | 13 to 15 ft . | 10 | 46.10 | 78.38 |

## Wiring and Assembling

We can ship outfits wired and assembled for an additional $20 \%$ in price. This charge does not include the wiring or assembling of parts from the elbow to the switch box. Is easily done when the outfit is installed in the case.

## BENDING AND FITTING TUBING FOR ROUND END CASES

We are especially prepared to accurately bend tubing for particular requirements.
The charge for bending tubing for a case with a single curved end is $\$ 1.50$, and for a case with two curved ends is $\$ 2.00$.

We can supply from stock equipment for curved and odd length cases.

## LIGHTING SPECIALTIES



## Wallace Portable Lamps

This cut shows assembled and collapsed views of the Willaee portable lamp.
The collapsed view shows how readily it cam be packed in a trunk or grip. It is equipped with as spirat spring concealed in the base by means of wheh the lamp may be hung or attached to any desired object and with a rubber suction cap for holding it to window panes, mirrors and other nomporous surfaces. The soeket is connected to the base hy aserew eonneetion which allows an angle adjustment of 1 so degrees. 'This makes it possible to keep the lamp, vertienl with the base in any position. It is apuiperd with a push butfon socket, gray button for "on," batek button for "off." 'IMhis lamp will stand anywhere or you can hang or stick it any place. Also the lamp and shade can be tilted up or down or sideways. It is finished in either brush brass, nickel or bronze finish. It is furnished with a 10 foot cord and Benjamin 90.3 plug.



## Cord Adjusters

## List No,

[^31]Each Prist Per 1000
4635 Black enamel, for $3 \%$ in cord or reinforced ball adjuster ...................... $80.06 \quad \$ 27.00$

$.12 \quad 40.10$
$\begin{array}{ll}2608 & \text { Shellac finish (wood), } 1 / 8 \mathrm{in} . \text { cord, dumb bell adjuster } \\ 5559 & \text { Q. \& S. cord adjuster, red fiber, for } 1 / 8 \mathrm{in} \text {. adjuster. }\end{array}$
.12
40.50

5403
S. \& S. cord adjuster, red fiber, for $1 / 8 \mathrm{in}$. adjuster . . . . . . . . . . . . . . . . . . . . . . . . .
13.50

5403
Stewart cord adjuster, for show window cord

## FARIES FLEXIBLE PORTABLES AND ARMS




No. 155


No. 154 Flexible Arm
No. 153

## Flexible Portables and Arms

| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | Extends | Finish | Sta. 1'ks. | Mfrs.List Laeh | W.E.List Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1947 | Flexible Portable, 9 in. flexible tube. . . . . . . . . . . . . . . . . . . . . 20 ins. | Brush brass | 6 | \$2.2.5 | \$3.60 |
|  | If furnished with 9 fert reinforeed silk cord, socket and plug, atd to list. |  |  | 1.50 | 2.10 |
| 153 | Flexible Portable | Rrush brass | 12 | 2.25 | 3.60 |
|  | For 1532 wired with 9 feet silk cord, soeket and plug, add to list Flexible, portable base, height 8 ins. |  |  | 1.50 | ${ }_{1}^{2.10}$ |
| 155 | Flexible, portable base, height 8 ins. | Rrush brass | 12 | 1.20) | 1.96 |
| 540 | Flexible arm 12 in ., male thread each end, $3 / 8 \mathrm{in}$. iron | Brush brass |  | 90) | 2.16 |
| 540 | Flexible arm 15 in ., male thread each end, $3 / 8 \mathrm{in}$. iron | Brush brass |  | 1.10 | 2.6 .4 |
| 540 | Flexible arm $18 \mathrm{in} .$, male thread each end, $3 / 8$ in. iron | Rrush brass |  | 1.3 .5 | 3.24 |
| 154 | Flexible arm 9 in., male thread each end, $1 / 8$ in. iron | Brush brass |  | . 75 | 120 |
| 154 | Flexible arm 12 in., male thread each end, $1 / 8$ in. iron | Brush brass |  | 90 | 1.40 |
| 154 | Flexible arm 15 in., male thread each ent, $1 / 8$ in. iron | Brush brass |  | 1.10 | 1.76 |
| 15 t | Flexible arm 2.4 in., male thread each end, $1 / 8 \mathrm{in}$. ir | Brush brass |  | 1.35 | 2.16 |
| L.ong | or lragths per foot add. . . . . . . . . . . . . . . . . . . | Brush brass |  | 1.80 .90 | 2.88 1.40 |

$\dagger$ Prices do not inelude shades, lamps, shade holders, sockets or wiring.


Flexible Arm for Flexible Lighting


## FARIES VERDELITE PORTABLES

With adjustable green glass shades. White opal reflecting surface inside.


No. 3243


No. 3249

## Adjustable Portable




No. 3250


No. 3251

## Piano and Desk Portable

Fancy cast portable.
Pancy cast portable
Fancy cast portable.
Fancy rast portable

| Extends 12 inches | lbrush brass and black | 6 | $\$ 12.00$ | $\$ 18.00$ |
| :--- | :--- | :--- | ---: | ---: |
| Extends 12 inches Statuary bronze | 6 | 12.50 | 18.76 |  |
| Extends 12 inches Srush brass and black | 6 | 9.00 | 13.50 |  |
| Extends 12 inches Statuary bronze | 6 | 9.50 | 14.26 |  |

Wiring includes 9 feet re-inforced silk cord, kev socket and plug and green glass shade.
Note: The above are for 25 to 60 watt lamp.
Prices include Pull Sockets, on Nos. 3250, 3251 and 3249 . Key Sockets on balance.


No. 2917



No. 100 Table Lamp


No. 200 Floor Lamp

## Western Electric Floor and Table Lamps

General. The Western Electric floor and tahle Lamps are finished in cither Verde Antique or real statuary bronze. They have a new split-ball adjusting joint between the shaft and 4 inch stem that carries the socket. A new design wing nut fits the finger for locking the joint which will not slip when starting to tighten.

No. 100 Western Electric table portable base is $55 / 8$ inches in diameter Height, 17 inches overall. The cord enters the base through a hard rubber bushing, it being concealed in the split ball adjusting joint.

No. 200 Western Electric floor lamp base is $81 / 2$ inces in diameter and the weight is distributed at the edge to give stability. 'The lamp is wired from the bottom with the cord coming up through the shaft, and then through a new and special split-ball joint and into the socket. The shaft is of heavy brass tubing (not plated iron pipe) 30 inches high. Teleseoped inside of this is a smaller brass tube, arranged so that the lamp, can be adjusted to different heights. These lamps can be adjusted from 3 feet high to 5 feet 5 inches. Then the lamp is adjusted to minimum height the cord is 9 foet long; when the lamp is raised to the maximum height the cord is 7 feet long. At the top of the shaft is a knurled brass collar which locks the stem after it has been adjusted to the right height. The shade is parabola in shape and throws the light just where wanted. Each portable is packed in a separate package. On the base appears a neatly etched name plate on which are two words. Western Flectric.

List Price
Height
Each

| List No. |  | Height | Each |
| :---: | :---: | :---: | :---: |
| 100 | Table lamp. | 17 ins. | $\$ 8.00$ |
| 200 | Floor lamp. | 3 ft to 5 ft .5 ins . | 10.50 |

Packed one portable in cach case.

FARIES ADJUSTABLE FIXTURES
Adaptable to Any Position


FOR OFFICE, STORE, FACTORY OR RESIDENCE
No. 1 ADJUSTABLE BRACKET

| $\begin{gathered} \text { List } \\ \text { No. } \\ 1 \end{gathered}$ | Adjustable bracket. | Size |  |  |  | Mfrs. | F. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | List | List |
|  |  | Inches | Inches | Finish | Pkg. | Each | Each |
|  |  | 3/8 | 16 | Brus' brass | 12 | \$0.60 | \$0.96 |

No. 14
No. 14 ADJUSTABLE BRACKET
14


With hinged joint, without ranopy....... 3/8 20 lirush brass
$12 \quad \$ 1.10$
$\$ 1.76$


No. 4
4

vo. 3325
Fspecially adapted for office or residence and makes the best bath room bracket made. Concealed wiring.

## ADJUSTABLE BRACKETS

| List |  | Extends |  | Std. | Mirs. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Inches | Finish | Pkg, | List | List |
| 3325 | Adjustable bracket | $131 / 2$ | Brush brass | 12 | \$1.50 | \$2.40 |

# FARIES ADJUSTABLE FIXTURES AND BRACKETS FOR FACTORY LIGHTING 



No. 6 FIXTURE
This ceiling fixture is adjustable and the lamp can be placed in any position within 10 feet diameter. It has a heavy cast tripod and $3 / 4$ inch iron pipe stem. Arm made of heavy strap) iron and heavy $1 / 2$ inch brass tube with approved hinge joint. Finish black japan with B. B.

## No. 11 BRACKET

This bracket is adjustable to any angle. Base, $41 / 2$ inches diameter.
Stem, $3 / 8$ inch iron pipe.

Arm, $3 / 8$ inch flexible tube, 18 inches long. Finish black japan with B. B.

Standard package, 12 , one size.

| List | Extends <br> Over All <br> Inches | List <br> Price <br> Each |
| :--- | :---: | ---: |
| No. | 36 | $\$ 7.92$ |
| 11A | 36 | 8.28 |
| 1113 | 48 | 8.28 |
| 11C | 60 | $\mathbf{8 . 6 4}$ |

# Western Electric <br> FARIES ADJUSTABLE BRACKETS 

Mail Orders Filled at Prevailing Prices

ADJUSTABLE TO ANY POSITION


No. 1062


No. 1052

## Adjustable Brackets

| Iist No. |  | Fxtends Inches | Finish | Str. Pkg. | Nfrs. List Fach | $\begin{aligned} & \text { W. E. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $10(2)$ | Large tubing, crowfoot and $3 \times 41 / 2$ inch canopy . | 23 | Brush brass | 12 | \$1.i0 |  |
|  | Large tubing, heavy cast base. . . . . . . . . . . . . . | 17 | Brush brass | 12 | \$1.50 1.50 | $\stackrel{8.40}{2.40}$ |

Note: Prices do not indude shades, lamps, shade holders, sockets or wiring.


No. 537

## One Swing Wall Brackets



No. 538

## Two Swing Wall Brackets

| Iist No. |  | Extends Inches | Finish | Std. Pkg. | Mfrs. <br> List <br> Each | W. F List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 538 | Two swing, canopy $41 / 2$ inches. |  | Brush brass | ${ }_{\text {( }}$ ( |  |  |

Note: I'rices do not include shades, lamps, shade holders, sockets or wiring.
*IDelivery 1. O. B. Factory: Deeatur, IIl. For warchouse deliveries write nearest honse.



No. 158


No. 95

Switchboard Brackets


Electric Bracket Tubes

Iist
No.
2239 Electric bracket tubes

| Size | Std. | -*List Price Fach |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Less | 12 to | 24 and | Less | 12 to | 24 and |
| Ins. | Pkg. | than 12 | 24 | Over | than 12 | 24 | Over |
| 5 | 24 | \$0.36 | \$0.27 | $\$ 0.25$ | S0.40 | \$0.30) | \$0.28 |

Bracket Plates
List
No.
$05 \quad$ Female, bracket plates, tapped $1 / 8$ iron . . . . . . . . . . . . .

|  | Brush Brass |  | Oxidized Copper |  |
| :---: | :---: | :---: | :---: | :---: |
| Size | Less | 10 and | Less | 10 and |
| Ins. | than 10 | Over | than 10 | Over |
|  | \$0.10 | \$0.07 | \$0.11 | 80.08 |




No. 1756


No. 2911A

Connectors and Bushings


| No. |  | Finish | $\begin{aligned} & \text { Less } \\ & \text { than } 50 \end{aligned}$ | $\begin{aligned} & 50 \text { to } \\ & 100 \end{aligned}$ | 100 and Over |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1756BB | 45 angle, for clusters and ceiling fans. | Brush brass | \$36.00 | \$27.00 |  |
| 1756 OC | 45 angle, for clusters and ceiling fans. | Ox. copper | 39.60 | 29.70 | 27.72 |
| 2911A | $1 / 8$ iron to burner. |  | 40.00 | 30.00 | 28.00 |
| 161A | $1 / 8$ iron to burner. |  | 6.00 | 4.50 | 28.20 |
| 143 | 1/8 $\times 1 / 8$ iron. |  | 6.00 | 4.50 | 4.20 |

*Delivery F. O. B. Factory, Decatur, Ill. For warehouse deliveries write nearest house.

FARIES CEILING FIXTURES


No. 635


No. 8013


No. 2383


Ceiling and Porch Bands

| No. 635 <br> With Four Screw Holes <br> Used with Receptacle $61 / 4 \times 2$ <br> For 31/4 Inch Glass |  |  |  | Made | No. 636D <br> With Four Screw Holes $61 / 4 \times 2$ <br> of Sheet Copper for Outdoor For 4 Inch Glass |  | Work |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mirs. | *1ist |  |  |  |  |
| List |  | List | Price |  |  | Mirs. | *List |
| No. |  | per 100 | per 100 | List |  | List | Price |
| 635 | Brush brass. | \$30.00 | \$45.00 | No. |  | per 100 | per 100 |
| 635 C | Black. | 30.00 | 45.00 | 636 E | Polished copper | \$39.00 | \$58.50 |
| 635 A | Unfinished, | 25.00 | 37.50 | 636 F | Black. | 39.00 | 58.50 |
|  |  |  |  | 636D | Unfinished. | 34.00 | 51.00 |
|  | With $61 / 4 \times 2$ | Holes <br> Class |  |  | No. <br> Used with Rec For 31/4 | $5 \times 11 / 2$ |  |
| 636 | Brush brass. | \$34.00 | \$51.00 | 1003 | Brush bra | \$30.00 | \$45.00 |
| 636 C | Black. . . | 34.00 | 51.00 | 1003 C | Black. | 30.00 | 45.00 |
| 636 A | Unfinished. | 29.00 | 43.50 | 1003A | Unfinished | 25.00 | 37.50 |
|  | Used with For | $91 / 4 \times 3$ |  |  | Used with Rec For 21/4 | $6 \times 21 / 2$ |  |
| ${ }_{8}^{8013} 8$ | Brush brass. Black. | $\begin{array}{r} \$ 100.00 \\ 100.00 \end{array}$ | $\begin{array}{r} \$ 150.00 \\ 150.00 \end{array}$ | 6337 | Brush brass | \$35.00 | \$52.50 |
| 8013A | Unfinished | 90.00 | 135.00 | 637.1 | Unfinished. . | 30.00 | 45.00 |


| No. 635 D <br> With Four Screw Holes $61 / 4 \times 2$ <br> For $31 / 4$ Inch Glass |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 635 \mathrm{E} \\ & 635 \mathrm{~F} \end{aligned}$ | Polished copper Black. . . . . . | $\begin{array}{r} \$ 35.00 \\ 35.00 \end{array}$ | $\begin{array}{r} \$ 52.50 \\ 52.50 \end{array}$ | $635 \mathrm{D}$ | Unfinished | \$30.00 | \$45.00 |
| Canopies |  |  |  |  |  |  |  |
|  |  |  |  |  |  | Mfrs. List | *List <br> Price |
| List No. 2383 |  |  |  |  |  | per 100 | per 100 |
|  | Canopy $41 / 2 \times 3$ |  |  |  | . Br | \$28.00 | \$42.00 |
| 2385 | Canopy $43 / 4 \times 41 / 4$ in., with ring. |  |  |  | .. Br | 35.00 | 52.50 |

Note: Do not fail to specify size of slip ring desired.
Brush brass finish always shipped unless otherwise specified.
*Delivery F. O. B. Factory, Decatur, III. For warehouse deliveries write nearest house.

## MACALLEN INSULATING JOINTS



No. 7601
With Iron Hickey


No. 7621
With Brass Hickey


No. 7631
For Brass Tubing


With Hickey


Male and Female Thread

## ELECTROLIER OR SEPARABLE JOINTS

| List |  | ${ }^{*}$ List | List |  | *ist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Size | Price | No. | Size | Price |
| 7601 | $3 / 8 \times 1 / 8$ | \$0.82 | 7607. | $1 / 2 \times 1 / 2$ | \$1.20 |
| 7602 | $3 / 8 \times 1 / 4$ | . 82 | 7608 | $3 / 4 \times 3 / 8$ | 3.10 |
| 7603 | $3 / 8 \times 3 / 8$ | .85 | 7609. | $3 / 4 \times 1 / 2$ | 3. 310 |
| 7604 | $1 / 2 \times 1 / 8$ | 1.13 | 7610. | $3 / 4 \times 3 / 4$ | 3.40 |
| 7605 | $1 / 2 \times 1 / 4$ | 1.13 | 7611. | $\begin{array}{llll}1 & \mathrm{x} & 3 / 4\end{array}$ | 4.50 |
| 7606 | $1 / 2 \times 3 / 8$ | 1.15 | 7612. | $1 \times 1{ }^{1 / 4}$ | 4.60 |

## ELECTROLIER OR SEPARABLE JOINTS

 With Brass Hickeys| $7621 \ldots \ldots \ldots$ | $38 \times 1 / 8$ | 81.00 | $7625 \ldots \ldots$ | $1 / 2 \times 1 / 4$ | $\$ 1.40$ |
| :--- | ---: | ---: | :--- | :--- | :--- | :--- |
| $7622 \ldots \ldots \ldots$ | $3 / 8 \times 1 / 4$ | 1.00 | $7626 \ldots \ldots$ | $1 / 2 \times 3 / 8$ | 1.40 |
| $7623 \ldots \ldots \ldots$ | $3 / 8 \times 3 / 8$ | 1.10 | $7627 \ldots \ldots \ldots$ | $1 / 2 \times 1 / 2$ | 1.75 |

## ELECTROLIER OR SEPARABLE JOINTS

## With Hickeys Tapped Brass Tube Sizes

| 76 | ${ }_{3}^{3} 8$ iron x $3 / 8$ brass | \$0.84 | 76:3 | $1 / 2$ iron $x$ 3/8 brass |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7632 | $3 / 8$ iron $x \frac{7}{16}$ brass | . 84 | 7636. | $1 / 2$ iron $x \frac{7}{16}$ brass | 1. |
| 7633 | $3 / 8$ iron $x 1 / 2$ brass | 84 | 76:37. | $1 / 2$ iron $x 1 / 2$ brass | 1. |
| 763 | $3 / 8$ iron $\times 5 / 8$ brass | 89 | 7638. | $1 / 2$ iron $\times 5 / 8$ hrass | 1.1 |

brass tuhing sizes given ahove are outside measurements, and are tapped to Macallen's standard sizes.

## ELECTROLIER OR SEPARABLE JOINTS <br> With Malleable Iron Male Thread Hickeys

| 7681 | $3 / 8 \times 1 / 8$ | \$0.85 | 7685. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7682 | $3 / 8 \times 1 / 4$ | -8.85 | 7686 | 1/2×1/4 | $\$ 1.13$ 1.15 |
| 7683 | $3 / 8 \times 3 / 8$ | . 87 | 7687. | $1 / 2 \times 1 / 2$ | 1.15 |
| 7684 | $1 / 2 \times 1 / 8$ | 1.13 |  | 12x12 | 1.15 |

BLANK JOINTS FOR EXTERNALLY WIRED FIXTURES

| List No. | Size | *List <br> Price | List No. | Size | * List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7701. | $3 / 8 \times 1 / 8$ | \$0.72 | 7709 | $3 / 4 \times 1 / 2$ | \$2.50 |
| 7702 | $3 / 8 \times 1 / 4$ | . 72 | 3710 | $3 / 4 \times 8$ | 2.50 |
| 7703. | $3 / 8 \times 3$ | . 72 | 3711 | $1^{4 / 4} \times 1 / 2$ | 3.50 |
| 7704 | 1/2 $\times 1 / 8$ | 1.00 | 7712 | $1 \mathrm{x}^{1} 3 / 4$ | 3.50 |
| 7705 | 1/2x $\times 1 / 4$ | 1.00 | 7713 | $1 \times 1818$ | 3.50 |
| 7706 | $1 / 2 \times 38$ | 1.00 | 3714 |  | 7.50 |
| 7707. 7708. | $1 / 2 \times 1 / 2$ | 1.00 | 7715 | $11 / 2 \times 11 / 2$ | 12.00 |
| 7708. | $3 / 4 \times 3 / 8$ | 2.50 | 7716. | $2 \times 2$ | 18.00 |

## BLANK JOINTS, MALE AND FEMALE

| 7721 | $3 / 8 \mathrm{~F} \times 1 / 8 \mathrm{MI}$ | \$0.72 | 7728 | $3 / 4 \mathrm{~F} \times 3 / 8 \mathrm{M}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7722 | $3 / 8 \mathrm{~F} \times 1 / \mathrm{M}$ | . 72 | 7729 | $8 / 4 \mathrm{~F}^{8} \times 1 / 2 \mathrm{M}$ | 2.90 |
| 7723 | $3 / 8 \mathrm{~F} \times 3 / 8 \mathrm{M}$ | . 72 | 77.30 | $3 / 4 \mathrm{FX}$ | 2.90 |
| 7724 | $1 / 2 \mathrm{~F} \times 1 / 8 \mathrm{M}$ | 1.00 | 7731 | $1 \mathrm{~F} \times 1 / 2 \mathrm{M}$ | 4.00 |
| 7225 | $1 / 2 \mathrm{~F} \times 1 / 4 \mathrm{M}$ | 1.00 | 7732 | $1 \mathrm{Fx}^{3 / 4} \mathrm{M}$ | 4.00 |
| 7726 | $1 / 2 \mathrm{~F} \times 3 / 8 \mathrm{M}$ | 1.00 | 7733 | $1 \mathrm{~F}^{1} \mathrm{M}$ | 4.00 |
| 7727 | $1 / 2 \mathrm{~F} \times 1 / 2 \mathrm{M}$ | 1.00 |  |  |  |
| 7734 | $3 / 8 \mathrm{M} \times 1 / 8 \mathrm{~F}$ | 80.72 | 7736 | 1/2 ${ }^{\text {M }} \times 1 / 8 \mathrm{~F}$ | \$1.00) |
| 7735 | $3 \times \mathrm{Mx} 1 / 4 \mathrm{~F}$ | . 72 |  | $1 / 2 \mathrm{M} \times 1 / 4 \mathrm{~F}$ | 1.00 |
|  |  |  | 7738. | $1 / 2 \mathrm{Mx} 3 / 8 \mathrm{~F}$ | $1 .(1)$ |

*Delivery F. O. B. Factory, Boston, Mass. For warehouse deliveries write nearest house.

## MACALLEN INSULATING JOINTS



Stud


Stud with IIickey


Ilickey

## Insulated Fixture Studs

| List No. | Size | Malleable Iron | *List Price Each |
| :---: | :---: | :---: | :---: |
| 1335 | 1/8 |  | \$0.75 |
| 133!) | $1 / 4$ |  | . 75 |
| 1310 | 38. |  | . 80 |
| Firr |  |  |  |

## Insulated Fixture Studs With Hickeys

| List No. | Size | Malleable Iron | *List Price Each |
| :---: | :---: | :---: | :---: |
| 1329) | 1/8 |  | . 80.85 |
| 13:30 | 1/4 |  | .8i) |
| 1334 | 38 |  | . 90 |

These studs are secured to the box with four screws and are designed to fit the "Bossert" and other standard outlet boxes.

## Hickeys

## Malleable Iron

| List No. | Size | List Price Fach | Inst No. | Size | List Price Each | List No. | Size |  | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1450 | 1/8×1/8 | \$0.10 | 1455 | $3 / 8 \times 3 / 8$ | \$0.15 | 1597 | $3 / 4 \mathrm{x}$ |  | \$0.40 |
| 1451 | 1/4 $\times 1 / 8$ | . 10 | 1461 | $1 / 2 \times 1 / 8$ | is | 1464 | $3 / 4 \mathrm{x}$ | 1/2 | $4^{3}$ |
| 1452 | $1 / 4 \times 1 / 4$ | .10) | 1462 | $1 / 2 \times 1 / 4$ | . 18 | 1457 | $3 / 4 \times$ | 4. | 20 |
| 1453 | $3 / 8 \times 1 / 8$ | . 13: | 1463 | $1 / 2 \times 3 / 8$ | . 18 | 1465 | 1 x | 3/4 | 55 |
| 1454 | $3 / 8 \times 1 / 4$ | . 13 | 1456 | $1 / 2 \times 1 / 2$ | 20 | 1458 | 1 x |  | 60 | threads.



Joints for Gas Mains and Interior Condults


Sectional View of Joint for Condults

## Insulating Joints for Gas Service Mains and Interior Conduits

They are insulated on the interior surface to prevent moisture lodging around the mica insulation where they are used on gas service mains.


[^32]

Insulated Eye


Insulated Ilook


Iron Crowfoot


Insulated Crowfoot

Insulated Hooks and Eyes for Suspending Electric Fans, Etc.

| Insulated Hooks |  |  |  | Insulated Eyes |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | List |  |  |  | List |
| List |  |  | Price | List |  |  | Price |
| No. | Size |  | Each | No. | Size |  | Each |
| 1391 | $3 / 8 \mathrm{in}$. |  | \$1.10 | 1395 | $3 / 8 \mathrm{in}$. |  | \$1.10 |
| 1392 | 1/2in. |  | 1.50 | 1396 | $1 / 2 \mathrm{in}$. |  | 1.50 |
| 1393 | $3 / 4 \mathrm{in}$. |  | 3.00 | 1397 | $3 / 4 \mathrm{in}$. |  | 3 (\%) |

## Insulated Crowfoot

| 1401 | $1 / 8$ in | \$0.90 | 1404 | $1 / 2 \mathrm{in}$ | \$1.20 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1402 | 1/4 in | . 90 | 1405 | $3 / 4 \mathrm{in}$ | $\because .50$ |
| 1403 | $3 / 8$ in | (\%) |  |  |  |



Double Separable Electrolier Joint


Separable Electrolier Joint


Combined Electrolier Joint with Hickey

## Double Separable Electrolier Joints

These joints are designed to use with straight electric fixtures in places where fixtures cannot be turned.

| List |  | List Price |
| :---: | :---: | :---: |
| No. | Size | Each |
| 1341 | $3 / 8 \times 1 / 8 \mathrm{in}$. | \$1.30 |
| 1342 | $3 / 8 \times 1 / 4 \mathrm{in}$. | 1.30 |
| 1343 | $3 / 8 \times 3 / 8 \mathrm{in}$. | 1.30 |
| 1344 | $1 / 2 \times 1 / 8 \mathrm{in}$. | 1.40 |
| 1345 | $1 / 2 \times 1 / 4 \mathrm{in}$. | 1.40 |
| 1346 | $1 / 2 \times 3 / 8 \mathrm{in}$. | 1.40 |
| 1347 | $1 / 2 \times 1 / 2 \mathrm{in}$. | 1.60 |

## Separable Electrolier Tripod Joints

For conduits, with passage for wires through insulation.

| List |  | List Price |
| :---: | :---: | :---: |
| No. | Siże | Each |
| 1351 | $3 / 8 \times 1 / 8 \mathrm{in}$. | \$1.20 |
| 1352 | $3 / 8 \times 1 / 4 \mathrm{in}$. | 1.20 |
| 13553 | $3 / 8 \times 3 / 8 \mathrm{in}$. | 1.30 |
| 1354 | $1 / 2 \times 1 / 8 \mathrm{in}$. | 1.30 |
| 1355 | $1 / 2 \times 1 / 4 \mathrm{in}$. | 1.30 |
| 1356 | $1 / 2 \times 3 / 8 \mathrm{in}$. | 1.40 |
| $135 \overline{7}$ | $1 / 2 \times 1 / 2 \mathrm{in}$. | 1.50 |
| 1359 | $3 / 4 \times 1 / 2 \mathrm{in}$. | 1.80 |

Combined Electrolier Tripod and Hickey Separable Joints
With double outlets for wires and no passage through insulation.


Delivery F. O. B. Factory, loston, Mass. For warehouse deliveries write nearest house.

# MACALLEN CANOPY INSULATORS 



Square Canopy Insulator


Ilesagonal Canopy Insulator


Double Groove Canopy Insulator

## Square Canopy Insulators

| List | STANDARD | BROWN | COMPOUND | List Price |  | WHITE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Size |  | Each | No. |  | Nize | IIst Price Each |
| Sq-13-12 |  | 3 ins. |  | \$0.40 | Sq-W-12 |  | 3 ins. | $\begin{gathered} \text { Each } \\ 80.50 \end{gathered}$ |
| Sti-J3-13 |  | $31 / 1$ ins. |  | . 44 | Sq-W-13 |  | $31 / 4$ ins. | $\begin{array}{r} 80.50 \\ .56 \end{array}$ |
| Sq-T3-14 |  | $31 / 8$ ins. |  | . 48 | Sq-W-14 |  | $31 / 2$ ins. | $.56$ |
| $\mathrm{Sq}_{\text {S-B-15 }}$ |  | $33 / 4$ ins. |  | . 52 | Sq-W-15 |  | $3 \frac{8}{4}$ ins. | . 62 |
| Sq-13-16 Sq-13-17 |  | 4 4, ins. |  | . 56 | Scl-W-16 |  | 4 ins. | . 74 |
| Sq-13-17 |  | 4 4 多 ins. |  | .60 .64 | Sq-W-17 Sq-W-18 |  | $41 / 4 \mathrm{ins}$. | . 80 |
| Sci-13-19 |  | $43 / 4 \mathrm{ins}$. |  | . 64 | sq-W-18 $\mathrm{Sq}-\mathrm{W}-19$ |  | 41/2 ins. | .86 .92 |
| S¢-B-20 |  | $j$ ins. |  | . 72 | Sq-W-20 |  | 4/4 ins. 5 ins. | .92 .98 |
| Sq-13-21 |  | $51 / 4$ ins. |  | . 80 | Sq-W-21 |  | $51 / 4 \mathrm{ins}$. | .98 1.06 |
| Sq-13-22 |  | $51 / 2 \mathrm{ins}$. |  | . 88 | Sq-W-22 |  | $51 / 2$ ins. | 1.06 1.14 |
| $\mathrm{Sq}-13-23$ $\mathrm{Sq}-13-24$ |  | $53 / 1 \mathrm{ins}$. |  | . 96 | Sq-W-23 |  | $53 / 4$ ins. | 1.22 |
| Sq-B-24 |  | 6 ins. |  | 1.04 | Sq-W-24 |  | 6 ins. | 1.30 |

## Hexagonal Canopy Insulators

| HX-13-16 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HX-J-17 | $41 /$ ins. | \$0.36 | 11X-W-16 | 4 ins. | \$0.74 |
| HX-3-18 | $41 / 2 \mathrm{ins}$. | . 64 | HX-W-18 | $41 / 4 \mathrm{ins}$. | 80 |
| 11X-B-19 | $43 / 4$ ins. | 68 | HX-W-19 | $41 / 2$ ins. | 86 |
| HX-13-20 | $5{ }^{\text {a }}$ ins. | 72 | HX-W-20 | 4 t 1 ins . | 92 |
| IIX-B-21 | $51 /$ ins. | 80 | HX-W-21 | 5 ins. | 98 |
| HX-B-22 | $51 / 2$ ins. | . 88 | HX-W-22 | 514 ins. | 1.08 |
| HX-13.23 | $53 / 4$ ins. | . 96 | HX-W-23 | 5.85 ins . | 1.14 |
| HX-13-24 | 6 ins. | 1.04 | HX-W-24 | 6 ins. | 1.30 |

## Old Style or Double Groove Canopy Insulators

| 4 | ins. |
| :--- | :--- |
| $41 / 2$ | ins. |
| 5 | ins. |
| $51 / 2$ | ins. |
| 6 | ins. |
| $61 / 2$ | ins. |
| 7 | ins. |
| $71 / 2$ | ins. |
| 8 | ins. |
| $81 / 2$ | ins. |
| 9 | ins. |
| 10 | ins. |


| 80.32 | 1301 |
| ---: | ---: |
| .36 | 1302 |
| .40 | 1303 |
| .50 | 1304 |
| .60 | 1305 |
| .70 | 1306 |
| .80 | 1307 |
| .90 | 1308 |
| 1.04 | 1309 |
| 1.18 | 1316 |
| 1.32 | 1317 |
| 1.64 | 1318 |


| 4 | ins. |
| :--- | :--- |
| $41 / 2$ | ins. |
| 5 | ins. |
| $51 / 2$ | ins. |
| 6 | ins. |
| $61 / 2$ | ins. |
| 6 | ins. |
| $71 / 2$ | ins. |
| 8 | ins. |
| $81 / 2$ | ins. |
| 9 | ins. |
| 10 | ins. |

Macallen Joints for Combination Fixtures
I.ist
No,
7501
7502
7503
7504
7505
7506
7507
7508


| 1,ist Price | Jist |
| ---: | ---: |
| Iach | No. |
| 90.72 | 7509 |
| .72 | 7510 |
| .72 | 7511 |
| 1.004 | 7512 |
| 1.00 | 7513 |
| 1.00 | 7514 |
| 1.00 | 7515 |
| $\mathbf{2 . 5 0}$ | 7516 |


| Nize |  |  |
| :--- | :--- | :--- |
| $3 / 4$ | $\times$ | $1 / 2$ |
| $3 / 4$ | $\times$ | $8 / 4$ |
| 1 | $\times$ | $1 / 2$ |
| 1 | $\times$ | $3 / 4$ |
| 1 | $\times$ | 1 |
| $11 / 4$ | $\times 11 / 4$ |  |
| $11 / 2$ | $\times$ | $11 / 2$ |
| 2 | $\times 2$ |  |

List Price
Each
$\$ 2.50$
2.50
3.50
3.50
3.50
7.50
12.00
18.00


No. 7521

| 7521 | 8/8 F $\times 1 / 8 \mathrm{M}$ | \$0.72 | 7528 |  |
| :---: | :---: | :---: | :---: | :---: |
| 7522 | $8 / 8 \mathrm{~F} \times 1 / 4 \mathrm{M}$ | . 72 | 7529 |  |
| 7523 | 3/8 $\mathrm{F} \times 3 / 8 \mathrm{M}$ | . 72 | 7530 |  |
| 7524 | 1/2 F $\quad$ x $1 / 8 \mathrm{M}$ | 1.00 | 7531 | 1 |
| 7525 | 1/2F×1/4 M | 1.00 | 7532 | 1 |
| 7526 | $1 / 2 \mathrm{~F} \times 8 / 8 \mathrm{M}$ | 1.00 | 7533 | 1 |
| 7527 | $1 / 2 \mathrm{~F} \times 1 / 2 \mathrm{M}$ | 1.00 |  |  |

With Male and
Female Thread

# BENJAMIN OUTLET BOX FITTINGS 



No. 1402


Methods of Attaching


No. 1412


No. 1413

National Electrical Code Standard<br>OUTLET BOX FITTINGS<br>660 Watts, 250 Volts

Outlet box fittings are intended to provide a permanent seal for the outlet and render unnecossary any further disturbance of the wiring.

A threaded supporting means affords a method of attaching any one of the numerous sizes of 'rype $s$ holders or reflectors. and fixtures with connectors Nos. 1412 and 1416. Interchange of holders, reflectors or fixture types is thus made easy.

These fittings consist of finished brass cover, lamp receptacle interior and attaching parts. 'The deep box type is usually connected direct to the cars on the box. Where offset box covers are plastered in, this type can be attached direet to the ears, if tapped, or to bottom of box or fixture stud by means of special stirrup listed below. The shallow box type is attached either direct or through a strap, intended for central support. Benjamin lamp grip furnished at an advance of 11 cents list. Standard finish is brush brass.

| Deep Box Type |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size |  |  |  | Mifrs. | W. E. |
| L.ist | of $130 x$ |  | Std. | Wt. | Price | Price |
| No. | Inches | Description | Pkg. | Lbs. | Each | Each |
| 1.402 | $31 / 1$ | Deep box fitting | 50 | 25 | \$0. ${ }^{\text {(0) }}$ | \$1.21 |
| 1403 | $31 / 4$ | Less brass cover. | 50 | 20 | . 40 | . 79 |
| 1.10.4 | $31 / 4$ | Brass cover only | 100 | 5 | . 20 | . 40 |
| 1405 | 4 | Derp box fitting. | 50 | 27 | . 65 | 2.21 |
| 1106 | 4 | less brass eover. | 50 | 23 | . 45 | . 83 |
| 1407 | 4 | lhrass cover only | 50 | 4 | . 20 | . 40 |
| 143 | Stirru | for ${ }^{3} \mathrm{~s}$ in. stud, extra. | 50 | 31/2 | . 05 | . 18 |
| 1421 | Stirrup | for $\frac{1}{2} \mathrm{in}$. stud, extra. | 50 | 31/4 | . 07 | . 23 |
| Shallow Box Type |  |  |  |  |  |  |
| 1410 | 4 | Shallow box fitting. | 50 | 16 | \$0.90 | \$1.80 |
| 1411 | 4 | Less strap... . | 50 | 15 | . 85 | 1.69 |

Dianeter of Nos. $14(0) 2-14() 4,33 / 4$ inches; Nos. $1405-1407,4 \frac{1}{2}$ inches; Nos. 1410 and $1.411,45 / 8$ inches.

Iloles of Nos. $1402-1404$ are spaced $23 / 4$ inches on centers; Nos. 1405-1407, $31 / 2$ inches; Noss. 1410 and $1411,31 / 2$ inches.

## FIXTURE CONNECTORS

660 Watts, 250 Volts
Fixture connectors are flexi-swived, mechanical and electrical couplings. They adapt a stem or chain fixture for quick attachment to or interchange on any of the outlet box fittings above. Where required, a $3 / 8 \times 3 / 8$ inch hollow insulating joint can he inserted between connector and stem. Standard finish is brush brass.


## CHAIN SUPPORTING RING

'lhese rings offer a simple method of attaching chain fixtures to the screwthreaded portion of Benco sockets and ceiling units, or to outlet box fittings listed above. Stantard finish is brush brass.
141:3
Supporting ring
100
$2 \quad \$ 0.30$
$\$ 0.59$


TYPE TD

Type Oll
Type UD


Any Standard Finish. Satin Old Brass, Unless Otherwise Specified Reflector, White Enameled Steel With Panels of Opal Glass To Illuminate Ceiling. Adam Etched Bowl

| Size Watts | Outside |  |  | Ship. | Mifrs. | Wi.E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Diam. | Bowl | I.ength | Wt. | J.ist |  |
|  | Inches | Inches | Inches | L.bs. | Price | Price |
| 3 light, 40-50-tio. | 18 | $1 \because$ | 36 | 42 | \$67.00 | \$80.40 |

## TYPE TDC

Is Type TD Without Chain Suspension or Glass Pansls

| Ship | Mirs. | W. E. |
| :---: | :---: | :---: |
| Wt. | List | Hist |
| Ihs. | Price | Price |
| 34 | $\$ 51.50$ | 861.80 |

TYPE UD
Any Standard Finish. Satin Old Brass, Unless Otherwise Specified Refiector, White Enameled Steel With Panels of Opal Glass to Illuminate Ceiling. Adam Etched Bowl


Type IPI)


Type QD


Type RD

TYPE QD
All White Finish. Reflector, Lumo-Vitro. Daisy Decorated Bowl in Natural Colors


TYPE RD
Band Finished Tusk Ivory, Reflector Lumo-Vitro. Wisteria Decorated Bowl in Natural Colors

| Size Watts | Outside <br> Diam. <br> Inches | Bowl Inches | Ship. Wt. I.bs. | Mirs. Jist l'rice | W. F Jist Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50-60-75 or 1(0) medium socket. | 15 | 9 | 16 | \$16.50 | 819.80 |

Pull switeh $\$ 1.80$ additional.
Delivery F. O. B. Factory, St. Louis, Mo. For warehouse deliveries write nearest

# BRASCOLITES 


'Iype AD


TYPE WD
Band Finished Leather Bronze
Reflector Lumo-Vitro

|  | Outside Diam. | Bowl | Ship. Wt. | Mfrs. List | W. E. <br> List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Size-Watts | Inches | Inches | Lbs. | Price | Price |
| 40- 40- 75 Medium sorkot | 11 | 61/4 | 7 | \$8.0\%) | \$9.60 |
| 100-150 Medium somket | 1\% | $81 / 1$ | 12 | 11.50 | 13.80 |
| 200 Medium socket | 19 | $11^{*}$ | 22 | 16.00 | 19.20 |
| 300 Mogrul socket | 19 | 11 | 22 | 16.80 | 20.16 |
| 4(0)-50) Mogul socket. | 23 | 14 | 42 | 24.50 | 29.40 |
| TYPE XD |  |  |  |  |  |
| Band and Hanger Leather Bronze Finish |  |  |  |  |  |
| Reflector Lumo-Vitro |  |  |  |  |  |
| 40- (i0)-75 Merlium socket | 11 | $61 / 4$ | 11 | \$12.50 | \$15.00 |
| 10()-150 Medium surket | 15 | $81 / 4$ | 16 | 16.00 | 19.20 |
| 2()) Merlium sorket | 19 | 11 | 25 | 20.50 | 24.60 |
| ?()) Mogul sorket | 19 | 11 | 25 | 21.30 | 25.56 |
| 400-0)(0) Mogul socket. . | 23 | 14 | 47 | 29.50 | 35.40 |
| Standard length, 4 feet | Additi | nal len | , per | ot, $\$ 0.60$ |  |

TYPE YD
Band and Hanger Leather Bronze Finish Reflector Lumo-Vitro

| 40- 60-75 Medium sorket | 11 | 61/4 | 12 | \$13.50 | \$16.20 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100-150 Medlium socket | 15 | $81 / 4$ | 17 | 17.00 | 20.40 |
| 20) Merdium socket | 19 | 11 | 26 | 21.50 | 25.80 |
| 300 Mogul sorket | 19 | 11 | 26 | 22.30 | 26.76 |
| (10)-50) Mogul socket. | 23 | 14 | 47 | 30.00 | 36.00 |

Standard length, 4 fert. Additional length, per foot, 80.90 . for method of lemethening, see mote elsewhere.
Pull switch furnished for any of above at $\$ 1.80$ additional.

## TYPE AD <br> All White Lumo-Vitro Finish

A1)- 1i()- Tis Medium sorket 1(0) ()-1:0) Medium socket 200 Medium sorket
300 Mogul socket. HOO-i)OOMOgul socket. .

| $101 / 4$ | $61 / 4$ |
| :--- | :--- |
| $141 / 4$ | $81 / 4$ |
| 18 | 11 |
| 18 | 11 |
| 22 | 14 |

7
12
22
22
42

| $\$ 7.30$ | $\$ 8.76$ |
| :--- | :--- |
| 10.00 | 12.00 |
| 14.00 | 16.80 |
| 14.80 | 17.76 |
| 22.00 | 26.40 |

TYPE AE Hanger Leather Bronze Finish Reflector Lumo-Vitro
40- 60-75 Medium socket 10(1-1.0) Medium socket

| $101 / 4$ | $(11 / 4$ |
| :--- | :--- |
| $141 / 4$ | $81 / 4$ |
| 18 | 11 |
| 18 | 11 |
| 22 | 14 |

11
16
25
25
25

| $\$ 11.80$ | $\$ 14.16$ |
| ---: | ---: |
| 14.50 | 17.40 |
| 18.50 | 22.56 |
| 19.30 | 23.16 |
| 27.00 | 32.40 |

Standard length, 4 fect. Adrlitional length, prof foot, so.fo.

TYPE BE
Hanger Leather Bronze Finish
Reflector Lumo-Vitro
40- $100-75$ Medium socket
100)-150 Mediun sorket

200 Medium socket
300 Mogul socket . .
100-500 Mogul socket .
101/4
61/4
$\$ 12.80$
$\$ 15.36$

Standard length, 4 feef. Additional length, per foot, $\$ 0.90$
for mothod of tengthening, see note elsewhere.
1'ull switeh furnisled for any of above at $\$ 1.80$ additional.
Delivery F. O. B., St. Louis, Mo. For warehouse deliveries write nearest house.


Type (EE


Type II3


# TYPE CE <br> All White Finish <br> Solid White Porcelain Reflector 

Nizo-Watts

10(0-150 Medium soreket 300 * Togulsorket
*'o reduce mogul socket to medium hase for oon watt lamus use adapter at 80. 72 list additional.

## TYPE DE

Hanger Leather Bronze Finish

## Solid White Porcelain Reflector

| \%o- 10-70-7 Merlium sorket | 11 | (i)1/4 | 1\% | 815.00 | \$1s.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100-150) Xerdium socket | 1.4 | $8^{1}{ }_{4}$ | 1s | 17.50 | 21.00 |
| 0) * \horul socket | 171 | 11 | 31 | 25 \% | 30.60 |

Stamberd length, 4 feet. Adelitional length, per foot, 80.650 .
*To reduce mogul socket to medium base wee adrapter at so. 72 list antlitional.

## TYPE EE

## Hanger Leather Bronze Finish Solid White Porcelain Reflector



*'To redure mogul sorkat to medium base use adapter at so. 72 list anditiontal.
Nandarlangh, 4 fort, delditional length, fer foot, so.90
for Methorl of Lengt hening, see note elsewhere.
P'ull switch furnished for any of above at $\$ 1$. 80 additional.

## TYPE 1B

Band Finished Leather Bronze

## Reflector Lumo-Vitro

| (0)- (i0)-7.) Merlium sorket | 11 | $15^{1}+$ | $!$ | \$11.50 | 813.80 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100-150 Medium surket | 16 | ${ }^{1} 1$ | 15 | 15.50 | 18. 60 |
| 200 Merlimm sorket | 19 | 11 | 2 t | 20.50 | 24.60 |
| 300 Mogul socket. | 19 | 11 | 215 | 21.30 | 25. 56 |
| 400)--i00) Mlogul socket. | 23 | 1.4 | 45 | 29.30 | 35). 40 |

TYPE JB
Band and Hanger Leather Bronze Finish

## Reflector Lumo-Vitro

40- (i0) 75 Mcolium sorket 11 (it 13 816.00
100-1:50 Merlium sorket 16 S1,4 19 20.00 24.00

200 Merlium socket $19 \quad 11 \quad 31 \quad 25.00 \quad 30.00$
300 Mogul socket. $\quad 19 \quad 11 \quad 31 \quad 25.80 \quad 30.96$
400-500 Mogal socket. 23 1t 5) $3.4 .50 \quad 41.40$

Standard length, 4 feot. Additional length, per foot, \$0.60.

TYPE KB
Band and Hanger Leather Bronze Finish
Reflector Lumo-Vitro
40- (60-75 Medium sorket
11
$6 \frac{14}{4} \quad 14 \quad 817$.

S20. 40
100-150 Merlium sorket
200 Madium socket
30) Mogul sorkert

16 $81020-91$ 21.0 26.00 211.80 21.20
31.20
32. 16
$400-500$ Mogul sorket. 23 14 00 35.00 42.00
Standard longth, 4 feet. Additional length, per foot, $\$ 0.90$.
for methorl of lengthening, see note elsewhere.
Pull switch furnished for any of above at $\$ 1.80$ abditional.
Delivery l'. O. B., st. Louis. Mo, For warohouse deliverics write nearest house.


## BRASCOLITES

TYPE FE
Band Finished Leather Bronze
Reflector Lumo-Vitro

|  | Outside Dia. | Bowl | Ship. Wt. | Mfrs. <br> List | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Nize-Watts | lnches | Inches | Lbs. | Price | Price |
| 40- $600-75$ Medium soeket | 11 | (i1/4 | 9 | \$10.00 | \$12.00 |
| 100-150 Medium socket | 16 | $81 / 4$ | 16 | 14.50 | 17.40 |
| 200 Medium socket | 19 | 11 | 25 | 20.00 | 24.00 |
| 300 Mogul socket. . | 19 | 11 | 25 | 20.80 | 24.96 |
| 400-500 Mogul socket. . | 23 | 14 | 46 | 30.00 | 36.00 |
| TYPE GE |  |  |  |  |  |
| Band and Hanger Leather Bronze Finish Reflector Lumo-Vitro |  |  |  |  |  |
|  |  |  |  |  |  |
| 40-60-75 Medium socket | 11 | 61/4 | 13 | \$14.50 | \$17.40 |
| 100-150 Medium soeket | 16 | 81/4 | 20 | 19.00 | 22.80 |
| 200 Mediun sucket | 19 | 11 | 30 | 24.50 | 29.40 |
| 300 Mlogul socket. . | 19 | 11 | 30 | 25.30 | 30.36 |
| 400-500 Mogul socket. | 23 | 14 | 50 | 35.00 | 42.00 |
| Standard length, 4 feet. | Addition | al lengt | , per | , \$0.60 |  |

## TYPE HE

Band and Hanger Leather Bronze Finish
Reflector Lumo-Vitro

| 40- 60-75 Merlium socket | 11 | $61 / 4$ | 14 | $\$ 15.50$ | $\$ 18.60$ |
| ---: | :---: | :---: | :---: | :---: | ---: |
| 100-150 Merlium soeket | 16 | $81 / 4$ | 21 | 20.00 | 24.00 |
| 200 MIedium socket | 19 | 11 | 30 | 25.50 | 30.60 |
| 300 Moogul socket. | 19 | 11 | 30 | 26.30 | 31.56 |
| 400-500) Mogul socket. | 23 | 14 | 50 | 35.50 | 42.60 |

Standard length, 4 feet. Additional length, per foot, $\$ 0.90$.
For method of lengthening, see note elsewhere.
Pull switch furnished for any of above at $\$ 1.80$ additional.
TYPE NB
Band Finished Leather Bronze
Reflector Lumo-Vitro

| 40- $60-75$ Medium soeket | 11 | $61 / 4$ | 8 | $\$ 9.00$ | $\$ 10.80$ |
| ---: | :---: | :---: | :---: | :---: | :---: |
| $100-150$ Medium socket | 16 | $81 / 4$ | 15 | 13.00 | 15.60 |
| 200 Medium socket | 19 | 11 | 24 | 18.00 | 21.60 |
| 300 Mogul socket. | 19 | 11 | 24 | 18.80 | 22.56 |
| $400-500$ Mogul socket. | 23 | 14 | 44 | 27.00 | 32.40 |

TYPE OB
Band and Hanger Leather Bronze Finish
Reflector Lumo-Vitro

| 40- 60-75 Medium socket | 11 | $(j 1 / 4$ | 12 | $\$ 13.50$ | $\$ 16.20$ |
| ---: | :---: | :---: | :---: | :---: | ---: |
| 100-150 Medium socket | 16 | $81 / 4$ | 19 | 17.50 | 21.00 |
| 200 Medium socket | 19 | 11 | 29 | 22.50 | 27.00 |
| 300 Mogul soeket. | 19 | 11 | 29 | 23.30 | 27.96 |
| 400-500 Mogul sorket. . | 23 | 14 | 49 | 32.00 | 38.40 |

Standard length, 4 feet. Additional length, per foot, $\$ 0.60$.

## TYPE PB

Band and Hanger Leather Bronze Finish
Reflector Lumo-Vitro
40-60-75 Medium soeket
100-150 Medium soeket
200 Medium soeket
300 Mogul socket. . 400-500 Mogul socket. .
Standard length, 4 feet. Additional lengtli, per foot, $\$ 0.90$
For methods of lengthening, see note elsewhere.
Pull switeh furnished for any of above at $\$ 1.80$ additional.
Delivery F. O. B. Faetory, St. Louis, Mo. For warehouse deliveries write nearest house.

# BRASCOLITES 



Type SE


|  |  | Ship. | Mirs. | W. E. |
| :---: | :---: | :---: | :---: | :---: |
|  | Size | Weight | List | List |
|  | Inches | Lbs, | Price | Price |
| Medium socket. | 16 | 55 | \$01.00 | \$73.20 |
| Medium socket. | 19 | 65 | 98.00 | 117.60 |
| Mogul socket. | 19 | 6.5 | 98.80 | 118.50 |
| Mogul socket. | 25 | 90 | 128.00 | 140.80 |

Any "sprayed bronze" finishes on Compo fixtures without extra charge. Old ivory, 10 per cent. additional. Burnished finishes, 25 per cent. additional.

Delivery F. O. B. Factory, St. Louis, Mo. For warehouse deliveries write nearest house.

## BRASCOLITE


l'ype JE
TYPE JE
Fan Not Included


Type BC.


TYPE KE
1s Same as JE, Except Reflector is of A.D. Type


Pull switehes for control of fan are furnished wired with terminals marked ready for connection to wires from fan and replace fan switches regularly sumplied with fan, which may be omitted.

In ordering specify inake and type of fan.
P'ull switeh for control of light only at $\$ 1.80$ additional
Pull switches for separate control of single speed fan and light, $\$ 6.00$ additional.
Pull switches for separate control of two or three sped fan and light at $\$ 6.60$


Type GC

## TYPE BC

White Enamel Finish
Reflector Lumo-Vitro

| Ontside |  | Ship. | Mifrs. | W. E. |
| :---: | :---: | :---: | :---: | :---: |
| Diam. | BowI | Wt. | List | List |
| Inches | Inches | Lbs. | Price | Price |
| $113 / 4$ | S | 11 | \$12.00 | \$14.40 |
| 1414 | $!$ | 13 | 20.00 | 24.00 |



Size-Watts
$40-60-75$ Mrdium receptack. . . 100-150 Mcdium receptacle.
mill swite furnished at $\$ 1.80$ additional.
Additional sockets for signal and night lights provided at $\$ 1.20$ each.
TYPE GC
Price Fixture Only and Not Including Socket, as Its Purpose Is to Attach To Old Sockets by Means of Shade Holder

|  |  | Outside |  | Ship. | Mifrs. |
| :---: | :---: | :---: | :---: | :---: | :---: |$\quad$ W.F.

Any size will be furnished with eithor $21 / 4,31 / 4$ or 4 inch fitter at no additional cost if specificd on orler.

TYPE BD
Is NB with Wire Guard-All White Finish
For Gymnasium or Other Locations Where Exposed to Possible Mechanical Injury

| Outside |  | Ship. | Mfrs. | W. E. |
| :---: | :---: | :---: | :---: | :---: |
| Diam. | Bowl | Wt. | List | List |
| Inches | Inches | Lbs. | I'rice | Price |
| 11 | 61/4 | 11 | \$14.50 | \$17.40 |
| 16 | $81 / 4$ | 19 | 21.00 | 25.20 |
| 19 | 11 | 29 | 28.50 | 34.20 |
| 19 | 11 | 29 | 29.30 | 35.16 |
| 23 | 14 | 50 | 40.00 | 48.00 |

Pull switch furnished for any size at $\$ 1.80$ additional. Chain hangers may be applied to this type to form suspension fixture.

Delivery F. O. B. Faetory, St. Louis, Mo. For warehouse deliveries write nearest house.


Type NE


Type EI)
Western Electric
BRASCOLITES


TYPE VA
Metal Bracket, Brush Brass Finish. Reflector Lumo-Vitro


TYPE VB
Metal Bracket, Brush Brass Finish
Reflector Lumo-Vitro


TYPE UA
Body Compo. Standard Finish, Rose Cold
Reflector, White Enameled Steel

| Size-Witis | Fixtents Inches | [30w I <br> Inches | $\begin{aligned} & \text { Hright } \\ & \text { (Wrer All } \\ & \text { lnehest } \end{aligned}$ | Ship. Wit. $\substack{\text { Jhss. }}$ | Mirs. Tist Price | W. F. 1'rico |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 or $2(0)$. | 15 | 10 | $\underline{9} 9$ | $\overline{5} 5$ | \$27.50 | \$33.00 |

TYPE UC
Body Compo. Standard Finish, Rose Gold Reflector, White Enameled Steel


## TYPE NE

Body Compo. Standard Finish Rose Gold. Reflector, Lumo-Vitro

| Dut. Dia. | [оw | Smugth | Ship. IV | Mirs. List | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 300 Watt ${ }^{\text {cize }}$ 1nches | Inches | Fert | l.hs. | Jrier | l'rice |
| Four candle... 23 | $11^{1 / 2}$ | 5 | 115 | s7x.06 | \$93. 16 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Six eandles. . 28 | 16 | \% | 250 | 109.00 | 119.90 |
| Withoutramdles 28 | 16 | . | 270 | 81.00 | 97.20 |
| 750-1000) Watt Nize |  |  |  |  |  |
| Eight mandes. 40 | 20 | \% | 390 | 176.00 | 193.fif |
| Without camdles 40 | 20 | 5 | 370 | 139.00 | 152.90 |
| 2 inch insulating joint and silk-rowered wire included. |  |  |  |  |  |

TYPE ED
Body Compo, Rose Cold Finish. Reflector Lumo-Vitro


Delivery F.O.K.factory, St. I.ouis, Mo. For warehouse deliveries write nearest house.

Ouantity Prices
Quoted on Request

Western Electric
Western Electric
AGLITES


ㄷ-j086! With switch 40 40 $5.2 x$ shipping Woight, iflos.
 Shippine Weistit, 7 llo For Flush I'luer Rocoptarleadd 81.20 and suecify on order


Q-1010: VOnswitch
R-104!
 Shipuing Werght, \%

 s-10lss With switrll 3 ? 3.81 *hipung Whight, 5 ibs.


s-luxu7 With switch is.:0) is.s. Shipsing Wright, iths.
arpunge is therght on

 S-10491 With witeh 1 50 5. 10 Ghiphine Wright, Glts.



 parts are furnished with the fixturr; a romplete unit.

Sockets Are National Electrical Code Standard



Schedule 2 "F"
Gas and vapor-proof fixtures are single units with the lanp, tightly enclosed ats a protective measure. They are safety lights for industrial phants, such as powder mills, benzol plants, paint factories, and other places subjected by exposed lights to danger from explosive gases or dust aceumulation. 'lhey are protected units for use on steam vessels, around wharves and other marine service. 'Ihe lamp is tightly enclosed, an asbestos gasket betworn globe and hood makes the fixture tight.

## WITH SHALLOW BOWL REFLECTORS

Fixtures $1678-1580$ have cast-iron hood tapped for $1 / 2$ inch stem, two-piece, casy-to-wire poreelain receptacle with lamp mip to prevent boosening of lamps, screw throded enclosing globe, aluminum globe holder, and non-liscoloring white porcelain enameled sted reflector.


No. 1555 Iron parts are galvanized. No. 1580 is for Mazda " $C$ " lamps only.

| I.sist | Size of leflector | Diam. of Globe | Size of | Mfrs. List | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Inches | Lamps, Watts | Price | Price |
| 1588 | 1is | 5 | 75, 100 | 85. 20 | \$11.39 |
| 1579 | 16 | K | 150, 200 | (6.5) | 13.46 |
| 15k0 (Mogul) | 18 | 10 | 300, 400),500 | 7.50 | 15.54 |

fixtures 1553-1558 are the same as above with flat eone reflector substituted.

| 15.3 | 15 | 4 | $25,40,50,60$ | $\$ 4.00$ | $\$ 8.28$ |
| :--- | :--- | :--- | :---: | :---: | :---: |
| 1.55 | 16 | 5 | 75,100 | 5.00 | 10.75 |
| 15.5 | 18 | $61 / 2$ | 150 | 6.00 | 12.42 |
| 1558 | 18 | 8 | 200 | 0.50 | 13.46 |

## WITHOUT REFLECTOR



No. 1566
atures 1563-1530 are without reflectors, otherwise the same as abover. No. 1550 is for Mlazha "('" lamps only.

| I.ist | Diam, of |  | -Mfrs. List Price - |  | -W. F. Iist PriceGlobe Only Complete |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Lamps, Watts | Globe Onl | Complete |  |  |
| 1563 | 4 | 25, 40, (6) | \$0.50 | \$1.0.4 | \$0.85 | \$1.76 |
| 153\% | 5 | 75, 100 | . 80 | 1.6is | 1.36 | 2.81 |
| 13 Fif | $61 / 2$ | 150 | 1.50 | 3.22 | 2.53 | 5.27 |
| 15is | 8 | 150, 200 | 2.00 | 4.1.t | 3.40 | 7.04 |
| 1570 | 10 | $300,400,500$ | 2.50 | 5.18 | 4.25 | 8.80 |

WIRE GUARDS-TINNED
Adapted to Gas- and Vapor-proof Fixtures

| Iist | Diameter | Depth | Mfrs, List | W. E. List |
| :--- | :---: | :---: | :---: | ---: |
| No. | Inches | Inches | Price | Price |
| 1390 | 15 | 1034 | $\$ 2.00$ | $\$ 4.14$ |
| 1392 | 16 | 5 | 2.30 | 4.77 |
| 139.4 | 18 | 53 | 2.80 | 5.80 |

For standard stem for ahove fixtures, with suspension fitting No.
( 0028 , and with wires sealed in, add $\$ 1.76$ to list.
Prices are less wires and lamps.


No. 701-6:

# BENJAMIN FIXTURES 

## SOCKETS ARE NATIONAL ELECTRICAL CODE STANDARD FOR STORE AND OFFICE LIGHTING

Nos. 703C-736C

Schedule 2-C
Nos. $70: 3 C-736 C$ include ventilated hoods and holders of material as listed, stalactite plobe of correct density, and two-piece, easy-to-wire porcelain socket with lampgrip. Flange is securely attached to hood so that support of fixture does not depenl on socket. $100-200$-watt 30 (1)-100)-watt fixtures have two-piece hood to provide for preater ventilation. rittinus are regularly supplied for $k$-inch pipe. $3 / 8$-inch may be ordered without
change in price, or $8 / 4$-inch at an advance of 22 cents list.


No. 752-C


No. 7.34-C


No. 772-C


No. 747-C

|  |  | Fixture | Size of | Lamp | Mirs. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | length | Globe | Size | Price | I ist |
| 70:3C | Copper Description | Inches | Inches | Watts | 16ach | Each |
| ${ }_{705}{ }^{\text {703 }}$ | Copper, black ename | 12 | $7 \times 5$ | 75, 100, 200 | \$2.40 | 85.27 |
| 707 C | Steel, blark enamel finish. | 12 | $8 \times 5$ | 200 | 2.50 | 5.49 |
| 710 C | Copper, black cnamel. | $13: 1$ | $8 \times 5$ | \%00. 100.200 | ) | 3.96 |
| 712 C | Brass, brush brass finish | 131/2 | $8 \times 6$ | $3(6), 400,500$ | 3. 30 | 17 |
| 714 | Steel, black enamel finish. | $131 / 2$ | $8 \times 6$ | 306, 400, 500 | 2.30 | 5.06 |
| 732C | Copper, black enamel... | $10^{1 / 2}$ | $12 \times 8$ | 750, 1000 | 5.30 | 11.63 |
| 734 C | Irass, brush brass finish | 19 | $12 \times 8$ | 750). 1000 | 5.20 | 11.41 |
| 7365 | Steel, black enaniel finish. | 19 | $12 \times 8$ | 750, 1000 | 3.60 | 7.80 |

## Nos. 738C-779C

Nos. 738C-779C are like the above, with slaspension. Nos. 772C-779C havio chain suspension, $5 \times 4$-inch canopy, crowfoot and $1 / 2$-inch brass loop,

Nos. $738 \mathrm{C}-739 \mathrm{C}$ have 12 -inch stem of $3 / 8$-inch iron pipe and $7 / k$-inch brass "asing, $51 / 2 x 4$-inch canopy and crowfoot. Additional lengths list at $\$ 1.10$ cents pre foot. For chain suspension on Nos. $738 \mathrm{C}-739 \mathrm{C}$ instead of stem, add 22 rents list. Stem and fittings take No. 14 asbestos covered wire.

| 772 C | Brass, hrush brass finish. | 26 | $7 \times 5$ | 75, 100, 200 | \$3.60 | \$7.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 773 C | Steel, black enamel finish. | 26 | $7 \times 5$ | 75, 100), 200 | 2.90 | 6.98 |
| 778 ( | Brass, brush brass finish. | $271 /$ | $8 \times 6$ | 3(א), 100, 500 | 4.50 | 9.88 |
| 7790 | Steel, hlack enamel finish. | 271 | $8 \times 6$ | 300,400050 | 3.40 | 7.74 |
| 7380 | Brass, brush brass finish. | 31 | $12 \times 8$ | 750, 1000 | 6.20 | 13.61 |
| 7300 | Sterl, black enamel finish | 31 | $12 \times 8$ | 750, 1000 | 4.60 | 10.10 |

## Nos. 747C-787C

Nos. 747C-787C are substantially Nos. 703C-736C, with fat cone enameled sted roflector added. For 18 -inch refector with Nos. $785 \mathrm{C}-787 \mathrm{C}$ add $\$ 1.10$ eents list. IRefleetors are finished blaek.

| T,ist |  | Size of Reflector | Size of | Lamp | Mris. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | De | Inches | Inches | Watts |  | List |
| 7810 | Copper, blatk phamel | 12 | $7 \times 5$ | 75, 100.200 | \$3.40 | ar |
| 78.30 | Strel, black enamel finish | 12 | $7 \times 5$ | 75, 100. 200 | 2.80 | . |
| 7850 | (opper, black cnamel | 15 | $8 \times 6$ | 300. 400,500 | 4.80 | 10.55 |
| 8870 | Steel, black enamel finish | 15 | $8 \times 6$ | 300, 400.500 | 3.80 | 8.35 |
| 7.47 C | ('opper, black enamel. | 20 | $12 \times 8$ | 750, 1000 | 7.50 | 16.47 |
| 7.49 C | Steel, black enamel finish. | 20 | $12 \times 8$ | 750, 1000 | 5.80 | 13.75 |

Ventilation.- Glohes are regularly furnished with hole in botom, in line with цencral practice, although slobe ventilation is rarely neecssary on acrount of the fulequate provision made in Benjamin I'ixture Hoods. Globes without hole will be furnished when specified, without change in price.

Globes list as folloms: 7x5-inch, $\$ 1.76 ; 8 \times 6$-inch, $\$ 1.80 ; 12 \times 8$-inch $\$ 4.82$. Sphrical plobes of same dimensions may be orlered without chanke in price 'routint $8 x$ finch stalactite globes giving noonday sumlight effeet, will be furnished with $300-500$-watt fixtures at an advance of $\$ 3.29$ list; Trutint $12 \times 8$-inch spherieal globes for $750-1000$-watt fixtures at an advance of $\$ 0.80$ list.

For white enamel finish, add 20 per eent. list to priee of fixture, less mlassware.

## Nos. 751C-754C

Nos. TislC-754C, have Beneo poreehain-lined socket, tapped $1 / 2$ inch, ventilated deep holder, and staladite diffusing globe. Socket tapped $\frac{8}{6}$ inch furnished without change in price. Globes are furnished with bottom opening.

Latnp grip, to prevent loosoning of lamps, furnished at an advance of 22 cents list.

Corresponding sizes of ball globes furnished without change in price
Standard finish is brush brass.

| IistNo. | Length of | Size of Globe, In. | I.amp Size Watts | -Mfrs. Priee FachGIohe |  | W. E. List Each Clobe |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fixture, In. |  |  | Glohe only | Complete |  |
| 751 C | 10 | 6x-4 | 25, 40. 60 | \$0.70 | \$1.70 | \$3.73 |
| 752 C | 11 | $7 \times 5$ | 100, 200 | . 80 | 2.00 | 4.39 |
| 753 C | 12 | $8 \times 6$ | 200 | . 90 | 2.30 | 5.06 |
| 7isl( Mogul | 13 | $8 \times 6$ | $300,400,500$ | .90 | 2.90 | 6.37 |

BENJAMIN REFLECTORS SOCKET FIXTURES


No. 5412


No. 6063


No. 6047

## Sockets Are National Electrical Code Standard

IReflector socket fixtures consist of reflector soekets completed by the addition of suspensions. Soekets are equipped with lamp grip to prevent loosening and falling of lamps.
Stamlarl finish on reflector is green outside. Iron parts are qualvamized.

## BRACKET FIXTURES

Nos. $5112-5021$ have reflector socket, goosencek bracket of 1 免 inch pipe overhanging 30 inches, and wall fitting. For 48 inch moseneck of ${ }^{3}$ inch iron pipe, worlanging 40 inches, and pole fitting, arld so.s:; list.

Flat Cone Reflectors

| listNo. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Reflector Itiam. | Lamp <br> Size | Mifs. Price | IV. F. List l'rice |
|  | Inches | Watts | Fach | Fach |
| 5443 | 14 | 2.5, 40, 50, 10 | 83.40 | \$7.04 |
| 5412 | 16 | 75, 100. 150 | 3.70 | 7.67 |
| 5+13 | 18 | $\because(0)$ | +.30 | 8.91 |
| 5.415 | 20 | 200 | +.90 | 10.15 |
| Shallow Bowl Reflectors |  |  |  |  |
| 51.49 | 12 | 25, 40, 50. 6if | S3. 40 | \$7.04 |
| 51: 20 | 14 | 75, 100 | 3.70 | 7.67 |
| 5122 | 16 | 150, 200 | 4.30 | 8.91 |
| 5124 | 18 | 200 | 4.90 | 10.15 |
| Si2 1 Mogul | is | 300, 400, 500) | 5. 10 | 10.57 |
| PENDENT FIXTURES |  |  |  |  |

Nus. tion5-61.49 have reflector socket, 12 ineh stem of 38 ineh iron pipe and shoek absorber. Ndditional length stems list at $\$ 0.41$ per foot. For absorber with either topstrap or suspension loop add so. 11 list. No. bi031 fitting will he substituted at an alvance of s0.72 lisi.

Flat Cone Reflectors

| ListNo. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Reflector Jiam. | Iamp | Mfrs. Price | W. E. List Price |
|  | Inches | Watts | Each | Each |
| (000) | 14 | 25, 40, 50, 60 | 53.00 | \$1i.21 |
| (\%):33 | 16 | 75, 100, 150 | 3.30 | 6.84 |
| (80) 5 | 18 | 30) | 3.90 | 8.08 |
| (i03) | 20 | 200 | 4.51 | 9.32 |
| Shallow Bowl Reflectors |  |  |  |  |
| (i0) 7 | 12 | 25, 40, 50, 60 | \$3.00 | \$6.21 |
| (io) ${ }^{\text {a }}$ | 14 | 75, 100 | 3.30 | 6.84 |
| (i)(i)3 | 16 | 150, 200 | 3.90 | 8.08 |
| (i)(tio | $1 \%$ | 200 | 4.50 | 9.32 |
| (6149 Mogul | 18 | $300,400,500$ | 4.70 | 9.74 |

S゙os. 6025-6139 have reflector socket, 12 inch stem of $5 / 8$ inch brass tubing, $5 \times+$ inch canopy, and crovfont. Additional length stems list at 80.6 (i3) per foot.

Flat Cone Reflectors

|  | Reflector | Lamp | Mfrs. | W. J. List |
| :---: | :---: | :---: | :---: | :---: |
| List | Diam. | Size | Price | Price |
| No. | Inches | Watts | Fiach | Each |
| (0)25 | 14 | 25, 40, 50, 60 | \$3.30 | \$1. St |
| (0):37 | 16 | $75,100,150$ | 3 ( ${ }^{(0)}$ | 7.45 |
| (60)38 | 18 | 200 | 4.20 | 8.69 |
| 00339 | 20 | 200 | 4.80 | 9.94 |
| Shallow Bowl Reflectors |  |  |  |  |
| 6027 | 12 | 25, 40, 50, 60 | \$3.30 | \$6.84 |
| 60,4i | 11 | 75. 100 | 3.60 | 7.45 |
| 1047 | 16 | 150, 200 | 4.20 | 8.69 |
| (i) 48 | 18 | 200 | 4.80 | 9.94 |
| til:39 Mogal | 18 | $300,400,500$ | 5.00 | 10.35 |

I'rices do not include wires or lamps.
Pull chain medium base sockets with lamp grip may be ordered at an alvance of $\$ 1.2 .2$ list.

## BENJAMIN CLUSTER FIXTURES clusters are national electrical code standard




No. 815


No. 0.534


No. 60.34

Xos. Slly
Schedule 2 " $F$ "
TYPE 1 BODY, GOOSENECK

| 1.ist | Xis of | Reflertır | Latup Ei\% | Mfrs I'rice | IV. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | l.ights | Size. Inthes | Watts | Jach | Price Each |
| 5019 | $\because$ | 1.5 | 25-100 | S3.80 | 87.87 |
| 5013 | 3 | 1.5 | 25-100 | 4.05 | 8.30 |
| 5014 | ! | 15 | 25-100 | 4.30 | 8.91 |
| 501.5 | $\because$ | 15 | $2 \mathrm{ij}-100$ | 4.55 | 9.41 |
| 5016 | 1 | 15 | 25-100 | 4.80 |  |

Brush brass is standard finish for brass parts.
l'rires are lews wires and lamps.

## MULTIPLE STREET UNITS

 pure lain knobs, scparable connection with weatherproof outlet for line wires. and lamp grip. 'T'n, of fitimg is tapped for $1 / 2$ inch iron pipe. They are intended for outaloor lighting on low roltage multiplecirants. For fixture with shock absorber add $\$ 0.22$ to list. Iron parts are galvanized.

| 1.ist | lieflertor | l,amy siza | Mirs. Price | W. E. I List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Size, Inches | Watts | Fach | Price liach |
| 802 | 14 | 25, 40, 50, 19 | 83.30 | \$6.84 |
| 80.3 | 16 | 100,150 | 3.60 | 7.45 |
| 80.4 | 18 | $2(3)$ | 4.20 | S. 69 |
| N()7 | 20 | 200 | 4.80 | 9.94 |

lixtures Nos. S1t-819 are substantially those described above, except that they have sperial fitting for center suspension. The later is provided with porcelain outlets for line wires. Wther sperifications there given apply

| $81!$ | 11 | $25,40,50,60$ | \$3 80 | \$7.87 |
| :---: | :---: | :---: | :---: | :---: |
| 81.5 | 11 | 100, 1 io | 4.10 | 8.50 |
| S16 | is | 200 | 4.70 | 9.74 |
| 819 | 24 | 200 | 5.30 | 10.98 |

## HOODED ENAMELED STEEL REFLECTOR STYLE

Nos. 0nis?-05:35 have 3T eluster body, standard 12 inch stem of $3 / 8$ inch iron pipe and 3 itmphrass casing, deeply houded white cnameled stee reflector, $5 \times 4$ inch eanopy, and "rowfont, socketoutlets are at an angle of $18^{\circ}$ with the vertical. Fixtures with 18 inch reflectors for 100 watt lamps will be furnished at an advance of 80.62 list. diditional lethath stems list at 1 of per foot.

| l.ist |  | Reflector liam: | I.ength Inches | I.anyp | Mirs. <br> Price | W. F. List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | i.ingts | Diam. <br> Inches | L.ess $1 . a \mathrm{mps}$ | Wiatis | Fiach | Frach |
| 11532 | ? | 16 | 17 | 25-100 | \$1.55 | \$8.91 |
| 0.533 | 3 | 16 | 17 | 2.5 100 | 4.80 | 9.41 |
| 0.531 | , | 16 | 17 | 2.5-106 | 5.05 | 10.46 |
| 0.235 | \% | 16 | 17 | 25- (i) | 5.30 | 10.98 |

Nos. tio32-ti035 have $3 T$ rluster body with shell of aluminum, standard 8 inch


No. 0634L em of '6 inch iron pipe and separable suspension fitting, and decply hooded white cnameled sted reflector. Reflector and "lustor are made weatherproof by gasket and flange. Adolitional lengeth stems list at $\$ 0$.iz per foot. lior fixture with rooseneck and wall fitting, add $\$ 0.72$ list. For suspension with shock absorher, add 80.22 list. Iron parts aregalvanized.

| 6032 | 2 | 16 | 14 | $25-100$ | 8.4 .20 | $\$ 8.69$ |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| 6033 | 3 | 16 | 1.4 | $2.5-1100$ | 4.45 | 9.92 |
| 6034 | 4 | 16 | 14 | $25-100$ | 4.70 | 9.4 |
| 6035 | 5 | 16 | 14 | $25-60$ | 4.95 | 8.44 |

## INDUSTRIAL CLUSTERS

Industrial elusters Nos 0632I-06351/2 have 18 imeh derply hooded flat cone white enameled stecl reflector, 3 T wireless $\boldsymbol{r l}$ luster body, 12 inch stem of 3 ineh gatvanizediron pije, and shock absorber. Suspension fitting No. (on 1 may be substituted at an alvane of $\$ 0.62$ list. For 16 inch reflector, suitable for lamps below 100 watts, instemh of 1 s imh, deduet $\$ 0.62 \mathrm{list}$. Additionallength stenas list at 80.41 per foot.

|  |  |  | Lenath |  |  |  | W. F. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 eflector | Inches | I.amp | Type | Mffrs. | List |
| List | No. of | Iliam. | l.ess | Size | of | Price | Pripe |
| 人\%. | 1.ights | Inches | Lamps | Watts | Wiring | Fach | Fach |
| (113321, | 2 | 18 | 18122 | 60-200 | Mult. | \$4.40 | 80.11 |
| 108331. | 3 | 18 | 181/2 | (60-209 | Mult. | 4.65 | 9, 6.3 |
| 006341. | 4 | 18 | 181/2 | 60-200 | Mult. | 4.90 | 10.15 |
| 0635 L | 5 | 18 | 181/2 | 60-100 | Mult. | 5.15 | 10.66 |
| $063321 / 2$ | 2 | 18 | 181/2 | 60-200 | Serits | 4.40 | 0.11 |
| 010334 ? | 4 | 18 | 181/2 | 60-200 | Series | 4.90 | 10.15 |
| (16355 | 5 | 18 | 181/2 | 60-100 | Series | 5.15 | 10.66 |



No. 4340


No. 43.35


No. 4318


No. 1413

## Sockets are National Electrical Code Standard

('ciling fixtures with $31 / 4$ inch holder will accommodate 200 watt Mazda (' Lamps, but it is necessary that $1 \cdot 2$ inches of No. 1 t asbestos eovered wire be inserted between house wires and fixture terminals to prevent high temperatures in the former. When specified, proper length of wire will be furnished. unattached, withont extra charge. Where No. 14 approved wire is used, no insulating joint or ring is required on arcount of the high insulation of the surkets. For lamp grip add $\$ 0.20$ list

## Enameled Steel Base

Fixtures Nos. 430 - 4300 have easy-to-wire porcelain socket and white entmeded sted baso held hy serew threaded ring on outside of socket shell. making it unteressary for serews to pass through the enamel. Shade holfers are envered by white entimelod cap

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | -size, Inches- |  | Form Holder | Lamp <br> Size Watts | Mfrs. Price Each | Li. E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | lase | Holder |  |  |  |  |
| 4302 | 10 | 21/4 | 0 | 25, 40, 50, 60 | 84.2\% | SN. s |
| 1304 | 10 | 21/4 | H | 75, 100 | 4.35 | 9.00 |
| $430 \%$ | 10 | 31/4 |  | 200 | 4.40 | 0.11 |

Fixtures Nos. $4312-43$ t2 have casy-to-wire socket, hrass base and heavy sted strap for attaching to outlet box or ceiling. Benjamin Type is interwhangeable shate holders and reflectors can be ased with these units.

| 4312 | 10 | Less holder | $\ldots .$. | $\$ 2.60$ | $\$ 5.34$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4340 | 10 | $21 / 4$ | 0 | $25,40,00,40$ | 2.75 | 5.69 |
| 4341 | 10 | $21 / 4$ | 11 | 75,100 | 2.90 | 1.01 |
| 1342 | 10 | $31 / 4$ | $\ldots$ | 200 | 2.95 | 6.10 |

Fixtures Nos. P:314-4345 are essentially those abover, with 8 inch instead of 10 inch hases.

| 1:314 | s | Less homker |  |  | \$2.00 | \$4.1.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 133:3 | 8 | 21/4 | 0 | 25, 40, 50, 60) | 2.15 | 4.45 |
| 434.4 | 8 | $21 / 4$ | iI | 75, 100 | 2.30 | 1.75 |
| 134.5 | 8 | 314 |  | 200 | 2.35 | 4. |

Fixtures Nos. $4: 310-1319$ have brass base with I3eneo porcelain-lined wocket permanently attached. Cnlike the units listed abowe the socket is uneovered.

| 4316 | 1 i | Less holder |  |  | \$1.35 | \$2.79 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +317 | 6 | $21 / 4$ | 0 | 25, 40, 50, (6) | 1.55 | 3.20 |
| 13.318 | 6 | $21 / 4$ | H | 75, 100 | 1.70 | 3. |
| 4.319 | i | 31/4 |  | 200 | 1.75 | 4.0 |

Beneop pull chain sockets with Benjamin lamp grip will be supplied with any of the above fixtures at an advance of $\$ 0.83$ list.

Priers do not inchude wires or lamps.

## CHAIN SUPPORTING RINGS

Chatin supporting ring No. 1413 offers a simple method of attaching chain fixtures to the serew threaded portion of sockets and Benjamin ceiling units above. Ntandard finish is brush brass.

| List | Std. | Weight | Mifrs. Price | W, E. List |
| ---: | :---: | :---: | :---: | ---: |
| No. | Pkg. | Lbs. | Each | Price Each |
| 1413 | 100 | 2 | $\$ 0.30$ | 80.50 |

Benjamin ceiling units embody the principles of fixture uniformity plus expansibility. Uniformity is secured through a fixed type of base, and expansibility through the variety of sizes offered hy Type S sorew threaded interchangeable shade holders


## BENJAMIN WEATHERPROOF FIXTURES



CARGO LIGHTS

Schedule 2 " $F$ "
The Cargo Light is intended for heary out-of-twor service, particularly aroum wharves, dry docks, in steamship holds, in building and general construction work.

It is furnished with it fitting for suspension by rope. This permits shifting the fixture from one location to another quiekly, so that the light can be directed most effectively on the work. The reflector bowl can be adjusted to throw the light at various angles-direetly below or sidewise by tipping lowl with rope attached to loop on the guard.

The fixture consists of a 16 -inch hook, non-discoloring white paint enameled inside, black outside, with eluster booly, and a strong galvanized irom guard. All metal parts are nom-eorrosive and durable.

With Paint Enameled Steel Reflector

| List | Ireflector |  |  | Mifrs. List | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of | Diameter | Lamps Recommended |  | List |
| No. | Lights | Inches | Sizes in Watts | P'rice | l'ricec |
| 677 | 4 | 16 | 25, 40, 50 , 60 | \$10.75 | 820.70 |
| 17\% | 5 | 1 1; | 25, 40, 50, 60 | 11.00 | 21.19 |
| 679 |  | 1i; | 25, 40, 50, 60 | 11.25 | 21.67 |
| 679 With Paint Enameled Copper Reflector |  |  |  |  |  |
| 674 | 4 | 16 | 25, 40, 50, 60 | \$12.00 | \$23. 11 |
| 67.5 | 5 | 16 | 2.5, 40, 50, 60 | 12.25 | 23.60 |
| $6{ }^{6} 6$ | 6 | 16 | 25, 40, 50, 60 | 12.50 | 24.08 |

## YARD LIGHTING UNITS

Fixtures int90-549:3 are complete units for outdoor lighting. They are supplied with a weatherproof fitting for susperision by rope or cable. The reflector is equipped with a strong sted wire guard.

These fixtures have one piode, porcolain enameded stecl reflector and ensy-to-wire porcelan socket with Lamp (irip to prevent loosening and falling of hans. Prices are less padloek shown.

| List | Reflector Inameter | Lamps Recommended | Mirs. | W. E : |
| :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Sizes in Watts | List Price | list l'rice |
| 5490 | 1.4 | 100, 150 | \$5.05 | \$10.46 |
| 5491 | 118 | 150, 200 | 6.35 | 13.14 |
| 5492 | 18 | 200 | (7.45 | 15.43 |
| 5493 | 18 | 300, 400,50) | 7.65 | $15.8 \pm$ |

## PARABOLITES

Parabolites give proper distribution of light for the lighting of railroad phat forms, passage-ways, streets, alleys, etc. A two-way porechain enameled reflector distributes the light effeetively.

## Multiple

Fixtures 1200-120:3 are intended for low voluge multiple circuits, and are arranged for either open or concealed wiring. I'nits have cast-iron top, two piece casy-to-wire porcelain socket with Lamp Grip, and enameled sted reflector. Rogularly supplied tapped for $1 / 2$ inch stem, but furnished with $3 / 4$ inch tapping without advance in price. Finish is black enamel.

| List | Size of Reflector |  | Size of Lamps, | Mfrs. | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List | Inches | Kind of Wiring | Watts | List Price | List Price |
| 1200 | 20 | Concealed | 100, 200 | \$7.00 | \$14.49 |
| 1201 (Mogul) | 20 | Concealed | $300,400.500$ | 7. 50 | 15.53 |
| 120 | 20 | Opn | 100. 200 | 7.50 | 15.83 |
| 1203 (Mogul) | 20 | Open | $3(0), 400,500$ | 8.00 | 16.51; |

Fixtures 1224-1225 have poreclain series filn cutout socket with Lamp (irip. They have copper hoods, and fitting tapped for 3 inch pipe stem, but will be furnished tapped 1 or $11 / 4$ inch at an advance of $\$ 0.22$ list. Finish is black enamel.

| List | Size of Reflector | Candle Power |  | Mrs. | W. F. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | of Lamps | Amperes | Iist lrice | List Price |
| 122. | 20 | (i0. 810.100 | 7.5 | 89.40 | \$19.04 |
| 1225 | 20 | 2:\%), 4(0), 7000 | 7.5 | 9.50 | 19.6 t |

Wires, hamps or ropes are not incleded.


20 Inch Radial Bowl Streethood liody, withlextension


18 Inch Radial Bowl Streethood Body with liarge Sel-I.ux lyiffuser


24 Inch Radial Bowl Streethood Body with Acorn Isiffuser


20 Inch Concentric Dome Streethood Body with Large Refractor


Distribution Curve for 250 C.P. Laminand Inch Radiaf lsowl Reflector with Large Refractor

## CUTTER STREETHOOD BODIES Radial and Concentric

Schedule A For 250, 400 and 600 C.P. Series and Large Multiple Type C Mazda Lamps
Streethood looties listed on this page are similar to those listed on the previous page, but the reflectors are designed for largar lamps. The 20 ineh radial bowl refleetor with extension is used without refractor or diffuser. Other reflectors shown on this parge are equipped with hinged holders and are listed with large Holophane rofractor or sol-Iux diffuser. Where list prices include sockets, ('utter lamp grip) multiple sockets or Regent film series sockets will be supplied.*
20 INCH RADIAL BOWL STREETHOOD BODIES WITH
For 250, 400 and 600 CXTENSION
tiple Type C Mazda Lamps 400 Watt or Larger Mul-

| 1,ist | I,ist |  |  | Ship. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. for | No. for |  |  | Wt., | List |
| ${ }^{3} 1 \mathrm{In}$. | 11/9In. |  | Std. | Lbs. | Price |
| Pipe | Pipe | Description | Pkg. | Each | Each |
| 20017 | 20018 | Medium screw socket | 20 | 157/8 | \$10.72 |
| $\bigcirc 0019$ | $\cdots$ | Mugul serew socket. | 20 | 161/4 | 11.20 |
| 20021 | 20)22 | *Ragent film socket | 20 | 1 $61 / 2$ | 12.80 |
| 20023 | 20024 | Without socket. | 20 | 15 | 9.92 |

18 INCH RADIAL BOWL BODIES WITH LARGE HOLOPHANE REFRACTOR
For 250, 400 and 600 C.P. Type C Series Mazda Lamps
20049320050 Medium serew socket....... 20 20 $211 / 2 \quad \$ 22.32$


20055 20056 Without socket. . . . . . . . . . . . 20 21 21.52
18 INCH RADIAL BOWL BODIES WITH LARGE SOL-LUX DIFFUSER
For 250, 400 and 600 C.P. Type C Series Mazda Lamps
22199) 22:00 Medium serew sorket........ 20 $171 / 20$ \$13. 52



24 INCH RADIAL BOWL STREETHOOD BODIES WITH ACORN DIFFUSER
For 250, 400 and 600 C.P. Series and $400,500,750$ and 1000 Watt
Multiple Type C Mazda Lamps

| 20025 | 20026 | hum screw | $2{ }^{2}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20027 | 200128 | Mogul serew soek | 20 |  | 19.60 |
| $200 \geq 9$ | 200:30 | *legent film | 20 | 2713 | 21.20 |
| 20031 | 200132 | Wit hout socke | 20 | 26 | 17.12 |


If Acorn diffuser is not wanted, deduct \$c.00 list.
20 INCH CONCENTRIC DOME BODIES WITH LARGE HOLO-
PHANE REFRACTOR
For 250, 400 and 600 C.P. Type C Series Mazda Lamps

| 29207 | 22:28 | M | 20 | 2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20909 | $2 \underline{2} 210$ | Mogul screw socko | 20 | 2 |  |
| 29211 | $22 \cdot 12$ | *leggent film sock | 20 |  |  |
| 22913 | $22 \cdot 14$ | Without s | 20 | 203 | 21.12 |

## 20 INCH CONCENTRIC DOME BODIES WITH LARGE SOLLUX DIFFUSER

For 250, 400 and 600 C.P. Type C Series Mazda Lamps

| 22215 | 22.116 | Morlium serew socket | 20 | $17^{5 / 8}$ | \$15 5\% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $22 ? 17$ | 22218 | Mogul screw sorket. | 20 | 18 | \$16.00 |
| 2019 | $222 ?$ | *Regent film socket | 20 | 181/4 | 17.60 |
| 202 | 22:2 | Without socket. . | 20 | 163 | 14.8 |

PARTS FOR STREETHOOD BODIES

20750 Porcelain housing. .................................................. $61 / 4.3$
2150218 in. radial bow with holder. ................ 5 . 7 . $3 / 4$
2150520 in . radial bowl with extension........... $7^{*}$

$21503 \quad 20$ in. concontric dome with holiow......... 71 . 6.0



Simple crossarne No. 20752 with 3 if inch locknut may be attached to canoly for ${ }^{3}$ inch gooseneck suspension. Add 48 cents to list price.
*standard film sodert will be furnished in place of Regent when so ordered.
Ielivery F. O. 13. Jactory, South Bend, Ind. For warehonse deliveries write nearest house.

## CUTTER CENTER SUSPENSION STREETHOODS



Style E with 18 Inch Radial Bowl Reffector


Style EX with 18 Inch Radial Bowl Reflector and simple Crossarm


Style E with 18 Inch Radial Bowl Reflector and Sol-Lux Diffuser


Style EX with 18 Inch Concentric Dome Reflector and Small Refractor

## Schedule "A"

Style E Insulated Loop Suspension
Consistsof sityle 1). witha ('utter high voltage insulator between the are ring and adapter. Recommended for cireuits of over 2300 volts.

|  | WITH 18 INCH RADIAL BOWL REFLECTOR |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Std. | Lbs. | Price |
| $\begin{aligned} & \text { Nst } \\ & \text { No. } \end{aligned}$ | Description | Pkg. | Each | Each |
| 21.71 | Medium serew sorket | 20 | $16^{1 / 2}$ | \$10.96 |
| 21572 | Mogul sarew socket | 20 | 17 | 11.4 |
| 21573 | *Regent film socket. | 20 | $171 / 4$ | 13.04 |
| WITH 18 INCH RADIAL BOWL AND LARGE REFRACTOR |  |  |  |  |
| 21:\%.t | Medium serew socke | 20 | 2412 | \$24.16 |
| 21575 | Mogul serew socket | 90 | 25 | 24.64 |
| 21.376 | *Regent film soeket | 20 | 251/4 | 26.24 |
| WITH 18 INCH RADIAL BOWL AND SOL-LUX DIFFUSER |  |  |  |  |
| 21568 | Medium serew socket. | 20 | $201 / 2$ | \$15. 31 |
| 21.36 | Mogul serew socket | 20 | 21 | 15.84 |
| 21570 | *Regent film socket |  | $211 / 4$ | 17.4 |
|  | WITH 20 INCH RADIAL BOWL REFLECTOR |  |  |  |
| 21580 | Medium serew socket |  | 173/4 | \$11.7t |
| 21581 | Mogul serew socket | 20 | $181 / 4$ | 12.24 |
| $\because 1$-8\% | *Regent film socket | 20 | 181/2 | 13.84 |

WITH 20 INCH RADIAL BOWL, WITH EXTENSION

|  | Mer | 20 | 183/4 | \$12.06 |
| :---: | :---: | :---: | :---: | :---: |
| 188! | Mogul sarew socket | 1 | $191 / 4$ | 13. |
| 11587 | *Rerent filu sock | 20 | 191/2 | 4. |

21587 *Regent film socket.............. 20 191/2 14.64

|  | WITH 24 INCH |  | CTOR |  |
| :---: | :---: | :---: | :---: | :---: |
| 21588 | Medium serew socket | 20 | $203 / 4$ | \$13.76 |
| $21: 89$ | Mogul serew socket | ${ }^{2} 0$ | 4 |  |
| 21590 | *Regent film socket | 20 | 21 |  |

V'ITH 24 INCH RADIAL BOWL AND ACORN DIFFUSER
21.091 Mediun serew socket. . . . . . . . . . . 20 2013/4 820.94
$215!12$ Mogul serew socket. . . . . . . . . . . . . $20 \quad 30 \quad 301 / 4 \quad 21.52$
21593 *legent film sorket. . . . . . . . . . . . 20 20 $301_{2}^{12} \quad 23.04$
WITH 20 INCH FLAT RADIAL WAVE REFLECTOR

|  | Uedium screw socket. | 20 | 151/4 | \$9.7i |
| :---: | :---: | :---: | :---: | :---: |
|  | logul serew so | 20 | $161 / 2$ | 10.2 |
| -1:0\% | *legrent film soek | 20 | 163 年 | 11.84 |

WITH 18 INCH CONCENTRIC DOME REFLECTOR AND SMALL HOLOPHANE REFRACTOR
21i(i)1 Medium serew socket............. 20 191/2 $\$ 16.16$
2ltion \logul serew socket . . . . . . . . . . . . . . $20 \quad 20$. 16. .it
$2160)^{3}$ *Regent film soeket........................ $20 \quad 201 / 4 \quad 18.24$
WITH 20 INCH CONCENTRIC DOME REFLECTOR AND LARGE HOLOPHANE REFRACTOR
211007 Medium screw socket. . . . . . . . . $20 \quad 241 / 2 \quad \$ 23.76$
21tios Mogul screw socket ................20 25 24 24.24
21609 *legent filn socket.............. $20 \quad 251 / 25$
WITH 20 INCH CONCENTRIC DOME REFLECTOR AND LARGE SOL-LUX DIFFUSER

| ER |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 21613 | Medium serew soeket | 20 | $201 / 4$ | \$17.20 |
| $21+1{ }^{\text {2 }}$ | Mogul serew socket | 20 | $\bigcirc 0^{3 / 4}$ | 17.84 |
| $2161 \%$ | *Regent film socket | 20 | 21 | 19.4 |

21b1\% *Regent film socket..............
Consists of style E with simple crossarm No. 20751. , In ordermg. use List Nos, for Style Fe fixtures with prefix "EX." Idd to cents to list prices and $11 / 2 \mathrm{lbs}$. to shipping weights. SUSPENSION PARTS
20751 Simple crossarm......................... $1 \frac{1}{2} \quad \$ 0.40$

2075) Arcring with $\frac{7}{16}$ in. stud.................. $1 / 41$. 16
$20751 \mathrm{H} . \mathrm{Y}$, insulator with $\frac{7}{16}$ in. studs........ $21 / 4 \quad 1.44$
*Standard film socket furnished in place of Regent when so ordered.

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries.

# CUTTER STREET FIXTURES 

Pulleys and Windlasses


PLAIN END PULLEYS
Schedule "D"
A plain woatherproof palley with an end clamp to fit mast arm pipes.

| 兂 | - |  | *List |
| :---: | :---: | :---: | :---: |
| List |  | Std. Wt. | Price |
| No. | Description | Pkg. I.bs. | Each |
| $20 \times 23$ | For 11/4in. (hore) pipe. | $10061 / 2$ | \$1.58 |
| 20831 | for $1 \frac{1}{2} \mathrm{in}$. (bore) pipe | 100) $63 / 4$ | 1.58 |

## MEDIUM PULLEYS

A fouter suspension pulley with long supporting elamp and weatherproof casing, but with no safoty features. Takes any size rope up to $1 / 2$ inch in diameter and is second only to the ('uttor lamp-Supporting Pulley. 20825
$100.5 \frac{1}{2}$
$\$ 1.32$

## POLE HOUSING

The pole plate and pulley casing are made in one piece, with the sheaves placed so the rope can run though the pipe. :ts with the C'utter lnner-Rope and Corporal Mast Arms.
*List

| List |  | Std. Wt. | Price |
| :---: | :---: | :---: | :---: |
| No. | Description | 1 kg . Ihes. | Each |
| 20xst | For $1^{1}$ inn (bore) pipe. | $75 \quad 61 / 2$ | \$2.11 |
| 2) | lote $1 \frac{1}{2} \mathrm{in}$. (bore) pipe. | 75 63, ${ }^{\text {a }}$ | 2.11 |

## TAIL PULLEYS

A eompanion to the pole housing for use with Cutter Inner-Rope and Corporal Nast Arms.


## COMBINATION POLE WINDLASSES

These are solf-locking safety windlasses which can be used either as phain or geared windlasses at the option of the trimmer. (' $n$ be used as phain windlass to lower the lamp quickly, and then by inserfing the handle further into the drum, changed to a geared windlass to raise the lamp. These windlasses are perforety safe for heary lamps, the whole deriee being made as fool-proof as possible.

The pinion handle is detachable so that it can be used with any number of windlasses.

The drum will hold tio) feet of $\frac{1}{3}$ inch Fbony Wire Rope or 40 feet of ${ }^{3}$ y inch Banner Core Rone.
l'rices below do not include handle.

|  |  |  | t |
| :---: | :---: | :---: | :---: |
| List |  | Std. Wt. | Price |
| No. | Description | Pkg. Lls | Each |
| - (1)S0 | For wood poles. | $25 \quad 22$ | \$7.92 |
| 2 (1):31 |  | $25 \quad 24$ | 8.36 |
| $208: 32$ | For (in. (bore) pipe. | 25 25 | 8.80 |
| -0333 | Fon' 7 in. (bore) pipe | $25 \quad 27$ | 7.92 |

## COMBINATION WALL WINDLASSES

Similar to the combination pole windlass, but with a side plate for fastening to walls.
2083.4

$$
25 \quad 24
$$

$\$ 7.48$

## PINION HANDLES

loor combination pole and wall windlasses.
20835 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 25 4 $\$ 2.64$
For galvanizing any of the above, add 88 per cent. to list price.
Pinion Itandle
*I) elivery F. O. B. Factory, South l3end, Ind. For warehouse deliveries write nearest house.

## CUTTER STREET FIXTURES



No. 20836


No. 20838


No. 20837


No. 20839


No. 20841


No, 20844

## HIGH VOLTAGE INSULATORS

High voltage insulators have a double petticoat porcelain bell, which forms a good watershed and gives high insulation even in wet weather. The rivets which fasten the metal cap to the porcelain pass under the elongated head of the bolt which supports the hood, so that this could not drop out even if the porcelain were broken with a hammer. The cap is sealed with insulating material and the extra petticoat gives a large surface insulation, making the device well suited for use on arc circuits exposed to weather, smoke or fumes.

While designed especially for use on arc circuits of high voltage, the extra protection and the elimination of leakage afforded by this insulator make it a desirable one, even for circuits of comparatively low voltage.


For galvanizing all iron parts, add 42 cents each to list price.

## JUPITER INSULATORS

Built on the same lines generally as high voltage insulators, but with a greatly enlarged series of petticoats to give higher surface insulation. Therefore it has the same high breakdown insulation (ample for 12000 -volt circuits) and an extra large surface to reduce the leakage in wet weather.

## 20844 With ring above and sister hook

 below....................... $75 \quad 6$ \$?.3820845 With ring above and ring below $\quad 75 \quad 6 \quad 12.20$
For galvanizing all iron parts, add 42 cents each to list price.

## TRIPLE INSULATION ARMS

Triple insulation arms have a high voltage insulator above an enameled wood arm, thus giving a triple insulation between the line wire and the supporting ring.
The arm is coated with a baked enamel, which outwears paint in the weather, and has its ends bound by strong metal forrules to prevent their splitting. Every part of the whole device is built for fine wear and ligh insulation, making it a fine insulating arm for all high voltage lamps, and the only low priced one adapted for use with alternating series lamps. It is second only to the Jupiter Cross-Arm.

| ListNo.No. | Finish |  |  | *List |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Std. | Wt, Lbs. | Price |
|  |  | Pkg. | Each | Each |
| 20852 | Enameled. | 75 | 5 | \$2.38 |
| 20853 | Galvanized. | 75 | 5 | 2.48 |

## JUPITER CROSS-ARMS

An insulating cross-arm having both the wire supports and the lamp hook insulated from the support by Cutter Jupiter Insulator. The cross-arm is enameled and metal-bound and has deep, grooved Jnobs at each end.

The icleal insulating arm for use on high voltage circuits.


[^33]
## CUTTER SOL-LUX PENDANTS

FOR TYPE C LAMPS
Standard Package Quantity, 10 of One Style or List Number
Schedule "G"


Style C Pendant with Sul-Lux bilfuser


Style C Pendant with large Ilulophane Refractor


Style C Pendant with Diffusing Bowl
Del.very F (J. B. Factory, Gouth Bend, Ind. For warchouse deliveries write nourest house.

## CUTTER ORNAMENTAL POSTS



No. 2.3504

## COMMONWEALTH DESIGN

Base, 18 iuches square, 2 feet high; provided with hinged door and sufficient :pace for lomating switch and cutout in base. Column. Sinches octagon above the base, tapering to 4 inches wetagon uear the top. Height from ground tobottom of pendent globers, 11 freet: to top of top globe, It feet :3 inches; to top of glober on the 1 light post. $1: 3$ feet 6 inches. Distance from enter to center of opposite globers, 3ti inchos. Pendent globes. $6 \times 12$ inches: top globe, \& x $1+$ inches; globe for 1 light post. $x$ x 16 inghes.

## BOULEVARD DESIGN

Wase, 14 inches diameter. 2 feet 10 inches high; provided with two doors and sufficient space for locating switch and cutcut in base. Column, $51 / 2$ inches diamoter albove the base, taporing to $31 / 2$ inches diametor mear the top). Height, from ground to boltom of pendent, globes. 10 feret ; to top of top globe, $1: 3$ feot 2 inches; to toj) of globe on the 1 -light post, in feet 7 inches. Distance from conter to center of unposite globes, sie inches. Pondent globes, $1 ; \times 10$ inches: top globe 6 x 12 inches; globe for 1 -light post, is : 14 inches.

COMMONWEALTH DESIGN



## Flaming Arc

A substantial ant artistie pole for supporting modern are lamps. The hoisting rope may be rum inside or ontside the colum and the wires may be strmg overhead or latid modergromad.
With Multiple With Series
Cut-Ont Pulley ('ut-()ut I'ulley

| List | List | Description |
| :--- | :---: | :--- |
| No, | Ni.. |  |


| Std. | Wt., Ilds. | Price |
| ---: | :---: | ---: |
| Pkg. | Each | Each |
| 20 | $7(60$ | $\$ 128.80$ |
| 20 | $7(6)$ | 121670 |


With High Voltage Insulator in Place of Cut-Out Pulley and witłout Windlass or Pole Lock
21285 With (lamp) arm for overhoid wiring. . . . . . . . . . . . . . . . . . . . . . . . . . 20 its \$114.sis
21289 Without clamp arm. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 20 20
l'rices do not inctude rope, wiring or fomdation bolts. Ise four 11 inch bolts.
*Delivery F. (O. If. Factory, South Iand, Ind. For warehouse deliverien write mourest house.

## CUTTER ORNAMENTAL POSTS <br> SCHEDULE "I"-STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE SINGLE-LIGHT POSTS FOR MAZDA C HIGH EFFICIENCY LAMPS



Continental. with Sol-lux Senior "Iop


Colony, with
Esyptian Junior Top
DIMENSIONS
Continental
24) inches

Base, diameter
Base, height.
Column, diameter above base.
Columm, diameter near top.
Height to top of eolumm.
Height to light center.
Number and size of foundation bolts........ Four $7 / 8$ or 1 inch


Colony, with Sol-lux Junior Ton

## Schedule "I'"

Continental Medium
18 inches
28 inches
7 inches
5inches
ll) ft .. 1 in .
$12 \mathrm{ft} ., 3 \mathrm{in}$.
Four 3 inch
Prices below do not include lamps, eompensators, wiring or foundation bolts.

## With Sol-lux Top

Description
Continental, Senion top, mogul multiple socket. . . . .

| List | Hit., L.hs. | Prive |
| :---: | :---: | :---: |
| No. | Fach | Fach |
| 22263 |  | \$106i. 12 |
| 2.2633 | 576 | 107.52 |
| 22264 | 49\%) | 10:3. 610 |
| 22265 | $49 \%$ | 10: ${ }^{\text {a }}$ ( K |
| *22etif | :09 | 189.58 |
| *22267 | 309 | 71.00 |
| *22268 | 310 | 71.10 |





With Egyptian Top
List Wit., libs. Price
No. Jach Each
22695
22900560

$2227=486107.10$

Same, with legent film series socket............... $2-263$
Continental Medium, Senior top, mogul multiple socket 22264
Same, with IRegent film series socket. . . . . . . . . . . . . . 22265

No. 22118. Add $\$ 1,68$ list and price of coil selected.
Delivery F. O. B. South Bend, Ind. For warehouse deliveries write nearest houses.

## CUTTER ORNAMENTAL POSTS

SCHEDULE "I"-STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE SINGLE-LIGHT POSTS FOR MAZDA C HIGH EFFICIENCY LAMPS


Capitol, with Egyptian Senior Top


Capitol, with Sol-lux Senior Top


Capitol, with
Octagonal Senior Top

The Capitol post is a standard of highly artistic design and is made in two heights. One has a base 20 inches in diameter, 2 feet 5 inches high. The height to top of eolumns is 12 feet, 4 inehes; height to light center, 14 fect, 1 inch. The shorter post has a base 18 inches in diameter, 2 frect, 5 inches high. The height to top of column is 9 feet, 10 inches; to light center, 11 feet 7 inches. In both posts the diameter of the column is $7 \frac{1}{2}$ inches diameter above the base, tapering to 6 inches diameter near the top. Use four $7 / 8$ inch or 1 inch foundation bolts.

Prices below cover posts complete with Cutter Ornamental Tops. Iigyptian casing and sockets, but not the lamps, compensators, wiring or foundation bolts. See another page for prices of parts to make other combinations.

|  |  |  |  | Schedule "I' |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 12 ft .4 in. Capitol |  |  | 9 ft .10 in . Capitol |  |  |
|  | List | Wt., Lbs. | Price | List | Wt., Lbs. | . Price |
| Description | No. | Each | Each | No. | Each | Each |
| With Egyptian Senior top, mogul screw multiple socket | 22276 | 550 | \$106.40 | 22282 | 495 | \$102.20 |
| Same with Regent film scrics socket. | 22277 | 551 | 107.80 | 22283 | 496 | 103.60 |
| With Sol-lux Senior top, mogul screw multiple socket. | 22278 | 550 | 105.00 | 22284 | 495 | 100.80 |
| Same, with Regent film series socket. | 22279 | 551 | 106.40 | 22285 | 496 | 102.20 |
| With octagonal Senior top, mogul serew multiple socket | 22280 | 555 | 106.40 | 22286 | 500 | 102.20 |
| Same, with Regent film series soeket. | 22281 | 556 | 107.80 | 22287 | 501 | 103.60 |

[^34]
## CUTTER ORNAMENTAL POSTS

## SCHEDULE "I"-STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE SINGLE-LIGHT STANDARD FOR MAZDA C HIGH EFFICIENCY LAMPS



Park View, with Sol-1ux Junior Top


Park View, with Edyptian Junior Top


Villa, with I6-inch Ball Globe

The l'ark View post is designed especially for lighting parks, boulevards and entracest to publie buildings. lBase, 16 inches in diameter, 17 inches high. (whmm, $51 / 2$ inches in diameter above the base, tapering to $31 / 2$ inches near the top. Height to top of column. 9 fort $\overline{5}$ inches; to light center, 10 feet 9 inches. ['se three $3 / 4$ inch foundation bolts.

The Villa post has a base 17 inches in diameter, 18 inches high. Column, 5 inches in diameter above the base, tapering to $27 / 8$ inches near the top. Height to top of column, 9 feet + inches; to light center, 10 feet 8 inches. Tise three $3 / 4$ inch foundation bolts.

Prices below cover posts with sockets and with or without glassware, as listed. Primes do not include lamps, compensators, wiring or foundation bolts. See anothor page for prices of parts to make other combinations.

| Description | Park View |  |  | Villa |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | list | WT., Los. | Price | List | Wt., Lbs. | Price |
| With 8 inch globe holder, medium serew multiple socket | 10. | Fach | Each | ${ }_{2}{ }^{\text {No. }}$ | Each | Each |
| Same, with mogul serew multiple socket. . . . . . . . . . . . | 22126 | 284 | 51.80 | 22134 | 234 | 44.10 |
| Same, with Regent film series socket | 22127 | 28.5 | 53.20 | 22135 | 235 | 45.50 |
| With Sol-lux Junior top medium screw multiple socket | 22108 | 319 | 70.98 | 22136 | 252 | 60.48 |
| Same, with mogul serew multiple socket. | *22129 | 319 | 71.40 | 22137 | 252 | (i0.90 |
| Same, with Kegent film series socket. | 22130 | 320 | 72.80 | 22138 | 253 | (i2. 30 |

*For reactance coils and compensators order Legyptiar Junior casing No. 22118 instead of the Park View globe holder No. 22171. Add $\$ 1.681$ list and price of coil selected.

Delivery F. O. B. South Bend, Ind. For warchouse deliveries write nearest house.

## CUTTER ORNAMENTAL POSTS

 SCHEDULE "I"—STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE

Arcadian, with Sol-lux Senior "'op


Arcadian, with Extension Capito and Octagonal Senior 'lop


Arcadian, with Octagonat Senior Top

The drealian post has a 20 -inch netagonal base. The height from ground to botom of gho without extension capiten is 12 fere. The rxtension cetpitol adds 6 inehes to the height. The height from ground to rentor of ight soure is 12 feet S inches without extension "apitel and $1: 3$ feet 2 inches with extension capitol.
 or fommation bolts. fix four ${ }^{3}$ inch foundation bolts.

|  | With Sol-tux |  | Top | With | Octagonal ${ }^{\text {a }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | Ship. | Price | List | Ship. | l'rice |
| Deser | No. | W't., Ihs. | Fach | No. | Wt., Lhs. | Vach |
| With regent film socket forstraigh | $\underline{2+196}$ | 425 | E93. 60 | 24212 | $4: 30$ | 89\%.00 |
| Same, with extension capitol | $2+197$ | $4 \cdot 4$ | 10:3.60 | $24 \geq 1: 3$ | 44 | 105.100 |
| With mogut arew multiplesocket for 300 to, 1000 watr |  |  |  |  |  |  |
| lamps | 2-4198 | 42: | 95. $0^{0}$ | 2421.1 | 4330 | 96.60 |
| Same. with extemsion caphal | $2+1199$ | 440 | 102. 20 | $24 \pm 15$ | 4.45 | 10:3. 60 |
| With extensione capitol, mognl sorketand combensaten* |  |  |  |  |  |  |
| for 400 ( ${ }^{\text {c }}$ ' 15 ampre lamps | 21200 | 417 | 116.20 | 24216 | $45 \%$ | 117.60 |
|  | 24201 | 4.49 | 117.610 | $2-4217$ | 15.4 | 119.00 |
|  | 24202 | 454 | 120.40 | 212は | 459 | 121.80 |

 motal frimming and ventilators when so ordered, whonat additional charge. Ser another page for prices of post tops.






Suburban, with Sol-Iux Junior Top


Suburban, with Extension Capitol and Sol-lux Junior Top


Suburban, with Octagonal Junior 'Top

The Suburban post has a 16 inch ortagonal base. The height from ground to bottom of globe without extension capitol is 10 feet. The extension capitol adids $\mathrm{f}_{\text {inches }}$ to the heirht. The height from ground to center of light source is 10 fert 6 inches without extension capitol and 11 feet with extension eapitol.

Prices cover posts with Gol-hux Jumior and Octagonal Junior tops. Prices do not include lamps, wiring or foundation bolts. Use four $\frac{3}{4}$ inch foundation bolts.

|  | With Sol-lux |  |  | With | Octagonal Top |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | Ship. | Price | List | Ship. | Price |
| With Description | No. | Wt., L.bs. | Each | No. | Wt., Lbs. | Each |
| With regent film sockets forstraight serics lamps. | 24203 | 270 | \$72.80 | 24219 | 273 | s74.20 |
| Same, with extension capitol. | 24204 | 28.5 | 78.80 | 24220 | 278 | 81.20 |
| With medium screw multiple sorket for '200 wat or smatler lamps. | 2+20: | 270 |  |  | 2-3 | -9, 38 |
| Same, with extension capitol. | $2+200$ | 285 |  | $0+221$ | 273 | 72.38 |
| With mogul serew multiple socket for 300 to 500 watt lamps |  |  |  | - |  |  |
| Same, with extension capitol | $\stackrel{3}{2+208}$ | 270 | 71.40 | $2+293$ | 273 | 72.80 |
| With extension capitol, moguls crew sorket and reactance coil* for 100 c . p. ( 6.6 ampere lamps |  |  | 80.40 | 2 | 2.8 | 79 |
|  | $2+209$ | 273 | 89.74 | 24225 | 278 | 91.14 |
|  | 24210 | 275 | 91.70 | 24226 | 285 | 93.10 | Egyptian Junior globes, metal frames and ventidators will be substituted for Oetagonal Jrmior globes, metal trimmings and vontilators when so ordered without additional charge.

*Compensator coils and reactance coils are designed for use on teb-evele circuits only. I rice of posts with coils for operation on 2i-cyele circuits will he furnished upon applicution. Compensator coils have taps for either 6.6 or 7.5 ampere primary circuit.

## CUTTER ORNAMENTAL POSTS

SCHEDULE "I"-STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE

## SINGLE-LIGHT STANDARDS FOR NOVALUX TOPS



Capitol, with Novalux Top


Broadway, with Novalux Top


Continental, with Novalux Top

These posts are designed for use with the (i-F: Novalux lixtures, hut prices do not include the fixtures. The columns have threaded holes in the top to receive screws for holding the insulator or casing of the Novalux Fixtures. The dimensions are practically the same for all posts, except as to height, which is given in table below.

See another page for detailed dimensions of each standard.

| List |  | Ship. | List Price |
| :---: | :---: | :---: | :---: |
| No. | Description | Wt., Lbs. | Each |
| 22095 | ('apitol, 12 ft .4 ins . to top of column | 495 | \$72.80 |
| 22080 | (apitol, 9 ft .10 ins , to top) of column.. | 440 | 68.60 |
| 22439 | Broadway, 12 ft 3 ins to top of columm. | 520 | 73.92 |
| 22438 | Plazal, 10 ft .4 ins to top of columm... | 450 | 66.92 |
| 22096 | Continental, 11 ft .4 ins . to top of column | 510 | 74.20 |
| 22194 | Continental Medium, 10 ft .4 ims . to top of columm | 430 | 72.10 |
| 22195 | Colony, 8 ft .10 ins . to top of column. | 250 | 45.78 |

Tse four 1 inch foundation bolts (excent for Colony, use three $\frac{3}{4}$ inch), or 5 多 inch heavy duty expansion bolts.

Delivery F. O. 13. South Bend, Ind. For warehouse deliveries write nearest house.

CUTTER ORNAMENTAL POSTS AND BRACKETS


BROADWAY TROLLEY BRACKETS
The Broadway Trolley Jracket consists of bracket arm, \& x 12 inch arorn globe and Regent Film Series Sorket. Wiring and lamps are not induded. *Multiple sockets furnished when ordered. Distance from eenter of pole to center of glohe 27 inches.

Single Arm

| For 5 Inch | For 6 Inch | For 7 Inch |
| :---: | :---: | :---: |
| Pipe | Pipe | Pipe |
| 22151 | 22153 | 2215 |

Double Arm

| Ship. Wit., Lbs. | Jist I'rice Each | Fur 5 Inch Pipe | For 6 Inch Pipe | $\begin{aligned} & \text { For } 7 \text { Inch } \\ & \text { Pipe } \end{aligned}$ | Ship. <br> Wt., Lbs. | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 75 | S23. $\mathrm{n}^{2}$ | 22159 | 22160 | 22161 | 150 | 847.60 |

SOL-LUX JUNIOR TROLLEY BRACKETS
The Sol-lux Jumior 'Troder Bracket as listed is a romplete fixture less lamp and wiring. It is regularly equipped with globe holder, Sol-lux Junior (ilobe and ventilator, porcelain dise insubator and IRegent film series soeket. *Wultiple sockets furnished when ordered.

Distance from pole to center of globe, 30 inches. Height over all, 52 inches. Diameter of arm, $27 / 8$ inches. Distance from center of arm to bottom of seroll, 18 inches.

|  | $\text { r } 3 \text { Inc }$ |  |  |  |  | For 6 Inch |  |  | I ist |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pipe | Pipe | ]ipe | Wt., Lbs, | Each | Pipc | Pipe | Pipe | Wt., Ibs. | Each |
| 22602 | 221003 | 22604 | 155 | S50. 12 | 2260.) | 22606 | 22607 | 160 | \$50.17 |

*If mogul multiple socket is used, deduct 81 . to list for cach socket; for medium sarew socket dexhet $\$ 1.82$ each list.

Delivery F". O. I3. Fouth Bend, Ind. For warehouse deliveries write nearest house.

# CUTTER BRACKETS, NEWELS AND TRAFFIC POSTS SCHEDULE "I'"-STANDARD PACKAGE QUANTITY, 20 OF ONE STYLE <br>  



Sol-lux Wall Brachet


Conmmerce Newel

A massive bracket of highly artistic design. Wall platte, 2 feet high, 6 inches with. Distance from wall to center of lamp, 3 fect. Height from bottom of shaft to top of ventiator onsol-Lux Senior globe 6 feet 0,2 inches.
List
 sockert

Ship.
Wgt,, Lbs., $\quad$ l'rice
Jach Fach
375 805.20
22545 Withootamonal somior top, Mogal socket.
380)
(2). (0)

For verde antipue finish, add sion list. For weatherprool bronze paint add slf.00 list.

## METROPOLITAN NEWELS

A newol of simple but artistic olesign, adapted for lighting the rat raneres of buildings on for bridges and mablie plates. Base 14 inchess entate, $2 \boldsymbol{2}$ fert high. ('olumm 5 inches octagon above the
 bave to bottom of globe 7 feect ; to lop of ventilater on octagonal Junior eglobe \& feot, 9 inchess. Clobe hoderer hats 8 inch fitter. Lse four ${ }^{3} 4$ inch foundition bolts.
23tti With octaronal Junior tope medium sorew socket. . . . . . .






For verde antigue finish, add si.00 list; for weatherproof tronze paint, add 81 ton list.
"SAFETY FIRST" TRAFFIC POSTS
13y marking the reonters of interseeting strects the rule of "keep wo the right" is alwass menfored. These traffie posts are silent watehmen, always on ithe joh.

Buase, 14 inches in thameter, ${ }^{2} 4$ inches high. ('ohmm 5 inches in diamotur above the base, fituering 10 : $3!6$ inches in diameter near the fops. Heright from hase plane to bottom of ghobe on the 1 light nowel, of fere.

Prices of newels do mot inelute globes, lampe, wiring or foumdation bolts. These are listed separately below. $\because 2000$ \& im . holder, medium mallipde surket . . . . . . . . . . . . . . . . . . 175

175 Si5.0N

2152: if in. holdor, Mogul multiple 170 tis.jo

2700.4 if in. hoddar, lagent filmsomet. 177

2700 i is 12 in. ruby globe, extrat..... 8 \& 14.00
$200078 \times 1 t$ in, rulby glohe, extrat.... $1 t$. 16.80
$218: 31$ if $x$ 1: in. diffusing hatl, extrat... os on
2298! \& x 14 in diflusing hall, extra.... $\quad 1.4$ 7.70
set of three $3 / 4 \times 12 \mathrm{in}$. fonndation bolts.
1.34

20103x Fived juin clamp arm...........
20042 J'inkess Clamp COMMERCE NEWELS
A massive neweldesigned esperially forbritges and ent ranmen
 gromind to beotom of prodent globes 4 fere 6 imehes; to top of Cagle ornamentation on top globe ! feet $(6$ inches; to top of eagle ornamentation on 1 light nowel, $\&$ feet. Perndent globes, $8 \times 1+$ inchos; fop globe, $8 \times 20$ inches; globe for 1 light newed $8 \times 20$ inches. Prieco bolow indude mediam serew base sotkets, Elasware as above specified amd eagle oramentation, but not foumation bolts. I'se foum 7 名inch foundation bolts.


Delivery F. O. 13, Fatory, sonth Bend, Ind. For warehouse deliveries write hearest house.

## CUTTER ORNAMENTAL NEWELS <br> For Type C Lamps

## SOL-LUX GATE POST NEWELS



These newels are made of the highest quality gray iron. They are of distinctive design and very appropriate for the lighting of gatcways and private grounds, entrances of buildings, etc.

Base, 14 inches in diameter, 24 inches high. Columm, 5 inches in diancter above base, tapering to $31 / 2$ inches in diameter near the top, lleight from base plane to bottom of side globes, 3 feet 8 inches; to bottom of eenter globe, 4 feet $61 / 2$ inches; to botton of globe of 1 light newel, 3 feet 8 inches. Distance from center to center of opposite globes, 30 inches. Designed for $6 \times 9$ inch or $6 \times 10$ inch side globes, and $6 \times 12$ inch or $6 \times 14$ inch top globe.

Prices below include medium screw sockets for side lamps and Mogul screw sockets for center lamps, unless otherwise specified. l'rices do not include globes, ventilators, lamps, wiring or foundation holts. Vise three $\frac{3}{4}$ inch bolts.

| List | No. of <br> Lights | Std. <br> Pkg. | Wt., Lbs. <br> Each | List Price <br> Each |
| :--- | :---: | :---: | ---: | ---: |
| $21817 \ldots \ldots \ldots \ldots$ | 1 | 20 | 125 | $\$ 35.00$ |
| $21818 \ldots \ldots \ldots \ldots$ | 2 | 20 | 175 | 40.00 |
| $21819 \ldots \ldots \ldots \ldots$ | 3 | 20 | 170 | 49.00 |
| $21820 \ldots \ldots \ldots \ldots$ | 4 | 20 | 215 | 56.00 |
| $21821 \ldots \ldots \ldots \ldots$ | 5 | 20 | 215 | 56.00 |

## SOL-LUX BRIDGE NEWELS

Similar in design to Sol-lux Gate Post Newel but higher. Base, 14 inches in diameter, 24 inches high. Column, 5 inches in dianeter whove the base, tapering to $31 / 2$ inches in diameter near the top. Height from base plane to bottom of side globes, 6 feet; to bottom of center globe, 6 feet $10 \frac{1}{2}$ inches; to bottom of globe on the 1 light newel, 6 feet. Distance from center to conter of opposite globes, 30 inches. Designed for $6 \times 9$ inch or $6 \times 10$ inch side globes and $6 \times 12$ inch or $6 \times 14$ inch center globes.

Arms may be reversed for pendent clusters.
Prices below do not include globes, ventilators, lamps, wiring or foundation bolts. ['se three $3 / 4$ inch bolts. Prices include medium serew sockets for side lamps and Mogul serew sockets for top lamps.

| List | No. of | Std. | Wt., Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Lights | Pkg | Each | Each |
| 21825. | 1 | 20 | 175 | \$45.50 |
| 21826. | 2 | 20 | 225 | 59.50 |
| 21827. | 3 | 20 | 225 | 59.50 |
| 21828. | 4 | 20 | 265 | 66. 50 |
| 21829. | 5 | 20 | 265 | 66.50 |

## GLOBES

| List | Std. | Wt., Lbs | List |
| :---: | :---: | :---: | :---: |
| No. Description | Pkg. | Each | Each |
| $218306 \times 0 \mathrm{in}$, diffusing ball. | 20 | 0 | \$1.5\% |
| $218.236 \times 10 \mathrm{in}$. diffusing ball | 20 | 7 | 3.85 |
| 21831 6xlsin. difíusing ball (without top fitter)................ | 20 | 8 | 5.95 |
| 22472 6xll in. diffusing ball (with ( i in. top fitter). . . ........ | 20 | S | 5.95 |
| 2:4736xl4 in. diffusing ball (with 6 in. top fitter). |  |  |  |
| 217918 x16 in. diffusing ball (with | 20 | 9 | 7.70 |
| 6 in . top fitter). . . . . . . | 20 | 18 | 12.26 |

## VENTILATORS

| List |  | Std. | Wt, | Prist |
| :---: | :---: | :---: | :---: | :---: |
| No. | Description | Pkg. | Each | ch |
| 21792 | in. fitter | 20 | 9 | 85.60 |

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

## CUTTER ORNAMENTAL BRACKETS



MIDGET BRACKETS Schedule "I"
A light cast iron bracket designed for small sizes of lamps which do not require ventilation. Has a threaded stem for attachment to crowfoot or conduit. Diameter of wall canopy, $51 / 4$ inches. Distance from end of stem to center of globe, 6 inches. Equipped with $41 / 2$ inch hodder and medium screw socket, but not wired.


## REVERSIBLE BRACKETS

When ventilation is not necessary, this bracket may have the globe hang downward. In this position, the bracket has the same artistic lines and correct proportions as in the position illustrated. Distance from wall to center of globe, 2 feet. Distance between centers of wall plates, approximately 20 inches. Fitted with 8 inch globe holder.
l'rices do not include globe, ventilator or wiring.

| 21248 | Medium screrv socket | 20 | 65 | \$21.00 |
| :---: | :---: | :---: | :---: | :---: |
| 218:37 | Mogul serev soeket. | 20 | 65 | 21.42 |
| 21791 | $8 \times 16 \mathrm{in}$. diffusing ball (with 6 in . top fitter) | 20 | 19 | 12.25 |
| 21792 | Ventilator, with 6 in. fitter | 20 | 9 | 5.60 |

## COMMERCE BRACKETS

A massive fixture of distinetly artistic and classical design. Particularly adapted for lighting fronts of fine structures, such as banks and otfice buildings, clubs, libraries, etc.

Wall plate, 9 inches wide, 20 inches high. Distance from wall to ('enter of top) globe, 14 inches. Height to bottom of globe of 1 light bracket, 33 inches; to bottom of center globe of 3 and 4 light brackets, 41 inches. Distance from center to center of opposite globe, 30 inches.

For side lamps use $6 \times 9$ inch or $6 \times 10$ inch glohe. For center lamps use $6 \times 12$ inch or $6 \times 14$ inch globe.

Prices below do not include lamps, globes, ventilators or wiring. Medium screw sockets are furnished for side lamps, Mogul screw sockets for center lamps, unkess otherwise specified.

| 218381 light | 20 | 90 | \$28.00 |
| :---: | :---: | :---: | :---: |
| $\because 18393$ light | 20 | 145 | 42.00 |
| 218404 light | 20 | 155 | 45.50 |
| 21830 (\% x 9 in. diffusing ball | 20 | 6 | 3.15 |
| $218426 \times 10$ in. diffusing ball | 20 | 7 | 3.85 |
| $218316 \times 12 \mathrm{in}$. diffusing ball (without top fitter). | 20 | 8 | 5.95 |
| 2.247 ; $6 \times 12 \mathrm{in}$. diffusing ball (with 6 in. top fitter). | 20 | 8 | 5.95 |
| 22480 ( $5 \times 14$ in. diffusing ball (with 6 in . top fitter) | 20 | 9 | 7.70 |
| 21792 id in. ventilator | 20 | 0 | 5.60 |

## CORRIDOR BRACKETS

Distance from wall to center of globe of the 1 light bracket, 10 inches. Distance from center to center of opposite globes of the 3 light bracket, 16 inches. Height over all, 40 inches. Globe holders have 6 inch fitters for $6 \times 8$ inch side globes and $6 \times 10$ inch center globes.
l'rices below include globe holders and medium screw sockets, but not the globes or wiring.


## PARTS FOR CUTTER ORNAMENTAL POSTS

SCHEDULE 1－STANDARD PACKAGE QUANTITY， 20 OF ONE STYLE OR TRADE NUMBER

| List |
| :---: |
| No． |
| 218.41 |
| －18：3） |
| $218+2$ |
| 21831 |
| 20．3 4ios |
| $2.24 \times 7$ |
| ここ4ら1 |
| 2.248 |
| －2．189 |
| 2．$-7!0$ |
| 21791 |
| $\underline{20} 492$ |
| －2493 |

Diam．
Inches
8
4
10
12
12
12
11
11
14
16
16
18
20

lark View Globe holder with 8x16x6－inch Ball Globe and Ventilator

Disconnecting Pothead with Ground Support


## DIFFUSING BALL GLOBES

POTHEADS
With the smaller posts an iron bracket support shoukd be imbeded in the concrete foundation，and the connections to the cable made bofore raising the columm upon its foundation．The larger posts，however，may be furnished with a 1 －shaped groove in the base to receive the cast iron hody of the pot－ heal．Potheads are designed for cable up to $1 \frac{1}{2}$ inch diameter．
List．Wit．，Ibs．List Price

| No | Description | Each | Each |
| :---: | :---: | :---: | :---: |
| 23171 | Simple pothead for cables 1 inch diamet | 10 | \＄4．20 |
| 03172 | Simple pothead for cables $131 / 2$ to 1 inch diamet | 10 | 4.20 |
| 23697 | Disconnecting type ${ }^{n}$ ，thead for cables 1 inch diameter or less． | 12 | 8.40 |
| 236098 | Disconnerting type pothead for calles $1 / 2$ to 1 inch diameter | 12 | 8.40 |
| 2310 St Saling compound for cither of above（ 1 pound for （ach pothead） <br> 23106ib Cast iron ground support for either of above potheads． |  | $\frac{1}{5}$ | ． 17 |
|  |  | 5 | 1.15 |

## FOUNDATION BOLTS

Prices cover round head machine bolts with hexagon nuts． Wrought washers are 14 per cent．list extra．

| Length | Price，Each |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | －－liameter of Ioolts |  |  |  |
| Inches | $3{ }_{4}^{1}$ Inch | \％\％Inch | 1 Inch | $11 / 4$ Inch |
| 8 | 80．34 | 80.39 | \＄0．56 | \＄1．05 |
| 10 | ． 39 | ． 4 | ． 69 | 1.19 |
| 12 | ． 4.5 | ． 56 | ． 78 | 1.48 |
| 15 | ．i）3 | ． $7^{7}$ | ． 90 | 1.76 |
| 18 | ． 62 | ． 78 | 1.01 | 1.90 |
| 20 | ． 67 | ． 90 | 1.18 | 2.04 |
| 21 | ． 78 | 1.01 | 1.34 | 2.46 |



Sectional View Showing Bolt with Pri－ mary Expansion Sileeve，One Iron Spacing Sleeve，and one Secondary Expansive Unit

## HEAVY DUTY EXPANSION BOLTS

These bolts may be used whenever posts are to be fastened to eoncrote sidewalks and when brackets are to be mounted on concrete，brisk，or stone walls．Their holding power exceeds that of standard machine bolts．They save 50 to 75 per cent． of drilling costs．Furnished in sets of four．


Delivery F．O．B．Factory，South Bend，Ind．For warehouse deliveries write noarest house．

## PARTS FOR CUTTER AND WESTERN ELECTRIC POSTS



Sol-lux Senior Ornamental Top


Sol-lux Junior Ornamental Top


Western Electric
Casing with New Style Sol-Iuy Senior Top


Western Electric
Casing with New Style
Cctagonal Senior Top

## SOL-LUX ORNAMENTAL POST TOPS FOR TYPE C LAMPS

 rliamoter and $\overline{5}$ inches high. Both have $s$ inch alobe fitters and aceommodate compensators for 1.5 and 20 ampere Mazda C laneps. The Senior casing is matefor poles with columns about dinches in ditmeter near the top; Junior casing, about $31 / 2$ inches. Sol-lux senior tops may be used con Capitol, Continental, Broadway and Plaza columns; Junior tops on Chicago, Avenue, Riverside, Boulevarl, Midway and Park View columns.

Hesight of Senior and Junior casing, 14!íinches. Height of Sol-lux Senior globe, $1 \bar{y}$ inches; Sol-lux Junior flobe, $121 / 2$ inches. Height of Senior ventilator, 11 inches; Junior, 10 inches. Ventilators are equipued with white enameled reflectors which direct the maximum amount of light into useful planes.

PART PRICE LIST OF CUTTER SOL-LUX SENIOR AND JUNIOR TOPS

|  |  | list No. | $\begin{aligned} & \text { Wenior- } \\ & \text { Wi. Ihs. } \\ & \text { beth } \end{aligned}$ | Lint Price 1:ach | $\begin{aligned} & \text { Jist } \\ & \text { Nio. } \end{aligned}$ | $\qquad$ Junior W t. I.Iss. Lach | List Price liach |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sol-lux casing with 8 ineh globe holfer.. |  | 32175 | 40 | 89.10 | 22176 | 38 | 87.42 |
| Porcmain dise insulator, withont socket*. |  | 22160 | 3 | . 18 | 2216\% | :3 | 84.48 |
| Sol-lux high efficieney plobe... |  | 22167 | 13 | 11.90 | 22169 | 11 | 7.6 |
| Sol-lux ventilator with reffector |  | -216 |  | 10.50 | $2 \times 170$ | 7 | 9.10 |
| PART PRICE LIST | OF | CUTTER | EGYPTIAN | SENIOR | AND | JUNIOR | TOPS |
| Fgyptian casing with 8 ineh globe holder. |  | 22113 | 30 | 9.80 | 22118 | 20 | 80.30 |
| Pore elain disc insulator without socket*. |  | 22163 | 3 | .98 | 2016itj | 3 | . 98 |
| Epyptan globe (one-picee) |  | 2211 t | 15 | 11.90) | $2 \div 116$ | 11 | $8.41)$ |
| Trimmings for globe. |  | 2011.5 | 5 | (i. 30 | 22117 | 5 | 4.20 |
| Ventator |  | 225.37 | 5 | 5. 60 | 22557 | 5 | 5.60 |

## WESTERN ELECTRIC SOL-LUX ORNAMENTAL POST TOPS

The Western Filectric casing is equiphed with $x$ inch globe fitter and is asigned for use with pormelain dise insulator, socket and eompensator. Furnished with gither the new style Sol-lux Senior or Junior globe with ventilator, or with the now style Oetagonal lantern globes and ventilators in either the Senior or Junior sizes. The easing is $13 / 1 /$ inches high and fits a post column having a cylindrical shank $3!$ inches outside diameter, 5 inches hirf. The globes are made of high efliciency glase and the ventilators are spun stel, porcelain enameled black outside, white inside. These new style alobes and ventilators may be used with Cutter posts listed on previons pages by deducting parts listed above and adding eorresponding part.: below

Western Electric casing only, with $S$ inch q'obe fitter. $\dagger$ Porcelain disc insulator without sorket.
Sol-Tux globe.
Sol-lux ventilator with reflector.
(Octagonal glolse (one piece).
Trimninus for octagonal globe (galvanzed sterd erameled black)
Ventilator.
Epyptian globe (one picce)
Triminings for Eagetian globe (ast iran enameled black)
Ventilator.

| Jist | Scnior |  |
| :---: | :---: | :---: |
| 入ı. | hlt. | list l'rire |
| 221 (6.) | 35 |  |
| 22 liti | 3 | \$9.19 |
| 2こ1197 | 13 | 11.90 |
| 22118. | 9 | 10.50 |
| 22950 | 16 | 15. 40 |
| 225.56 | 6 | 2.80 |
| $\underline{295.57}$ | 5 | 5. 131 |
| 22114 | 15 | 11.90 |
| 22115 | \% | fi. 30 |
| 225.57 | 5 | 5. 60 |


|  | - Jmior- - ... |  |
| :---: | :---: | :---: |
| 1,ist | Shipt. | I.ist Prico |
| No. | Wt. | latelt |
| 22115 | 35 | S0. 10 |
| 22164 | 3 | .98 |
| 221199 | 11 | 7.70 |
| 22170 | 7 | (1. 10 |
| 29558 | 11 | 10.50 |
| 29559 | 5 | 2.10 |
| 22507 | 5 | 5. 60 |
| 22116 | 11 | 8.10 |
| 22117 | 5 | 4.20 |
| 22057 | 5 | 5.10 |

tA poreclain dise insulator should he nsed with each easing. Add to the priee of the dise insulator $\$ 0.70$ for a medium screw multiple socket, $\$ 1.12$ for a mognl screw multiple socket, and $\$ 2.52$ for a Reant film series socket. When 6 eyele reactanee coils or compensators are used, add to the price of the dise insulator, so. So for mogul serew soeket with the following: $\$ 11.34$ for 100 eandle power, ( 5.6 ampere reactance coil; $\$ 13.30$ for 250 candle power, 6.6 ampere reactance coil; $\$ 1 ; 3.00$ for 400 candle power compensator; $\$ 15.40$ for 600 candle power compensator. an-l $\$ 18.20$ for 1000 candle power compensator.

## CUTTER STREET FIXTURES

## Pulleys and Clamp Knobs Schedule "D"




Swivel Pole Pulley


Interchangeable pulley

## LAMP-SUPPORTING PULLEYS

Holds the lamp when raised and relcases it when about to be lowered. Hias a long swivel clamp to fit any size suspension wire or cable and a malleable iron clamp knob to hold the lamp. On raising the lamp, this knob is engaged by ridges on the sides of the pulley and takes all the strain off the rope. Another pull at the rope guides the knob out so that the lamp can be readily lowered. The action is entirely automatic. You pull the rope till it reaches a dearl stop, and the pulley does the rest. There are no extra catches or fingers to bend out of shape or bind on the casing or to get clogged with slcet. It is the only weatherproof safety pulley that works every time. The clamp knob clamps any size rope up to $1 / 2$ inch.

|  |  |  | *List |
| :---: | :---: | :---: | :---: |
| No. |  | Std. Wht. | Price |
| No. | Description | Pkg. Lbs. | Each |
| 20782 | With clamp knob only. | 50 | S2.55 |
| 20783 | With high voltage insulator. | $50 \quad 12$ | 4.14 |
| 20784 | With triple insulation arm. | $50 \quad 13$ | 4.93 |
| 20785 | With Jupiter crossarm. | 50.16 | 5.72 |

## MAST ARM PULLEYS

A modification of the lamp-supporting pulley, having an extra strong single piece clamp, which fits the iron pipe of a mast arm and which also forms the heulpiece, so that the strain rols can be run direct to it.

| For 11/4 inch (Bore) Pipe |  |  |  |
| :---: | :---: | :---: | :---: |
| 20786 | With clamp knob only | 5010 | \$2.90 |
| 20787 | With high voltage insulator | 5013 | 4.49 |
| 20788 | With triple insulation arm. | 5014 | 5.8 |
| 20789 | With Jupiter erossarm | $50 \quad 17$ | 6.07 |

Can he furnished for $11 / 2$ inch at same list price.
For galvanizing, add 88 per cent. to list price.

## CLAMP KNOBS

| 20802 | With hook only | 10 |  | \$0.53 |
| :---: | :---: | :---: | :---: | :---: |
| 20803 | With high voltage insulator. | 100 | $41 / 2$ | 2.11 |
| 20804 | With triple insulation arm. | 100 | 6 | 2.90 |
| 20805 | With Jupiter crossarm. | 100 | 9 | 3.70 |

For galvanizing, add $8 x$ per cer' to list price.

## CEILING PULLEYS

A form of the lamp-supporting pulley, with a plate for use on bridges or umder beams in shops or yards.

| 20810 | With clamp knob only: | 50 | 9 | \$2.90 |
| :---: | :---: | :---: | :---: | :---: |
| 20811 | With triple insulation ar | 50 | 13 | 5. |
| 20812 | With Jupiter crossarm | 50 | 16 | 6.07 |

20812 With Jupiter crossirm. ............ $50 \quad 16 \quad 6.07$

## SWIVEL POLE PULLEYS

A weatherproof pole puliey, swiveled so that it can swing sideways and keep in line with the hoisting rope. Has a strong malleable iron pole plate.
20813
100
$41 / 4 \$ 1.32$

## JUMBO POLE PULLEYS

Similar to the above, but larger, to take 3.1 inch rope. 20814 75 5! 2 $\$ 1.04$

## INTERCHANGEABLE PULLEYS

A weatherproof pulley with a universal clamp made of malleable iron, which will grip any standard size of suspension wire or cable. By taking out the two bolts the clamp can be opened out so as to form a wall plate, which fits the curved surface of a pole and which is easily fastened in place by lag serews. When so used, it makes a swiveled pole pulley similar in action to the Cutter Swivel l'ole I'ulley. 20816
$10041 / 4 \$ 1.32$
*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.


Rope Clamp


Chain Clamp


Banner Core Rope


Ebony Wire Rope

## POLE LOCKS

Has the keyhole at the bottom and not at the top (where the rain and slect would drive into it). The double catch makes it non-pickable, the back fits either a wall or a pole, and the casting inakes it weatherproof. Just the thing to prevent tampering with hoisting ropes. One ley free with every ten locks.

| Iist |  | Std. | Wt. | *List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Finish | P'kg. | Lbs. | Each |
| $\because 0868$ | Painted. | 100 | $11 / 2$ | \$1.32 |
| 20869 | Galvanized. | 10) | $11 / 2$ | 1.50 |
| 20870 | Extra key. | 25 | 1 oz . | . 35 |

## ROPE CLEATS

Strong and neat (though no cleat with its coil of rope makes as neat a job as the rope clamp and pole lock). Has the edges rounded so as not to cut the rope. 20871 Galvanized.

200
1
$\$ 0.53$

## ROPE CLAMPS

Made of malleable iron, will readily clamp any size rope up to 3 inch, enabling the end of the hoisting rope to be locked at the pole. Can be used over and over again when the rope wears out.

| 20872 | Painted | 400 | $\begin{aligned} & 1 / 4 \\ & 1 / 4 \end{aligned}$ | $\begin{array}{r} \$ 0.32 \\ .39 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: |
| 20873 | Galvanized. | 400 |  |  |
| 1/2-Inch Rope Clamps |  |  |  |  |
| 20874 | Painted. | 400 | $3 / 4$ | \$0.35 |
| 20875 | Galvanized. | 400 | $3 / 4$ | . 44 |

## CHAIN CLAMPS

A neat, secure fastening, enabling the end of the hoisting chain to be locked to the pole. Made for No. 1 or No. 3 Oneida Chain.

| 20876 | Painted. . . . . . . . . . . . . . . | 400 | $1 / 2$ | $\$ 0.32$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 20877 | Galvanized. . . . . . . . . . . . | 400 | $1 / 2$ | .35 |

## WEATHERPROOF LAMP ROPE

A fine braided cotton rope with a weatherproof finish which keeps out the rain and makes it extra durable. We recommend the 3 gand $1 / 2$ inch sizes for hoisting are lamps, the $1 / 4$ and inch for use with the swinging hoods and the $\frac{3}{16}$ inch for the always level streethood.

| List | Sizo | W't., I.bs. | Approx. W't., l,bs. | List |
| :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Std. Phg. | per 100 I't. | per Lb. |
| 22:340 | $\frac{3}{16}$ | 100 | 2 | \$2.46 |
| 22:341 | $1 / 4$ | 100 | 219 | 2.41 |
| 22342 | $\frac{5}{16}$ | 100 | 31\% | 2.46 |
| 22:343 | 3\% | 100 | 5 | 2.46 |
| 29344 | $1 / 2$ | 100 | 8 | 3.08 |

## EBONY WIRE ROPE

A $1 / 4$ inch wire rope made of six flexible strands (each with soft eenter) around a flexible (black) center. The only wire rope really pliable enough to work freely with standard types of pulleys.

|  |  |  | *List |
| :--- | :---: | :---: | ---: |
| Iist | No. of Feet | Approx.Wt.,Lbs. | Price |
| No. | in Std. P'kg. | per 100 It. | per Ft. |
| 20883 | 1000 | 5 | $\$ 0.10$ |

## TRIMMER'S ROPE

Trimmer's rope is a 30 -foot hoisting rope, with a snap hook


Trimmer's Rope at one end and six rings near the other end. The rings can be readily clamped at any desired intervals, so as to accommodate lamps hung at varying heights above the street. Just the thing for use with hoisting ropes, ending in a Cutter Rope Clamp and locked with a Cutter Pole Lock.
*List
Price
Each
$\$ 4.40$
or ware-
*Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

## CUTTER INSULATORS AND CROSSARMS



## PLAIN ARMS Schedule "E"

Fnameled roorl, with metal-bound ends and porcelain knols. Ilolds the line wire 12 inches apart.

| List | Std. | W't., Lbs. | Price |
| :--- | :--- | :---: | ---: |
| No. | Pkg. | Each | Each |
| 20862 | 200 | $11 / 2$ | $\$ 0.53$ |

## GRIP ARMS

Consists of the plain arm with a "U" bolt for clamping same to $11 / 4$ inch (bore) iron piping as used on mast arms, outriggers and brackets.

| List |  | Std. | Tt., Lbs. | Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Finish | I'kg. | Each | Each |
| 20863 | Enameled. | 200 | 13/4 | \$0.70 |
| 20864 | "L" bolt gatsanized | 200 | 13/4 | 79 |

## ECONOMY ARMS

A conmon sense crossarm for use where the insulation is not important. Nimilar to the grip arm, but with sister hook.


## FEATHERWEIGHT SPREADERS

Featherweight spreaders are readily fastened to the wios running to suspension lamps, so as to keep them at a distance of 18 inches from each other. Made of enameled wood, metal tipped, with porcelain insulators. Weighs less than 8 ounces.

| List |  | Std. | $W^{+} \mathrm{t}$. Lbs. | Price |
| :---: | :---: | :---: | :---: | :---: |
| No. | Finish | Pkg. | Each | Each |
| 20865 |  | 200 | $3 / 4$ | \$0.44 |

## GUIDE SPREADERS

Same as the above, with a collar to clasp the suspension cable. Keeps the line wires 18 inches apart and in line with the suspension strand.

| , ist | Finish | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | Wt., Ibs. Each | Price <br> Each |
| :---: | :---: | :---: | :---: | :---: |
| 20856 | Enameled. | 200 | 1 | \$0.70 |
| 20819 | Collar galvanized | 200 | 1 | .7! |

## STRAIN ARMS

As Furnished on Junior and Cadet Mast Arms
Strain arms are made of wrought iron with a cast iron pole plate.

| List | Std. | Wt., | Price |
| :--- | :--- | ---: | ---: |
| No. | Pkg. | Lbs. | Each |
| 20746 | 100 | $81 / 2$ | $\$ 2.11$ |



| List | Std. | Wt. | Price |
| :--- | :---: | :---: | ---: |
| No. | Pkg. | Lbs. | Each |
| 2074 | 50 | 10 | $\$ 3.52$ |

Delivery F. O. B. Factory, South Bend, Ind. For warehouse deliveries write nearest house.

## MARINE SUPPLIES



Junction Box
Nos. 6729-6556Y

Juaction Box Nos. 6679-6556Y


Connecting Block
Nos. 6528-6528A

## WATERTIGHT JUNCTION BOX

## Deep Box with Plain Cover and Gasket

Junction Box. Deep junction or outlet box, $2^{3}$ \% inehes high, 41, inehes in diameter. J"urnished in brass or iron as listed. Ised interchangeably with Ienjamin Junetion and Outlet Box receptaeles and fixture.

Tappings. Box will be furnishod not tapped, unless specifications aerompany the order. An extra charge of is cents net, per outlet, will be made for tapping. All boxes have four concluit bosses spaced 90 degrees, which may be tapped for 16 , $3 / 4$ or 1 inch pipe. One outlet may be tappel, same size, in bottom of box. See page for drilling diagram listed elsewhere.

Cover. IBrass or iron cover is fastened to box by four brass screws.
Gasket. Standard merchant marine gasket makes the box watertight.
Finish. Standard marine blaek.

| $\begin{aligned} & \text { Tist } \\ & \text { No. } \end{aligned}$ | Type of liox | Material | Description |  |
| :---: | :---: | :---: | :---: | :---: |
| 6679 | Deep | Brass | Box complete with eover and gasket. |  |
| 6680 | I eep | Iron | Box complete with eover and gasket. | Prices |
| 6678 | Jeep | 1rass | Junction hox only. | on |
| 6595 | Deep | Iron | Junction lox only. | Irequest |
| $65+10$ |  | lirass | Cover only. | Request |
| 6.511 K |  | Iron | Cover only. |  |
| 65545 |  | Rubber | Gasket only. |  |

## CONNECTING BLOCK

## With Standard Watertight Junction or Outlet Box

Connecting Block. Jigh heat molded insulating material. Fittings are brass. It is provided with extra binding posts for leading out branches. Screw holes are special $1^{3}{ }_{4}$ inches on eenters.

Junction Box. Standard junction or outlet box $119 / 32$ inches high, 416 inehes in diameter. Furnished in brass or iron as ligted.

Tappings. Box will be furnished not tapped, unless sperifieations aceompany the order, An extra charge of 3 cents net, per outlet, will be made for tapping. Box has four conduit bossers spaced on deprees, which may be tapped for ${ }^{16}$, $\frac{3}{4}$ or 1 inch pipe. One outlet may be tapped, same sizes. in bottom of box. See page for drilling diagram listed elsewhere.

Gasket. Standard merchant marine rubber qasket makes the box watertight. Cover. Brass or iron cover is fastencl to box by four brass serews.
Finish. Standard marine black.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Find of Box | Type of Box | Description |  |
| :---: | :---: | :---: | :---: | :---: |
| 6528 | Jrass | Standard | Box complete with cover and eonneeting block. | Prices |
| 6652 | Jron | Standard | Box complete with cover and connecting blork. | on Request |

[^35]
## MARINE SUPPLIES

## DOUBLE POLE SWITCH

With Watertight Standard Outlet Box
Rating, 10 amperes, 125 volts.
$\therefore$ amperes, 2.50 wolts.


Double Pole Switch Nos. 6600-6549A

Structure. Heary and sturdily construeted switeh, with plunger key control. It has surew holes, spaced $1^{3}{ }^{4}$ inches on ecnters for use in standard watertight outlet box.

Switch. Positive, quick arting make and hreak, double pole switeh, breaks on both silles of circuit at two points. There is ample separation between points of opposite polarity. ('urrent carrying parts are heary and there are extra binder posts to take off taps. Can be made Single Pole ly jumper ronnection.

Insulating Parts. High heat molded insulating material. Fistings are brass.
Outlet Box, Standaral junction or outlet box $19 / 32$ inehes high. $41 / 2$ inches in diameter. Furnished in lirass or iron as listed.

Tappings. Jhox will be furnisherl not tapped, unless specifications accompany the order. Au extra charge of 3 cents net, per outlet will be uade for tapping. All boxes have four conduit boses spacel 90 dearees, which may be tapped for $1 / 2,3 / 4$ or 1 inch pipe. One outlet.may be tappel, samo sizes, in bottom of box. See page for drilling diagram listed elvewhere.

Gasket. Standard mermant marine rubber gasket makes the box watertight.
Cover. Brass or iron rower is fastenell th hox hy four brass serews.
Finish. Standard maritue black.


## TWO PLUG FUSE RECEPTACLE

## And Connecting Block with Watertight Outlet Box

Receptacle, For Edison Plug Fuses only. Receptacle has approved rating for the use of pluy fuses up to 30 amperes capacity. Fouses are not furnished. Receptade has base of high heat molded insulating material, with fittings of brass, and usid only with Tenjamin Connerting Blork as shown in illustration.

Outlet Box. Stamaral junction or outlet hox $119 / 32$ inches high, $4 \frac{1}{2}$ inches in diameter. Furnished in hrass or uron as listed.

Tappings. Lbox will bo furnished not tapued, unless specifications aceompany the order. In extra charge of is cents net, per outlet, will be made for tapping.
 1 inch pipe. One outlet may be tapped, samesizes, in bottom of box. Sce page for drilling diagram listed elsowhere.

Gasket. Stamlarel merehant marine rubher gasket makes the box watertight.
Cover. llasass or iron concer is fastemed to box bi: four hrass serews.
Finish. Etandaril marine hlach.
List No. Kind of Jox Jescri;tion

| (6450) | lirass | Jox with two plug recoptarlo and eonnecting block onl:. | I'rices |
| :---: | :---: | :---: | :---: |
| 60\% | Iron |  | on |
| (6i2) ${ }^{\text {a }}$ |  | Conl | Request |
| (3225) |  | Fune rernitatle onty. |  |

## WATERTIGHT ATTACHING PLUGS

## Swivel Connector for Screw Base Receptacle

## Capacity 660 Watts, 250 Volts

Metal Parts. Cast brass boty and swivel ring.
Insulating Parts. High heat molded insulating material.
Cord Grip. Chuck jaw erip, 15 '32 inch diameter elosed, $\frac{1}{2}$ inch open.
Finish. Standard marine black.
Gasket. Watertight cablegland is of soft rubber. Standard merchant marine gasket in swivel ring seals opening when attached to outlet.
List No.
Deseription
6537.1 For screw base receptacle

Prices on Request
Note: When ordering specify size of conduit and number of outlets required.

## MARINE SUPPLIES



Attaching Plug No. 65.31 A


Lever Key Receptacle Nos. 6658, 6537A

T. P Plus Receptacle Nos. 6599, 6531.

## WATERTIGHT ATTACHING PLUGS

## Swivel Connector for Three Pole Receptacle

Metal Parts. Cast brass body and swivel rine.
Insulating Parts. High-heat molded insulating material.
Cord Grip. ('hurk jaw grip, ${ }_{5}^{5}$-inch diameter closed, 12 inch open.
Finish. Standaril marinc black.
Gasket. Watertight cable gland is of soft rubber. Standard merehant marine gasket is swivel ring seals opening when att:uhed to outlet.

List No.
Description
(i331.1
Vor threc pole receptarle. $\qquad$ Prices on request

## SINGLE KEYLESS OR LEVER KEY RECEPTACLE

## With Watertight Outlet Box

Receptacle. I.ewer key or keyless recoptarle has base of high-heat molded insulating material. Fittings are brass. sorew holes are spaced 13 íh inehes on renters to fit standarl junction lox.

Outlet Box. Stantard junction or outlet box $1 \frac{19}{3}$ inches high, $4 \frac{1}{2}$ inches in aliameter. Furnished in brass or iron, as listed.

Tappings. Box will lee furnished not tappel, unless sperifications accompany the order. An extra eharse of 3 eents net, per outlet, will be made for tapping. Fox has four conduit bosses spaced $90^{\circ}$, wheh may be tapped for 1 , 3 , or 1 inch pipe. One outlet may be tapped, same sizes, in bottom of box. See page for drilling diagram listed elsewhere.

Gasket. Stamard merchant marine rubber gasket makes the box watertirht.
Cover. Brass or iron cower is fastened to hox by four brass serews.
Finish. Standard marine black.

| Jist No. | Kind of Box |
| :---: | :---: |
| (5091i | Brass |
| fitit | Iron |
| (ithox | 13rass |
| 64ta! | Iron |
| 6537 A |  |

## THREE POLE PLUG RECEPTACLE

## With Watertight Outlet Box

Receptacle. Three pole reoptacke has base of hiph-heat molded insulating material. Fittings are brass. Catalog numbers do not include plug exeept as sperified

Outlet Box. Standarl juntion or outlet box $1 \frac{1}{2}$ inches high, $41 / 2$ inehes in diameter. Furnished in brass or iron ats sperified.

Tappings. Box will be furnished not tapped, unless specifieations aceompany the order. In extra charge of 3 cents net, per outlet, will be made for tapping. Box
 One outlet rasy te tapped, same sizes, in hotom of hox. sice page for drilling diagram listed clsewhere.

Gasket. Standard merehant marine rubber gasket makes the box watertight
Cover. lirass or imon rover is fastened to box by four brass serews.
Finish. Ftandard marinc black

| List No. | Find of Box | Deseription |  |
| :---: | :---: | :---: | :---: |
| 6590 | Brass | Thux with three pole plug receptarl |  |
| 6609 | Iron | Rux with three pole plug reeeptach |  |
| $65^{5} 31 \mathrm{~A}$ |  | Three pole plus only. | quest |

Note: When ordering. sperify size of conduit and number of outlets requiral.

## MARINE SUPPLIES

## DOUBLE KEYLESS RECEPTACLE

## In Watertight Outlet Box

Receptacle．Double keyless recoptacle base is of high heat molded insulating material．I＂ittings are brass．

Plug．Attarhment Ilur No．（535－A fits this recentach
Outlet Box．Standard junction or ouslet hox $1 \frac{18}{2}$ inches high，f16 inches in ciam－ ＂tor．Furnished in lirass or iron，as listed．

Tappings．Box will be furnished not tapped，unless specifications arcompany the oriler．An extra charge of 3 cents net per outlet will he made for tapping．Box has four ronduit lyosses spaced ！ $0^{\circ}$ ，which may be taphed for ！ 3 ， 3 or 1 inch pipe．One wutet may be tapped，same sizes，in hottom of hox．

Gasket．Standard merchant marine rubber gasket makes the box watertight．
Cover．brass or iron cover is fastened to box by four brass serews．
Finish．standarl marine black．

| $\begin{aligned} & \text { Iist } \\ & \text { Nion } \end{aligned}$ | kind of bux | Description |  |
| :---: | :---: | :---: | :---: |
| 6507 | Brass | Box eomplete with double reepptaele | Prioc |
| ${ }^{186 \% 3}$ | Irom | Bux complete with clouble reseptucle |  |

## FLUSH PLATE AND RECEPTACLE

## For Watertight Outlet Boxes

Structure．This is a large ant iron rower fid inches in diameter，designed to com－ pletel．e cover outlet box openimgs ame make with gasket a watertight joint with Denjamin jumetion or outlet boxes．

Receptacle．Rereptacle is of hidh－heat molded insulating material．littings are brass．

Finish．Standard marine black．


## WATERTIGHT MARINE BUZZER

## Howler Type

Structure．W：atertioht，desinned for heavy duty．Ifas catra lomil tone for uso in


Bulkhead Mounting crow＇s nest，or where othor noises woult！seriously interfore with weaker sisnal．
soll brass rasin＂with heary cold rolled steel front．Metal parts are heavily＇copper plated．Merhanism is impregnated with sterling varnish．
linder serew ronnectors．Gelflorking rontart screw．（ienuine roin silver rontarts， 3́ incla diancter．No contart required on $A$ ．C．

Mounting，Provided with flat surface for bulkhead mounting or with sperial bracket for attaching to hand rail．

Tappings．Furnished tapped for lé inch pipe．
Circuits．Furnished for either A．C．or 1）．（\％
Voltages．Standard： 10 aml 20 volts．Special orders up to 110 volts，A．C．or D．C．，inclusive，at no alvance in prise．

Finish．Standard Marine linack．

| I ist Nu． | Casing | Mounting | Type | Std． <br> 1＇店边。 | Std． Voitage |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Irass | Mand rail | D．C． | 10 | $10 \& 20$ | Prices on |
| 8402 C | 13riss | Izulkhead | D．C． | 10 | 10 \＆ 20 | request |

[^36]
# MARINE SUPPLIES 



Watertight Breast Buzzer
No. 8370B


Watertight Bells Nos. 8378-3-8415-8

# SALVO OR WATERTIGHT BREAST BUZZER 

## Navy Standard Type

Structure, Designed strictly for navy use. Absolutoly watertight, compaet, light, strons, durable.

Folid hrass boly and cover. Attaching harness eonsists of atjustable leathor nevk and body straps and can be worn for extended geriods without diseonfort

Connerting cord enters rase through specially designed stufing box. Contarts are genuine coin silver, $\frac{1 \times}{}$ inch dianteter

Circuits. Battery and ]). (. only.
Voltages. Standard voltages for 6,10 and 20 volts, 1).C.
Furnished for voltages up to 120 volts. 1) (... inclusive, on special orders.

Finish. stantard marime black.

| List |  |  | Std. | Strl. |
| :---: | :---: | :---: | :---: | :---: |
| No. | Type | ( asing | Voltige | 1'kg. |



## WATERTIGHT BELLS

## Navy Standard Type

Structure. Watertight and rugged. Furnished in either vibrating or single stroke type. Tapper rod has waterticht stuffing box. Meehanism of bells entirely insulated from catse. Bimler plate type conmertors are casily arepsible.
("ontarts are penuine coin silyer, is inch diametor. Npringe arebest arade phowphor bronze, mounted independent of armature. Contact screws on vibrator trope are self lucking.

Tappings. Furnished trpped for $1 \frac{2}{2}$ inch pipe conncetions.
Circuits. Battery and 1).C. cireuits mily. Thesebells operate on an exceedingly low rurrent flow.

Voltages. Standard for 6,10 and 20 volts, IJ.C. Furnishod, on sperial orders, for woltazes up to 120 wolts, I. ( ${ }^{\circ}$. indusive.

Finish. Hell finished in black niekel. Standard marimeblack case.

| I.ist No. | Size <br> Gong | Type | ('ising | Stil. <br> Voltages | St.sl. Pkg. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8378.3 | 3 ins. | Vibrating | 13「:3.ss | (3, 10, 20 | 10 |  |
| 8378-6 | ( ins. | Vibratime | 13 ras | 6, 10, 20 | 10 | Prices |
| 8:378-8 | 8 ins. | Vibrating | 13 rasm | f, 10, 20 | 10 | on |
| 8115-3 | $3 \mathrm{ins}$. | Singlestroke | 1 1rass | 6, 10, 20 | 10 | request. |
| 8+1.-6 6 | 6 ins. | Singestroko | 13 rass | 6, 10, 20 | 10 | refues |
| 8115-8 | 8 ins. | Single stroke | 13:ass | (6, 10, 20 | 10 |  |

## * NON-WATERTIGHT BELLS

Structure. Similar in arrangement to watertight bells, exeept that gasket between casing and cover and the watertight stufting box for tapper rod are onnitted. Iron Casing. Three attaching lugs. Merhanism insulated from case, Hinder plate connertors, easily arcensible.

C'oin silver contarts, 1/ inch diameter. Contart springs are best grade of phosphor bronze, mounted independent of armature. Contact screw is self locking on vibrator type.

Tappings. Fumished for $1 / 2$ inch pipe eonnection.
Circuits. Battery and D.C. circuits. Benjamin bell meehanism operates on very small current flow.

Voltages. Standard voltages are for $f, 10$ and 20 volts, D.(', Furnished for $1 \mathfrak{p}$ to 120 volts, D.C., indugive, on sper iat orders.

Finish. Bell finished in black nirkel. Standard marine hark ease.

| I.ist | Size |  |  | Sta. | Sul. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ciong | Type | Casing | Voltarges | Pkr. |  |
| $8120-3$ | 3 ins. | Vibrating | 1 ron | f. 10, 20 | 10 |  |
| 8.420 - ${ }^{\text {8 }}$ | (i) ins. | Vibrating | Iron | $(6,10,20$ | 10 | I'ric¢\% |
| 8.420-8 | 8 ins. | Vibratiag | Iron | 6, 10, 211 | 10 | 10 |
| 8421-3 | 3 ins. | Siucle stroke | Iron | 6, 10, 20 | 10 | regutest |
| 8121-1; | 6 ins . | Singlestroks | 1 ron | (6, 10, 20 | 10 | romes |
| 8421-8 | 8 ins. | Simgle stroke | Iron | 6, 10, 20 | 10 |  |

MARINE GONG-MONITOR TYPE

## Non-watertight

Structure. Rugged and powerful non-watertight vibrating hell. Special design


Marine Gong-Monitor Type
and unit type merhanism, interchangeable in our standard rusings. Novement is of plunger type adjustable for rapid or slow vibration.

Casing. Iron, with three attaching lugs.
Tappings. Furmished tapped for la inch pipe eonnertions.
Insulation. Mechanism is entirely insulated from case.
Connectors. Binder screv type and are casily arcossible.
Contacts. Genuine coin silver, $\bar{x}$ inch in diameter.
Contact Springs. Best grade of phosplor bronze, independent of armature.
Contact Screw. Is self lorking on the vibrator type.
Circuits. Battery and D.C. only. Benjamin bells operate on economical consumption of eurrent.

Voltages. Standard voltages are for 6, 10 and 20 volts, D.C., but they may he furnishom wound for sperial voltaqes up to 120 volts, I). (C., inclusive, on surcial order.

Finish. bell is finished in black rickel. Case is stamlarl marine black.
MARINE GONG-MONITOR TYPE

| $\begin{aligned} & \text { Jist } \\ & \text { No. } \end{aligned}$ | Size of Ciong | Casing | Std. <br> Voltages | $\begin{aligned} & \text { Stil. } \\ & \text { I'kg. } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 8118-3 | 3 ins. | Iron | (3, 10, 20) | 10 | Pricres |
| $8+18-6$ | (j) ins. | Iron | 6, 10, 20 | 10 | OH |
| 8118-8 | 8 ins. | Iron | 6, 10, 20 | 10 | raquent |

Quantity Prices
Quoted on Request


Watertight Bulkhead Buzzer No. 8416A

## MARINE SUPPLIES

## WATERTIGHT BULKHEAD BUZZER

## Navy Standard Type

Structure. Watertighin and rugged, alesigned to withstand severest service from artion of elements, vibration of ship aml hard usare.

Casing and cover aresolillhrass or Nary Standard B. E. metal throughout. Standard merchant marine rubber sasket makes deviee watertipht. Three attaching lugs.

Bincler plate connectors. (ienuine coin silvor contacts, I's inch diameter.
Tappings. Furnished tapped for lía ineh iron pipe connection.
Circuits. For battery and I.C. current onls.
Voltages. Standard voltages for 6,10 and 20 volts, D.C. Supplied on spreial orders for voltages as high is 120 volts I). C', inclusive.

Finish. Standard marme blark.

| List No. Fype | Casing | Voltage | Std. I'kg. |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $8110 . \mathrm{F}$ | Watertight | lBrass | $6,10,20$ | 10 | Prices on request |



Angle Bulkhead and Wall Fistures
Nos. 6664, 6665


Angle Bulkhead and Wall Fixtures
Nos. 6648, 6649

## NON-WATERTIGHT BULKHEAD BUZZER

## Navy Standard Type

Structure. Non-watertight. Design is similar to No. 8.40 .1 watertight buzzer, but has no gasket between top plate and body.

Body and cover are iron. ("over fastened by four brass screws. Threc attaching lugs.

Binder phate connetors. Genuine coin silver contacts, is inch diancter.
Tappings. Furnished tuppen for tá inch pipe connertion.
Circuits. For battery and 1 . C $^{\circ}$. (-urrent only".
Voltages. Standard voltages for 0,10 and 20 volts, D.C. Supplied on special arter for voltages as high as $\mathbf{1 2 0}$ volts, I. C.., inclusive.

Finish. Standard marine black.

| Inist |  |  | Std. | Std. |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. | Type | (*asing | Vultage | Plyg. |  |
| 8417A | Non-watertight | Iron | $6,10,20$ | 10 | Prices on request |

ANGLE BULKHEAD AND WALL FIXTURES
Watertight Type with Key Recep acles
Two-piece $90^{\circ}$ Angle Mountiug
Metal Parts. Brass or iron, as specifiel. Realarly furnished without junction box.

Fitting. Cast brass, wotertight right angle flaure. Fits standarl junction box shown and listed elsewhere.

Receptacle. Kiey type. Jase is ligh-heat moldel insulating material. Fittings are brass.
 not furnished.

Globe. Heay screw globe, wear, ronghed insidu, ruby or navy blue, as specifich.
Guard. Extra heayy lrass protecting guard. Navy standard.
Finish. Standard rnarice black.

| İist | Metal | Kind of |  |
| :---: | :---: | :---: | :---: |
| No. | P'aras | Rereptande |  |
| 6664 | Brass | Kiry | lerimes on |
| 6665 | Irun | hey | reabent |

## ANGLE BULKHEAD AND WALL FIXTURES

Watertight Type with Keyless Receptacles
Tow-Piece $90^{\circ}$ Angle Mouting
Metal Parts. Brass or iron, as spedifiel. Regularly furnished without junetion box.

Fitting. Cast brass, wathertight, right angle flange. lits standard junction box shown and listed clsewhere.

Receptacle. Keyless tope. Base is high-heat molded insulating material. Fittings are hrass.

Lamps. Jamps reomanended are 40 to (io) watt Mazula 18 and 7.5 watt Mazala (:, not furnishel.

Globe. II eavy screw globeckear, roughed inside, ruby or may bhe, as suceified.
Guard. I'stra heavy bross protecting fuard. Navy standard.
Finish. Standard marine black.

| Jist | Mretel |
| :--- | :---: |
| No. | Purts |
| 66.48 | Brass |
| 6649 | Iron |

Kind of
Receptacle
下eyless
Keyless

Prices on request


Watertight Angle Fixture
No. 6584A


Angle Fixture Keyless Type
Nos. 6584E, 6656

## WATERTIGHT ANGLE FIXTURE

## With Lever Key Switch for Bulkhead or Wall One Piece $90^{\circ}$ Angle Mounting

Fixture Body. $90^{\circ}$ angle, une-picec bracket body is of brass or iron, as specified. Fits standard junction box as shown. Receptacle. I.ever key type. Bases are made of high-heat molded insulating material. l"iteings are brass.
Lamps. Lamps recommended are 10 to 60 watt Mazda 13 and $\overline{5} 5$ watt Mazda C, not furnishel.
Globe. LIeavy, serew glohe, clear, rourhed inside, ruby or navy bluc.
Guard. 18xtra heary brass protecting guards, nay standard.
Finish. Standard marine blark.

| I.ist | Mral | kind of | Not Weight |  |
| :---: | :---: | :---: | :---: | :---: |
| Nu. | l'irts | leceptacle | J.ach, I.hs. |  |
| (1.)84A | Irass | Key | (1) | Jrictes on |
| (it) ${ }^{\text {d }}$ | lron | Key | (1) | request |

## WATERTIGHT ANGLE FIXTURES

## Keyless Type for Bulkhead or Wall

ONE PIECE $90^{\circ}$ ANGLE MOUNTING
Fixture Body. $90^{\circ}$ angle one piece bracket looly is of brass or iron, as specified. Fits standard junction box as shown. Receptacle. Feyless type. Wases are made of hiph heat molded insulating material. Fittings are brass. Lamps. Iamps recommended are 10 to (6) watt Mazda " $B$ " and 75 watt Mazda "C," not furnished. Clobe. Heary, serew glaice, clear, roughed inside, ruby or navy blue.
Guard. lixtra heavy brass protecting guards, navy standard.
Tappings. Box will be furnished not tupped, unless specifications accompany order. Add is echts net, per outlet. estra for tapping. Box has four conduit bosses spaced $00^{\circ}$ which may be tapped for $1 / 3,3$ or 1 ineh pipe. Une outlet may be tapperl, same size, in bottom of box. See listing elsewhere for drilling diarram.

Finish. Standard marinc black.

| $\begin{aligned} & \text { I, ist } \\ & \text { No. } \end{aligned}$ | Metal <br> larts | Kind of Receptacle | Net Wright Each, L.bs. |  |
| :---: | :---: | :---: | :---: | :---: |
| $6.5 \mathrm{SHE}$ U650 | T3rass Iron | Keyless Keyless | $\begin{aligned} & 09 \\ & 00 \end{aligned}$ | Irices on lequest |

When ordering, specify size of conduit and number of outlets required.


Guarded Drop Fixture Keyless Nos. 6575E, 6575G


Gwarded Trop Fixture Key Type Nos. 6575N, 6575C


Key Type Watertight Fixture No. 6565, 6654

## GUARDED DROP FIXTURE Watertight With Screw Globe Guard <br> KEYLESS TYPE

Metal Parts. 13rats or iron borly, tapped for ${ }^{1} \frac{1}{2}$ or ${ }^{3}$ in inch pipe, as specifici.
Receptacle. Weyloss rewotacle of molded insiantime material. Firtings are brass. Gasket. Siandard morblunt marine gasket makes fixture watertight.
Lamps. Jamps roommendel are 40 to fiow watt Mazala 13 and $\% 5$ vatt Mazda $C$, not furnished.
Globe. Heary serew plole, flear, rourhed insible, ruby or nasy blue, as specificd.
Guard. Listra heavy bra, protecting ghards, navy standard.
Finash. Estandard marine black.

| $\begin{aligned} & \text { Iist } \\ & \text { Non }_{0} \end{aligned}$ | Metal D'arts | Kind , f Rereptacle | Not Werisht. Find. l.ts. |  |
| :---: | :---: | :---: | :---: | :---: |
| (575) 15756: | $\begin{aligned} & \text { I:rans } \\ & \text { Irom } \end{aligned}$ | Keyless <br> Kicylegs | $\begin{aligned} & 101 \\ & 1101 \end{aligned}$ | Prices ont requme |

## KEY TYPE

Metal Parts. l3rass or iron body, tapped for ! or ${ }^{\prime}$ inch pipe as sperifiod
Receptacle. Kiey receptirle of moldea ins ilating material, Fittinas are brasm
Gasket. Sandard merchant marine gasket makes fixture watertirht.
Lamps. lamps recommendel are 40 to (60) watt Mazila 13 and 7.5 watt Mazda ('. nut furnishe $\mid$
Gamps. Hempy surow slohe, clear, roughed mside, ruby or nawy bluc, as specifiod.
Guard. Fixura heavy brass protecting guaris.
Ginard. Exandard marine black.

| list | Meta! |
| :--- | :---: |
| Fo. | Inrts |
| fi.375A | Trass |
| 6.375 C | Jron |

> Kind of Receptarle
> Kry Socket Trp

S゙. W Wight.
Fithol, I.has.

Key sueket Tipe
011
Priees m
request

## WATERTIGHT FIXTURES

## Key Type with Screw Globe and Guard Junction Box Type for Ceiling or Bulkhead

Junction Box. Standard junction box, of larass or iron, as specified, Brass or iron "xtension ring. thrmod for globe and guar 1 , is fastened to box by four hrass seremp. Derehant marine rubber gasket makes fixture waturaght.

Socket. L.wor switrh key two with hase of high dat molrled insulating material. Fitting are brass.
Lamps. Lannss rocommended are 40 to 60 watt Mazda "B" and 7.5 watt Mazda "C," not furaishotl.
Globe. Heary, serew glohe, "lear, roughed insinle, ruby or navy blue.
Guard. Eatrib heavy hrass protecting guarl, navy standard.
Tappings. Box will be furnished not taprod, unle:s sperifications accompany order, Adel 3 cemis net. per outlet. extra for tapging. Box has four comluit bosses spacel go cerrees, which may he tapped for ! é, 3-4 or $]$ inch pigr. (hme outlet natrat he pappetl. same sizes, in bottom of box. Zee listing elsewhere for drilling diagram.
nay Finish. Standard marine black.

| İst | Kind of | Typre of |
| :--- | :---: | :---: |
| No. | Box | Socket |
| 6565 | Jrass | Key |
| 6654 | Irou | Key |

When ordering, specify siza of conduit and number cif outlets renuired.


Junction Bux Type For Ceiling
Nos. 6586-6655


Marine Lland Portable No. 6416-A

## WATER TIGHT FIXTURES <br> Keyless Type with Screw Globe and Guard

Junction Box. Star lard junction dox of brass or iron, as specified. Brass or iron extension ring, threaded for plobe and guard, is fastened to 1 x by four lrass screws. Merehant marine rubber gasket makes fixture watertight.

Tappings. Jox will be furnished not tapped, unless specifications aceompany order. Add 3 ecnts net, per outlet,
 may be tapped same size in bottom of box. Sue listing elsewhere for drilling diagram.

Socket. Keyless typ wit' base of hith heut molded insulating material. Fittings are brass.
Lamps. Lampa icconmentel are 41 to (is) watt Mazda " $B^{\prime \prime}$ " and 75 watt Mazda " $C$," not furnished.
Globe. Heavy, sorew globe, clear, rousher! irside, ruby or navy blue.
Finish. Standart msy ne brack.

| I ist | Kirit of |
| :---: | :---: |
| No. | lese |
| 6 686 | Brasy |
| 6 6 | Ircil |

Type of
Socket
Keyless
Feyless

Net Weight
Each, Lhss.
00
(0)

Prices on
Request

When ordering, suecify size of conduit and number of outlets reguired.

## MARINE HAND PORTABLE

Construction. Portable is substartially marle in order to be used wherever safety demands a temporary waterproof light and protection against ignition or iutammaje gases and liquids.

Metal Parts. Metal parts are o: brets.
Handle. Hardwood sandle which contains watertight stuffing gland for cable.
Socket. Base is of high heat mokled insulating material. Fittings are brass. Kieyless type.
Gaskets. Standard merchant marine ruhber gasket.
Globe. Heavy glass, with navy standari thread. Furnished with clear glass, frosted inside, navy blue or ruby as specified.

Lamps. Lamps are not furnshel. 40 to 60 watt Mazda "B" or 75 watt Mazda "C" may be used.
Finish. Standarlmarine bliek


Lever Key Twin Receptacle Nos. 6488, 6537A

## LEVER KEY TWIN RECEPTACLE

## With Watertight Outlet Box

Outlet Box. Special two rectetacle box, brass only.
Tappings. Box will be furnished not tapped, unless specifirations arcompany the order. An eatra charge of 3 eunts net, per outlet, will be made for tapping. 13 ox has two conduit bosses spaced 90 degrees, which may be tapped for $\frac{1}{2}$ or 3 inch pipe.

Gasket. Standarl merchant marine gaskets make the fixture watertight.
Cover. Brass cover. Fastened to box by four brass screws. Closing caps are threaded and made tight hy rubber gashets.

Receptacle. Ieverkey recertacle bases are of high heat molded insulating material. Fittings are brass.

Plug. Attachment Plug No. $\{5337$, Ifits this receptacle.
Finish. Standaral marine blark.

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | kind of lisox | Description |
| :---: | :---: | :---: |
| 6488 | Brass | Complete with twin lever key receptarle, no plug. . ${ }^{\text {a }}$ Pric |
| 66it) | Iron | Complete with twin leverkey receptacle, no phic. . . Request |
| $65 \overline{37} 1$ |  | Swivel plug only . . . . . . . . . . . . . . . . . . . . . . . . . . Request |

## HIGH VOLTAGE PUSH BUTTONS

## Watertight, Single Gang

Casing. Box is of brass or iron as listed.
Cap. Hexagonal cap is threaded for connertion to box.
Casket. Waterpronf raw-hide gasket covers button and renders the device completely watortight.

Mechanism. Batton mechanism is heary and sturdy in construction. Base is of high heat molded insulating material and fittings are of heavy bras. Action is of quick make and break trpe and is positive so that operator never in doubt about the con mpletion of signal. Mechanism is for lityh or low voltage circuits carrying inductive loads, and is interchangeahle on all Benjamin High Foltare lbuttons.

Connectors. Binder serew type, casily aceessible.
Tappings. Regularly furnished tapped for 3 inch pipe connections, oneway unless otherwise sperifed, but 3 inch tapping may be ordered without change in price. Joxas will be tapped 1,2 or ${ }^{3}$ inch, two way, without change in price if so specificd in order.

Finish. Standarl marine black.

| List N゙o. | Casing | Connection |  |
| :---: | :---: | :---: | :---: |
| 8374A | Bress | 3/3inch pipe | Primes on |
| 837413 | Iron | 1/2 inch ptue | Request |

## HIGE VOLTAGE PUSH BUTTONS

## Non-watertight

For Side and Fiear Conduit Entrance, Single Gang Only Casing. Brass or iron as listed.
Cap. Brass eap, threded for connection to box.
Mechanism. Hutton merhanism is heavy and sturdy in construction. Base is of hiph heat molded insulating material and fittings are of heavy brass. Action is of quick mat e and break type, and is positive so that operator is never Action is of quak mate completion of signal. Mechanism is for high or low voltage in doubt about carrying inductive loads, and is interchangeable on all Benjumin High circuits "arrying

Plunger. Plunger is normally below the surface of the cap so the button cannot be fucidentally operated.

Connectors. Binder screw type, easily accessible.
Tappings. Side entrance box is regnlarly furnished tapped for $1 / 2$ inch pipe commections, but ${ }^{3}$. in .h tapping may be ordered without change in price. Sille entrance box will be tapped $\frac{1}{2}$ inch or $3 / 4$ inch, two-way, without change in price if so specified ir order. Box with rear entrance will be furnshed tapped fur inch pipe connection.

Finish. Standard marine blark.

| Jist No. | Casing | Entrance | Connection |  |
| :---: | :---: | :---: | :---: | :---: |
| $8434.1$ | Trass | Side | 1/2 inch pipe | P-prices on |
| $843+13$ | Iron | Side | 1/2 inch pipe | Prices on |
| 8413A | Ifrass | Rear |  |  |
| 8413B | Iron | Rear | \%2 inch peo |  |



## 2, 3, and 4 gand

Casing. Brass or iron as listed.
Cover. Brass or irnan cover is fastened to hos with hrass serews
Gasket. Waterproof raw-hide gasket covers button and render: the dovice completafe waturtight.
Mechanism. Jutton merhanism is heary aml sturdy iu construction. Jase is of high hest molled insclating material and fittings are of heary brass. Aetion is of guick make ans break type and is positive se that operator is ncuer in doubt about the completion of sugal. Mechanism is for high or low voltage circuits carrying induchive loals, and is interchangeuble on all Benjamin high volagotruttons.

Connectors. linder scren type, easily accossible.
Tappings. Regulaty furnished tapped for 12 inch pipe connections, whe was, wut 并 ineh tapping nay be ordered without change in price. Box will be tapped ': inrh or ${ }^{3}$ inch, two wet, without change in price if so speciferl in order. Finish. Stanlard marine black

| I.ist No. | Erit | Casing | Connection |  |
| :---: | :---: | :---: | :---: | :---: |
| 8371 C | 2 gang | Jriass | ${ }^{16}$ inch pipe |  |
| 8:37413 | 2 ptang | Iron | , inch pipe | Prices |
| 8.3714 83714 | 3 grang | Firisis | ía inch pipe | on |
| 837119 | 3 grang | Iran lirios | 1\% inch pipe | Repuest |
| 837411 | 4 ginne | 1.ratis | , mich pipe |  |

When orderine spectiy size of conduit and number of outlets reguired

## MARINE SUPPLIES

DRILLING DIAGRAM AND TAPPING CODE


Tapping. Bonjamin Junction or (huthet boxes aro furnishom not tapped unhes sumperifich. Jhoxes have four bosses,


Code. For convenience in specifying, a simpheroble hasen budoted, under which, outlets as shown in diagram above, are marked for position only as $1,2,3,4$ and 5 . It is important that the position of these numbers, rolative to the position of the key, be kept in mind when sperifying sizes of outlets for juntion boxes listed with key receptarle. Code is as follows:


```
No tapping. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ..... |
```

[^37]
## MARINE FIXTURES AND PORTABLES



No. 1525


No. 1527
CONDUIT TYPE


No. 1600
Idist Price Eilch \$4. 6 5.36 5.36 B. 16 111.8
11.12
11.12
13.44

JUNCTION BOX TYPE









BRACKET TYPE





1683 For


All above fixtures and boxes can be furnished in hriss.


No. 422


No. 517

$$
10-2
$$

No. $\$ 77$

No. 445


No. 473


No. 427


No. 446

## Hand Portables

WATERTIGHT

list No


## NON-WATERTICHT


474 Brass hase with brass rount wire muard, 40 watt . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5 . 30
 Delivery F. O. 13. New lork City. lor warehouse deliveries write nearest house

Quoted on Request
Western Electric
499

## MARINE OR STEAMTIGHT FIXTURES With Screw Globes



No. 411


No. 405


No. 404

CONDUIT TYPE
All of the following have a heaw brass hase. flat hrass wire ghard. Nurew ghobe suats on rubluer faskot.


## JUNCTION BOX TYPE

Ileavy brass hase fixture mounted on 4 inch round iron sunction hex. Flat brass wire guard
lirass junction hoves can be furnished for the above.

## WALL BRACKET TYPE



Brass junction boxes can be furnished for above.


No. 416


No. 1470


No. 372


No. 470


No. 467


## RECEPTACLES AND PLUGS



No. 121


No. 6.5


No. 68


No. 80


No. 14

# Receptacles and Plugs for Interior Use 

10 AMPERES, 250 VOLTS
Fits all stambarl switch boxes. With phag ..... 82.41
Fits all standard 4 inch diameter ontlet boxes. With plug
4.8 .1
4.8 .1 ..... 5. 78
Weathorproof recepptacle in 4 inch iron box. With plug
Weathorproof recepptacle in 4 inch iron box. With plug
(0) angle type receptacle eomplete with phag. ..... $3.7 \div$
llug only for all of the abowe fittings ..... 74
15 AMPERES, 250 VOLTS
65 Fits all standard switch boxes. With phig ..... 50.24 ..... 4.4566

- gantr recepaclo for 4 anch round box eover to have 23 inch diameter opening. Complete with phes. ..... 3.96
Sume as 6 , only single. With plugs ..... 2.70
30 AMPERES, 250 VOLTS
80 ..... 84.94

1.6 .
1.6 .
56 3 wire, polarity type. fits strl. switch box. With pug ..... $\therefore .48$
57 :3 wire plug only ..... :3.54
152 3 wire, hatw non-rev
(omplete with phar.264.4
Plug omly for No. 1:2 ..... 4.94
60 AMPERES, 250 VOLTS
Non-rewersible type. In irombox. With brass owerhang eower, complete with phag ..... 821.40
Plug only for No. 14 ..... 4.9Foits $t$ inch square ounhet hox. With plug$11.81 \%$
:is we, non-reversible. Heary duty type in iron box with brass overhang cover. With plag. ift if l'lug only

Floor Outlet Type
Nos. 61, 170 to 175 for Use With 1900 Fittings
W. E.

List Price
List
No.
61
170
17 I
172
173
174


One outlet, simgle remptacle in brass box. With pheg

\$4.97

One outlet. donble receptacle in brass box. With phuss

175 Single receptacle in brass box with ears on side for fasteuing on rail or bank screern. With phing. 5.78
 Delivery F. O. B. New York City. For warchouse deliveries write nearest house.


No. 143


## No. 142



No. 72


No. 2


No. 85


No. 13

## Weatherproof Heavy Duty Working Receptacles and Plugs 60 AMPERES, 125 VCLTS <br> List

Price lach

Two gang, shnilar to No. 1-1:\%, ..... 30.88
Phug only for Nos. 143 and $14 t$ ..... 5.44
Heary poretain non-reversible memptale in heary iron bwx. Heary comprizion phag with hardwoon handle. ..... 21.80
Battery charging recepacle, Similar to No. 71 with non-short circuiting sheve on phg. 23.60Angle type similar to No. 7125.44
3 WIRE. 30 AMPERES \& 60 AMPERES, 250 VOLTS
3) ampere, ron-reversible slate receptache in iron hox with mever for exposed work. With phag \$25. It
60 ampere, non-reversible slate recentacle in iron box with iron cover. With plug. ..... 33.70
3 WIRE 75 AMPERES, 250 VOLTS
Heary slate receptacle in iron box with iron cover. For exposed work. ('onnosition plug with harnwood latudle ..... $\$ 30.88$
Same as $\mathcal{N o}$. 485 , with two extra 10 ampre watoright rownacles in same box. complete with phugs
3 WIRE. 100 AMPERES, 250 VOLTS
Ileavy slate zeceptade in irm has with cover for exposed work. With phag ..... \$15. 68
whage hattery car type. With box for mounting under cor. With plug haveng non-short- carcuitingsleeve. ..... 53.98
Floor Receptacles
60 AMPERES, 125 VOLTS
Porcelain roceptacles in iron box with brass cover, cap and cone. (omplefe with plug.
Price lach
30 ampere slate receptacle in mon box with brass cover, c:lp and cone. box 4 inches dismeter. With plug. ..... $\$ 39.06$
60 ampere, slate receptacle in 5 inch diameter iron box with brass cover, wap and cone. With plug. ..... 38.14
100 AMPERES, 250 VCLTS
Slate receltide in iron box with brass coser, (ap) and cone.
Withplug\$45. 68
Heavy emmmaition receptacks in iron box with brass cover, cap and cone, with non-revers-ible comprsition plug.89.9 S
Same as Xc. $\because$, in tinch square hox with square cover. With plug. ..... 9.98
3 wire receptacle, sume as No. 2, Withplug. ..... 12.70
3 wire respacle, stme as No. 23. With phug. ..... 12. 70
50 AMPERES, 125 VOZTS
Stage pocket. Heary porcelain receptacle in iron box and cover. With plug. ..... $\$ 18.16$
13232.70Delivery F. O, B. New York. For warehouse deliveries write nearest house.

## CONNECTORS, MARINE SWITCHES AND RECEPTACLES




No. 90


No. 495


No, $9 t$


No. 480


No. 448


No. 478


No. 479
No. 496


No. 447


No. 1481

## Connectors <br> 15 AMPERES, 250 VOLTS

| 95 | This is a heary mulded eomposition connector with heavy brass, self aligning contacts. It is very compact, measuring $3^{3} \frac{8}{8} 1^{3} \frac{3}{4} \times$ x $\quad$ and has boen designod to withstand the roughest of usage. It is suitable for stage conmections, all kinds of industrial works, and particularly adaptable for use in garages where Underwriters forbid the use of ordinary receptacle and plug |
| :---: | :---: |

60 AMPERES, 125 VOLTS
90 Ileavy composition body, with self aligning, non-reversible contacts. Aluminum casing. Suitable for battery charging
$\$ 13.20$
91 Similar to No. 90 fur flat cable. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 11.56
149 lits plugs used with fittings $14,142,143$ non-reversible . . . . . . . . . . . . . . . . . . . . . . . . . . . . 16.52
96 Sted jacketed non-reversible connector with hard maple handles. 2 wire. . . . . . . . . . . . . 29.72
973 wire connector, similar to $96 . .$. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 33.04

## WATERTIGHT CONNECTORS

03 I Menvy brass casing with watertight glands. Fits plug No. 452 , 10 amperes, 125 volts. ... $\$ 8.26$
91 Three wire, similar to No. 93 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 11.56

## Marine Switches and Receptacles

## SWITCHES

448 Special composition base, 10 ampere, single pole, snap switch in $23 / 4$ ineh diameter brass box. ..... $\$ 6.36$
5:0) Double pole, 10 ampere snap switch in $3 \frac{3}{4}$ inch iron box ..... 5.30
496 Composition bise, 10 ampres single pole snap switch in heavy brass box, $4 \times 234$ ..... 7.08
fie7 Two gang, single pole composition base switeh. 10 amperes ..... 9. 90
156; Double pole, 10 anpere smap switeh in 4 inch square iron box. ..... 7.08
4585 anpere, heavy composition non-reversible receptacle and plug in watertight brass box. 178 inch diameter. With phag. ..... 5.52
459 Same as No. 458 receptacle in small rectangular box. With plug ..... 5.52
44710 ampere, strong composition non-rewersible receptacle and plag, in watertight brass box. 23,4 inch diameter. With plug ..... 6.36
48.4 Three wire poreolain non-reversible receptacle in watertight brass box, $33 / 4$ inch diameter. Ileary composition plug ..... 9.90
47910 ampre, 2 wire composition receptacle in brass box, $4 \times 23 / 4$ inches. Same receptacle and plug as No. 447 ..... 7.08
495 Two gang, 10ampere receptacle and phg in brass box, $4 \times 23$. inches. Complete with plugs ..... 9.90
14入5 25 ampere, slate receptacle in watertight brass box. Complete with plug ..... 19.82
480 50 ampores. Similar to No. 1485 . With phag ..... 22.92
10 AMPERE SWITCH AND RECEPTACLE
fis In watertight brass box, $4 \times 2^{3} 4$ inches. With plug ..... $\$ 8.48$
$4!8$ Two gang receptacle with switch in watertight hrass box, $6 \times 23 / 4$ inches. With plugs.... ..... 12.74
1.190
WATERTIGHT JUNCTION BOXES
1481 3 inch round, iron, japanned with cover and gasket ..... $\$ 0.08$
i-43) 4 inch round, iron, japanned with cover and gasket ..... 1.48
481 3 inch round, brass with cover and gasket ..... 1.80
432 4 inch round, brass with cover and gasket ..... 2.64
143:3 4 inch round, iron, with serew cover and gasket ..... 2.30
$1904 \times 4 \times 11 / 2$ inch, iron, with cover and gasket ..... 98
We furnish all sizes and types of junction boxes. Prices given on application.Delivery I'. O. 13. New York City. For warehouse deliveries write nearest house.

## INSULATING MATERIALS

## Insulating Tapes

## VICTOR TAPES

These are commercial grades of tape which we furnish regularly in half-pound rolls, $3 / 4$ inch wide. This weight sometimes varies, but very slightly. We furnish under this same brand both a friction tape and a rubber splicing compound. Therefore it is always necessary to specify whether friction tape or splicing compound is desired. The standard width of all tapes is $3 / 4$ inch, but on special orders we can furnish the Victor friction tape cither $1 / 2$ inch, 1 inch, $1 \frac{1}{4}$ inches, $1 \frac{1}{2}$ inches or 2 inches wide.

## VICTOR FRICTION TAPE VICTOR SPLICING COMPOUND

| Description | List Price | Description L | List Price |
| :---: | :---: | :---: | :---: |
| 3/4 in. Black Tape, per lb | \$1.40 | 3 3 in. Rubber Tape, per | \$1.50 |
| $3 / 4 \mathrm{in}$. Black Tape, per 50 lb . |  | ${ }^{3} \mathrm{i}$ in. Rubber Tape, per 50 |  |
|  | 58.00 | 17. case. | 00.00 |
| ${ }_{3}{ }^{4}$ in. Black Tape, per 100 |  | $3 / 4 \mathrm{in}$. Rubber Tape, per 100 <br> lb. box |  |

Note: Victor Splicing Compound, $3 / 4$ inch wide, 35 mils thick, in $1 / 2 \mathrm{lb}$. rolls, contains 50 to 55 fect per ! 1 ). packed in foil and carton:. Shipped. 100 lbs . in wood case and 50 llss. in fiber case.

## AMAZON TAPES

These tapes are of excellent quality and meet the requiremente of those desiring something better than a regular commercial product. The price is accordingly somewhat higher than our Victor tapes.AMAZON FRICTION TAPE AMAZON SPLICING COMPOUND

| Deseription List Price | Description | List Price |
| :---: | :---: | :---: |
| 34 in . Black Tipe, per ith. $\$ 1.70$ | 3 3, in. Rubber Tape, per | \$2.00 |
| $3 / 4 \mathrm{in}$. Black Tape, per 50 lb. | $3 / 1 \mathrm{in}$. Rublber Tape, per 50 |  |
| 3/4in. Black Tape, per 100 | 34 in. Rubber Tape, per 100 |  |
| 'b. box................ 120.00 | b. box. . . . . . . . . . . . . . | 150 |

Note: Amazon Splicing Compound, $3 / 4$ inch wide, 40 mils thick, in $1 / 2$ Ib rolls, contains 40 to 45 feet per It. packed in foiland cartons. Shipped, 100 llss . in wood case and 50 lbs . in fiber case.

## STICKA FRICTION TAPE

$3 / 4$ in. black tape, per lb............................................. . . . $\$ 1.40$
$3 / 4$ in. black tape, per 50 lib. case. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 0.00
3/4 in. black tupe, per 100 lb. box. . . . . . . . . . . . . . . . . . . . . . . . . . . . . 92.00
WESTERN ELECTRIC "S" TAPE
It will be wound on the Western Electric blue core, 8 oz. net to the 3 inch width, $1 / 2 \mathrm{lb}$. roll packed in tinfoil.

## Description

List Price



Victor Tape


Western Electric "S" Tape


COMPETITION FRICTION TAPE
$3 / 4$ inch, 12 lb . Rolls
Black Friction

COMPETITION SPLICING COMPOUND
$3 / 4$ inch, $1 / 2 \mathrm{lb}$. Rolls
Competition Rubber.


## Western Electric Soldering Salts

Our soldering salt combines in soluble crystal form the most efficient soldering agents known to chemistry. It dissolves readily in water and does not give off any obnoxious odors or gases. Directions for dissolving in water to make a soldering agent of proper st rength are included with each package.


## Western Electric Soldering Stick

This soldering stick is made under the same formula as our paste and put up in a neat, substantial package. Its use is very convenient as it can he carclessly carried in the workman's tool kit or pocket. To apply this stick it is only neeessary to heat the joint to be soldered and rub it with the bared end of the stick.

|  | List Price |  |
| :---: | :---: | :---: |
| Description | Each | Per Doz. |

## Western Electric Resin Core Solder

| Resin core solder, in $1 / 2$ th. boxes |  |
| :---: | :---: |
| Resin core sukler, on 1 th. spools. |  |
| Resin core solder, on 22 lb . spools. | Ipplication |
| Resin core solder, on 5 th. spools. | Application |
| asin eore solder, on 10 ibs, spools. |  |



## Western Electric Soldering Paste

This is a superior quality of soldering paste. It will not corrode or injure in any way the material that is 10 be soldered. It takes the place of injurious acids and is equally effective. It may be applied with a rag, a stick or even with the fingers. It is partieularly intemed for those who prefer a soldering flux in paste form rather than the soldering stick, and in cases where it is inconvenient to heat the joint in order to apply the stick flux.

| the stick flux. | -List Irice Each |  |  |
| :---: | :---: | :---: | :---: |
|  | Less | 12 to | 50 and |
|  | than 12 | 50 | Over |
|  | $8(0.50$ | \$0.32 | \$0.25 |
| 40\%. tin cans. | . 70 | . 48 | . 40 |
|  | -List Price Each |  |  |
|  | Less than | $5 \text { to }$ | 25 Lbs. |
|  | 5 Lbs. | 25 Lbs . | and Over |
|  | \$1.10 | $\$ 0.78$ | \$0.60 |
| 1 lb . tin cans | 1.80 | 1.30 | 1.10 |
| 5 lb . tin cans |  | 6.00 | 5.20 |

Note: Other makes of soldering salts, paste, sticks, etc., can be furnished on application.

## CENTRAL STATION SUPPLIES



## Trotter's Commutator Compound

This compound is an article of merit. Partieularly adapted as a lubricant for abbon or woven wire, dynamo or motor hrushes. A rery small application recuired.

|  | List | I.ist |
| :---: | :---: | :---: |
|  | Hach | per Inou. |
|  | \$0.50 | 86.00 |
|  | 1.00 | 10.00 |



Chatterton Composind


Allen's Lubricant

## Chatterton Compound

(hatterton Compound is made of a good sorviceable quality of gutta-probea and has a high melting point. It comes in stick form and is appliod by smply heang with a blow-torch to a suft stringy eonsisteney and winding around the joint or other part to be inswaterl.

List Price

| IJescriplionn | List Price |
| :--- | :--- |
| per Lhb. |  |

Domestio brand


## Allen's Commutator Lubricant

Ther . When ("ommutator Lubricant contains no acid or clestructive ingredient; is made of pure chemidals, and can be sately used on dynamos gencrating high potentials.

| List Price | I.ist |
| :---: | ---: |
| Lach | per I oz. |
| $\$ 0.60$ | $\$ 2.70$ |

## Early's Commutator Cement

|  | List Price fach | per IMoz. |
| :---: | :---: | :---: |
|  | 81.00 | \$16.80 |
| latgesize. $5 \times 101 / 2$, wh. 7 lhs | 20.00 | 80.00 |

## Emery Cloth

Sheets $9 \times 11$ inches


## INSULATING MATERIAL

## Cotton Sleeving

Cotton Sleeving is used for insulating and protecting armature coils. It is regularly furnished in white, but can be supplied in red, blue, or black at a small additional eost.

| List No. | For Wires | - Yards per Lb. | List Price per Ib. | List No. | For Wires | Yards per Lb. | List Pric per Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 11-12-13 | 230 | ¢ | 8 | 1-2 | $00^{\circ}$ | ¢ |
| 2 | 7-S-9 | 180 | $\bigcirc$ | 9 | 1-2 | (15) | E |
| 3 | 9-10 | 175 | تِ | 10 | 1-0 | 6.3 | $\stackrel{\sim}{7}$ |
| 4 | 5-6-7 | 225 | $\cdots$ | 11 | 1-0 | (3) | 研 |
| 5 | 5 | 100 | O | 12 | 2-No. 0 | 50 | $\stackrel{\text { E }}{ }$ |
| 6 | 3-4 | 135 | $\underset{\Xi}{\square}$ | 13 | 6-7 | 150 | $\underset{\sim}{3}$ |
| 7 | 3-4 | 120 | \% |  |  |  | 5 |

## Plain Linen Tape

This is a good quality of calendered linen tape without friction or insulating compound. It is regularly furnished in rolls containing 30 lineal yards or will be furnished in other lengths when desired.

|  | Width | Thickness | Yards | List Price |  | Width | Thickness | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Ins. | Ins. | per Roll | Gr.Yds. | List No. | Ins. | Ins. | per lioll | Gr.Yds. |
| 11820 | 34 | . 007 | 72 |  | 8843 | 5/8 | . 005 | 72 |  |
| 14002 | 1 | . 007 | 72 | $\mathrm{O}_{\mathrm{n}}$ | 7703 | 3 | . 005 | 72 | On |
| 10470 | $1 / 4$ | . 005 | 36 | appl. | 9298 | 1/8 | . 005 | 72 | appl. |
| 8769 | 3/8 | . 005 | 36 | apl. | 8844 | 1 | . 005 | 72 |  |
| 8841 | 1/2 | . 005 | 36 |  |  |  |  |  |  |

## Extra Quality Linen Tape

A similar tape to that described above, hut of extra fine quality and close texture. It is also regularly furnished in rolls containing 36 lineal yards, but will be furnished in other lengths when desired.

|  | Width | Thickness | Yards | List Price |  | Width | Thicknéss | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Ins. | Ins. | per Ronll | Gr.Yds. | List No. | Ins. | Ins. | per Roll | Gr.Yds. |
| 488 tj | $1 / 2$ | . 007 | 73 | On | 4896 | 7/8 | . 007 | 72 | On |
| 3737 | 5/8 | .007 | ${ }^{36}$ | anyl. | 10535 | 1 | . 007 | 72 | appl. |
| 4308 | $3 / 4$ | . 007 | 36 and 72 | a!pl. |  |  |  |  | arp. |

No. 4308 can be furnished in varied winds if ordered in lots of 25 gross jards or more of a pattern.

## Standard Linen Tape

Is superior in quality to plain linen but not equal to extra quality, as it is not as closely woven and possesses somewhat less potential strength.

|  | Width | Thickness | Yards | List Price |  | Width | Thickness | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Ins. | Ins. | per Roll | Gr.Yds. | List No, | Ins. | Ins. | per Roll | Gr.Yds. |
| 13870 | $3 / 4$ | .007 | 310 | (On appl. | 13871 | 1 | .007 | 30 | On appl, |

## Star Cotton Tape or Webbing

A plain entton tape of good quality without compound. It is furnished regularly in rolls containing 36 lineal yards or will he furnished in other lengths when desired.

|  | Width | Thickness | Yards | I ist Price |  | Width | Thickness | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Ins. | Ins, | per Roll | Gr.Yds. | List No. | Ins. | Ins. | per Roll | Gr.Yds. |
| 5918 | 1/2 | . 013 | 36 | On | 5906 | 1 | . 013 | 36 | ()n |
| 5821 | $5 / 8$ | . 013 | 36 | appl. | 9562 | $11 / 2$ | . 013 | 72 | apmi |
| 5727 | 3/4 | . 013 | 36 | appl. |  |  |  |  | ars |

## Standard Cotton Tape or Webbing

A similar tape to that deseribel above, but of cxtra fine quality and close texture. It is also regularly furnished in rolls containing 36 lineal yards or will he furnished in other lengths when desirecl

|  | Width | Thickness | Yards | I.ist Price |  | Width | Thickness | Yards | List I |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Ins. | Ins. | per Roll | Cr.Yds. | Lict No. | Ins. | Ins. | per Roll | Gr.Yds |
| 4254 | 1/4 | 013 | 1000 | On | 13100 | $3 / 4$ | . 013 | 36 | On appl. |
| 3736 | 1/2 | . 013 | 72 | appl. |  |  |  |  | (1) |

# Western Electric <br> <br> BINDING TAPES 

 <br> <br> BINDING TAPES}

## Stay Binding or Webbing

This is a plain cotion webbing somewhat heavier and stronger than the ordinary cotton tape. It is used largely for field coil winding. Furnished in rolls containing $\overline{7} 2$ lineal yards. Jade in two weights as listed below:

| Regular |  |  |  |  | Heavy |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Width | Thickness | Yards | List Price | List | Width | Thickness | Yards | List Price |
| No. | Inches | Inches | per Roll | (ir. Yds. | No. | Inches | Inches | per Roll | Gir. Yds. |
| ¢6291 | 1 | . 013 | 36 |  | 8730 | 1 | . 019 | 72 |  |
| 6290 | $11 / 4$ | . 013 | 36 |  | 9982 | $11 / 4$ | . 019 | 72 | On |
| 6289 | $11 / 2$ | . 013 | 36 | appl. | 1613 | $11 / 2$ | . 019 | 72 | appl, |
|  |  |  |  |  | 9999 | 2 | . 019 | 315 | aplo |

## Surgical Web Tape

Surgical Web is a superior grade of stay binding, closely woven, herringbone weave, and pussesses considerable tensile strength.

Extra Quality

| List | Width | Thickness | Yards | L.ist Price | List | Width | Thickness | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Inches | per Roll | Gr. Yds. | No. | Inches | Inches | per Roll | Gr. Y'ds. |
| 7699 | $1 / 2$ | . 022 | 36 |  | 8870 | 1120 | (022 | 31 |  |
| 5281 | $3 / 4$ | . 022 | 36 | ()$_{n}$ | 9058 | $2{ }^{2}$ | . 022 | 36 | On |
| 5224 | 1 | . 022 | 36 | appl. | 10449 | $21 / 4$ | . 022 | 36 | appl. |
| 5298 | 11/4 | . 022 | 36 |  |  |  |  |  |  |

## Non-Elastic Webbing

Non-Elastic Web is a good quality stay binding which is suitable for general use.

| List | Width | Thickness | Yards | List Price | List | Width | Thickness | Yards | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Inches | per Roll | Gr. Y'ds. | No. | Inches | Inches | er Rolls | Gir. Y'ds. |
| 4092 | $1 / 2$ | . 030 | 36 |  | 4096 | $11 / 4$ | . 030 | 36 |  |
| 4094 | $3 / 4$ | . 030 | 36 | 0 O | 3946 | $11 / 2$ | . 030 | 36 | On |
| 10177 | 7/8 | . 030 | 36 | appl. | 4098 | 2 | . 030 | 72 | appl. |
| 3862 | 1 | . 030 | 36 |  |  |  |  |  |  |

## Plain Silk Tape

Silk Tape is used for general insulating purposes, particularly when the available space is extremely limited. It is furnished in rolls containing $3 t$ lineal yards, in black, white and eolors. I'nless otherwise specified, white tape will always be furnished.

| List <br> No. | Width Inches | Thickness Inches | $\begin{aligned} & \text { Yards } \\ & \text { per Roll } \end{aligned}$ | Iist Price Gr. I'ds. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Width Inches | Thickness lnches | Yards per Roll | List Price Gir. Yds. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15841 | $1 / 4$ | . 006 | 1000 |  | 12514 | 5\% | 000 |  |  |
| 12821 | $3 / 8$ | . 006 | 1000 | On | 1.1734 | $3 / 4$ | . $000{ }^{\prime}$ | 72 | On |
| 11216 | $\frac{7}{1 / 2}$ | . 006 | 72 | appl. | 16299 | $1^{*}$ | . 006 | 72 | appl |
| 16604 | $1 / 2$ | . 006 | 72 |  |  |  |  |  |  |

## Varnished Tape

## Also Known as Linotape or Oiled Linen Tape

An electrical insulating tape extensively used in roil winding. cahle splicing and other high tension work, having high insulating and moisture resisting quatities. The coating consists of films of oxidized linseed oil, and is furnished straight or bias cut, in rolls containing 72 lineal yards, each roll coated with paraffine to exchude moisture.

| Width | $\begin{array}{cc} \text { - List I'rice per } 144 \text { Yds- } \\ \text { No. 10-L } & \text { No. 10-I' } \\ \text { Cut Straight } & \text { Cut 13ias } \end{array}$ |  | $\begin{gathered} \text {-List Price per } 144 \mathrm{Yds} .- \\ \text { No. } 10-\mathrm{L} \\ \text { No. } 10-\mathrm{B} \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| Width | Cutstraight (ut Bias | Width | Cut Straight Cut Bias |
| $3 / 4{ }^{\prime \prime}$. |  | ${ }^{2} 11 \prime$ |  |
| $1 \prime \prime \prime$ | Oa aprication. | $21 /{ }^{\prime \prime}$ | On application. |
| $11 / 4$ |  | $\because 3 / 4 \prime$ | - |
| $13 / 4{ }^{\prime \prime}$. |  |  | ) |

Note: The thickness is . 010 in . Approximate weight 1 in . wide, $21 / \frac{\mathrm{lb}}{\mathrm{lb}}$. per gro. y ds.
Unless otherwise specified, biased tape will be furnished. Can be furnished . 007 in . or . 012 in , thick.

# VULCANIZED FIBER <br> Sheet Fiber <br> RED, GRAY OR BLACK 

Special Colors Five Cent per Pound Extra
Approximate size of sheets $.00 \pi$ to .120 inch thick, $48 \times 80$ inches.
1/2 to $3 / 4$ inch thick, $41 \times 70$ inches
Manufacturer's List Special Discounts on Application

| List | Thiekness |  |  |  |  |  |  |  | Thickness | Approx. J.bs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Approx. | List I'rice | List | Thickness | Approx. Jhs. | Jist Irice | List |  |  |  |
| No. |  | per Sheet | per Lb. | No. | Inches | per Sheet | per lib. | So. | Inches |  |  |
| 460962 | . 005 | 2 | \$0.7. | 460969 | . 075 | 11 | \$0.59 | 460371 | 7/8 | 110 | \$0.64 |
| 460963 | . 010 | 2 | . 65 | 460970 | . 100 | 1.5 | . 50 | 460372 | 1 | 160 | . 71 |
| 460355 | . 015 ( ${ }^{\frac{1}{4} \text { ) }}$ | $21 / 2$ | .5. | 460:362 | 1,8 | 20 | . 50 | 460373 | 11\% | 180 | . 85 |
| 460964 | . 020 | 4 | . 51 | 4601303 | ${ }^{\frac{3}{16}}$ | 30 | . 1 | 440971 | 184 | 201 | 1.00 |
| 460965 | . 025 | $41 / 2$ | . 511 | 4603664 | $1 / 4$ | 40 | . 51 | 46097. | $13 / 8$ | 215 | 1.20 |
| 460359 | . 0303 ( ${ }^{1}$ ) | 5 | . 50 | 460360 | $1{ }^{3}$ | 50 | . 51 | -160973 | $11 / 2$ | 210 | 1. 15 |
| 460966 | . 035 | 6 | . 51 | 4603606 | 3/8 | ${ }_{60}$ | . 51 | 460971 | $15 / 8$ | 25. | 1.75 |
| 460967 | . 040 | $71 / 2$ | . 511 | 4603688 | 1/2 | 80 | . 53 | 460975 | $13 / 4$ | 27. | 2.9.9 |
| 460968 | . 015 (86) | 8 | . 50 | 460369 460370 | $\frac{5}{3}$ | 100 | . 56 | 460975 460950 | 178 | 29.8 | 4.25 |
| 460360 | . 060 | 10 | . 0 ( | 460370 | $3 / 4$ | 120 | . 59 | 460980 | 2 | 315 | 4.25 |

## Hard Vulcanized Fiber Rods

## COLORS, RED, BLACK AND GRAY

Western Electric List Special Discounts on Application

|  | Diameter | No. Ft. | list Price | Jist | Diameter | No. İt. | List Price | Tist | Diameter | No. Ft. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | in Ins. | per Tb | per Ft. | No. | in lns. | per l.b. | per l't. | No. | in Ins. | per J.h. | per Ft. |
| 461048 | , $\frac{3}{31}$ | 2.11 | 80.30 | 461383 | 5/8 | 5.4 | 80.54 | . 1603390 | $13 / 8$ | 1.1 | \$5.00 |
| 461049 | 1/8 | 136 | . 30 | 461354 | 16 | 4.5 | 1. (0) | 461391 | $11 / 3$ | .9 .4 | 6.00 |
| 460376 | $\frac{3}{16}$ | 60 | . 30 | 461385 | 3/4 | 3.8 | 1.20 | 461392 | 15/8 | . 80 | 7.00 |
| 461377 | $1 / 4$ | 31 | .32 | 4610977 | 16 | 3.2 | 1.44 | 461393 | $1{ }^{17}$ | .69 | 16.00 |
| 461378 | $\frac{3}{15}$ | 2\% | . 36 | 460386 | $7 / 8$ | $2 . \mathrm{X}$ | 1.68 | 460979 | 17/8 | . 60 | 16.00 |
| 461379 | 3/8 | 1.5 | . 41 | 46097 S | 18 | 2.4 | 2.100 | 46039.4 | 2 | . 53 | 24.00 |
| 461380 | ${ }^{7}$ | 11 | . 48 | 460387 | 1. | 2.1 | 2.10 | 461059 | $21 / 4$ | . 42 | 36.00 |
| 461381 | 1/2 | 8.3 | . 61 | 460389 | $11 / 8$ | 1.7 | 3.00 | 461060 | 21/2 | . 34 | 50.00 |
| 461382 | $\frac{1}{16}$ | 6.7 | .72 | 461054 | $11 / 4$ | 1.1 | 4.0 .5 |  |  |  |  |

Intermediate sizes at price of next larger size.
liods turned from glued up stock $1 / 2$ ineh diameter and over will take one half the list price of rods from solid stock.
FIBER TUBING
Manufacturer's List Special Discounts on Application

| Inside | Manufacturers List Special Diss of W:all- Application |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1/8 | $5 \frac{5}{3}$ | $\frac{3}{16}$ | ${ }^{7}$ | - 1 | 12 | ${ }^{6}$ | 教 | 3/8 |
| 1/8. | \$0. 20 | S0. 30 | \$0.40 |  |  |  |  |  |  |  |  |
|  | . 20 | . 30 | . 40 |  |  |  |  |  |  |  |  |
| 1/4 | 10 | . 14 | . 18 | . 22 | . 26 | . $\cdot$ | . . | ..... | . . . ${ }^{\text {a }}$ | . . . . |  |
|  | 10 | .15 | .19 | . 2.4 | . 28 | . . | . . . | ....' | . . . . | . . . . | ..... |
| \% 18 | 11 | . 16 | . 21 | . 26 | . 31 | . . | . . | . . . . | $\ldots$ | . . . . | ..... |
|  | . 11 | . 17 | .22 | . $2 \times$ | . 33 |  |  | . . . . | . . . |  |  |
| 1/2 | . 12 | . 18 | . 2.4 | . 30 | . 36 | . 42 | . 48 | . . . . | . . . | .... |  |
|  | .13 | . 20 | . 26 | -32 | . 39 | . 46 | . 52 | ... | ... | . . . . |  |
| $5 / 8$ | . 14 | . 21 | . 24 | . 35 | .42 | . 49 | . 50 | . . . | . | .... |  |
| 12 | . 15 | .23 | . 30 | . 37 | . 45 | . 52 | . 610 | . |  |  |  |
| $3 / 4$ | . 16 | . 24 | .32 | . 40 | . 48 | . 60 | . 61 |  |  |  |  |
| 13 | . 17 | 96 | - 34 | . 42 | . 54 | . 63 | .72 | . | . . . . . |  |  |
| 18 | . 19 | - 29 | -38 | . 47 | . 57 | . 66 | . 76 | . . . . $\cdot$ | . . . . | -•••• | . . . ${ }^{\text {a }}$. |
| 16 | . 20 | . 30 | . 40 | . 50 | . 60 | . 70 | . 80 | . . . . $\cdot$ | $\ldots$ | . . . . | . . . $\cdot$. |
| $11 / 8$ | . 22 | . 33 | . 4.4 | . 50 | . 66 | . 77 | . 88 | ..... | . . . . | . . . . | . . . . $\cdot$ |
| 11/4 | . 24 | . 36 | . 48 | . 60 | . 72 | . 8.4 | . 96 | $\ldots$ | . . . . | ..... | ..... |
| 13/8 | .26 | . 39 | . 52 | . 65 | . 78 | .91 | 1.04 | . . . | ..... | .. |  |
| 11/2 | . 28 | . 42 | . 510 | . 70 | . 8.4 | 98 | 1.12 | ... |  |  |  |
| 15/8 | . 30 | . 45 | . 60 | . 75 | . 90 | 1.05 | 1.20 |  |  |  |  |
| 13 | . 32 | . $4 *$ | . 6.4 | . 80 | . 90 | 1.12 | 1.25 |  |  |  |  |
| $17 / 8$ | . 34 | . 11 | . is | . 85 | 1.02 | 1.19 | 1.36 |  |  | . . . . ${ }^{\text {a }}$ |  |
| 2 | . 36 | - ${ }^{4}$ | . 72 | . 90 | 1.08 | 1.26 | 1.4 .4 | \$1.62 | \$1.80 | $\ldots$ |  |
| $21 / 8$ | . 38 | . 37 | . 76 | . 95 | 1.14 | 1.33 | 1.52 | 1.71 | 1.90 | . . . . $\cdot$ |  |
| 21, | . 40 | . 60 | . 80 | 1.00 | 1.20 | 1.10 | 1. 16 | 1.80 | 2.00 |  |  |
| $23 / 8$ | . 42 | . 63 | . 8.4 | 1.05 | 1. 26 | 1.47 | 1.68 | 1.89 | \%. 9 |  |  |
| 91/2 | . 4.4 | . 69 | .888 | 1.15 | 1.32 1.35 | 1.61 | 1.76 | 2.07 | 2.30 |  |  |
| 23 | . 48 | . 72 | . 16 | 1.20 | 1.44 | 1.68 | 1.92 | 2.16 | 2.40 |  |  |
| 278 | . 50 | . 75 | 1.00 | 1.9.5 | 1.50 | 1.75 | 2.10 | $\cdots$ | 2. ${ }^{10}$ |  |  |
| 3 | . 2 | . 78 | 1.01 | 1.30 | 1.56 | 1.82 | 2.0s | 2.3 .4 | 2.10 | \$2.86 | \$3.12 |
| $31 / 6$ | . 54 | . 81 | 1.08 | 1.35 | 1.62 | 1.89 | 2.16 | 2.43 | 2.70 | 2.97 | 3.24 |
| 3\% | . 56 | . 81 | 1.12 | 1.40 | 1.68 | 1.96 | 2.24 | 2.52 | 2.80 | 3.08 | 3.36 |
| $3{ }^{3}$ | .is | . 87 | 1.11 | 1.45 | 1.7.4 | 2.03 | 2.32 | 2.61 | 2.90 | 3.19 | 3.48 |
| 31/2 | . 60 | . 90 | 1.20 | 1.00 | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 3.30 | 3.60 |
| $35 / 8$ | . 62 | . 93 | 1.24 | 1.85 | 1.86 | 2. 17 | 2.15 | $\stackrel{2}{ } 9$ | 3.10 | 3.41 | 3.72 |
| $3{ }^{3} 4$ | . 64 | . 96 | 1.24 | 1.60 | 1.92 | 2.14 | 2.56 | 2.88 | 3.20 | 3.52 | 3.84 |
| $37 / 8$ | . 66 | . 99 | 1.32 | 1.05 | 1.98 | 2.31 | 2.64 | 2.97 | 3.30 | 3.63 | 3.96 |
| 4 | . 68 | 1.02 | 1.34 | 1.70 | 2.01 | 2.35 | $\stackrel{9}{2} .72$ | 3.06 | 3.40 | 3.71 | 4.08 |
| 41/8 | . 70 | 1.05 | 1.40 | 1.75 | 2.10 | 2.45 | $\stackrel{2}{2} .80$ | 3.15 | 3.50 3.60 | 3.85 | +. 32 |
| 41/4 | . 72 | 1.08 | 1.44 | 1.80 | 2. 16 | 2. 5 | 2.88 <br> .96 | 3.3 | 3.70 | 4.117 | 4.32 |
| $43 / 8$ | . 74 | 1.11 | 1.48 | 1.80 | \%28 | 2.06 | 3.01 | 3.3 .3 3.42 | 3.80 | 4.18 | 4.44 |
| $41 / 2$ | . 76 | 1.14 | 1.52 | 1.90 | 2.34 | 2.00 | 3. 3.12 | 3.72 | 3.90 | 4.29 | 4.68 |
| $45 / 8$ | . 78 | 1.1. ${ }^{1}$ | 1.60 | 1.9.0) | 2.40 | 2.80 | 3.20 | 3.60 | 4.10 | 4.40 | 4.80 |
| 431 | .80 | 1.20 | 1.60 | 2.0 .5 | $\underline{2.46}$ | 2.87 | 3.28 | 3.64 | 4.111 | 4.51 | 4.92 |
| $5^{1 / 8}$ | 8. 8 | 1.20; | $1 . \mathrm{fis}$ | 2.10 | 2.52 | 2.94 | 3.36 | 3.75 | 4.20 | 4.12 | 5.01 |
| $51 / 3$ | . 86 | 1.29 | 1.72 | 2.15 | 2.58 | 3.01 | 3.4 | 3.87 | 4.30 | 4.73 | 5. 16 |
| $51 / 4$ | . 88 | 1.32 | 1.76 | 9.20 | 2.61 | 3.08 | 3.72 | 3.96 | 4.40 | 4.84 | 5.28 |
| $53 / 8$ | . 90 | 1.35 | 1.s0 | ?. | $\because .70$ | 3.15 | 3.60 | 4.0 .5 | 4.50) | 4.95 | 5.40 |
| $51 / 2$ | .92 | 1.38 | 1.8.4 | 2.30 | 2.76 | 3.22 | 3.68 | 4.11 | 4.60 | 5. 06 | 5.010 |
| 35/8 | . 94 | 1.41 | 1.88 | 2.35 | 2.82 | 3.29 | 3.76 | 4.23 | 4.70 | 5.17 | 5.64 |
| 53 | . 96 | 1.11 | 1.32 | 2.40 | 2.85 | 3.36 | 3.84 | 4.32 | 4.80 | 5. 28 | 5.76 |
| 578 | . 98 | 1.45 | 1.96 | $\cdots$ | 2.91 | 3.13 | 3 | 4.41 | $\pm$ | 5.39 | 5.88 |
| ${ }_{6}$ | 110 | 1.50 | 2.00 | 2.50 | 3.00 | 3.50 | 4 (\%) | 4.50 | 5.60 | 3. 50 | 6.00 |

# ELECTRICAL INSULATING MICA 

## CUT INDIA AND DOMESTIC ELECTRICAL MICA

## Cut Mica



| Size | W. E. List Price per Lb. | Size | W. E. List Price perlb. | Size | W. F. List Price per Lb. | Size | W. F. List Price per Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 x 5 | \$15.00 | $31 / 4 \times 10$ | 830.00 | $4 \times 8$ | 521.00 | $51 / 2$ | \$27.00 |
| $3 \times 51 / 2$ | 16.00 | $31 / 2 \times 316$ | 14.00 | $4 \times 1$ | 28.00 | $51 / 2 \times 8$ | 30.00 |
| $3 \times 6$ | 17.30 | $31 / 2 \mathrm{x} 4$ | 14.30 | $4 \times 10$ | 3:3.00 | $51 / 2 \times 8$ | 33.00 |
| $3 \times 11 / 2$ | 19.00 | $31 / 2 \times 416$ | 15.50 | $416 \times 412$ | 17.00 | $51 / 2 \times 10$ | 36.00 |
| $3 \times 7$ | 21.50 | $31 / 2 \times 5$ | 16.00 | $41 / 8$ | 18.00 | $516 \times 11$ | 33.00 |
| $3 \times 8$ | 23.00 | $31 / 2 \times 51 / 2$ | 17.00 | $413 \times 5$ | 18.50 | $51 / 2 \times 12$ | 10.00 |
| $3 \times 9$ | 26.00 | $31 / 2 \times$ | 18.00 | 41196 | 19.50 | is $\times 13$ | 27.00 |
| $3 \times 10$ | 30.00 | $311 / 2 \times 11 / 2$ | 19.50 | $41 \% 68$ | 23.00 | (i) $\times$ I | 30.00 |
| $31 / 4 \times 3114$ | 13.00 | $31 / 2 \times 7$ | 22.80 | $41 / 2 \times 7$ | 24.00 | if $\times 8$ | 33.00 |
| $31 / 4 \times 31 / 2$ | 13.50 | $3112 \times 8$ | 24.00 | $41 / 2 \times 8$ | $\because 5.00$ | $18 \times 9$ | 36.50 |
| $31 / 4 \times 4$ | 14.00 | $31 / 2 \times 0$ | 27.0 | $41 / 8$ | 29.00 | (i) $\times 10$ | 38.00 |
| $31 / 4 \times 41 / 2$ | 15.00 | $31 / 2 \times 10$ | 32.00 | $41 / 2 \times 10$ | 35.00 | $1{ }^{1} \times 12$ | 42.00 |
| $31 / 85$ | 15.50 | $4 \times 4$ | 16.00 | 5 $\quad \mathrm{x}$ | 30.00 | $7 \times 7$ | 30.00 |
| $31 / 4 \times 51 / 2$ | 16.50 | $4 \times 41 / 2$ | 16.50 | $5 \times 6$ | 21.00 | $7 \times 8$ | 33.00 |
| $31 / 4 \times 6$ | 17.50) | $\pm \times 5$ | 17.00 | $5 \times 7$ | 24.00 | $7 \times 9$ | 33.00 |
| $31 / 4 \times 61 / 2$ | 19.50 | $4 \times 31 / 2$ | 17.50 | $3 \times 8$ | 2 C .50 | $7 \times 10$ | 42.00 |
| $31 / 4 \times 7$ | 22.00 | $4 \times 6$ | 18.50 | $\begin{array}{llll}5 & x & 9\end{array}$ | 30.00 | $8 \times 8$ | 40.00 |
| $31 / 4 \times 8$ | 23.50 | $4 \times 1011$ ¢ | 20.50 | 3 $\times 10$ | 3.500 | $8 \times 9$ | 42.00 |
| $31 / 4 \times 9$ | 26.00 | $4 \times 7$ | 23.00 | $5^{51} \times 6$ | 25.00 | $8 \times 10$ | 45.00 |

Special sizes will he cut to order and will take the list price of the next larger size.
Cut Amber Electrical Mica prices on application.

## Hard Rubber Sheets

Grade No. 1001. Black hard rubber sheet, designed for thin sheets only. Dimensions, $20 \times 48$ inches or $20 \times 24$ and $20 \times 12$ inches. Thickness, .014 inch to .047 inch inclusive.

Grade No. 1010. Black hard rubber sheet. Medium quality of sheet designed for miscellaneous uses. Standard dimensions, trimmed, $24 \times 48$ inches. Thickness, .046 inch to 1.50 inch.

| List |  | Grade | Net Prices | List |  | Grade | Net Prices |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | ibickness | Nu. | per Lb. | No. | Thickness | No. | per Lb. |
| 460981 | $\frac{1}{64}$ in. | 1001 | \$4.50 | 460859 | $3 \% \mathrm{in}$. | 1010 | \$3.00 |
| 460850 | ${ }_{3}^{12}$ in. | 1001 | 3.80 | 4160860 | ${ }_{16}^{76} \mathrm{in}$. | 1010 | 3.00 |
| 460851 | ${ }_{16}^{16} \mathrm{in}$. | 1010 | 3.10 | 460861 | 12 ${ }^{\text {in }}$ | 1010 | 3.00 |
| 46085 | $3^{\frac{3}{2}} \mathrm{in}$. | 1010 | 3.00 | 460863 | $\frac{9}{16} \mathrm{in}$. | 1010 | 3.00 |
| 460854 | 18 in . | 1010 | 3.00 | 460863 | $5 / 8 \mathrm{in}$. | 1010 | 3.00 |
| $460 \times 5.5$ | ${ }_{3}^{\frac{5}{3}-2 \mathrm{in} \text {. }}$ | 1010) | 3.00 | 460864 | $3 / 4 \mathrm{in}$. | 1010 | 3.00 |
| 460850 | ${ }_{16}^{16} \mathrm{in}$. | 1010 | 3.00 | 460865 | 7/8 in. | 1010 | 3.00 |
| $460 \times 57$ | $1 / 4 \mathrm{in}$. | 1010 | 3.00 | 460N36 | 1 in. | 1010 | 3.00 |
| 460858 | ${ }_{16}^{5} \mathrm{in}$. | 1010 | 3.00 |  |  |  |  |

## Hard Rubber Rods

Grade No. 2000. I3lack IIard Rubber Iiod. Standard length 2 foot rough; diameter 0.56 inch and less. Grade No. 2007. Black Hard liubber Rod. Dimensions 0.56 inch to 1.50 inch diameter.

| List <br> No. | Diameter | Grade No. | Net J'rices per Lb. | List No. | ])iameter | Grade No. | Net Prices per Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 460868 | l'y in. | 2000 | \$3.50 | 460877 |  | 2007 | \$3.00 |
| $460 \times 69$ | ${ }_{16} \mathrm{i}$ in. | 2000 | 3.30 | 460878 | $3 / 4 \mathrm{in}$. | 2007 | 83.00 |
| 460870 | l/in. | 2000 | 3.00 | 460879 | ${ }_{1} \frac{3}{6} \mathrm{in}$. | 2007 | 3.00 |
| 460871 | ${ }^{5} \mathrm{E}$ in. | 20000 | 3.00 | 400.830 | 78. in. | 2007 | 3.00 |
| $460 \times 7{ }^{2}$ | 3 3́s in. | 2000 | :3.00 | $460 \times 81$ | $\frac{15}{16} \mathrm{in}$. | 2007 | 3.00 |
| 460873 | ${ }_{1}^{7} 6 \mathrm{in}$. | 2000 | 3.00 | 460882 | 1 in. | 2007 | 3.00 |
| $46087 \cdot$ | l2in. | 2000 | 3.00 | 460883 | 11 in. | 2007 | 3.00 |
| 400875 | $\frac{9}{16} \mathrm{ill}$. | 2000 | 3.00 | $460 \times 84$ | 11: int. | 2007 | 3.00 |
| 460876 | $5 / 5 \mathrm{in}$. | 2007 | 3.00 |  |  |  |  |

## Soft Rubber Tubing

| $\begin{aligned} & \text { Jist } \\ & \text { No. } \end{aligned}$ | Inside <br> Diameter | CoversB. \&S. | $\begin{gathered} \text { Feet } \\ \text { per Lb. } \end{gathered}$ |  | List <br> No. | Insido Diameter | Covers |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | B. \& S. | Feet | Price |
|  |  | Wire |  |  |  |  | Wire | per Lb. | per Lb. |
| 460890 | $\frac{3}{3} \mathrm{in}$. | 14 | 30 | $\bigcirc .40$ | 460892 | $\frac{5}{16}$ in. | 1 | 15 | \$2. 40 |
| 460891 | 14.4. | 10 | 20 | 2.40 | 460 csig | 3/8in. | 1 | 12 | 2.40 |

## Corrugated Rubber Matting

Grade No. 1 for dynamos and switchboards.

| $\begin{aligned} & \text { List } \\ & \text { So. } \end{aligned}$ | Thickness | Wt. per Sq. Y'd. | List Price per Lb. | List No. | Thickness | Wt. per Sq. Yd. | List Price per Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 460937 | $3^{3} 2 \mathrm{in}$. | $i^{\text {i }} \mathrm{lhs}$. | \$1.50 | 4609.41 | ${ }_{16}^{56} \mathrm{in}$. | 23 lhs. | \$1.50 |
| 460938 | \%s in. | S $1 / 2 \mathrm{lhs}$. | 1.50 | 460 (\%) 42 | $3 \%$ in. | 28 lhs. | 1.50 |
| 4609939 | $1_{16}^{3} \mathrm{in}$. | 1312 lls. | 1.50 | 460943 | ${ }^{\frac{7}{16}}$ in. | $323 / 4 \mathrm{lbs}$. | 1.50 |
| 460940 | $1 \% \mathrm{in}$. | 18,4 lbs. | 1.50) | 4609.4 | 12 in . | $371 / 2 \mathrm{lbs}$. | 1.50 |

## Improved Paper Sleeves

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Style | Dimensions | List Price per 1000 | List $\therefore 0$ | Style | Dimensions | List Price per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 460804 | 21/2A | $18 \times 23 / 4 \mathrm{ins}$. | \$2.80 | 460597 | 18A | 1\%x 18 ins. | \$9.50 |
| 460895 | 3 IB | ${ }_{16} \times 1 \times 3$ ins. | 2.80 | 4 (i0) 98 | 18B | $\frac{3}{16} \times 18$ ins. | 9.50 |
| 460896 | 3 C |  | 2.80 | 460899 | 18C | $\frac{7}{32} \times 18 \mathrm{ins}$. | 9.50 |

## Western Electric <br> AJAX INSULATING MATERIAL

## WESTERN ELECTRIC Ajax Insulating Varnish

## BLACK AIR DRYING

A jet black, lustrous moistureproof warnish. a goom insulator, and possesses the maximum anome of elasticity possible to secure in a black, guick, air drying varnish. It is used for dipping new armature and field coils and also for repair work requiring a varnish which will dry quickly without baking. It air dries in onehalf hour.

| Barrels (:0) gallons) | ${ }^{*}$ List I'rice Per Gal. |
| :---: | :---: |
| 5 gallon cams. | 3.50 |
| 1 gallon cans | 4.50 |

## WESTERN ELECTRIC Ajax Air Drying Finishing Varnish

A lustrous, deep black spirit finishing varnish, oilproof, waterproof. clurable, it keeps in perfect solution. It is used as a finishing coating for all kinds of clectrical apparatus to prevent absorption of lubricating oils and moisture. It air dries in from 10 to 15 minutes independent upon method of application and thickness of coat.
Barrels (50) gallons).
85.60

5 gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 30
1 gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 9.6 . 40

## WESTERN ELECTRIC Underwriters' Black ACID RESISTING INSULATING PAINT

This paint gives a high gloss finish which is flameproof and i-mpervious to moisture. It is used for meter boards, ewitchboards, moldings, acrial and undarground cables, service boxes, street car trucks, motor frames and all kinds of electrical wiring. It air dries in one half hour.

5 gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 .
1 gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 40
10 gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5 . 5
$1 / 8$ gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

## WESTERN ELECTRIC Ajax Insulating Varnish CLEAR, QUICK BAKING

Designed expressly for quick repairs to motor, gonerator and transformor windings. For hare metal gurface and sheet fiber of every description. It iss clear oil and weatherpow, extremely penetrative and elastic. It is a high insulator, and is acidproof and free from acids.

$\square$
5 gallon cans


## Western Electric Ajax Oilproof Core Plate Baking Varnish

Elastie, heat resisting, clear onamel, proof against, oil, wathr and acid. It is used for separating and insulating the metal laminations used in buikding up the cores of oilcooled transformers. Baked in "bminutes at 250 degrees fahrenheit.
barrels (50) gallons)............................................................................ . . . . . . . . . . . . . . . .
$\square$
5 gallom cams
5.20

1 gallon cams. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

## Western Electric Ajax No. 1 Clear Air Drying Insulating Varnish

It is elear, elastic, extremely penetrative and cilpronf. Is a high insulator, and produces a uniform homogeneous film. Fispecially atapted for use in electrical repair shops not equipped with haking facilities. Used for armature, field and magnet coils, molding, switch bases ind fiber sleet insulation. Air dries in 6 hours.
Barrels (5) gallons)
$\$ 3.68$
5 gallon cans...................................................................................................


## Western Electric Ajax No. 2 Clear Air Drying Insulating Varnish

Similar to No. 1, but is superior to it in flexibility, moisture proof and oilproof qualities and heavier in body. Air dries in 13 to 20 hours.


## Western Electric

## AJAX INSULATING MATERIAL

## Western electric Ajax Clear Air Drying Finishing Varnish

A jax clear insulating varnish is oilproof, waterproof, durable and keeps in perfect solution. It is used as a finishing coating for all kinds of electrical apparatus to prevent absorption of lubricating oils and moisture. It air dries in from 10 to 15 minntes. dependent on method of application and thickness of coat.
*List Price per Gal.
Barrels (50 gallons) ..... 7.40
5 gallons ..... 3.80
5 gallon cans ..... 8.40
1 gallon cans
Western Electric Ajax, Black Air Drying Core Plate Varnish
Designed exclusively for the insulation of armature, field and air cooled transformer laminations against Eddy or l'oucault currents. Coat of usual thickness will air dry in 5 minutes. 13arrels (50 gallons) ..... $\$ 2.08$
1 gallon cans ..... 4.40
WESTERN ELECTRIC Ajax Insulating Varnish CoillacA black baking insulating varnish for general coil work and insulating purposes. Combines high glosswith great elasticity and puncture resistance.$\$ 2.88$
Barrels ( 50 gallons) ..... 4.20
5 gallon cans ..... 4.80

## WESTERN ELECTRIC Ajax Black Acidproof Paint

This is an acidproof, waterproof and flameproof paint. Designed for use on battery boxes, switchboards, switch handles, cable connections anl connection boxes. Also adapted for uso on armature and field coils in repair shops not equipped with baking ovens. It air dries in 8 hours.
Barrels ( 50 gallons)
Barrels (50 gill
3 gallon cans
1 gallon cans.

## WESTERN Electric Ajax Black Elastic Baking Insulating Varnish

Black, plastic, oilproof, suitable for insulating high voltage, generator windings, oil cooled transformer coils and street railway motor armature and field coils which are subjected to continued vibrations and varying loads.

## 1 gallon cans

WESTERN ELECTRIC Ajax Clear Elastic Baking Insulating VarnishA clear, tough, elastic, high heat resisting varnish. Designed expressly for insulating-form woundarmatures and field coils that are brushed while winding and as finishing-coat for completed armaturesand field coils. Excellent material for treating automobile ignition cables, canvas linen, cotton tapes, etc.13arrels (50 gallons)$7 .(10)$
5 gallon cans ..... 8.20
1 gallon carsWestern Electric Ajax Black Quick Baking Insulating VarnishElastic, high gloss, quick baking varnish, oil and waterproof. Adaptable for quick repairs to motors,generators, transformers, and as insulator for high voltage windings of large cross sections.
$\$ 3.22$
barrels (50 gallons) ..... 5. 2 ()5 gallon cims
1 gallon cans5.50Western electric Ajax Pot Head Compound or Filling Compound
(24 Lbs.) Gallons Gallons Over
$\$ 3.80 \quad \$ 3.24 \quad \$ 2.86 \quad \$ 2.66$

[^38]
## INSULATING MATERIALS

\begin{abstract}
Armalac
Drmalac is a high-grade insulating compound used for insulation of armature and field coils. It consists of a high melting point paraffine in solution in petroleum naph:tha. Being a plastic compound, it has met the requirements with perfect satisfaction. Vibration and heat cannot cause cracks or holes. Cracks or abrasions causel by workmen are self-healing; as machine warms up, no oxidation takes place. It is absolately inpervious to moisture, and lubricating oil does not affect the insulation resistance or cause acid reaction.


## Insullac

Insullac is a quick-drying transparent insulating varnish which has high non-conductive qualities. It is used for ecmenting mica, or mica and paper. When so applied the solvent shoulat be pressed out under hydraulic pressure between plates upon which 40 to 60 lbs . steam is applied and allowed to remain for fortyeight hours. Dilute with insullae thinner only. (an be furnished in any color. Where no color is specfied orange will be shipped. Black is used to render transformer coils oilproof.


## Enamelac

Enamelac is a quick-lrying glossy black insulating varnish for general use around the electric power station; used on moldings, switchboards, junction boxes, controller cases, ete. It can be applied on dirty surfaces, hot steam pipes or live boiler fronts with equal facility. 'This paint has no foul orlor.
$\qquad$
$\qquad$

## P. \& B. COMPOUND

No. 1 is used where an almost immediate drier and greatest amount of penetration possible is desired.


No. 2. P. \& B.
Compound
P. \& B. No. 1 Compound

| Description | List Price per Gal. |
| :---: | :---: |
| One gallon cans. | \$4.20 |
| Five gallon cans. | 3.84 |
| Barrel lots of about 50 gallons. . | 2.90 |

## P. \& B. No. 2 Compound

List Price
One gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 3.38$
Five gallon cans. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3.24
Barrel lots of about 50 gallons . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.50

# INDIA MICANITE PLATE 

NO. 1 India micanite plate<br>For Molding

No. 1 India Micanite Plate is made of very thin films of India mica cemented together with pure shellac and carefully surfaced to a uniform thickness.

When heated it becomes flexible and in that condition can readily be formed into such shapes as conical and band rings for commutators, troughs for armature slots, spools for magnets, and the thinner sheets rolled into tubes. Lpon cooling it regains its rigidity. It is also used for flat work where high temperature is not a factor, such as transformer insulation, ete.

It is not intended for insulation between the copper bars of commutators, and must not be used for that purpose.

For eommutator har insulation we furnish special Micanite I'late.

## Stock Thicknesses of $18 \times 36$ Inch No. 1 Plate

| List | Thickness | Approx. I.bs. | Aver, Punct. | $\begin{gathered} \text { Tist } \\ \text { Price } \end{gathered}$ | List | Thickness | Approx. L.bs. | Aver. Punct. | Prist |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | 1 nches | per Sheet | Voltage | per lab. | No. | Inches | per Sheet | Voltage | per Lb. |
| 1200 | . 010 | . 503 | 9540 | \$3.00 | 12() 7 | .1) 40 | 2.17 | 38140 | \$2.00 |
| 1201 | . 015 | 748 | 14310 | 3.00 | 1208 | . 045 | 2.25 | 42930 | 2.00 |
| 1202 | . 020 | . 946 | 19080 | 3.00 | 1209 | $6^{3} 4$ | 2.42 | 44645 | 2.00 |
| 1203 | . 025 | 1.21 | 23850 | 2.00 | 1210 | 0:0 | 2.64 | 47700 | 2.00 |
| 120.4 | . 030 | 1.53 | 28620 | 2.00 | 1213 | $\frac{1}{16}$ | 3.32 | 59625 | 2.00 |
| 120\% | $\frac{1}{32}$ | 1.64 | $2976{ }^{\text {a }}$ | 2.10 | 1216 | ${ }^{3}{ }^{3}$ | 4,92 | 89390 | 2.00 |
| 1206 | . 035 | 1.68 | 333:0 | 2.00 | 1217 | 1/8 | 6.22 | 119250 | 2.00 |

No. 1 Plate in standard size $18 \times 36$ inch wherts can bo fumished of any special thickness at following prices:
025 in. thick or over. . . . . . . . . . . . $\$ 2$. 00 prer lb. (12 4 in. thick or under . . . . . . . . . . . . . $\$ 3.00$ per lb.
Sheets of special size or shape at slight increase over above prices.

NO. 11 INDIA MICANITE PLATE
For Molding
No. 11 India Micanite J'late is made of the same quality of India mica films and shellac that is used in the No. 1 plate, but is not guite as exact to thickness.

It becomes flexible when heated, is readily molded into form, and is suitable for all general purposes where a slight variation in thickness is permissible, except commutator segments. It is not intended for insulation between the coppre bars of commutators.

Stock Thicknesses of $18 \times 36$ Inch No. 11 Plate

| 1218 | . 010 | 503 | 9540 | \$2.72 | 122.5 | . 040 | 2.17 | 38160 | \$1.96 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1219 | .015 | 748 | 14310 | 2.72 | 1226 | . 045 | 2.25 | 420330 | 1.9 |
| 12:0 | .020) | . 946 | 19080 | 2.72 | 1227 | $\frac{-3}{64}$ | 2.42 | 44645 | 1.96 |
| 1221 | . 025 | 1.21 | 23850 | 1.96 | 1228 | (0):0 | 2.6 .4 | 47700 | 1.96 |
| 1222 | . $1: 30$ | 1.53 | 28420 | 1.94 | 1231 | $\frac{1}{16}$ | 3.32 | $5962 \%$ | 1.96 |
| 1223 | $\frac{1}{32}$ | 1.64 | 29765 | 1.94 | 1231 | $\frac{3}{32}$ | 4.32 | 89390 | 1.96 |
| 1224 | . 035 | 1.68 | 33390 | 1.96 | 1235 | 1/8 | 6,2\% | 119250 | 1.96 |

No. 11 Plate in standard size $18 \times 36$ inch sheets can be furnished of any special thickness at following prices:
.025 in. thick or over
...... 81.96 por Ib. . 024 in. thick or under
$\$ 2.70$ per lb.
Sheets of special size or shape at slight increase over above prices.

NO. 2 INDIA MICANITE PLATE

## For Commutator Segment Insulation

No. 2 India Micanite Plate is made of very thin films of India mica cemented together with the smallest possible amount of pure shellac, and carefully surfaced to a uniform thickness.

This phate is specially made to be cut into segments for insulating copper bars of commutators, and cannot be molded.

Stock Thicknesses of $18 \times 36$ Inch No. 2 Plate

| 1236 | . 010 | . 567 | 95:0 | \$2. 92 | 12.4 | .045 | 2.55 | 42975 | \$2.24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1237 | . 015 | . 85 | 14325 | 2.92 | 124.5 | $\frac{3}{64}$ | 2.65 | $44(695$ | 2.24 |
| 1238 | . 020 | 1.13 | 19100 | 2.92 | 1246 | (0.0) | 2.83 | 47750 | 2.24 |
| 1239 | . 025 | 1.41 | 23875 | 2.24 | 1248 | . 060 | 3.4 | 57.300 | 2.24 |
| 1240 | . 030 | 1.70 | 2815.50 | 221 | 1249 | $\frac{1}{16}$ | 3.54 | 5968.5 | 2.24 |
| 1241 | $\frac{1}{32}$ | 1.76 | 29800 | 2.24 | 1252 | $\frac{3}{32}$ | 5.3 | 89485 | 2.24 |
| 1242 | .035 | 1.98 | 33425 | 2.2 t | 1253 | $1 / 8$ | 7.05 | 119375 | 2.24 |
| 1243 | . 040 | 2.27 | $38: 00$ | 2.21 |  |  |  |  |  |

No. 2 Plate in standard size $18 \times 36$ inch sheets can be furnished of any special thickness at following prices:
.025 in . thick or over . . . . . . . . . . . $\$ 2.13$ per lb. . 024 in. thick or under. . . . . . . . . . . . . $\$ 2.83$ per lb.
Sheets of special size or shape at slight increase over above prices.

## INDIA MICANITE PLATE AND CLOTH

NO. 4 INDIA MICANITE PLATE

This plate is made for flat work and for purposes where extreme aceuracy of thickness is not important. It is suitable for all kinds of bases, round anil square washers, and for all kinds of apparatus not subjected to high heat.

Its non-liability to fracture under ext reme vibration is a valuable feature for marine work. It does not take a serew threal, but can be drilled and turned.

No. 4 Plate is not furnished thinner than $\frac{1}{16}$ inch.

| Stock Thicknesses of $18 \times 36$ Inch No. 4 Plate |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Jist | Approximate Thickness, | Approximate Lbs. | Average Punct. | List Price |
| No. | Inches | per Sheet | Voltage | per Lb. |
| 1296 | $\frac{1}{16}$ | 2.95 | 50 ()() | \$1.54 |
| 1297 | $3{ }^{\frac{3}{2}}$ | 4.3 | 75000 | 1.54 |
| 1298 | 1/8 | ¢).9 | 100000 | 1.54 |
| 1299 | ${ }_{1}{ }^{3} 6$ | 9.85 | 1500000 | 1.54 |
| 13300 | $1 / 4$ | 13.2 | 200000 | 1.54 |
| 1301 | $3 / 8$ | 19.1 | 3000000 | 1.54 |
| 1302 | 1/2 | 25. 7 | 40) 0000 | 1.54 |

No. $f$ Plate in standard size $18 \times 36$ inch sheets ran be furnished of any sueciad thicknoss at following prices:
$\qquad$
Theets of special size or shape at slight increase over above prices.

## NO. 5 FLEXIBLE MICANITE PLATE

No. ${ }^{5}$ Flexible Micanite is made of very thin films of India mica cemented together with a sperial insulating eement of great flexibility and adhesiveness. This articie in many ways presents mica in its most convenient and economical form for electrical insulation. It can be formed or bent to shape without the application of heat.

It is an exedlent insulator for ammature slots, armature, machet and commutator cores, transformers, field coils, etc.

It can be stripped up into narrow widths, and when used in eonjunetion with Linotape makes a most efficient insulation for all kinds of conducting wires and cabtes.

Stock Thicknesses of $36 \times 36$ Inch No. 5 Plate

| List | Approximate Thickness, | Approximate Lbs. | Average Punct. | 1,ist Price |
| :---: | :---: | :---: | :---: | :---: |
| Ne. | Inches | per Sheet | Voltage | per Lb. |
| 1303 | . 10 (1) | . 575 | 29.40 | \$3.53 |
| 1304 | .010 | . 967 | 5880 | 3.00 |
| 1305 | . 015 | 1.43 | 88:0 | 2.10 |
| 1306 | (120 | 1.84 | 11760 | 2.10 |
| 1307 | . 025 | 2.24 | 14700 | 2.10 |
| 1308 | . 0330 | 2.64 | 17640 | 2.10 |
| 13309 | $\frac{1}{32}$ | 3.04 | 18315 | 2.10 |
| 1313 | $\frac{1}{16}$ | ti. 03 | 363505 | 2.10 |
| 1314 | 1/3 | 12 | 73500 | 2.10 |

No. 5 Ilate in standard size :36 $x 30$ inch sheets man be furnished of any special thiekness at following priess:
 (009 in thick or under. \$3, 3 per Il)
Sheets of special size or shape at slight increase over above prices.

## NO. 20 MICANITE CLOTH

No. 20 Micanite Cloth is mate with 1,2 or 3 layers of high-grade India mica films, carofully cemented together with overlapping edges into sheet form, the sheet being faced on one side with cotton cloth and on the othor side with Japunese paper.

It is an excellent composite insulation, and is often used in conjunction with Enopire cloth and paper, fish papor, ete, for transformers. field magnets armature eores, etc.

In strip, form it is an efficient miea insulation for wrapping all sorts of conductors. When applied in this manner it is usual to bind it in position with linotape or the ordinary friction tape.

Stock Thicknesses of No. 20 Micanite Cloth

| List | Approximate Thickness, | Layers | Approximate Lbs. | List Price |
| :--- | :---: | :---: | :---: | ---: |
| No. | Inches | of Jlica | per Roll | per Lb. |
| 1315 | .008 | 1 | 2.8 | $\$ 2.76$ |
| 1316 | .011 | 2 | 4.2 | 2.33 |
| 1317 | 014 | 3 | 3.4 | 3.00 |

## NO. 21 MICANITE CLOTH

Extra Flexible
No. 21 Micanite Cloth is identical with No. 20 Mieanite Cloth except that the material is made with a very thin rubber tissue as: a binder between the layers of mica, cloth and paper.

| Stock Thicknesses of No. 21 Micanite Cloth |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List | Approximate Thickness, | Layers | Approximate Lbs. | List Price |
| No. | Inches | of Mica | per Roll | per Lb. |
| 1318 | . 008 | 1 | 2.1 | \$3.74 |
| 1319 | . 011 | 2 | 3.5 | 3.73 |
| 1320 | . 014 | 3 | 4.7 | 2.34 |

# INSULATING MATERIAL 

NO. 24 MICANITE PAPER

No. 24 Micanite Paper is of the same nature as No. 20 Nicanite Cloth exerpt that the material is faced on both sides with dapanese tissue paper instead of cotton cloth, the object being to supply an insulation thinner than Nicanite (loth, but retaining the same thickness of mica film.

| Stock Thicknesses of No. $\mathbf{2 4}$ Micanite Paper |  |  |  |  |
| :--- | :---: | :---: | :---: | ---: |
| List | Approximate Thickness, | Layers | Approximate l.bs. | List Price |
| No. | Inches | of Nica | per lRoll | per Lb. |
| 1321 | .005 | 1 | 2,1 | 5.3 .00 |
| 1322 | .008 | 9 | 3.3 | 3.48 |
| 1323 | .011 | 3 | 4.4 | 2.07 |

## NO. 25 MICANITE PAPER

## Extra Flexible

No. 25 Mieanite Paper is similar to No. 24 Mieanite Paper exeept that the material is made with a very thin rubher tissue as a binder betwers the layers of mica, choth and paper, instead of an oil varnish, whieh is used as a binder in the No. 2.t Nicanite l'aper.

## Stock Thicknesses of No. 25 Micanite Paper

| List | Approximate Thickness, | Layers | Approximate Lbs. | list Price |
| :--- | :---: | :---: | :---: | ---: |
| No. | Inches | of Mica | per Roll | per Lb. |
| 1324 | .005 | 1 | 1.8 | $\$ .73$ |
| 1325 | .004 | 2 | 3. | 3.72 |
| 1326 | .011 | 3 | 4.1 | 3.80 |

Any special thickness or size of the above materials made on order.

## NO. 26 ROPE PAPER AND MICA

A composite inabation consisting of rope paper faced on one side with two layers of India mica films and tissue paper.

This matorial has a wide range of utility in the field of moderate voltages and temperatures.
It is furnished in sheots $36 \times 3$ itinches in the following stock thicknesses:

|  | Thickness of |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Raw I'aper, | Finished Thickness, | Layers | Approxiniate Oz, | List Price |  |
| Lo. | Inches | Inches | of Nica | per Sheet | per Lb. |
| 1327 | .003 | .007 | 2 | $71 / 2$ | $\$ 2.69$ |
| 1328 | .005 | .010 | 2 | 12 | 2.00 |
| 1329 | .010 | .015 | 2 | 15 | 1.60 |

## NO. 27 PRESSBOARD AND MICA

This material is composed of No. 1 pressboard faced on one side with two overlapping layers of India mica films and tissue paper.

Mechanically the sheet possesses greater rigidity than No. 20 rope paper and miea, otherwise, the insulation is of the same order.

It is furnished in sheets $34 \times 36$ inches and the following thicknesses are kept in stock:

|  | Thickness of <br> Raw Pressboard, |
| :--- | :---: |
| List | Inches |
| No. | .007 to . 008 |
| 1330 | .012 |
| 1331 | .015 |


| Approximate <br> Finished Thickness, <br> Inches | Layers <br> of Nica |
| :---: | :---: |
| .012 | 2 |
| .017 | 2 |
| .020 | 2 |


| Approximate Oz. | List Price |
| :---: | ---: |
| per Sheet | per Lb. |
| $141 / 2$ | $\$ 1.83$ |
| 18 | 1.56 |
| $211 / 4$ | 1.44 |

## NO. 29 FISH PAPER AND MICA

This material consists of fish paper faced on one side with two overlapping layers of India mica films and tissue paper. The fish paper employed is also known as Fyberoid, 'Tarpon Paper, Pecrless Paper, ete.

This insulation is recommented when a material stronger than rope paper or pressboard is desired as a base for the mica films.

It is furnished in sheets $36 \times 47$ inehes, and the following thicknesses are kept in stoek:

|  | Thickness of <br> Raw lish Paper, | Approximate <br> Finished Thickness, | Layers | Approximate Lbs. | List Price |
| :--- | :---: | :---: | :---: | :---: | :---: |
| List | Inches | Inches | of Mica | per Sheet | per Lb. |
| No. | .005 | .010 | 2 | 1.2 | $\$ 2.13$ |
| 1350 | .007 | .012 | 2 | 1.4 | 1.89 |
| 1351 | .010 | .020 | 2 | 1.6 | 1.71 |
| 1352 | .015 |  | 2 | 2. | 1.60 |

## INDIA AND AMBER MICANITE PLATE

NO. 22 INDIA MICANITE PLATE

## For Commutator Segment Insulation

No, 22 India Micanite llate is mate of the same quality of India mica films and shellac that is used in the No. 2 l'late.
'This plate differs from No. 2 only in that the variation of thickness is not confinel to sureh close limits. In practice it gives admirable service for commutator bar insulation, but canmot be molded.

Stock Thicknesses of $18 \times 36$ Inch No. 22 Plate

| List | Approx. Thickness, | Approx, L.hs. | Aver, Punct. | List I'rice | L, ist | Approx. Thickness | Approx. Lbs | Aver. Punct. | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | per Sheet | Voltage | per Ib. | No. | Inches | per sheet | Voltage | per lib. |
| 1254 | . 010 |  | 9\%50 | \$2.60 | 1262 | . 04.5 | 2.55 | 42975 | \$2.19 |
| 1255 | .01: | 8:5 | 1432:5 | 2.60 | 1263 | $\frac{3}{64}$ | 2.15 | 44695 | 2.19 |
| 1256 | . 020 | 1.13 | 19100 | 2.10 | 126.4 | .050 | $2 \times 3$ | 47559 | 2.19 |
| $12.5 i$ | . 025 | 1.41 | 23875 | 2.19 | 1266 | . 040 | 3.4 | \%330) | 2.19 |
| 1258 | .030 | 1.70 | 28650 | 219 | 1267 | $\frac{1}{16}$ | 3.54 | 5968.5 | 2.19 |
| 12.59 | $\frac{1}{32}$ | 1.76 | 29800 | 2.19 | 1270 | $\frac{3}{32}$ | 5.3 | $8948 \%$ | 2.19 |
| 1260 | .0,35 | 1.98 | 30.32\% | 2.19 | 1271 | 1/8 | 7.05 | 11935 | 2.19 |
| 1261 | . $0 \cdot 40$ | 2.27 | 3 S 200 | 2.19 |  |  |  |  |  |

No. 22 l'ate in standard size $1 \mathrm{~S} \times 36$ inch sheets can be furnished of any thickress at following prices: .025 in . thick or over. . . . . . . . . . . . . Sg. 19 per Ib. . 02 t in, thick or under. . . . . . . . . . . . . 82.60 per lb . Sheets of special size or shape at slight increase over above prices.

## NO. 3 AMBER MICANITE PLATE

## For Commutator Segment Insulation

No. 3 Amber Micanite I'late is made of very thin films of (anadian amber mica cemented together with pure shellae and carefully surfaced to a miform thirkness. This plate is in every way identical with the No. 2 India Plate, exrept in the mica. This being Canadian an ber, the pate is softor and presents less liability of failure to wear down evenly with the copper. For commutators containing a larger mumber of bars, or where the insulation is thicker than $\frac{1}{32}$, or where copper bars and brashes are softer than those usually employed, we recommend the use of No. 3 Plate instead of No. 2.

This plate cannot be molded.

## Stock Thicknesses of $18 \times 36$ Inch No. 3 Amber Plate

| 1272 | .020 | 1.17 | 16100 | \$4.00 | 1278 | . 0.45 | 2.64 | 37350 | \$3.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 127.3 | . 025 | 1.47 | 20750 | 3.50 | $127^{\circ}$ | $\frac{3}{64}$ | 2.74 | 388.15 | 3.50 |
| 1274 | .0:30 | 1.76 | 24000 | 3.50 | 128) | . 050 | 2.94 | 41500 | 3.50 |
| 1275 | $\frac{1}{32}$ | 1.83 | 225895 | 3.50 | 1282 | . 010 | 3.52 | 49800 | 3.50 |
| 1276 | .035 | 2.05 | 29050 | 3.50 | 1283 | ${ }_{1}^{16}$ | 3.67 | 51875 | 3.50 |
| 1277 | . 010 | 2.35 | 3:3200 | 3.50 |  |  |  |  |  |

No. 3 Plate in standard size $18 \times 36$ inch shects can be furnished of any special thickness at following prices:
 Sheets of special size or shape at slight increase over above prices.

## NO. 33 AMBER MICANITE PLATE <br> For Commutator Segment Insulation

No. 33 Amber Mieanite Plate is made of the same quality of Canadian amber mien films andshellare that is used in the No. 3 Plate.

This phate differs from No. 3 only in that the variation in thickness is not confined to such close limits. In practice it gives admirable service for commutator work.
'This plate cannot be molded.
Stock Thicknesses of $18 \times 36$ Inch No. 33 Amber Plate

| 1284 | . 020 | 1.17 | 16000 | \$3.35 | 129) | 045 | 2.64 | 373:0 | \$3.57 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1285 | . 025 | 1.47 | 20750 | 3.57 | 1291 | $3^{3}$ | 2.74 | 38845 | 3.57 |
| 1286 | . 030 | 1.76 | 24900 | 3.57 | 12!3' | . 050 | 2.94 | 4150) | 3.57 |
| 1287 | $\frac{1}{32}$ | 1.83 | 25895 | 3.57 | 129.4 | . 060 | 3.52 | 49800 | 3.57 |
| 1288 | . 035 | 2.05 | 29050) | 3.57 | 1295 | $\frac{1}{16}$ | 3.67 | 51875 | 3.57 |
| 1289 | . 0.40 | 2.35 | $33: 20)$ | 3.57 |  |  |  |  |  |

No. 33 Plate in standard size $18 \times 36$ inch sheets cam be furnished of any special thickness at following prices:
.025 in. thick or over
$\$ 3.57$ ner lb. . 024 in. thick or under
.$\$ 3.35$ per Ib.
Sheets of special size or shape at slight increase over above prices.

# INSULATING MATERIAL 

## Untreated Papers, etc.

Mico express paper is manufactured for us to miorometer galuge, therchy insuring uniform thickness. Special care is taken in preparing and beating the paper stock, and in calendering the sheets to provide a strong, tough paper.

| List |  |
| :--- | :---: |
| No. | Material |
| 2619 | Express |
| 2620 | Express |
| 2621 | Express |

Thickness
.0033
.005
.009

| Wilth of Roll | Approx. L.bs. of Roll | Approx. Size of Sheets Inches |  | bs. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Inches |  |  | Sq. I'ds. | per Sheet | per Lh, |
| 36 | 120 |  | 15 |  | 80.31 |
| 36 | 125 |  | 25 |  | . 34 |
| 36 | 125 |  | 45 |  | :34 |

Mieo red rope paper is manufatured from an all hemp stock, free from pin holes, and is guaranted to contain no wood pulp. The coloring ligment is carefully selected and is free from deleterious matter.

| 2629 | Red Rope | .005 | 36 | 100 | 27 | $\$ 0$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $26 i 30$ | Red Rope | .010 | 36 | 100 | 47 |  |
| 2631 | Red Rope | .015 | 36 | 100 | 49 | .42 |

Mien cemment rope paper is an uneolored, high finished hemp rope stoek paper, espeeially recommended for strength and freedom from pin holes.

| 2635 | Cement R | .005 | 36 | 100 | 19 | 80.42 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26337 | Cement k | . 0107 | 315 | 100 | 27 | 42 |
| 26:38 | Cement K | .(110) | 36 | $10 \%$ | 38 | 42 |
| 26.40 | Cement IR | . 015 | 36 | 100 | 57 | 42 |

Nieo fullerboard is a smooth, tough, dense, vellow insulating board, more phiable and not as hard as fiber, and a better insulator. It can be furnished in rolls in thicknesses up to . 017 at slight increase in prices.

| 2650 | Fullerboard | . 008 | $32 \times 36$ | \$0.30 |
| :---: | :---: | :---: | :---: | :---: |
| 2651 | Fullerboard | . 010 | $32 \times 36$ | . 31 |
| 26.52 | Fullerboard | . 012 | $32 \times 36$ | 30 |
| 2653 | Fuallertoard | . 015 | $32 \times 315$ | . 30 |
| 2654 | Fullerboard | . 017 | $32 \times 36$ | .30 |
| 26:55 | Fullerboard | . 020 | 32 $\times 36$ | .30) |
| 2656 | Fullerboard | .032 | $32 \times 36$ | .30) |

Mien fish paper is somewhat similar to hard fiber, but is a much botter insulator and has greater flexibility. Lligh temperatures do not affect it to the same extent as they do other insulating papers.

| 2670 | Fish Paper | . 005 | 46 | 25 |  | 28 | \$1.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2671 | Fish Paper | . 007 | 46 | 25 |  | 38 | $1.01)$ |
| 2672 | Fish Paper | . 010 | 46 | 25 |  | 53 | 1.00 |
| 2673 | Jish J'apur | . 015 | 46 | 25 |  | 88 | $1 .(1)$ |
| 2674 | Fish I'aper | . 020 |  |  | $36 \times 48$ |  | 1.00 |
| 2675 | Jish laper | . 025 |  |  | $36 \times 48$ |  | 1.00 |
| 2676 | Fish laper | ${ }^{\frac{1}{3}}$ |  |  | $36 \times 48$ |  | 1.01 |

Mieo hard fiber is a tough, dense, hard, bonelike insulator of consiberable value where it can he used in dry positions.

| 2681 | lard Fiber | $\frac{1}{32}$ | 36i $\times 48$ | 2.7 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2682 | llard Fiber | $\frac{1}{16}$ | $36 \times 48$ | 5.3 |  |
| 2683 | lard liber | $\frac{3}{32}$ | $36 \times 48$ | 8 |  |
| 2684 | Hard liber | 1/8 | $36 \times 48$ | 10.5 | Price |
| 2685 | Hard Jiber | ${ }_{1}{ }^{3}$ | $36 \times 48$ | 16 | on |
| 2686 | Hard Fiber | 1/4 | $36 \times 48$ |  | anplication |
| 2787 | llard Fiber | $3 / 8$ | $36 \times 48$ | 31.5 |  |
| 2688 | llard liber | $1 / 2$ | $36 \times 48$ | 42.5 |  |
| 2689 | Lard Jiber | 5/8 | $36 \times 48$ | 52.5 |  |
| 2690 | Hard Fiber | $3 / 4$ | 36 x 48 | 65 |  |

Mico horn fiber is not chemically treated. It is more flexible than ordinary hard fiber; more ductile and better for slot insulation.

| 2692 | Iorn Fiber | .005 | 42 | 1.50 | 21 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2693 | Horn Fiber | 0010 | 42 | 150 | 50 | Price on |
| 2694 | IIorn Fiber | 015 | 42 | 150 | 100 | applieation |
| 2695 | Horn Fiber | .020 | 42 | 150 | 100 | 112 |

Mico paraffin coated papers are valuable for slot insulation as the paraffin coating acts as a lubricant, as well as a protection from moisture.

| 2700 | Fxpress | .005 | 36 | 100 | 35 | 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| 2701 | Fxpress | .007 | 36 | 100 | 50 | 80 |
| 2702 | jish Paper | 005 | 46 | 100 | 32 | 80 |
| 2703 | Fish Paper | .007 | 46 | 100 | 44 | 1.70 |

Mico fiber tubes and rods are furnished in either red or black. Special prices on receipt of specification.

# Western Electric 

Mico Irish linen is a very thin imported linen cloth of high finish, free from nap, and considering its thinness, of considerable strength.


Mico sheeting is an cxeeptionally strong, soft finished cotton cloth male up without stareh.
2.23 Sheeting
011
36
50

Mico linen is a good grade of innorted heavy Irish linen somewhat coarsely woven, but of considerable tensile strength.

Priecson

Mico drill is a weight between sheeting and 8 ounce duck. It has great strength, of soft finish and without starch filling.

2730 Drilling. ..................................................017 20 120 Prices
Mico 8 ounce duck is a strong light duck of superior fuality.

Mico $121 / 2$ ounce duck is an exceptionally strong, heary duck, useful for armature work, ete.
$2738121 / 2 \mathrm{oz}$. duck
030
36
120
Prices on untreated cloths quoted on application.

## Mico Cement

Mico Cement is a special cement of high insulating value, water repellent, waterproof and flexible. This is a most satisfactory cement for stieking together oily, glossy surfaces such as that possessed by Linotape, Empire cloths and papers.

For pasting labels onto oily or damp surfaces it has no equal.
The "setting up" of Mico Cement is hastened by the application of heat, but its adhesive qualities are equally as good withont it.

Mieo Cement has such excellent and unusual quadities that if trouble is being experienced with any other cement of whatever nature, we would advise giving Mico Cement a triak. New fields are continually being found for its use.

Mico Cement requires a special solvent, which we also supply when it is necessary to reduce the consistency of the cement.

| List <br> No. | Material | ILow Furnished | List Price per Gal. |
| :---: | :---: | :---: | :---: |
| 3075 | Mico Cement. | 1 qt. cans | \$4.80 |
| 3076 | Mico Cement. | 1 gal cans | 4.20 |
| 3077 | Mico Cement. | 5 gal. cans | 3.60 |

## Mico Liquid Insulating Glue

This is a special glue made for gluing tipe ends and for similar purposes. Will not attract moisture and does not require heat for setting.
micanite tubing
We furnish square, oval, hexagonal and other special shaped tubing of any size for special insulating requirements; large round tubing for induction coils, specially treated tubes or bushings for apparatus inmersed in oil, special heat-proof hushings rolled without cement for spark plugs, gas engines, ete. Net prices quoted on receipt of specification.
liound Nicanite Tubing is manufactured in various grades as follows:

## ENTIRE MICANITE TUBING

This tubing is made entirely of Micanite with no paper whatsoever in its construction. It is recommended for high potential work; for apparatus subjected to sufficient heat to render paper objectionable. For sleeves for small cornmutators; brush holder studs, grid rheostat rods, ete.

A thin covering of paper is applied, when requested, on the outside of the tube to guard against the scaling of the mica when mica washers or metal parts are to be assenbled on the tubes. Such covering is less than 2 per cent. of the material.

## MICANITE AND RICE PAPER TUBING

This tubing is composed of 85 per cent. Micanite and 15 per cent. paper and is used universally where high-grade insulation is required. The small amount of paper does not materially affect the insulating qualities of the tube. It effects a saving in the cost of manufacture, enabling us to offer this grade at a lower price than the entire Micanite Tubing.

## ROUND MICANITE TUBING

List price per foot in lengths of one foot and over.
Lengths under one foot special prices.

|  | En |  | $\text { ite } T$ | ubes |  |  | Inside <br> Diam. | Micanite and Thick | $\text { d Rice } P$ ness of | $\text { aper } T$ Wall |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ins. | ${ }_{3}^{13} \mathrm{I}$ In. | ${ }_{1}^{16} \mathrm{In}$. | ${ }_{3}^{3}{ }_{3} \mathrm{I}$ Tn. | $1 / 3 \mathrm{In}$. | ${ }_{16}^{3} \mathrm{In}$ | 1/4 In . | Ins. | ${ }_{\frac{1}{32}}^{12} \mathrm{ln}$. | ${ }_{16}^{1} \mathrm{In}$. | ${ }_{3}^{3} \mathrm{~S} \mathrm{In}$. | 1/8 In. |
| 1/8. | \$0.23 | 50.28 | 80.36 | s0.49 | S0.70 | \$1.03 | 1/8 | 80.18 | 80.23 | 80) 29 | 80.38 |
|  | . 24 | . 32 | 41 | . 5.4 | 81 | 1.13 |  | 19 | 20 | \% 3 | . 43 |
| 1 | 18 | $\cdots$ | . 31 | 49 | 76 | 1.13 | $1 / 4$ | 14 | 21 | -8 | 39 |
|  | 18 | . 30 | 41 | . 51 | $8 i$ | 1.24 |  | 15) | 23 | 32 | 45 |
| $\frac{18}{36}$ | 19 | 30 | 41 | 54 | 92 | 1.35 |  | 110 | 23 | 3:3 | $\stackrel{7}{7}$ |
|  | 22 | 31 | 45 | 6: | 9 | 1.40 |  | 115 | 25) | 37 | 5 |
| $1{ }^{16}$ | 22 | 36 | . 51 | .7) | 1.08 | 1.51 |  | 18 | 29 | 43 | .5: |
|  | 2. | 39 | it | 76 | 1.19 | 1.62 |  | 19 | . 31 | 43 | (i) |
| 5 | 24 | 41 | 59 | 81 | 1.24 | 1.88 |  | $\because 1$ | 32 | 44 | . 67 |
|  | 26 | 4.3 | (6:3 | 81 | 1.35 | 1.89 |  | 23 | .35 | .53 | . 71 |
|  | 27 | 45 | 71 | .92 | 1.46 | 2.00 | , | 24 | 36 | . 56 | . 86 |
|  | $2 \times$ | 46 | $\because$ | 97 | 1.51 | 2.11 | 13 | 25 | 37 | . 99 | . 81 |
| 15 | . 30 | 49 | 76 | 1.03 | 1.62 | 2.27 |  | 27 | 37 | 63 | 8if |
|  | 32 | . 0 | 81 | 1.08 | 1.67 | 2.32 | 15 | 28 | .39 | 65 | 92 |
|  | .36 | . 5 | sis | 1.19 | 1.78 | 2.48 |  | 30 | 4.5 | 73 | 99 |
|  | 37 | 58 | $9: 3$ | 1.24 | 1.94 | 2.59 |  | 32 | 49 | 76 | 1.03 |
|  | 39 | 60) | 97 | 1.30 | 2.00 | 2.70 | 11 | .33 | 51 | 81 |  |
| 1 | 410 | 6is | 1.12 | 1.35 | 2.05 | $\because .86$ | 1, | .3.3 | 54 | st | 1.13 |
|  | 41 | 67 | 1.05 | 1.40 | $\stackrel{2}{2} 16$ | 2.97 |  | \% | iti | 8 8is |  |
|  | 43 | 49 | 1.18 | 1.51 | $\stackrel{2}{2}$ | 3.18 |  | .3s | 5is | 9 | 1.27 |
| $13 \%$ | 45 | .71 | 1.13 | 1.57 | 2.32 | 3.19 |  | 41 | 59 | (19) | 1.310 |
| 17 | 45 | 73 | 1.11 | 1. 6 '2 2 | $2 \cdot 43$ | 3.3 .7 | ${ }_{1}^{1} \frac{1}{16}$ | 41 | ${ }^{193}$ | 199 | 1.35 $1+10$ |
| $11 /$ | 49 | 79 | 1.21 | 10 | 2.54 | 3.46 |  | 15 |  |  |  |
|  | 50 50 5 | 818 | 1.330 | 1.73 1.78 | $\stackrel{2}{2} .89$ | 33.86 | 15 |  | 70 | 1.18 | 1.51 |
|  | .54 | $8(5$ | 1.40 | 1.81 | 2.81 | 3.78 |  |  | . 3 | 1.19 | 1.57 |
| 1 | . 54 | 88 | 1.46 | 1.89 | 2.85 | 3.89 | 13 |  | 76 | 1.21 | 1. (i) |
| 11 | . 510 | 92 | 1.46 | 1.97 | 2.97 | 4.00 | 11 |  | \%9 | 1.24 | 1.62 |
| , | 57 | 95 | 1.51 | $\underline{2} 00$ | 3.18 | 4.10 | 17 |  | . 81 | 1.27 | 1.73 |
| $1 \frac{15}{16}$ | . 59 | 97 | 1.62 | 2.11 | 3.13 | 4.21 | 11 |  | 83 | $1.31)$ | 1.73 |
| 2 | (i5) | 1.13 | 1.73 | 2.16 | 3.24 | 4.43 |  |  | 86 | 1.38 | 1.81 |

Above list price applies only on orders of 50 feet and over of a size. For orders less than 50 fect but over 24 fret add 10 per cent. to list. For orders less than 24 feet add 20 per cent. to list.

## MICANITE AND ASBESTOS TUBING

This tubing is composed of 60 per ernt. Micanite and 40 per cent. of asbrstos. It is intended for apparatus subjected to moderate heating where a lower priced tube than the Fintire Micanite Tubing will answer the requirements. It is used on grid rheostats, resistance boxes, etc.

## MICANITE AND ROPE PAPER TUBING

This tubing is composed of 60 per cent. Micanite and 40 per cent. paper. It is recommented for apparatus which is not subjected to enough heat to affert the paper and where the insulating requirenents are fully met by a composite material of this kind. This grade has been adopted by nany street railway companies for grid rheostat rods.

## SPECIAL FEATURES FOR SOCKETS-All Makes



Sockets with
Extrallong keys


Sockets with


Sockets for Special Metal Keys


Pull Sockets with Extension Chain Guides

## $\ddagger$ Sockets with Extra Long Keys

The key sockets listed in this Bulletin have kers ${ }^{7}$ \& inch long. hut can be fitted with longer keys on sueciah urder, which must specify distane desired between outside of shell and end of key.

The following lengths are carried in stock:
1 inch, same price and standard package as regular. Sockets with 78 inch and 1 inch kers may be asorted to make up standard package quantity. Sockets with kers longer than 1 inch may not be assorted with sockets having $7 / 8$ ineh and 1 inch keys to make up standard package quantity.
$11 / 4,11 / 2,2$ and $21 / 2$ inches, add to list price of Standard sockets, 11 cents; to Mfrs. List, 5 cents. Standard packige, 100 of one length. On orders for sockets with extra long keys, where the length is not given, we furnish 1 inch. $\ddagger$ Sockets with Metal Keys

We are prepared to fit to any key socket in this Bullet in a metal key as shown in ilhustration. This key is detarchable, so that it may be given the same finish as the socket or fixt ure. The standard notal key measures 3 inch' from the end to the shedh. Ionger kers will be furnished on special order.

Sockets wiblotal keys not longer than 1 inch, add to list price of standard sockets 1 is cents; to Mfrs. List 7 conts.

Sockets with metal keys longer than 1 inch, add to list price of Standard sockets 26 cents; to Mfrs. List 12 cents. Standard package, 100 of one length.

We are prepared to fumish sockets, as shown in the illustration, designed to recelve a special key furnished by the fixture manufacturer, to mat ch the fixture. The threaded metal part of the key mandrel is thoroughly insulated from the other parts of the socket. The screw is $\frac{21}{61}$ inch diameter, 26 threads.

Adel to list price of Standardsockets, 15 cents; to Mfrs. List 7 ecnts. Standard pachage, 100.

## $\ddagger$ Pull Sockets with Extension Chain Guides

Pull sockets installed in husks or socket covers require extension chain guides to carry the chain free of cover and shade. The chain guide is not attached to the socket shell but to the sorket mechanism. It is detachable and separable and com be removed for refinishing. By carrving a stock of rarious lengths of guides, it is possible to convert standard sockets into sockets with cxtension guides, making it unnecessary to carry a stock of completed sockets with various lengths of chain gudes atached. The hole in the husk need not be more than $5^{5}$ inch. The portion of the extension chain guide which is attached to socket extends less than ${ }^{1}$ inch outside of socket shell, making it possible to insert the socket in any husk, no matter how closely it follows the outline of shell. Extension chain guides of following lengt ths furnished from stock: $3 / 6,3 / 4,1,11 / 4$ and $11 \frac{2}{2}$ inches. Additional list price either assembled on sockets or loose, 26 cents; to Mifs. List. 12 cents. Standard package quantity. 50 of one length or 100 of assorted lengths. Sockets with extemsion chain guides may not be combined with sockets having regular chain guides to make up a standard package quandity.

## Pull Sockets with Chains of Special Lengths

The standard fength of chain on all pull sockets, except miniature and candelabra is 8 inches. Sockets with chains shorter than 8 inches will be billed at the same price as regular. For sorkets with chains longer than 8 inches, add to list price per foot, $2 \boldsymbol{2}$
 conts; to Mifs. Eist, 10 cents. For special finishes on chains longer than 8 inches, add to list price per foot 4 cents; to Mirs. List, 2 cents.

## Pull Sockets with Silk Cord

Pull sockets can be furnished with silk cord in any desired color instead of chain. For sockets wit L corils not longer than 8 inches. add to list price 11 cents; to Mfrs. List, 5 cents.

For sockets with cords longer than 8 inches, add to list price per foot, 33 cents; to Mfr:s. List, 15 cents.

## Pull Sockets with Linen Cord

Pull sockets can be furnished with a short chain and 3 feet of linen cord, complete with ball, similar to that regularly furnished with pull switch rosettes without extra charge. lor cords longer than 3 fect, adel to list price per foot, otez cents; to Mfrs. List, 1 cent.

## $\ddagger$ Pull Sockets with Insulated Chain

Pull sockets can be furnished with insulated chain accomplished by inscrting a liece of fiber rod in the chain about 2 inches below the chain guide. For sockets so equipped add to the list price, 333 cents: to Mfrs. List, 15 cents.

The standard package quantity will be the same as for the Standard socket in ronnection with which the insulated chain is ordered.
$\ddagger$ National Electrical Code Standard.


No. 512
9


Socket Cap with Special Bushing

## Pull Socket Chain and Parts

| $\begin{aligned} & \text { J.ist } \\ & \text { No. } \end{aligned}$ | ${ }^{4}$ Description | Carton Quantity | Std. Pkg. | Pkg. Wt. Oz . | Mirs. List | $\begin{aligned} & \text { W. E. } \\ & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bead chain (per foot) |  | 1000 ft . |  |  |  |
| 810 512 | Splicing link Snap-lock ball | 200 | 200 | 4 | .025 | $7.50 \text { per Car }$ |
| E11; | Suap-lack back labll for Candolabra Chanin. | 250 250 | 250 -50 | 12 | . $10+7$ | 22.50 per Car |
| $\underline{1} 13$ | Insulating link . . . . . . . . . . . . . . . . . | 100 | 100 | $\stackrel{2}{6}$ | . 01 | 22.50 per Car |

Standard finish on the above is brush or old brass, which will be supplical when no other finish is specified. All other finishes will be special and will be charged extra as follows: Chain so. 04 list per foot; Mfrs. list $\$ 0.02$; balls and links, $\$ 0.04$ each list. Mfrs. Jist SO, (0)

All New Wrinkle and Wrinklet Pull Sockets are supplied with the No. $\bar{j} 12$ Rall listed above. It may be detached and attached with the utmost ease, when necessary, but cannot be detached by any stran to which it will be subjected in service, no matter how severe.

## Chain Guides

The Standard chain guide, when sold separately from the socket, will list at 50.11 . Wrs is S0,0.). Standard package, 250. Extension chain guides described on the opposite page. when sold separately, will list at $\$ 0.26$. Mirs. List $\$ 0.12$. Standard package, 50 of one length or 100 of assorted lengths For special finishes on chain guides, add to list price $\$ 0.04$. Mírs, List $\$ 0.02$

## Sockets for Gas Filled Lamps

Sockets for gaf filled lamps must be waxed with a compound which will not soften under heat. The Mogul base sockets listed are regularly so made. For medium base sockets to be used with gas filled lamps, add to list price $\$ 0.07$. Mirs. List $\$ 0.03$.

## ${ }^{4}$ Sockets with Lamp Grips

All Mogul base sockets and most medium base sockets fisted in this Bulletin ran be equipped with a amp grip, which effectually prevents the lamp from accidentally unscrewing. For sockets so equipped, add to list price $\$ 0.11$. Mirs. List \$0. 1 Z .

## Socket Caps with Special Bushings

Most caps of brass shell sockets can be furnished with insulated bushing, as illustrated. The purpose of this construction is to provicie a passage for the conductors when the support for the socket is a rod

## Sockets and Receptacles in Special Finishes

It is of meat advantage to the electrical trade to be able to obtain on short notice sockets in various special finishes

To meet the demand for this class of goods we are now carrying in stock sockets in special finishes for which there is a large dernand, such as pulished brass. oxidizel copper. polished nickel, ete
In placing ord

## LIST OF SPECIAL FINISHES

The atandard finish of all brass shell sockets is brush brass. which will be supplied where no finish is specifiod.
legularand special finishise of one List No. may be assorted to nake up standard package quantity which will be the same as though all were regular finish.
list prices for devices bought knoeked down will be as follows:
For caps and bases, one half the list given in column A. Jor bodies, deduct from lists in columns A, B, C or 1 ), one half the list for the same finish in column $A$.

Finish

A
Rey and Reyless
Sockets and
Wall Suckets
Add to Inst
W. E. List Mfrs. List

Fey and Kicyless
Sockets and Wiall Sockets with Shade-
Holder Attached
Add to List

C
Pull Sockets and l'ull Wall sockets Add to List

D
Pull Sockets and I'ull Wall sockets with Shade-Holder Attached Add to Jist W. E. List Mfrs. J.ist W. E. List Mirs. List 80.03

10
$\$ 0.11$
$26 \quad \$ 0.05$

 .09 . 04 Noadvance No | 13 | .06 |
| :--- | :--- |
| 06 |  |


 No adrance No idvance Noadvance No advance No atwance No atvance No advance No advance
 .22
.22

| 22 | . 10 | . 26 | 12 |
| :---: | :---: | :---: | :---: |
| 22 | 10 | . 26 | 12 |
| 22 | 10) | . 26 | 12 |
| 22 | 10 | . 26 | 12 |
| $2 ?$ | 10 | 26 | 12 |
| 22 | .10 | 26 | 12 |
| 22 | 10 | 26 | 12 |
| 22 | 10 | 26 | . 12 |
| 33 | 15 | 37 | 17 |
| 22 | 10 | 26 | 12 |
| 22 | 10 | 26 | .12 |
| 22 | 10 | 26 | . 12 |
| 22 | 10 | 26 | . 12 |
| 22 | 10 | 26 | . 12 |
| 13 | Ot | 17 | . 08 |
| 22 | 10 | . 26 | . 12 |
| 22 | 10 | 26 | 12 |
| . 22 | 10 | 26 | 12 |
| . 22 | . 10 | . 26 | . 12 |
| 22 | . 10 | . 26 | . 12 |
| . 07 | . 03 | . 11 | . 05 |
| 07 | . 03 | . 11 | 05 |
| . 33 | . 15 | . 37 | 17 |
| 33 | 15 | . 37 | . 17 |
| 33 | . 15 | . 37 | . 17 |
| 07 | 0.3 | . 11 | . 05 |
| 22 | . 10 | . 26 | . 12 |
| . 13 | . 06 | . 17 | . 08 |
| 33 | . 15 | . 37 | 17 |
| 33 | . 15 | . 37 | . 17 |
| 33 | . 15 | . 37 | 17 |
| 33 | . 15 | . 37 | 17 |
| 33 | . 15 | . 37 | .17 |
| 22 | . 10 | . 26 | . 12 |
| 33 | . 15 | . 37 | .17 |

12
12
12
12
12
12
12
12
17
12
12
12
12
12
08
12
12
12
12
12
05
05
17
17
17
05
12
08
17
17
17
17
17
12
17

[^39]THE NEW WRINKLE WIRING DEVICES


No. 13


No. 32


No. 10, 11 and 12


No. 31


No. 14

New Wrinkle Sockets
Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. Pkg. | Carton | Mfrs. List Price Each | W. E. List Price per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 13 | Keyless socket, 660 watts, 250 volts . | 500 | 25 | \$0.2:3 | \$12.50 |
| 32 | Keyless socket, with Spartan outlet, each outlet, 660 watts, 250 volts. | 100 | 10 | 48 | 10.60 |
| 10 | S. P. key socket, 250 watts, 250 volts. | 500) | 25 | 26 | 14.50 |
| 11 | I). P' key socket, 250 watts, 250 volts . | 500 | 25 | . 26 | 14.50 |
| 12 | (2. 'l'. key socket, 66.0 watts, 250 volts. . | 500 | 25 | 29) | 16.00 |
| 31 | (Q. 'T' key socket, with Spartan outlet, each outlet 660 watts, 2.50 volts | 100 | 10 | 51 | 11.20 |
| 14 | 'Turn socket, 250 watts, 250 volts. | 100 | 25 | . 53 | 24.50 |



No. 15 and 35


No. 33


No. 16 and 17

New Wrinkle Sockets and Receptacles

| Schedule "B" |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  |  | Carton | Schedule | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Irice } \\ & \text { Each } \end{aligned}$ |  |
| 15 | Pull socket, 250 watts, 2.50 volts | 250 | 25 | 13 | \$0.53 | \$29.00 |
| 35 | High cap, pull socket, 660 watts, 250 volts . | 250 | 25 | 13 | . 59 | 42.50 |
| 33 | Pull socket with Spartan outlet, socket outlet 2.50 watts 250 volts, Spartan outlet 660 watts 250 volts. | 100 | 10 | 13 | . 78 | 17.20 |
| 16 | Twin pull socket, $2 \overline{5} 0$ watts, 250 volts (Both outlets operate on and off simultaneously). | 20 | 10 | B | 1.08 | 19.80 |
| 17 | Twin pull socket, 250 watts, 250 volts (boturn outlet), 660 watts, 250 volts (side outlet). Side outlet on all the time. Top outlet, on and off. | 20 | 10 | 13 | 1.08 |  |
| $\underline{29}$ | Spartan plug receptacle, 10 amperes, 250 volts........ | 20 | 10 | II | . 38 | 6.46 |

National Electrical Code Standard. Everything, except No. 16.

## THE NEW WRINKLE WIRING DEVICES



New Wrinkle Switches
Schedule "H"



No. 26


No. 25


No. 20


No. 27


No. 21


No. 28
New Wrinkle Rosettes and Switches
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. <br> Ikg. | Carton | Mirs. List Price Each | W.E.List Price fer Carton |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 26 | Rosette, 3 amperes, 260 volts | 20 | 10 | 80.26 | \$4.80 |
| 25 | Pull switch rosette, 3 anperes, 125 volts, 1 ampere, 250 volts. | 50 | 10 | 1.06 | 19.60 |
| 20 | S.I', pull ceiling switch, 3 amperes, 125 volts, 1 ampere, 250 volts. | 50 | 10 | 1.06 | 19.60 |
| 27 | Electrolier pull ceiling switeh, 3 amperes, 125 volts; 1 ampere, 250 volts: operating 1-2-1 and 2 off. | 50 | 10 | 1.66 | 30.60 |
| 21 | S.I'pull fixtureswit eh, 3 amperes, 125 volts, 1 ampere, 250 volts. | 50 | 10 | 1.36 | 25.00 |
| 28 | Vilectrolior pull fixture switeh, 3 amperes, 12.5 volts, 1 ampere, 250 volts; operating 1, 2, 1 and 2 off | 50 | 10 | 1.96 | 36.00 |

## PARTS OF SOCKETS

Schedule "B"

| 1)escription | Mogul Std. Pkg. | Med. Cand. Miniature Std. Pkg. | Mogul Mfrs. list | $\begin{gathered} \text { Mogul } \\ \text { W.E.List } \end{gathered}$ | Med.Cand. Miniature Mfrs. List | Med. Cand. Miniature W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shells, key, without tining. |  | 250 |  |  | $80.07^{1 / 2}$ | \$0.17 |
| Shells, keyless, without lining | 50 | 250 | \$0.45 | \$1.00 | . $071 / 2$ | . 17 |
| Shells, pull, without linings |  | 250 |  |  | . $071 / 2$ | . 17 |
| (aps, $1 / 8 \mathrm{inch}$, without linings |  | 2.50 |  |  | Of11/2 | . 15 |
| (atps, $1 / 4$ inch, without linings |  | 250 |  |  | $1.51 / 2$ | . 34 |
| (aps, 36 inch, without linings. | 30 | 250 | (63) | 1.38 | 121/2 | . 27 |
| Caps, pendent, without linings |  | 250 |  |  | $061 / 2$ | . 15 |
| Linings, shell, all kinds. | 50 | 250 | . 09 | 20 | . $021 / 2$ | . 06 |
| Linings, eap, all sizes. | 50 | 250 | . 02 | 05 | .001/2 | . 01 |
| Interiors, key and push. |  | 250 |  |  | 16 | . 36 |
| Interiors, key "(). 'T." (660 watts) |  | 250 |  |  | . 19 | 42 |
| Interiors, keyless. | 51 | 250 | .31 | 68 | 13 | 28 |
| Interiors, pull, 250 watts, without chain or guile |  | 250 |  |  | . 30 | 66 |
| Interiors, pull,250watts, with chain, hall and guide |  | 250 |  |  | 43 | . 94 |

National Electrical Code Standard.

> No. AN

| Std. | Carton | he New V |  | Wrink |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Mirs. | W. E. |  |
|  |  | list | List pet | List. |
| J kirs. |  | liach | Carton | Nu. |
| 500 | 25 | S(0).07 | \$4.00 | NE |
| 100) | 25 | . 16 | 7.50 | $\Lambda{ }^{\prime}$ |
| 2.50 | 25 | . 13 | 7.00 | A i |
| 50 | $\cdots$ | . 19 | 8.50 | AII |
|  |  |  |  | N' |


|  |  | Schedule "B"" |  |
| ---: | :---: | ---: | ---: |
|  |  | Mffrs. | W. E. |
| Std. |  | List | List per |
| Pkg. | Carton | Each | Carton |
| 100 | 25 | $\$ 0.07$ | $\$ 3.00$ |
| 50 | 25 | .16 | 7.50 |
| 100 | 25 | .16 | 7.50 |
| 50 | 25 | .20 | 10.00 |
| 500 | 25 | .07 | 4.00 |



New Wrinkle Plug and Bases

| List No. |  | Outside 1) iam. | $\begin{aligned} & \text { Sorew } \\ & \text { IIoles } \\ & \text { Spared } \end{aligned}$ | Sth. <br> PKと. | C'arton | Nfrs. List Fach | W. E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AV | Attachument jhlur |  |  | 50 | 10 | 80.27 | \$5.00 |
| A | Siottex basa . . . | ${ }_{2}{ }^{16}$ | 11/8 | 100 | 10 | . 18 | 4.00 |
| AY | Simall concealed base. | 21.6 | $11 \%$ | $251)$ | 10 | . 18 | 4.00 |
| $1 \%$ | Large concoilded biase. | $27 / 8$ | ${ }^{-1} \frac{5}{16}$ | 1010 | 10 | .33 | 5.00 |
| B.1 | Angle concoaled base |  |  | 100 | 10 | . 23 | 5.00 |
| , 1V | Cleat base . . . . . . . | $\cdots$ | $2 \frac{5}{32}$ | 350 | 10 | $\underline{2} 3$ | 5.00 |



New Wrinkle Bases

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Screw Holes Spaced | Std. Pkg. | Carton | $\begin{aligned} & \text { Mrrs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BY | Cleat base with covered commections. |  | 100 | 5 | \$0.36 | \$4.00 |
| BC, | Base for $1 / 2 \mathrm{in}$. condulets. . . . . . . | . . | 100 | 10 | . 23 | 5.00 |
| BX | Base for $3 / 4 \mathrm{in}$. condulets. |  | 100 | 10 | . 23 | 5.00 |
| BW | Base for $1 / 2$ and $3 / 1 \mathrm{in}$. taplets | $2 \frac{9}{32}$ | 100 | 10 | . 23 | 5.00 |
| BB | Wrond molding base. . . . . . . . | $2 \frac{9}{32}$ | 100 | 10 | 18 | 4.00 |

National Electrical Code Standard.

## THE NEW WRINKLE WIRING DEVICES



No. BI)


No. BE


No. BR


No. BS

New Wrinkle Bases
Schedule B

| List No. |  | Outsido <br> Diam. <br> Base | Screw Holes Spaced | Std. <br> Pkg. | Carton | Mffrs. <br> List <br> I'rice <br> Each | W. E. List Price per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 131) | Ono-way National base. |  |  | 1(H) | 10 | \$0.18 | \$4.00 |
| 132 | Two-way National base. |  |  | 100 | 10 | -15 | 4.00 |
| 1312 | Concealed rosette hase. | 27\% | 15\% | 50 | 10 | . 49 | 9.00 |
| 138 | Cleat rosetie base |  | $15 \%$ | 3) | 10 | 40 | 9.00 |




No. BZ

|  | No. BZ No. BH |
| :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  |
| 13/4 | (anopy top. |
| 304 | Jing for attaching $13 / 4$ to $31 / 4$ inch boxes |
| 305 | ling for attaching $\mathrm{B} / \mathrm{s}$ to 4 inch boxes. . . |
| 1311 | Small covered hase. . . . . . . . . . . . . . . |
| 13I | large covered base. |
| 13L | 3/4 inch box basc. . |



No. BK

| No. BK |  |  | No. BL |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Outside <br> Diam. Base |  | Std. <br> 1'kg. | Carton | Mifrs. <br> List <br> Price <br> Fach | W. E. List Price per Carton |
|  |  | 20 | 10 | S0. 2.2 | \$4.00 |
|  |  | 20 | $10)$ | . 05 | 1.00 |
|  |  | $? 0$ | 111 | . 05 | 1.00 |
| $\cdots \frac{5}{16}$ | 134 | 250 | 10) | .28 | 6.20 |
| $3{ }^{3}$ | 2 | 100) | 10) | .37 | 8.20 |
| 358 | 2 and $2^{3}$ | 100 | 10 | . 37 | 8.20 |



No. BM

| No. BM |  | No |
| :---: | :---: | :---: |
| List <br> No. |  |  |
| BM | 4 inch box base. |  |
| BN | $31 / 4$ inch pancake basc. |  |
| BP | 4 inch mancake base. . |  |

o. BN

| $\begin{array}{c}\text { Outside } \\ \text { Diam. } \\ \text { IBase }\end{array}$ | $\begin{array}{c}\text { Screve } \\ \text { Holes } \\ \text { Spaced }\end{array}$ |
| :---: | :---: |
| 456 | 23 and $3!6$ |
| $\cdots$ | $\ldots \ldots .$. |


| Outside <br> Diam. <br> I3ase | Screve <br> Holes <br> Spaced |
| :---: | :---: |
| $45 / 8$ | 23 and $5!2$ |
| $\ldots$. | $\ldots \ldots .$. |



| Std. <br> Pkg. | Carton | Mfrs. List Price Fach | W. E. List Price per Carton |
| :---: | :---: | :---: | :---: |
| 100 | 5 | 80.67 | \$7.40 |
| 50 | 10 | . 47 | 8.60 |
| 50 | i) | 77 | 8.50 |

National Electric Code Standard, except BE, BT, BW, and BV.


No. 10
250 Watts, 250 Volts


No. 13
660 Watts, 350 Volts

## Key and Keyless Sockets

| Description | SP Key Socket |  |  |  |  | Keyless Socket |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Std. Pkg. |  | $\left\|\begin{array}{c} \mathrm{H} \\ \text { List } \\ \text { per } \\ \text { Carton } \end{array}\right\|$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{array}{\|l\|l\|} \text { Car- } \\ \text { ton } \end{array}$ | Std Pkg. | MIfs. <br> List <br> Com- <br> plete | $\begin{array}{r} \text { W } \mathrm{E} \text { List } \\ \text { per } \\ \text { Carton } \end{array}$ |  |
| $\ddagger$ Body, wi | 10 | 25 | 500 | \$0.20 | 814.30 | 13 | 25 | 500 | \$0.23 | \$12.65 |  |
| $\pm$ With \%/ in. | AA-10 | 25 | 500 | 33 | 18.1\% | AA-13 | 25 | 500 | . 30 | 16.50 |  |
| $\pm$ With $1 / 8$ in. cap | A $13-10$ | 25 | 250 | 42 | 2\%. 10 | AB-13 | 25 | 250 | 39 | 21 |  |
| $\pm$ With 38 in. cap | AC-10 | 25 | 250 | 39 | 2.45 | $\mathrm{AB}^{\text {C-13 }}$ | 25 | 250 | . 30 | 19.80 |  |
| $\pm$ With $1 / 2 \mathrm{in}$. cap | A D-10 | 25 | 250 | 45 | 24.75 | AD-13 | 25 | 250 | 42 | 23.10 |  |
| $\pm$ With $1 / \mathrm{m}$ im. male cap. | AE-10 | 25 | 500 | 33 | 133.15 | AE-13 | 25 | 500 | . 30 | 16.50 |  |
| $\ddagger$ With $/ 4$ in. male cap. | AF-10 | 25 | 250 | 42 | 23.10 | AF-13 | 25 | 250 | . 39 | 21.45 |  |
| $\ddagger$ With $3 / 8 \mathrm{~m}$. male cap | AG-10 |  | 250 | . 42 | 23. 10 | AG-13 | 25 | 250 | . 39 | 21.45 |  |
| $\pm$ With $1 / 2$ in. male cap. | A 1 -10 | 23 | 250 | . 48 | 20, 4\% | AH-13 | 25 | 250 | 45 | 24.75 10.80 |  |
| $\pm$ With $1 / 8 \mathrm{in}$. fixture cap | AK゙10 | 25 | 250 | . 39 | 24.45 | AK-13 | 25 | 250 | 36 | 19.80 |  |
| $\pm$ With $1 / 4 \mathrm{in}$. fixture cap | AL-10 | 25 | 250 | . 42 | 23.10 | AL-13 | 25 | 250 | 39 | 21.45 |  |
| $\ddagger$ With $1 / \mathrm{in}$ in angle cap | A M-10 | 25 | 100 | . 38 | 17.48 | AM-13 | 25 | 100 | 4 | 16.10 |  |
| $\pm$ With $1 / 4$ in. angle cap | AN-10 | 25 | 100 | +47 .4 | 21.62 | AN-13 AP d | 25 | 100 100 | .4 .41 .4 | 20.24 |  |
| $\pm$ With $3 / 8$ in angle cap.... | AP-10 | 25 | 100 | . 44 | $\underline{21.24}$ | AP-13 AR-13 | 25 | 100 100 | .41 +1 .4 | 18.86 18.86 |  |
| \$With $1 / 8 \mathrm{in}$. angle fixture cap | AR-10 AS-10 | 25 | 100 | . 47 | 21.62 | AR-13 AS-13 | 25 | 100 | 44 | 20.24 |  |
| +With $/$ in. angle fixture cap + With pendant cap...... | AT-10 | 25 | 500 | -33 | 18.15 | AT-13 | 25 | 500 | . 30 | 16.50 |  |
| $\ddagger$ With strain relief ca | A ${ }^{\text {c }}$-10 | 25 | 500 | . 33 | [s. 15 | AU-13 | 25 | 500 | . 30 | 16.50 |  |
| + With attachment plue | A V-10 | 10 | 50 | . $5: 3$ | 11.75 | AV-13 | 10 | 50 | . 50 | 9.20 |  |
| With cleat hase. | A $W=10$ | 10 | 250 | . 49 | 10.78 | AW-13 | 10 | 250 | . 46 | 10.12 |  |
| $\pm$ With slotted base | AX-10 | 10 | 250 | 4 | 9.6is | AX-13 | 10 | 2.50 | .41 . | 9.02 |  |
| With small concealed base. | AY-10 | 10 | 250 <br> 250 <br> 20 | .44 .49 | 10.78 | ${ }_{\text {AY-13 }}^{\text {A }}$ - $13+$ | 10 | $\begin{aligned} & 250 \\ & 250 \end{aligned}$ | . 41 | $\begin{array}{r} 9.02 \\ 10.12 \end{array}$ |  |
| $\ddagger$ With large concealed base. | AZ-10才 <br> 13 | 10 | ( 250 | .49 .49 | 10.78 10.78 | AZ-13 $\mathrm{BA}-13$ | 10 | 250 | . 46 | $\begin{aligned} & 10.12 \\ & 10.12 \end{aligned}$ |  |
| $\ddagger$ With hase for $8 / 8$ and $1 / 2$ in. condulets. | BC-10 | 10 | 250 | .49 .40 | 10.78 | BC-13 | 10 | 250 | . 46 | 10.12 |  |
| $\ddagger$ With base for $8 / 4 \mathrm{in}$. condulets. | BX-10 | 10 | 250 | 49 | 10.78 | BX-13 | 10 | 250 | . 46 | 10.12 |  |
| $\pm$ With base for $1 / 2$ and $8 / 4 \mathrm{in}$. taplets | BW-10 | 10 | 250 | 49 | 90.7N | BW-13 | 10 | 2.50 | 46 | 10.12 |  |
| \$Tith wood molding base. | BB-10 | 10 | 250 | 4.4 | 9.8 s | B B-13 | 10 | 250 | 41 | 9.02 |  |
| With one way National hase | BD-10 | 10 | 250 | 44 | 8.68 | 13D-13 | 10 | 250 | 41 | 9.02 |  |
| $\ddagger$ With two way National | 3E-10 | 10 | 250 | 44 |  | 3E-13 | 10 |  | 41 | 9.02 |  |
| basc. <br> \$With small covered | 13 H-10 | 10 | 2 i 0 | 5.4 | 11.88 | 13 $\mathrm{H}-13$ | 10 | 250 | 51 | 11.22 |  |
| $\ddagger$ With large covered base | BK-10 | 10 | 100 | . 13 | 13.88 | 13K-13 | 10 | 100 | . 60 | 13.20 |  |
| +With $31 / 4$ in box hase. | $13 \mathrm{~L}-10$ | 5 | 100 | . 133 | 6.03 | B1,-13 | 5 | 100 | 60 | 6.60 |  |
| $\ddagger$ With 4 ir $x$ hase. | 3A1-10 | 1 | 100 | 93 | 2.104 | BMT-13 |  | 100 | 90 | 1.98 |  |
| $\pm$ With $31 / 4 \mathrm{in}$. pancake base. | 13N-10 | 5 | 100 | . 73 | 4.02 | RN-13 | 5 | 100 | .70 1.00 | - 7.70 |  |
| $\pm$ With 4 in. pancake base... | 131 <br> 1312 <br> 18 <br> 10 | 10 | 100 100 | 1.03 .75 .7 | [ $\begin{array}{r}2.27 \\ 10.20\end{array}$ | BI'-13 $13 \mathrm{I}-13$ | 10 | 100 50 | 1.00 .72 |  |  |
| With concealed rosette base $\pm$ With cleat rosette base. | BS-10* | 10 | 100 | . 78 | 16.50 | BS-13* | 10 | 50 | . 72 | 13.25 |  |
| With 2 wire molling rosette base. | BT-10 | 10 | 100 | 75 | 16.50 | BT-13 | 10 | 50 | 2 | 13.25 |  |
| With 3 wire molding rosette hase. | BU-10 | 10 | 100 | . 75 | 16.50 | BU-13 | 10 | 50 |  | 13.25 |  |
| With combination rosette base. | BV'-10 | 10 | 100 | . 75 | 16.50 | BV-13 | 10 |  |  | 213.25 |  |
| With eleat base covered connections. . | BY-10 |  | 50 | . 68 | , 6.27 | BY-13 | 5 |  |  | 47.04 |  |
| With canopy tap base.... | 13Z-10 |  |  |  | 9.94 | BZ-13 |  |  |  | O 9.20 |  |
| Standard finish is brush or old brass, which will be shipped when no finish is specified. Polished brass. when specified, will be furnished with-ut extra charge. For apecial finishes, sec listing elsewhere. <br> For long keys, metal keys, sockets with threaded stems and other special sockets, see listing elsewhere. <br> *Approved rating 2 amperes, 125 volts. <br> $\dagger$ This base is suitable for attachment to No. 500 Adaptibores. <br> $\ddagger$ National Electrical Code Standard. |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

## NEW "WRINKLE" SOCKETS



No. 32. Keyless Socket with Spartan Outlet. Each Outlet 660 Watts. 250 Volts


No. 31. O. T. Key Socket with Spartan Outlet. Each Outlet 660 Watts, 250 Volts


## Key and Keyless Sockets Schedule "B"



Stanclard finish is brush or old brass. which will be shipped when no finish is specified Polished brass, when specified, will be furnished without extra eharge. For special finishes, see listing elsewhere

For long keys, metal keys, sockets with threaded stems and other special sockets, see

*Approved rating, 2 amperes, 125 volts total load,
This base is suitable for attachment to No. 500 Adaptiboses.
${ }^{4}$ National Electrical Code Standard.


## NEW "WRINKLE" SOCKETS


Standard finish is brass or old brass, which will he shipped when no finish is specified. Polished brass, when specitied, will be furnished without extra charge. For special finishes, see listing elsewhere
Sockets regularly furnished with 8 inehes of chain. For extra ehain, cord instead of
 chain, extension ehain guides, etc., see listing elsewhere.

*Approved rafing 2 amperes, 125 volts.

| Deseription | High Capacity 13ull Soskets |  |  |  |  | Pull Sorkct <br> With Spartan Gutlet |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List <br> No. | Carton | Std. Pkg . | $\begin{array}{\|l\|} \hline \text { Mfrs. } \\ \text { List } \\ \text { Come } \\ \text { plete } \end{array}$ | W. E. List Der Carton | I.ist No. | Carton |  | Mfrs. List Cons plete | $\|$W. E. <br> List <br> per <br> Carton |  |
| 4 Body, without eup or base | 35 | 25 | 250 | \$0. 59 | \$32.45 | 33 | 10 | 100 | 30.78 | \$17.16 |  |
| ${ }^{4}$ With $1 / 8 \mathrm{in}$. cap | AA-35 | 25 | 250 | . 66 | 36.30 | AA-33 | 10 | 100 |  | 18.70 |  |
| ${ }^{-}$With $1 / 4$ in. cap | A13-35 | 25 | 100 | . 75 | 34.50 | A13-33 | 10 | 50 | . 9 t | 17.30 |  |
| ${ }^{4}$ With ${ }^{3} /{ }^{\text {a }}$ in. cap | A C-35 | 25 | 100 | , 2 | 33.12 | AC-33 | 10 | 50 | . 91 | 16.74 |  |
| - With $1 / 3$ in. cap | A )-35 | 25 | 50 | . 78 | 35.88 | A)- 33 | 10 | 50 | . 97 | 17.85 |  |
| ${ }^{4}$ With $1 / 8 \mathrm{in}$. male cap. | A E-35 | 25 | 250 | , 7,6 | 36.30 | AE-33 | 10 | 50 | . 80 | 15.64 |  |
| A With $1 / 4 \mathrm{in}$. male cap. | AF-35 | 25 | 100 | . 75 | 34.50 | AF'-3:3 | 10 | 50 | . 94 | 17.30 |  |
| AWith $3 / 8 \mathrm{in}$. male cap | AG-35 | 25 | 100 | . 75 | 34.50 | AG-3:3 | 10 | 2.3 | . 91 | 14.10 |  |
| ${ }^{4}$ With $1 / 3$ in. male cap | A II-35 | 25 | 50 | . 81 | 3726 | A 11-33 | 10 | 50 | 1.00 | 18.40 |  |
| -With $1 / 8 \mathrm{in}$. fixture cap | AK-35 A L - 35 | 25 25 | 100 100 | -72 | 33.12 34.50 | AK-33 | 10 10 | 50 | .91 | 16.74 |  |
| ${ }^{*}$ With $1 / 8 \mathrm{in}$, angle cap). | AM1-35 | 25 | 5) | . 71 | 32.66 | A.I-3 | 10) | 5 | . 97 | 17.30 |  |
| ${ }^{4}$ With $1 / 4$ in, angle cap | AN-35 | 25 | 50 | . 30 | 36.80 | A N-3:3 | 10 | 50 | . 90 | 18.22 |  |
| - With $3 / 8 \mathrm{in}$. angle cap | AP-35 | 25 | 50 | . 77 | 35.42 | AP-3:3 | 10 | 50 | 91 | 17.66 |  |
| ${ }^{4}$ With $1 / 8 \mathrm{in}$ angle fixture cay | A12-35 | 25 | 50 | . 77 | 35.42 | A 12-3:3 | 10 | 50 | .91 | 17.66 |  |
| ${ }^{4}$ With $1 / 4 \mathrm{in}$. angle fixture cap | AS-35 | 25 | 50 | . 30 | 36. 80 | AS-3:3 | $11)$ | 50 | . 99 | 18.22 |  |
| ${ }^{\text {a }}$ With pendent cap. | AT-35 | 25 | 250 | . 610 | 36.30 | AT-3:3 | 10 | 50 | . 8 | 15.69 |  |
| ${ }^{4}$ With strain relief cap | AI「-35 | 25 | 250 | . 66 | 36.30 | A ${ }^{1}-33$ | 10 | 50 | . 85 | 15.64 |  |
| ${ }^{\text {W With attachment plug. }}$ | AV-35 | 10 | 50 | . 513 | 15.82 | AV-33 | 10 | 50 | 1.05 | 19.32 |  |
| ${ }^{4}$ With cleat base | AW-35 | 10 | 100 | . 38 | 18.04 | AW-33 | 10 | 50 | 1.01 | 18.58 |  |
| ${ }^{4}$ With slotterl base | AX-35 | 10 | 100 | . 77 | 16.94 | AX-33 | 10 | 50 | . 96 | 17.66 |  |
| ${ }^{\text {a }}$ With small concealed base. | AY-35 | 10 | 100 | . 77 | 16.94 | A Y'-3:3 | 10 | 50 | . 9 | 17.66 |  |
| ${ }^{\text {a }}$ With large eoncealed base. | 12-35 $\dagger$ | 10 | 10t | . 62 | 18.04. | A 7 -331 | 10 | 50 | 1.01 | 18.58 | notob |
| ${ }^{4}$ With angle concealed base. | 13A-35 | 10 | 50 | 2 | 15.09 | BA-33 | 1) | .0 | 1.01 | 18.58 |  |
| condulets. <br> base for $3 / 8$ and $/ 2 \mathrm{in}$. | 13C-35 | 10 | 100 | . 82 | 18,04 | BC-33 | 10) | .0) | 1.01 | 18.58 |  |
| ${ }^{4}$ With hase for $3 / 4 \mathrm{in}$. condulets. | 13X-35 | 10 | 100 | . 82 | 18.04 | B. -33 | 10 | B) | 1.01 | 18.58 |  |
| *With buse for $1 / 2$ and $8 / 4 \mathrm{in}$. taplets. | BW'-35 | 10 | 100 | . 82 | 18.04 | BT゙-33 | 10 | . 10 | 1.01 | 18.58 |  |
| ${ }^{\text {a }}$ With wood moulding base. | 1313-35 | 10 | 100 | . 77 | 16.94 | 1313-33 | 10 | \% 3 | . 9 ti | 17.66 |  |
| ${ }^{4}$ With one-way national hase | 13D-35 | $10)$ | 100 | . 77 | 16.94 | 131)-33 | 10 | . 51 | .9ti | 17.66 |  |
| ${ }^{4}$ With two-way national base | 13E-35 | 10 | 10\% | . 77 | 16.94 | BF-33 | 10 | 51) | 91 | 17.66 |  |
| *With small covered base | BH-35 | 10 | 100 | . 67 | 19.14 | B11-33 | 10 | 50 | 1.05 | 19.50 |  |
| ${ }^{4}$ With large covered bas | BK-35 | 10 | 50 | . 96 | 17.66 | ВК-33 | 10 | 50 | 1.15 | 21.16 |  |
| 4 With 31/4in. box base | 13L-35 | 5 | 50 | . 96 | 10.56 | BL, 33 | 5 | 50 | 1.131 | 12.65 |  |
| ${ }^{4}$ With 4 in. box base. | 13M-35 | 1 | 50 | 1.26 | 2.77 | 13M1-33 | , | 50 | 1.45 | 3.19 | (al |
| ${ }^{4}$ With $31 / 4 \mathrm{in}$. pancake base. | 13N-35 | 5 | 50 | 1.06 | 11.66 | 13, $\mathrm{N}-3 \mathrm{3}$ | 5 | 50 | 1.2 .8 | 18.75 |  |
| ${ }^{4}$ With 4 in. pancake base. . | BP-35 | 1 | 50 | 1.36 | 2.99 | В $\mathrm{P}^{-33}$ | 1 | 50 | 1.55 | 3.41 |  |
| With concealed rosette base | B12-35 | 10 | 20 | 1.08 | 19.87 | 1312-33 | 10 | 50 | 1.27 | 23.37 |  |
| ${ }^{4}$ With cleat rosette base. . | BS-35* | 10 | 20 | 1.08 | 19.87 | BS-33* | 10 | 50 | 1.27 | 23.37 | 10 |
| sette base | 13T-35 | 10 | 20 | 1.08 | 19.87 | BT-33 | 10 | 50 | 1.27 | 23.37 |  |
| With 3 wire moulding rosette base | 13 U-35 | 10 | 20 | 1.08 | 19.87 | BU-33 | 10 | 50 | 1.27 | 23.37 |  |
| With combination rosette base. | L V - 35 | 10 | 20 | 1.08 | 19.87 | BV-3i3 | 10 | 50 | 1.27 | 23.37 |  |
| With eleat base covered ronnections | BY-35 | 10 | 50 | . 95 | 10.45 | BY-3:3 | 1 | 50 | 1.14 | 12.54 |  |
| With canopy tap base | 132-35 | 10 | 20 | . 81 | 14.90 | BZ-3:3 | 10) | 20 | 1.00 | 18.40 |  |
| Standard finish is brass or old brass, which will be shipped when no finish is speeified. Polished brass, when specitied, will be furnished without extra charge. For special finishes, see listing elsewhere. <br> Sockets regularly furnished with 8 inehes of chain. For extra chain, cord instead of chain, extension chain guides, etc., see listing elsewhere. <br> *Approved rating 2 amperes, 125 volts. <br> This base is suitable for attachment to No. 500 Adaptiboxes. <br> ${ }^{4}$ Nationa IElectrical Code Standard. |  |  |  |  |  |  |  |  |  |  |  |




No. 26
3. Amperes, 250 Volts

Rosette and Pull Switch Rosette



Deseription

Body, without eap or base +With $1 / 8$ in, cap.
おWith $1 / 4 \mathrm{in}$. eap.
With $3 / 8$ in. cap.

+With 1, in. nale cap.
$\ddagger W i t h$ in, male cap.
+with $1 / 2$ in, male rap......
WWith $1 / \mathrm{in}$. fixture cap.
+With $1 / 8$ in. angle cap. fWith
With $1 / 4 \mathrm{in}$. angle cap.
+With $3 / \mathrm{in}$. angle cap.
$\ddagger$ With $1 /$ in. angle fixture cap $\pm$ With $1 / 4$ in. anple fixturecap $\ddagger$ With pendent cap. .
+With attachment plug.
$\ddagger$ With "leat base.
With slotted base.
$\ddagger$ With small concealed base
$\ddagger$ With large eoncealed hase. $\ddagger$ With angle eoneealed base.
$\ddagger$ With base for $3 / 8$ and bin. $\ddagger$ With base for $3 / 8$ and $3 / 2$ in
$\ddagger$ With base for $3 /$ in. condulet
\$With base for $2 / 2$ and $8 / 4$ in taplets
With woorl molding hase. .
$\ddagger$ With one way National hase $\ddagger$ With woway National base $\ddagger$ With small eoverel hase. $\$$ With larce eovered base. With $31 / 4$ in. hox base.
f With 4 in. box base.
\$With $31 / 4$ in. paneake base $\ddagger$ With 4 in, pancake hase. With concealed rosette base $\ddagger$ With cleat rosette base. With'2 wire molding rosette base.
With 3 wire moding rosette
With combination rosette hase.
With eleat base eovered ronnertions.
With canopy tap base....

Standard finish is brush or old brass, which will be shipped when no finish is spocified. l'olished brass when specified will he furnished without extra charge. For special finishes, see listing elsewhere.
** Bodios are regularly furnisherl with short chais and 10 feet of best quality linen cord. Extra cord 2 cents list per foot. For extension ehain gudes, insulated ehain, ete., see listing elsewhore.
*. Approved rating 2 amperes. 12.5 volts.
$t$ This hase is suitable for attachment to No. 500 Allaptiboxes.
$\ddagger$ National Electrical Code Standard.


No. 25
1 Ampere, 250 Volts
3 Ampere, 125 Volts



No． 18
3 Amperes． 125 Volts
1 Ampere， 250 Volts


No． 19
3 Amperes． 125 Volts
1 Ampere， 250 Volts

Key and Pull Wall Switches
Schedule＂H＂


| I．ist No． | C＇ar－ | $\begin{aligned} & \text { stcl. } \\ & \mathrm{l}^{\prime} \mathrm{kg} \mathrm{~g} \end{aligned}$ | $\left\|\begin{array}{c}\text { Mfrs．} \\ \text { List } \\ \text { Con－} \\ \text { plete }\end{array}\right\|$ | $\left\|\begin{array}{cc} \text { W. Fi } \\ \text { List } \\ \text { per } \\ \text { Carton } \end{array}\right\|$ | $\begin{aligned} & \text { J.ist } \\ & \text { No. } \end{aligned}$ | Cur－ | Ptd． | $\left\|\begin{array}{c}\text { Dfrs } \\ \text { I．} \\ \text { Cont } \\ \text { plete }\end{array}\right\|$ | $\begin{array}{r} \text { W. Fi } \\ \text { List } \\ \text { par } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 10） | 50 | 50．20 | S4．78 | 19 | 111 | 5.0 | 50.53 | \＄9．75 |
| AA－18 | 10 | 50 | .33 | 6.07 | AA－19 | 111 | 50 | ．（j） | 11．（）． 1 |
| A 13－18 | 10 | 20 | .42 | 7．73 | AI3－19 | 10 | 20 | ． 69 | 12．70 |
| A（ -18 | 10 | 20 | .39 | 7．18 | $A(5-19$ | 10 | 20 | ． 66 | 12．11 |
| A1）－18 | 10 | 20 | 4\％ | 8.28 | AI）-19 | 10） | 20 | ． 72 | 13.25 |
| AE－18 | 10 | 20 | ． 33 | （i． 17 | A $\mathrm{F}-19$ | 10 | 20 | ． 60 | 11．0．4 |
| AF－18 | 10 | 20 | ． $4 \cdot 2$ | 7．73 | A 1819 | 10 | 20 | － 6.8 | 12.70 |
| A（i－18 | 10 | 20 | ． 42 | 7.73 | A（i－19 | 10 | $21)$ | ． 69 | 12．70 |
| A H－1s | 111 | 20 | ． 4 N | 8．8：3 | A11－19 | 10 | 219 | .75 | 13， 80 |
| AK－1： | 10 | 20 | ． 39 | 7.18 | AK－10 | 111 | 20 | ． 610 | 12.14 |
| A1．－18 | 11） | 20 | ． 42 | 7.78 | A1，－19 | 10 | 20 | ． i ¢ | 12．70 |
| AM－18 | 10 | 20 | ． 38 | 13.99 | A M－1！ | 115 | 20 | ． 65 | 11.96 |
| AN－18 | 10 | 20 | 47 | 8.65 | AN－19 | 11） | 20 | 74 | 13．432 |
| A1＇－18 | 111 | 20 | ． 4.4 | 8.10 | A ${ }^{\prime}-1!$ | 111 | 20 | ． 71 | 13． 119 |
| AR－18 | 10 | 20 | ． 44 | 8.111 | A 1 －19 | 10 | $26)$ | ． 71 | 1．3． 116 |
| AS゙－18 | 111 | 20 | ． 47 | 8.15 | AS．19 | 10 | 20 | ． 71 | 1：3．153 |
| $A^{\prime} l^{\prime}-1 \mathrm{~s}$ | 10 | 20 | ． 33 | ti． 017 | $\mathrm{A}^{\prime} \mathrm{I}^{\prime}-19$ | 10 | 20 | ． 510 | $11 .(1)$ |
| A ${ }^{\text {d }}-18$ | 10 | 20 | ． 33 | 6.07 | A ${ }^{\prime}-19$ | 101 | 20 | ．15） | 11.0 .1 |
| A 18 | 10 | 20 | ． 53 | 9．75 | AV－19 | 10） | 20 | \％ 81 | 11．7： |
| AW－1s | 10 | 20 | ． 49 | 97．02 | AW－19 | 10 | 20 | 76 | 18.98 |
| AX－18 | 10 | 20 | ． 44 | 8.111 | AX－19 | 10 | 201 | 71 | 13．06i |
| AY－18 | 10 | 20 | .44 | 8.10 | A ） 19 | 11） | 20 | 71 | 13．06i |
| AZ－181 | 10 | 20 | ． 49 | 9.03 | A $7-19+$ | 11） | 20 | 71 | 13．3．88 |
| BA－18 | 10 | 20 | 49 | 9.02 | JA－19 | $11)$ | 20 | 7 ti | 13.98 |
| BC－18 | 10 | 20 | .49 | 9.02 | 13C－19 | 10 | 20 | 74 | 13．98 |
| BX－18 | 10 | 20 | 49 | 9．02\％ | 13X－19 | 10 | 20 | 7 ii | 13．98 |
| BW゙－18 | 10 | 20 | .49 | 9.02 | $13 \mathrm{~W}-19$ | 10） | 20 | 71 | 13．98 |
| J313－18 | 10 | ？ 0 | .4 .4 | 8.10 | 1313－19 | 10 | 20 | 71 | 13．（11； |
| 13 $\mathrm{D}-18$ | 10 | 20 | ． 4.4 | 8.10 | 135－19 | 10 | 20 | 71 | 13．106； |
| 131\％－18 | 10 | 20 | ． 14 | 8.10 | $13 \mathrm{~F}, 19$ | 10 | 20 | .71 | 13． 116 |
| J3I－18 | 10 | 20 | ． 54 | 9.414 | 1311－19 | 10 | 50） | ． 81 | 14．72 |
| RK－18 | 10 | 20 | ． 13.3 | 11.59 | HK－19 | 10 | $\because 0$ | ． 114 | 16．5i |
| J3I， 18 | 5 | 20 | － 163 | 5． 510 | 131．－19 | 5 | 20 | S13 | 8．28 |
| T3N－18 | 1 | 20 | ． 13 | $\pm 2.05$ | 13 1－19 | 1 | 20 | 13 | 3.6 .4 |
| IN N－18 | 5 | 20 | ． 73 | 1：3，13 | 11N－19 | i | 20 | 1.00 | （1．20 |
| IP18 | 1 | ${ }^{2} 0$ | 1． $0: 3$ | 2．27 | 13 「－19 | 1 | 30 | 1．30 | $\geq$－ 13 |
| 1312－18 | 10 | 10 | ． 75 | 11.25 | I H －19 | 10 | 10 | 1.12 | 15．31） |
| 13S－18＊ | 10 | 10） | 1．） | 11.25 | JSK゙－19＊ | $11)$ | 10 | 1.02 | ［．5．30 |
| BT－18 | 10 | 10 | 14 | 11.25 | 13T－19 | 10 | 10 | 1．02 | 15．31） |
| RT－1S | 10 | 10 | ． 75 | 11．25 | I $15-19$ | 10 | 10 | 1．02 | 15． 30 |
| BV－1S | 10 | 10） | ． 7.5 | 11.25 | IS ${ }^{\text {－}} 19$ | 10 | 10 | 1.02 | 15.30 |
| 53）－18 | 5 | 50 | ． 6.2 | （1． $8 \geq$ | 13 $\mathrm{Y}^{+19}$ | i） | 50 | ． 89 | 9.79 |
| 13Z－18 | 10 | 20 | .48 | 8．8i3 | HZ－19 | 10 | 20 | ． 7.3 | 13． |

Standard finish is brush or old brass，which will be shipped when nonfinish is specifird．
Polished brass when speeited will be furnished without extra charge．For special tinishes， see listing elsewhere
＊＊For long ki．s，metal keys，switeles with threaded stems，and other special sorkets． sec listing ilsewhere
t†lodies are reqularly furnished with short chain and 10 fret of best quality linen cord．Extrà cord＇2 cents list per foot．For extension chain guides，insulated chain，ett＂．， see listing elsewhere．
＊Approved rating 2 amperes， 125 volts．

$\dagger$ This base is suitable for attachment to No． 500 Adaptiboses．
$\ddagger$ National Electrical Code Standard．



No． 20
3 Amperes， 125 Volts
1 Ampere， 250 Volts
S．P．Pull and Electrolier Pull Ceiling Switch

| Description |  |  |  |  |  | Schedule＂H＂ |  |  |  |  | $\frac{0 \text { goct }}{}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | S．I＇．1＇ull Ceiling Switch |  |  |  |  | $\begin{aligned} & \text { Electrolier Pull ceiling } \\ & \text { Switch } \\ & \text { Operating } 1,2.1 \text { aud 2, Off } \end{aligned}$ |  |  |  |  |  |
|  | I．ist Nio． | Car | $\underset{\mathrm{P} \times \mathrm{kg} .}{\mathrm{Std}_{\mathrm{ta}}}$ | $\left\|\begin{array}{c} 1 \\ 1 \\ \text { IIss. } \\ \text { Comt } \\ \text { whete } \end{array}\right\|$ | $\|$W．R： <br> List <br> per <br> Cirton | I．ist No． | $\begin{aligned} & \text { Car } \\ & \text { ton } \end{aligned}$ | $\underset{\mathrm{P} \mathrm{P}_{\mathrm{kg}} .}{\mathrm{Std} .}$ |  | $\left\lvert\, \begin{aligned} & \text { W Li: } \\ & \text { list } \\ & \text { per } \\ & \text { carton } \end{aligned}\right.$ | $\frac{0.0 n 09}{4 H(A P)}$ |
| $\ddagger$ Hody，without cap or base． | 20 | 10 | 50 | 80.53 | 59.75 | 27 | 10 | 50 | 80．83 | \＄15．97 |  |
| fWith $1 / 8$ in．cap．．．．．．．．． | AA－20 | 10 | 50 | ． 60 | 1.04 | A A－27 | 10 | 50 | － | 16．513 |  |
| $\pm$ With $1 / 4$ in．cap | A13－20 | 10 | 20 | ． 69 | 12．70 | A 13－27 | 10 | 20 | ． 99 | 18.22 |  |
|  | AC－20 Al）－20 | 10 | $\stackrel{20}{20}$ | ． 66 | 12．14 | AC－27 | 10 | 20 | 96 | 17． 68 |  |
| $\pm$ With $1 / 8$ in．mape cap | A1）－20 | 10 | 20 | ． 72 | 1.3 .25 11.0 .4 12.25 | A 1 －-27 | 10 | 20 | 1.02 | 18.77 |  |
| $\ddagger$ With $1 / 4 \mathrm{in}$ ．male cap | AF－20 | 10 | 20 | ． 69 | 12.70 | AF－27 | 10 | 20 | ． 90 | 16.56 18.22 |  |
| $\pm$ With $3 / 8 \mathrm{in}$ ．male cap． | AG－20 | 10 | 20 | ． 69 | 12.70 | AG－27 | 10 | 20 | ． 99 | 18．22 | 208 |
| $\ddagger$ With $1 / 2 \mathrm{in}$ ．male cap． | A H－20 | 10 | 20 | 75 | 13.80 | A11－27 | 10 | 20 | 1.05 | 19.32 | 48 |
| WWith $1 / 8 \mathrm{in}$ ．fixture cap | A 5 －20 | 10 | 20 | ． 16 t | 12.14 | AK－27 | 10 | 20 | 1.09 | 17.86 |  |
| $\ddagger$ With $1 / 4 \mathrm{in}$ ．fixture cap | AI．－20 | 10 | 20 | ． 69 | 12.70 | AI， 27 | 10 | 20 | ． 96 | 18.29 |  |
| $\pm$ With $\frac{1 / 8}{} \mathrm{in}$ ．angle cap． | AM1－20 | 10 | 20 | ． 6.5 | $11.9+3$ | AM－27 | 10 | 20 | ． 95 | 17.48 |  |
| $\ddagger$ With 14 in．angle cap | AN－20 | 10 | 20 | 74 | 13．122 | AN－27 | 10 | 20 | 1.04 | 10.14 |  |
| ${ }^{+}$With $3 / 8$ in．angle cap．．．． | A P＇－20 | 10 | 20 | 71 | 13．Wi | AP－27 | 10 | 20 | 1.01 | 18．58 |  |
| With $1 / 8 \mathrm{in}$ ．angle fixture cap | A IR－20 | 10 | 20 | ． 71 | 1：3． 18 | A13－27 | 10 | 20 | 1.01 | 18．58 |  |
| ＋With $1 / 4 \mathrm{in}$ ．angle fixture cap | AS－20 | 10 | 20 20 | ． 74 | 13． $\mathrm{il}^{2}$ | AS－27 | 10 | 20 | 1.04 | 19.14 |  |
| ＋With strain relief cap | A $\mathrm{C}-20$ | 10 | 20 | ． 68 | $\begin{array}{lll}11 & 0.7 \\ 11 & 0.4\end{array}$ | A ${ }^{\text {A }}$－ 27 | 10 | 20 20 | ． 90 | 16． 50 |  |
| fWith attachment plug | A ${ }^{\text {V }}$－20 | $10)$ | 20 | ． 80 | 1.4 .72 | AV－27 | 10 | 20 | .30 1.10 | 16.56 20.24 |  |
| $\ddagger$ With cleat base | AW－20 | 10 | 20 | 76 | 13．0s | AW－27 | 10 | 20 | 1.06 | 10．50 |  |
|  | AX－20 | 10 | 20 | ． 71 | 13． 13 H | AX－27 | 10 | 20 | 1.01 | 18．58 | 097 |
| ＋With small concealed base． | AY－20 | 10 | 20 | ． 71 | 13．06 | A Y－27 | 10 | 20 | 1.01 | 18．58 |  |
| $\ddagger$ With angle concealed base． | BA－20 | 10 | 20 | ． 76 | 13.98 13 | ${ }_{\text {ARA } 27}{ }^{+}$ | 10 | 20 | 1．06 | 19．30） |  |
| $\ddagger$ With base for $3 / 8$ and $1 / 2$ in． condulets |  | 10 | 20 |  | 13.98 | BA－ | 10 | 20 | 1.06 | 19.50 |  |
| $\ddagger$ With base for $\frac{8}{4}$ in．con－ |  | 10 | 20 | .76 | 13.98 | BC－27 | 10 | 20 | 1.06 | 19．50 |  |
| dulet．．．．．．．． | BX－20 | 10 | 20 | ． 76 | 13．98 | BX－27 | 10 | 20 | 1.06 | 19.50 |  |
| taplets．．．．．．．．．．．．．． | BN゙－20 | 10 | 20 |  | 13．98 | B1゙－97 | 10 | 20 |  |  |  |
| $\ddagger$ With wood molding base．． | B13－20 | 10 | 20 |  | 13.00 | 1313－27 | 10 | 20 | 1.06 | 19.50 |  |
| $\ddagger$ Withone－way National base | B1）－20 | 10 | 20 | 71 | 13．0f | R1）－27 | 10 | 20 | 1.01 | 18．58 |  |
| $\ddagger$ Withtwo－way Nationalbase | BE－20 | 10 | 20 | .71 | 13．06 | 13E－27 | 10 | 20 | 1.01 | 18．58 |  |
| With smal！covered base． | BH－20 | 10 | 20 | ． 81 | 14．72 | 1311－27 | 10 | 20 | 1.11 |  | C8ASE |
| ＋With large covered base | 13K－20 | 10 | 20 | 90 | 16． 5 fi | 13K－27 | 10 | 20 | 1.20 | 29.08 | cu |
| $\ddagger$ With $31 / 4 \mathrm{in}$ ．box base． | I31．－20 | 5 | 20 | ． 90 | 8.28 | 131．27 | 5 | 20 | 1.20 | 11.04 |  |
| $\ddagger$ With 4 in．box base．．．．． | R．1．20 | 1 | 20 | 1.20 | 2.65 | BM－27 | 1 | 20 | 1.50 | 3．30 |  |
| With $31 / 4 \mathrm{in}$ ．pancake base． | 3N－20 | 5 | 20 | 1．00） | 9.201 | $13 \mathrm{~N}-27$ | 5 | 20 | 1.30 |  |  |
| $\pm$ With 4 in．pancake base．．． | 13P－20 | 1 | 20 | 1．30 | 2.80 | BP－27 | 1 | 20 | 1．60 |  |  |
| $\ddagger$ With concealed rosette basc | B1R－20 | 10 | 10 | 1.02 | 15.301 | BJR－27 | 10 | 10 | 1.32 | 19.80 |  |
| With 2 wire molding rosette | 13S－20＊ | 10 | 10 | 1.02 | 1i． 30 | 13S－27＊ | 10 | 10 | 1.352 | 19.80 |  |
| base．．．．．．．．．．．．． | BT－20 | 10 | 10 | 1.02 | 1．7．30 | BT－27 | 10 | 10 | 1.32 |  |  |
| With 3 wire molding rosette | BL＇－20 | 10 |  | 1.02 | 15.30 |  |  |  |  |  |  |
| With combinution rosette | B－20 |  |  | 1.02 | 15．30 | BC－27 | 10 | 10 | 1.32 | 19.80 |  |
| base．．．．．．．．．．．．．．．．．． | BV゙－20 | 10 | 10 | 1.02 | 15，30 | BV－27 | 10 | 10 | 1.32 | 19.80 |  |
| With cleat base covered connertions | $\text { BY- } 20$ |  | 50 | ． 80 | 9.70 | BY゙－27 |  |  | 1.32 1.19 | 19.80 |  |
| With canopy tap base．．．．．｜ | BZ－20 | 10 | 20 | 7\％ | 13.80 |  | 10 | 20 | 1.19 | 13.09 19.32 |  |
| Standard finish is brush Polished brass when specifed see listings else where． <br> Bodies are regularly fur Extra cord 2 cents list per listing elsewhere． <br> ＊Approved rating 2 am <br> $\dagger$ This base is suitable for <br> $\ddagger$ National Electrical Co | or old br will be <br> nished $n$ oot．Fo <br> peres． 12 attach de Stand | 18s． urnis th sh r ex volt nent ard． | hirh hed ort ensio s． to N | shall rithour <br> hain an n chai <br> ． 500 | he shipp <br> eextra <br> ad 10 f <br> g guicles <br> Adapti | ed when cliarge． <br> et of be <br> es，insul <br> boxes． |  | ish is peci <br> lity hain | speci al finish inen co etc．， |  |  |

## World Radio History

"NEW WRINKLE" SWITCHES


No. 21
3 Amperes, 125 Volts
1 Ampere, 250 Volts
S. P. and Electrolier Pull Fixture Switch



No. 22
3 Amperes, 125 Volts
1 Ampere, 250 Volts

## Key and Pull Candle Switches


Schedule "H"



## "NEW WRINKLE" SOCKETS




WA


WB


WC：


WE


WG：


WM


WN


WP


WR


WS


No． 81
660 W．， 250 V．

## ＂WRINKLET＂FIXTURE SOCKETS



No． 80
250 W．， 250 V ．


No． 82
660 W．， 250 V．


No， 84
250 W．， 250 V ．


No． 96
6 Amp． 125 V ．
3 Amp． 250 V ．


No． 83
660 W．， 250 V


Ni． 92
3 Amp．， 125 V ．
1 Amp．， 250 V．

## Bryant Sockets and Switches

| S．P．Push Button Socket |  |  |
| :--- | :--- | :--- |
| Schedule＂B＂ | S．P．Key Socket | Q．T．Key Socket |
| Schedule＂B＂ | Schedule＂B＂＊ |  |


| Description | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\stackrel{s t d}{\text { stag. }}$ |  |  | J．ist N （． | $\left.\begin{aligned} & \mathrm{Stcl} \\ & \mathrm{P} k \mathrm{~g} . \end{aligned} \right\rvert\,$ | $\left.\begin{array}{\|c\|} \text { Mirs } \\ \text { List } \\ \text { Com- } \\ \text { plete } \end{array} \right\rvert\,$ |  | Jist No． | Std． Pkg. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Xhorly，without | 81 | 5() | \＄0．20 | \＄14．30 | 80 | 500 | 30．26 | \＄14．30 | 82 | 5010 | 30.2 | 15.05 |
| $8 \mathrm{With} 1 / 8 \mathrm{in}$ ．cap． | W． 4 －81 | 200 | ． 33 | 18.15 | WA－80 | 510 | ． 33 | 18，1\％ | W．${ }^{\text {－}}$ | 500 | ． 315 | 19.80 |
| $\pm$ With 1 in．cap | W13－81 | 250 | 12 | 23.10 | W $13-80$ | 250 | ． 42 | 23．10 | WB－82 | 2.50 | ． 45 | 24.75 |
| $\pm$ With $3 / 8 \mathrm{in}$ ． $\mathrm{cou}^{\text {a }}$ | WC：－81 | 250 | 39 | 21.45 | WC－80 | $2 \%$ | ． 39 | 21.45 | WC－8\％ | 250 | ． 42 | 23.10 |
| $\ddagger$ With is in．male cap | Wは，－81 | 50 | ． $3: 3$ | 18．13 | W13－80 | $5(1)$ | 33.3 | 18， 10 | WH，－x | 500 | ． 36 | 19.80 |
| 才With $1 / 4 \mathrm{in}$ male cap． | WF－81 | 250 | ． 42 | 23.10 | W゙ト－80 | 2.50 | ． 4 | 23.10 | WF－－\％ | 2.501 | － 15 | $\because 4.75$ |
| 才With $3 / 8$ in male cap． | WC－81 | 250 | 12 | 23.10 | WC－80 | 250 | ． 42 | 23.10 | W（1－82 | 250 |  | $\because 4.75$ |
| flith $1 / 8 \mathrm{in}$ ．fixture cap | W＇K－81 | 250 | 39 | 21.4 | WK－80 | 250 | －39 | 21.45 | WK－82 | 250 |  | 23.10 |
| $\ddagger$ ith $1 / 4 \mathrm{in}$ ．fixture cap | W1，－81 | 250 | 42 | 23.17 | W1，-80 | 250 | 42 | 23．10 | WT，－82 | 250 | 45 | 24．75 |
| With 18 in．angle cap | 1.1081 | 100 | ． 38 | 17.48 | WM－80 | 109 | ． 38 | 17.4 | W IT－82 | 100 | ． 41 | 18.85 |
|  |  | 100 | 47 44 | 21．62 | W．${ }^{\text {Wr }}$－80 | 1100 | .4 <br> .4 | 21.62 20.24 | W ${ }^{\text {W }}$－-82 | $1(0)$ | ． 517 | 93.06 21.62 |
| Witl $1 / 8$ in．angle fixturecag | WR－81 | 100 | 4.4 | 20.24 | W $\mathrm{W}-80$ | 100 | ． 4.4 | 20.21 | WR－82 | 1（0） | 47 | $\underline{31.62}$ |
| WWith $1 / 4$ in．anyle fixture cat | WS－81 | 100 | 47 | 21.6 | WS－80 | 100 | 47 | 21.62 | Ws－82 | 1（\％） | ． 50 | 23.00 |
| $\ddagger$ With pondent rap．．．． | WT | 50 | 33 | 18 | WT－80 | 5101 | ． 333 | 18．18 | WT－821 | 500 | ． 36 | 19.80 |

$\begin{array}{cc}\text { Std．Keyloss Socket } \\ \text { Schedule＂B＂} & \begin{array}{c}\text { Short Koyloss Socket } \\ \text { Schedule＂B＂}\end{array} \quad \begin{array}{c}\text { Pull Socket }\end{array} \\ \text { Schedule＂B＂＊}\end{array}$

|  |  |  |  |  | － |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| wh | WA－xi3 | 500 | 30 | 16.50 | W ${ }^{\text {W }}$－95 | 500 | ． 30 | 115.50 | W．A－85 | 250 |  | 33 |
| With $1 / 4 \mathrm{in}$ ． | WB－83 | 250 | ． 39 | 21.45 | W13－95 | 250 | 34 | 21.45 | W13－85 | 100 | ． 69 | 31.7 |
| With $3 / 4 \mathrm{in}$ ． | WC－8：3 | 250 | ． 36 | 19.80 | W（－9．5 | 250 | ． 310 | 19.80 | WC－85 | 100 | 64 |  |
| With $1 / \times \mathrm{in}$ ．male | WE－83 | 500 | ． 30 | 16.50 | WF゙－95 | $5(0)$ | ． 30 | 116.50 | Wb－85 | 250 | $(6)$ | 33.00 |
| With $1 / 4$ in．male | WF－8：3 | 2.50 | ． 39 | 21.45 | WF－95 | 250 | ． 39 | 21.45 | W17－85 | 1（0） | 69 | 31.74 |
| With 3 \％ins．male | WG－83 | 250 | ． 39 | 21.45 | WG－95 | 250 | ． 39 | 21.45 | W（ ${ }^{\text {W }} \mathbf{- 8 5}$ | 100 | ． 69 | 31.74 |
| With 3／o in．fixture | WK－8：3 | 250 | ． 36 | 19.80 | WK－95 | 254 | ． 34 | 19.80 | Wド－85 | 100 | ． 68 | 30）．36 |
| $\pm$ With $1 / 4$ in．fixture | W1．－83 | 2.50 | ． 39 | 21.45 | WL－95 | 2 511 | － 36 | 21.45 | W $\mathrm{L},-85$ | 100 | ． 69 | 31.74 |
| $\pm$ With $1 / 8 \mathrm{in}$ ．angle c | W．M－8：3 | 100 | ． 35 | 16．10 | W N－95 | 10） | ． 35 | 16．16 | WM－85 | 51 | 65 | 29.90 |
| \＃With $1 / \mathrm{in}$ angle $0^{\circ}$ | WN－83 | 100 | 44 | 20.24 | WN－95 | 100 | ． 4.4 | 20.24 | W N－85 | St | 74 | 34.04 |
| ＋With ${ }^{\text {a }}$ in．angle | WP－8．3 | 100 | 41 | 18.80 | WP ${ }^{1}+95$ | 100 | .41 | 18.86 | W1］－85 | 51 | 71 | 32.66 |
| With $1 / 8 \mathrm{in}$ ．angle fixture | WR－83 | 100 | 41 | 18， 8 4， | WR－0\％ | 100 | 41 | 18.86 | WR－85 | 50 | 71 | 32.66 |
| WWith $1 / 4 \mathrm{in}$ ．angle fixture cap | WS－8：3 | 100 | 44 | 20.24 | W゙s－9\％ | 100 | ． 44 | 20 24 | W：－xis | d， | 7.9 | 34.04 |
| $\ddagger$ With pendent can | WT－8．3 | 501 | 30 | 16．50 | W「－9\％ | 500 | ． 30 | 16．50） | ｜1T－85 | 250 | 60） | 33． 000 |

Turn Socket Push Button CandleSw．Key Candle Sw． Schedule＂B＂ Schedule＂H＂

Schedule＂H＂

|  | 10\％｜s0．531524 38 |  |  |  | 50｜50．26｜ |  | \＄4．781 |  | 5030.201 |  | $\begin{array}{r} \$ 4.78 \\ 6.07 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| － $\mathrm{S}_{4}$ | 104 | ． 60 | 27.80 | Wd－96 | 50 | ． 33 | 6.07 | WA－02 | 50 | ． 33 |  |
|  | 51 | ． 69 | 31.74 | WIS－ 0 明 | 20 | 42 | 7．7：3 | W13－62 | 0 | 42 | 7. |
|  | 50 | ． 66 | 30.86 | W1；－96 | 20 | 39 | 7.18 | WC－62 | 20 | ． 39 | 7.18 |
| With $1 / 8 \mathrm{in}$ ．male cap．．．．．WE－8t | 50 | ． 60 | 27.6 .0 | W＇K－96 | 20 | 33 | 1.07 | WW－02 | 20 | ． $3: 3$ | 6.07 |
| With $1 / 4 \mathrm{in}$ inale rap．．．．．WF－84 | 50 | 9 | 31.54 | W F＊－90 | 20 | 42 | 7．7： | W14－92 | 2b） | 42 | 7.73 |
| With $3 / 8 \mathrm{in}$ ．male cap．．．．W WG－ 84 | 51 | 9 | 31.74 | W ${ }^{\text {W }}$－ 9 di | 20 | 42 | 7.7 | C－ $\mathrm{O}_{2}$ | 21 | ． 42 | 7.73 |
|  | 5） | ． 66 | 30.30 | Wイ゙－9\％ | 20 | $3!$ | 7.15 | － 1 －92 | ） | ． 39 | 7. |
| WWith $1 / 1$ in．fixture cap．．．W1－－8． | 51 | ． 69 | 31.54 | WT，－96； | 20 | 42 | 7．73 | W J．-92 | $21)$ | 42 | 7 |
| With $1 / 8$ in．angle cap．．．．Wiv－8t | 51 | ． 65 | 29.10 | WM－9t | 20 | 381 | 6.90 | W M－92 | 2 l | ． 38 | 6.99 |
| WWith $\frac{1}{1} \mathrm{jn}$ ，angle rap．．．．WN－8t | 50） | 74 | 34．1）4 | WN－0h | 20 | 47 | 8.65 | W $\mathrm{N}-92$ | $2 \cdot 1$ | 47 | 8. |
| $\pm$ With 36 in ，angle rap．．．．WP－ 8 － | 50 | 71 | 32． n $^{\prime}$ | W P ${ }^{2}-9{ }^{\text {d }}$ | 20 | 4. | 8.118 | W P－02 | $2!)$ | 44 | 8.10 |
| $\ddagger$ With $\frac{1}{1 / 2} \mathrm{in}$ angle fixture cap WR－84 | 510 | 71 | 32.515 | Wk－96 | 20 | 41 | 8． 10 | W12－92 | 2：1 |  | 8.10 |
| WWith $1 / 4 \mathrm{in}$ ，angle fixture cap W：S－84 | 50 |  | 37.04 | WS－904 | 20 | ． 47 | 8.65 | －s－02 | $2{ }^{4}$ | 4 | 8.65 |
| ＋With mendent can．．．．．．．．${ }^{\text {W }}$ WT | 100） | 60 |  | W T－ | 50 | ．3：3 | 6.07 | $\cdots \mathrm{T}-12$ |  |  | 6.1 |

Note：Carton quantity of 25 ，except the Nos． $95,92,93$ and 90 groups which are 10.
when specified will be furnished without extra charge．For special finishes，see listing elsewhere．
$\ddagger$ National Electrical Code Standard．


WC．

WE


WL


WM


WN


WP


WR

ws


No． 93
3 Amp．． 125 V ． 1 Amp．， 250 V．
 1 Anmp．．


3 Amp．． 125 V．
125 V ．
1 Amp．． 250 V．

No． 91

## Bryant Sockets and Switches

|  | Schedule＂H＂ Pull Candle Switch |  |  |  | Schedule＂H＂ <br> Turn Candle Switch |  |  |  | Schedule＂H＂ S．P．Pull Switch |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1）eseription | List No． | Std． | $\left\lvert\, \begin{gathered}\text { Mfrs．} \\ \text { ISist } \\ \text { Com－} \\ \text { plete }\end{gathered}\right.$ | W．Ji． Inst per Carton | List No． | Stel． | $\left\lvert\, \begin{gathered}\text { Mirs } \\ \text { Jist } \\ \text { Con－} \\ \text { plete }\end{gathered}\right.$ | W．F＇ Jist per Carton | J．ist No． | Std． | $\left\lvert\, \begin{gathered} \text { Mirs. } \\ \text { List } \\ \text { Cons- } \\ \text { plete } \end{gathered}\right.$ | W．In． Jist per Carton |
|  | $9 \cdot 4$ | 51 | 50，53 | 89， 75 | 9,3 | 30） | 80.6 \％ | 812． 51 | 06 | 50 | 0．53 | 80.75 |
|  | W A －！ $0+1$ | 50） | （6） 6 | 11.111 | W A－ 93 | $11)$ | ． 75 | 11.25 | W ${ }^{\text {W }}$ A -1010 | 50 | ． 50 | 11.111 |
| ＋Witlis in． | WVIS－9， 4 | 21） | （i）${ }^{\text {a }}$ | 12.71 | W－13－8\％3 | 10 | ． 84 | 12． 10 | W゙13－－m | 20 | （ 619 | 12.79 |
|  | W（ ${ }^{-1 / 4}$ | 20 | fif | 12.14 | W＂（＂－ $0^{3}$ | 111 | 81 | 12．15 | W（ ${ }^{\text {－}}$（）0 | 20 | － 46 |  |
| ＋Witl ${ }^{\text {¢ }}$ y in．mate | W以－94 | $21)$ | （i） | 11．144 | W15－9\％ | 111 | 75 |  | W14－9010 | 20 | ） |  |
|  | W゙ト－94 | 211 | （i） | 12．70 | W1゙－9， | 111 | 84 | 12．tid | WF－90 | 20 20 40 | （1） | 12.70 |
| ＋Withe ${ }^{\text {¢ }}$－in mase rap． | WV（1－91） | 211 | （i） | 12．70 | W $\mathrm{Cl}-9,3$ | 110 | 81 <br> $\times 1$ | 12 210 | WV15－90 | 20 | （i6） | 12． 14 |
| ＋With，${ }^{\text {a }}$ ，fixture（a） | W1゙－＋ 4.4 | 20 | 46 | 13.14 | W ${ }^{\text {W }}$ I -9.938 | 10 | 81 | 12． 2.10 | W J－00 | 20 | 130 | 12.71 |
| With is in．fixturo（eaj） | WI，－ $3 \cdot 1$ | 20 | －69 | 12.70 |  | 10 | －${ }^{\text {¢ }}$ | 12． 120 | W゙ $\mathrm{M}-\mathrm{m}$ | 20 | 6.5 | 11.96 |
| ＋With \％in amgle（eap） | WV N－9．9 | 20 | ． 6.5 | 11． 914 | W W －$-9,3$ | 10 | （8） | 1：3．35 | W N －（\％） | 20 | 74 | 13．1i2 |
| \＄With ！in．Humbe（：up） | WN $\mathrm{N}-4.1$ | $21)$ | －71 | 13．62 |  | $11)$ | － 8 | 12． 30 | W゙p－（9） | 20 | 71 | 13． 16 |
|  | W 1＊-6.4 | 211 | ． 71 | 13.04 | Wr ${ }^{\text {dr }}$－（03 | 10 | ． 8 | 12.90 | W $12-(3)$ | 20 | 71 | 13．06 |
|  | W1：－94 | $21)$ | .71 | 13.04 13 |  | 10 | ． 8 ¢ | 1：3．35 | W：－90 | 20） | 74 | 13．63\％ |
| \＃With $\frac{1}{4}$ in angle fixture caj， |  | 20 | ． 11 | 133.62 11.01 | $\|$Wr  <br> W -9.3 <br> 10.3  | 10 | － 7. | 11.25 | WT－90 | 54） | （i） | 11.011 |
| tWith perndernt vap．．．．．．．－ | W P －？ | in | ． H | $1] .01$ |  |  | 7 |  |  |  |  |  |

Note：Carton quantity of 10 ，

## Single Pole Pull Fixture Switches

3 AMPERES， 125 VOLTS－1 AMPERE， 250 VOLTS Schedule＂ H ＂

| List No． | 1）escription | （＇arton | Std． I＇kg． | Mfrs．Tist Complete | $\left\lvert\, \begin{array}{r} \text { W lin } \\ \text { Ihist } \\ \text { per } \\ \text { Corton } \end{array}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 91 | $\ddagger$ Rorly，without rap | 111 | 50 | 80.68 | 812.51 |
| WA－91 | \＄With $1 / 1 / \mathrm{meh}$（np）． | 111 | 50 | ． 75 | 13． 80 |
| W13－91 | \＃With 1 inch caj）． | 111 | 90） | 8.8 | 15.46 14.90 |
| WC－91 | $\pm$ With 3 inch cay．．． | 111 | 91） | 75 | 1：3．80 |
| W以－91 | With $1 / 8$ inch male cap | 10 | 20） | ． 8. | 15.45 |
| WF－91 | $\pm$ With bí iuch male cap． | 111 | 20 | ． 84 | 15.46 |
| W（\％－91 | With ${ }^{\text {orem }}$ inch male（at）． | 110 | 20 | ．81 | 14.90 |
| いK゙－91 | $\pm$ With $1 / 3$ inch fixture cap． | 10 | 20 | ． 84 | 15.40 |
| W1，－91 | With ${ }^{\text {d }}$ inch fixture cap | 10 | 20 | ． 80 | 14.72 |
| WM1－91 | $\ddagger$ With 1 \％inch amgle rap | $11)$ | 21 | ． 89 | 16．38 |
| WN゙91 | $\ddagger$ With $\frac{1}{4}$ inch angle cap + With inch angle can | 11 | 20 | ． 86 | 15.82 |
| Wl ${ }^{\text {W }}$－91 W $12-01$ |  | 110 | 20 | ． 86 | 15.83 |
| WS－91 | \＃With $\frac{1}{4}$ inch angle fixture cap | 111 | 20 | ． 89 | 16.38 |
| WTT－91 | ＋With mentent caty．．．．．．．．．．． | 10 | 5） | ．7． | 13.80 |

＂WRINKLET＂FIXTURE CAPS

| List No． | Description | （＇arton | Str］． Pkis． | Mfrs．T．ist Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| W | \％inch map | 9 | 500 | \＄0．07 | 83.85 |
| WB | 14 inch cap． | 25 | 100 | ． 16 | 7.36 |
| 11 | 3 3 inch cay． | $\cdots$ | 2.0 | 137 | 7.15 |
| W | $1 / 8$ inch male cap | 9－5 | 50 | 07 | 3.22 |
| WF | ${ }^{1} \frac{1}{4}$ inch male cap | 2－ | 50 | 16 | 7.34 |
| W | $3^{\frac{4}{3}}$ inch male cap | － | 50 | 16 | 7.36 |
| Wに | 1／8 inch fixture cap． | －3 | 50 | 13 | 5.98 |
| W\％． | ，／íf inch fixture cap． | \％ | 50 | 16 | 7.36 |
| WM | $1 \times$ fuch augle cap． | 20， | 100 | 12 | 5.52 |
| WV | 14 inch ancle cap． | \％ | 50 | 21 | 9.66 8.28 8.28 |
| W＂1 | 3／ inch angle rap． | \％ | 50 | 18 | 8.28 8.28 |
| W1？ | 1／8 inch angle fixture cap | 2－9 | 50 | .18 | 8.28 |
| Ws | 1／4 inch angle fixture cap． | 2. | 500 | 07 |  |
| Wけ | Penternt cap．．．． |  |  |  |  |

Standard finish is hrush or old brass，which will be shipped when no finish is specificd．Polished brass When specition will be furnished without extra charge．For special finishes，see listing elsewhere．

Bodius are rerularly furnished with short chain and 10 feet of best quality liaen cord．Exara cord， 2 cents list per foot．For insulated chain，etc．，see listing olsewhere．
$\ddagger$ National Electrical Code Standard．


# BRYANT INTERCHANGEABLE PORCELAIN LINE 



No 70
S．P．Key Socket 250 Watts， 250 Volts


No． 73
Keyless Socket 660 Watts． 250 Volts


No． 79
Receptacle 10 Amp， 250 Volts


No． 75
Pull Socket 250 Watts 250 Volts

Schedule＂B＂

| Description | S．P Key Socket |  |  |  |  | Keyless Socket |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | Car- | $\begin{aligned} & \text { Std. } \\ & \text { Prg. } \end{aligned}$ | Mirs 1，ist Com plete | $\left\|\begin{array}{c} \text { W. E. } \\ \text { List } \\ \text { per } \\ \text { Car- } \\ \text { ton } \end{array}\right\|$ | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ |  | $\left\lvert\, \begin{aligned} & \text { stil. } \\ & \text { inks. } \end{aligned}\right.$ | Mfrs <br> fist （＇om－ plete | $\begin{gathered} W^{\prime} \text { E. } \\ \text { List } \\ p \text { r } \\ \text { Car- } \\ \text { ton } \end{gathered}$ |
| $\ddagger$ Body，without eap or hase | 70 | 10 | 2．50 | 80． 2 i | \＄5．50 | 73 | 10 | 2.50 | \＄0．22 |  |
| $\ddagger$ With peadeat eap．．．．． | 1＇T－70 | 10 | $2: 30$ |  | 7.26 | PT－73 | 10 | 2， 0 |  | 6.60 |
| $\ddagger$ With ${ }^{\text {a }}$ in．cap． | 1＇A－70 | 10 | 1100 |  | 8.14 | PA－73 | 10 | 100 | ． 34 | 7.48 |
| WWith $1 / 4$ in．（al | 113－70 | 10 | 100 | 4.4 | 9.90 | P13－73 | 10 | 100 | 42 | 9.24 |
| ＋＊With $3 / \mathrm{m}$ in．cap． | P＇－74 | 10 | 109 |  | 8.82 | P＇－73 | $10)$ | 106 | ． 38 | 8.14 |
| ＋With $2 / 2$ in．cap（aluminum） | P1）－70 | 10 | 100 |  | 13.20 | P1）－73 | 10 | 100 | ． 57 | 12.54 |
| $\ddagger$ With 3 \％in angle cap．．． | 1＇P－70 | 10 | 100 |  | 12.10 | P1P－73 | 10 | 100 |  | 11.44 |
| $\ddagger$ Witl： $1 / 2$ in，angle rap （alaminum） | 12W゙ーテ | 1） | 100 |  | 17.60 | 1：W－7：3 | 10 |  |  | 16.94 |
| tWith cleat hase | JW－ご1 | 10 | 100 |  | 770 | PW－7：3 | 10 | 100 |  | 7.04 |
| ＋With large concealed hase | 1＇Z－io | 10 | 100 |  | 770 | PZ－73 | 10 | 190 | 32 | 7.04 |
| With wod molling base． | K13－50 | 10 | 100 |  | 7.70 | ［213－7：3 | 10 | 100 | 32 | 7.04 |
| ＋With 3＇，in．box base． | 1 $11 .-0$ | 10 | 100 |  | 11.00 | 121．－7：3 | 10 | 100 | ． 47 | 10.34 |
| ${ }_{+}$With 4 in．box hase． | IR M\％ 0 | 1 | 100 |  | 1.21 | 12 M－7．3 |  | 100 |  | 11.44 |

Schedule＂ H ＂
Schedule＂B＇＂

| 1）escription | Spartan Receptacle |  |  |  |  | Pull Socket |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | $\left(\left.\begin{array}{c} \text { car- } \\ \text { ton } \end{array} \right\rvert\,\right.$ | $\underset{\mathrm{I}^{2} \mathrm{~kg} \mathrm{tal}}{\mathrm{St}} .$ | Mirs List Com plete | W．E． List par Car－ ton | List No． | Car- | itd． | Mfrs． List Com－ plete | $\left\{\begin{array}{c} \text { W. E. } \\ \begin{array}{c} \text { List } \\ \text { per } \\ \text { car- } \\ \text { Car- } \\ \text { ton } \end{array} \end{array}\right.$ |
| \＃Body，without cap or base | 79 | 10 | 50 | \＄0．20 | \＄3．40 | 75 | 10 | 100 | \＄0．75 | 16.50 |
| ＋With prodent cap． | PT－99 | 10 | 50 |  | 4.76 | PT－75 | 10 | 100 |  | 18.26 |
| $\ddagger$ With ${ }^{\text {c }}$ in．cap | 1）－79 | 10 | 50 | ． 32 | 544 | PA－75 | 10 | 50 |  | 16.01 |
| $\ddagger$ With $1 / 4$ in．（a） | 1P6．9 | 10 | 50 |  | 680 | P13－75 | 10 | 50 |  | 17.48 |
| $\pm$ With ${ }^{3} \mathrm{Cm}$ ．cap | 1＇C－79 | 10 | 50 |  | 5.95 | PC－75 | 10 | 50 |  | 16.56 |
| $\ddagger$ With 1 \％in．cap（aluminum） | $1^{\prime} 1{ }^{1} 79$ | 10 | 20 | ． 55 | 9.35 | 11）－75 | 10 | 50 | 1.10 | 20.24 |
| $\ddagger$ With ${ }^{\text {r }}$ ，in，angle cap．． | 11P．70 | 10 | 20 |  | 8.50 | P1－75 | 10 | 50 | 1.05 | 19.32 |
| $\ddagger$ With $1 / 2$ in．angle cap （alunimum） | RW－79 | 10 | 20 |  | 12.75 | RW－75 | 10 | 50 | 1.30 | 11.96 |
| With clatat base | PW－7s | 10 | 20 |  | 5.10 | 1 W－75 | 10 | $\therefore 0$ |  | 15.64 |
| t＋With large conceated baso | PZ－79 | 10 | 20 |  | 510 | P7－75 | 10 | 50 |  | 1564 |
| $\ddagger$ With wood molding base． | 1213－79 | 10 | 20 |  | 5.10 | R13－75 | 10 | 50 |  | 15.64 |
| $\ddagger$ With 3！in．box base． | 121－79 | 10 | 20 |  | 7.65 | 121－75 | 10 | 50 | 1.00 | 18.40 |
| $\ddagger$ With 4 in．box base． | 12M－79 | 1 | 20 |  | 8.50 | RM1－75 | 1 | 50 | 1.15 | 19.32 |

Standard finish of brass caps is brush or old brass，which will be shipped when no finishis specified．l＇olished brass wheu specified will be furnished withoutextracharge． Specital finishes will be supplied at ore－half the list prices given elsewhere．
＊This cap can be furnished in aluminum at 30 eents list extra．
TThis base is suitable for attachment to No． 500 Adaptibozes．
$\ddagger$ National Electrical Code Standard．

## MOGUL PORCELAIN SOCKETS



No. 4077


No. 4062


No. 4073

Keyless Mogul Porcelain Sockets
1500 Watts, 600 Volts-With Aluminum Caps Schedule "B"

| List <br> No. |  | Carton Quantity | Std. 1 kg . | Pkg. W't. Lbs. | Nifrs. <br> List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4077 | Without cap or yoke | 1 | 50 |  | \$ 0.70 | \$1.54 |
| 40 H 9 | With ${ }^{\text {d }}$ inch cap. . | 1 | 50 | . | 1.00 | 2.20 |
| 4070 | With $1 / 2$ inch cap. | 1 | 50 |  | 1.00 | 2.20 |
| 4071 | With $3 / 4$ inch rap. | 1 | 50 |  | 1.00 | 2.20 |
| WITH CAST IRON YOKES Schedule "B" |  |  |  |  |  |  |
| 4078 | With ${ }^{8} 8$ inch yoke | 1 | 50 | $\cdots$ | \$0.85 | \$1.87 |
| 4079 | With $1 / 2$ inch yoke. | 1 | 50 |  | .85 | 1.87 |
| 4080 | With $3 / 4$ inch yoke. | 1 | 50 |  | .85 | 1.87 |


| No. 4069 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. |  | Carton Quantity | Std. 1 kg . | Pkg. W't. Lbs. | Nifrs. <br> List <br> Each | W. E. List per Carton |
| 4077 | Without cap or yoke. | 1 | 50 |  | \$ 0.70 | \$1.54 |
| 40 ta | With 3 inch eap. . | 1 | 50 | $\cdots$ | 1.00 | 2.20 |
| 4070 | With $1 / 2$ inch cap. | 1 | 50 |  | 1.00 | 2.20 |
| 4071 | With $3 / 4$ inch rap. | 1 | 50 |  | 1.00 | 2.20 |
| WITH CAST IRON YOKES |  |  |  |  | Schedule " $\mathrm{B}^{\text {" }}$ |  |
| 4078 | With ${ }^{8} 8$ inch yoke | 1 | 50 | . | \$0.85 | \$1.87 |
| 4079 | With $1 / 2$ inch yoke. | 1 | 50 |  | .85 | 1.87 |
| 4080 | With $3 / 4$ inch yoke. | 1 | 50 | . | .85 | 1.87 |


| List <br> No. |  | Carton Quantity | Std. 1 kg . | Pkg. W't. Lbs. | Nifrs. <br> List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4077 | Without cap or yoke | 1 | 50 |  | \$ 0.70 | \$1.54 |
| 40 HO | With ${ }^{\text {d }}$ inch cap. . | 1 | 50 | . | 1.00 | 2.20 |
| 4070 | With $1 / 2$ inch cap. | 1 | 50 |  | 1.00 | 2.20 |
| 4071 | With $3 / 4$ inch rap. | 1 | 50 |  | 1.00 | 2.20 |
| WITH CAST IRON YOKES Schedule "B" |  |  |  |  |  |  |
| 4078 | With ${ }^{8} 8$ inch yoke | 1 | 50 | $\cdots$ | \$0.85 | \$1.87 |
| 4079 | With $1 / 2$ inch yoke. | 1 | 50 |  | .85 | 1.87 |
| 4080 | With $3 / 4$ inch yoke. | 1 | 50 |  | .85 | 1.87 | 1.87

Holes for supporting serews of No. 4077 are spaced $11 / 2$ inches on centers.


Holes for supporting serews are spaced $1 \frac{5}{32}$ inches on centers.
KEYLESS MOGUL RECEPTACLES-1500 Watts, 250 Volts Schedule "B"


Holes for supporting screws are spaced 278 inches on centers.


Weatherproof Keyless Mogul Porcelain Sockets WITHOUT CAP OR YOKE

Schedule "B"

| * $40 \times 1$ | With 15 inch wires. | ........................... | 1 | 30 |  | 80.70 | \$1.54 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| t.4088 | \|No wires......... |  | 1 | 50 | . | . 2.5 | 1.21 |

Holes for supporting serews are spaced $1 \frac{13}{2}$ inches on eenters.
WITH ALUMINUM CAPS

| 50 ${ }^{\text {a }}$ (1010) $\$ 2.20$ |  |  |  |  | \$1.00) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * 4083 | With 15 inch wires, $1 / 2$ inch cap. | 1 | 50 |  | 1.0) | 2.20 |
| *4084 | W'ith 15 inch wires, $3 / 4$ inch cap. | 1 | 50 |  | 1.00 | 2.20 |
| $\dagger 4089$ | No wires, $3 / 8$ inch cap. | 1 | 50 |  | . 85 | 1.87 |
| +4090 | No wires, $1 / 2$ inch cap | 1 | 50 |  | N5 | 1.87 |
| +4091 | No wires. $3 / 4$ inch cap | 1 | 50 |  | 85 | 1.87 |
| WITH CAST IRON YOKES Schedule "B" |  |  |  |  |  |  |
| *.40 25 | With 15 inch wires, $3 / 8$ inch cap. | 1 | 510 |  | \$0.85 | \$1.87 |
| * 4086 | With 15 inch wires, $1 / 2$ inch cap. | 1 | 50 |  | . 8.5 | 1.87 |
| * 4088 | With 15 inch wires, $3 / 4$ inch cap. | 1 | 50 |  | 85 | 1.87 |
| +4042 | No wires, $3 / 8$ inch cap.. | 1 | 50 |  | 70 | 1.54 |
| $\dagger 4093$ | No wires, $1 / 2$ inch cap. | 1 | 50 |  | 70 | 1.54 |
| * 4094 | No wires, $3 / 4$ inch rap | 1 | 50 |  | 70 | 1.54 |

## *Longer wires furnished at 9 cents list per foot per conductor.

$\dagger$ Preferable where wires of various lengths are wanted at short notice. Equipped with loop terminal, into which wires provided by customer may be hooked and soldered.


No. 4061


No. 4051


## Twin Sockets

Keyless Sockets, 660 Watts, 250 Volts

Pull Sockets, 250 Watts, 250 Volts
Schedule "B"

| List <br> No. | Description | Carton (Uuantity | Std. <br> Pkg. | $\begin{aligned} & \text { I } \mathrm{kg} . \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | Mirs. List Each | W. E. List per Carion |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $46750^{4}$ | Keyless-1/8 inch cap | 25 | 50 | 10 | \$0.65 | \$29.90 |
| 467514 40614 | Keyless- $3 / 8$ inch cap. . . Kevless-with Edison plug | 25 | 50 | 10 | . 70 | 32.20 |
| 40614 | Kevless-with Edison plug 1'ull-1,8 inch cap.. . . . | 10 | 50 | 30 | 1.00 | 18.40 |
| 4 | Pull-1/8 inch cap Pull- $3 / 8$ inch cap | 10 | 50 | 20 | 1.00 | 18.40 |
| $4005{ }^{4}$ | P'ull- $1 / 8$ inch cap. | 10 | 50 | 20 | 1.06 | 19.50 |
| $4006{ }^{4}$ | I'ull - 3,8 inch cap. | 10 10 | 50 | 20 | 1.00 | 18.40 |
| 4053 * | Pull-1/8 inch cap. | 10 | 50 | 20 | 1.06 | 19.50 |
| $4054{ }^{\text {a }}$ | Pull-3/8 inch cap. | 10 | 50 | 20 20 | 1.00 | 18.40 |
| $1029$ | Pull-with Pdison plug | 5 | 50 | 30 | 1.35 | 19.50 |
| ${ }^{1039} 3^{\text {a }}$ | Pull-with Edison plug | 5 | 50 | 30 | 1.35 | 14.85 14.85 |
| 4040 ${ }^{\text {a }}$ | Puhlwith Jdison plug. | 5 | 50 | 30 | 1,35 | 14.85 |

## Aluminum Shell Sockets

660 WATTS, 250 VOLTS

'These sockets having aluminum shells are suitable for outdoor work, 'The shells are lined with porcelain athl the sockets are therefore suitable for show window work and conform to the specifications of the National Board of Fire Underwriters as to the conditions under which insulating joints may be omitted.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std, <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mirs. <br> List <br> Fach | W. E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4106{ }^{-4}$ | Neyleses, $3 / 8$ inch cap |  | 50 | 23 | 50.50 |  |
| 410\% | Keyless. ${ }^{\text {, }}$ inch cap. . . | 10 | 50 | 22 | . 3.50 | $\$ 9.20$ 9.20 |

[^40]

No. 66237


No. 4043


No. 4004


No. 4068


No. 4100


No. 4104

Bryant Electrolier Sockets
660 Watts, 250 Volts

| $\begin{aligned} & \text { List } \\ & \text { No, } \end{aligned}$ | Description | Carton <br> Quantity | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | l'kg. IIt. J.hs. | Mfis. I.ist 1.ach | $\begin{aligned} & \text { W. E. } \\ & \text { per } \\ & \text { Carton } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BRYANT ELECTROLIER SOCKET Schedule "B" |  |  |  |  |  |  |
| $\begin{aligned} & 6637^{4} \\ & 50766 \\ & 50 \end{aligned}$ | Kevless-1/sinch (a!). Keyless- $3 / 8$ inch cap. | 50 10 | 2.00 100 | 15 20 | 80).40 | $\$ 36.80$ <br> 10.12 |
| BRYANT ANGLE SOCKETS Schedule "B" |  |  |  |  |  |  |
| $\begin{aligned} & 40433^{4} \\ & 4044^{4} \end{aligned}$ | Kerless- $1 /{ }^{6}$ ineh cap. Kevless- ${ }^{3}{ }^{2}$ indh cap. | $\underline{25}$ | 100 100 | 2.7 28 | \$10. $3 \%$ .+1 | $\$ 16.10$ <br> 18.86 |

SOCKET FOR CANDLE FIXTURES
Schedule "B"


## SOCKET FOR INDIRECT LIGHTING FIXTURES

Schedule "B"

| 4068 |  | 10 10 | 50 50 50 | $\underline{29}$ | 80.75 .80 | $\begin{array}{r} \$ 13.80 \\ 14.72 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +116 | P'ull, with bottom chain gruide, and ${ }^{\text {º }}$ inch 3 step nozzle |  |  |  |  |  |

WALL SOCKETS FOR $3^{11}$ INCH OUTLET BOXES
Schedule "B'

| 4102 | Levpess Wall somet. . With 6 inch wi | 1 | 100 100 |  | 80.45 .50 | $\$ 0.99$ 1.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +10:3 | Feyless Wall Sooket, with 6 inch wir |  |  |  |  |  |

Outside diamoter of base is $3 \frac{11}{16}$ inches.
Holes for supporting serews are spaced $23 \frac{1}{4}$ inches on centers.
WALL SOCKETS FOR $3 \frac{1}{4}$ AND 4 INCH OUTLET BOXES
Schedule "B"

|  |  | 1 | 100 |  | 80.60 | \$1.32 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4100 | Keyless 11 all nocket | 1 | 100 |  | (6) | 1.43 |
| +1101 | Keyless Wall sorket. With 6 ind pull Wall sueket with flat hack | 1 | 50 | $\cdots$ | 1.30 | 2.86 |
| +110.4 .1105 | Pull Wall socket, with flat back with in inch wiee leats | 1 | 50 |  | 1.35 |  |

[^41]
## BRYANT SOCKETS AND RECEPTACLES

75 Watts, 125 Volts


No. 434


No. 321


No. 386


No. 474


No. 328


No. 347

*The supporting studs are threaded .312 inch, 27 threads por inch.
TThe nipples are $1 / 8$ inch for pipe, .405 inch outside diancter, 27 threads per inch.


No. 32.3



No. 9445


No. 325

## Weatherproof Pendent Sockets

|  | Weatherproof Pendent | Sockets |  | Schedule 'H' |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | Description | ('arton Quantity | Stl. $\mathrm{Pkg} .$ | $\begin{aligned} & \text { Pkg } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mifs. List Each | W.E List per Carton |
| 3294 | Miniature, Pendent socket |  | $\underline{200}$ | 9 |  |  |
| $323{ }^{4}$ | Candelabra, Pendent Socket <br> Made in green glazed porcelain. | $2{ }^{25}$ | 200 | 10 | S0.12 .135 | $\$ 6.60$ 7.43 |

Each socket fitted with 6 inches of No. 18 B. \& S. Stranded Rubber-covered Wire. Sockets with longer wires furnished on special order. Extra charge, $\$ 0.18$ per foot, Mirs. List, $\$ 0.09 ; \$ 0.09$ each con-
ductor, Mfrs. List $\$ 0.45$.

Miniature and Candelabra Receptacles

|  | Description |  |  |  |  | Schedule "H' |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. |  | Screws Spraced on 1 'enters | Carton Quantity | Std. l'kg. | Pkg. It. <br> Lhs. | Mifs. <br> List <br> Fach | $\left\lvert\, \begin{gathered}\text { W. E. } \\ \text { List per }\end{gathered}\right.$ Carton |
| $\begin{aligned} & 366 i^{4} \\ & 367^{4} \end{aligned}$ | Miniature Receptacle | $1_{1}^{1 / 2} \mathrm{ins}$. | 25 | 200 | 30 | 80.075 | \$4.13 |
| $367^{4}$ | Candelabra lieceptacle Outside diameter of bas | $1_{1}^{\frac{1}{15}}$ ins. | 25 | 200 | 30 | ${ }^{\mathbf{W}}$ | $\$ 4.13$ 4.95 |
| 9445 | Miniature Receptacle <br> Outside diameter of ba | $\frac{15}{15} \mathrm{ins}$. | 25 | 500 | 30 | . 065 | 3.58 |
| 9446 | Cundelabra Receptacle Outside rliameter of base $1_{16}^{5}$ inches. | $1{ }_{1}^{1} \mathrm{t}$ ins. | 25 | 500 | 30 | . 0725 | 3.97 |
| $\begin{aligned} & 32.4 \\ & 32.5 \end{aligned}$ | Miniature, oblong base.. . . . . . . . . . . | $1 \frac{7}{3,2}$ ins. | 25 | 200 | 2.4 | 10 |  |
| 325 326 | Candelabra, oblong base.. . . . . . . . . . . . ${ }^{\text {Candelabra, oblong base }}$ | $1{ }^{\frac{5}{3} \frac{5}{2}}$ ins. | 25 | 200 | 29 | 10 | 5.50 |
| 326 | Candelabra, oblong base, with spring serewshell | $1_{15}^{*}$ ins. | 25 | 200 | 28 | 1.5 | 8.25 |

[^42]
## BRYANT SOCKETS



No. 9366


No. 399


No. 43310


No, 60w66

## Weatherproof Sockets

660 Watts, 600 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quartity | Std. <br> Pkg. | Pkg. Vit. Lbs. | Mirs. <br> List <br> Each | W. E. List <br> Per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Porcelain, for W. I'. Shade Iolder | 10 | 250 | 80 | 80.20 | \$4.40 |
| $399{ }^{\text {4 }}$ | Porcelain W, I'. Sueket. . . . . . . | 10 | 250 | 75 | . 125 | 2.75 |
| $43310{ }^{\text {a }}$ | Molded W. P. Sorket . | 19 | 250 | ${ }^{6} 0$ | , 22 | 4.84 |
| (3066it ${ }^{4}$ | Composition W. I' Socket | 10 | 250 | 85 | . 24 | 5.28 |
| 50.888 | Hard liubher W. ''. socket | 10 | 250 | 60 | 1.00 | 22.00 |

The above sockets are fitted with 6 inches of No. 14 B. \& S. strund Rubber-covered Wire. Sackets with longer wires furnished on special order. Extra charge, $\$ 0.13$ per foot. Mifrs. List $\$ 0.09$ ( $\$ 0.09$ each conductor). Mfrs. List $\$ 0.045$.


No. 43311


No. 43314


No. 9448

Weatherproof Bracket Sockets
660 Watts, 250 Volts
Schedule "B"'

| List <br> No. | 1)escription | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. <br> Lbs. | Mifs. List <br> Each | W. E. List Per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $43311^{\text {4 }}$ | Molded, $1 / 8$ inch, wires inside of pipe | 10 | 109 | 30 | 80.60 | \$13.20 |
| $43312{ }^{4}$ | Molded, 38 inch, wires inside of pipe. | 10 | 100 | 30 | (6) | 13.20 |
| ${ }^{*} 43313{ }^{\text {a }}$ | Molded, $1 / 8$ inch, wires outside of pipe | 10 | 100 | 30 | . 60 | 13.20 |
| *43314 ${ }^{\text {4 }}$ | Molded, $3 / 8$ inch, wires outside of pije. | 10 | 100 | 30 | . 60 | 13.20 |
| $9448{ }^{\text {a }}$ | Porcelain, $1 / 8$ inch, brass cap), polished and lacquered. | 10 | 100 | 40 | . 6 | 13.20 |
| $9496{ }^{\text {4 }}$ | Porcelain, 3 inch, brass cap, polished and lacquered. | 10 | 100 | 45 | 60 | 13.20 |

The above soekets are fitted with 6 inehes of No. 18 B. \& S. Solid IRubber-covered Fixture Wirc. Sockets with longer wires will be furnished on special order. Extra eharge, $\$ 0.18$ per foot. Mfrs. List $\$ 0.09$
(\$0.09 each conductor). Mfrs. List \$0.045.

* These sockets are approved for 660 watts, 600 volts.
- National Electrical Code Standard.


## BRYANT SOCKETS AND RECEPTACLES



No. 50997


No. 9407


No. 44912

Bragdon Weatherproof Sockets
Schedule "B"
Extension edge carries the drip away from the lamp and socket. Nethol of wiring at the fop removes the strain from the socket itself and places it on the poreening. lixtmande in poreelainat top allows for independent suspension, if desired.

| List <br> No. | Description | $\begin{gathered} \text { Screws } \\ \text { Spaced } \\ \text { on Centers } \end{gathered}$ | Cartun Quantity | $\begin{aligned} & \text { Std. } \\ & \text { I'kg } \end{aligned}$ | $\begin{aligned} & \text { Phg. } \\ & \text { Wt. } \\ & \text { Lhs. } \end{aligned}$ | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Fach } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $50099{ }^{4}$ | Weatherproof Socket |  | 10 | 250 | 16.) | \$0.50 | \$11.00 |

Weatherproof Receptacles
Schedule "B"

|  |  |  |  |  | Schedule "B" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $9407^{\text {4 }}$ | With side wires. <br> Outside diameter of base is 23 inelies | ${ }^{2} \frac{3}{16}$ ins. | 10 | 100 | 39 | S().40 | \$8.80 |
| $44912{ }^{\text {4 }}$ | lony, with side wires Outside diameter of base $1 \frac{29}{32}$ inches. | 2 ins. | 10 | 100 | 52) | . 35 | 7. 70 |



No. 9408


No. 9411


No. 30000

Weatherproof Receptacles

| Weatherproof Receptacles |  |  |  |  | Schedule "B" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. Jist Each | W. E <br> List per Carton |
| $9408^{4}$ | With bottom wires. Outside diameter of base is $2 \frac{12}{16}$ inches. | 21/4 ins. | 10 | 100) | S0 | \$0.40 | \$8.80 |
| 9411* | l'ony, with hottom wires. <br> Ontside dimmeter of base is $23 / 5$ inches. | 23 \% ins. | 10 | 100) | 57 | $33)$ | 7.70 |
| $30000^{4}$ | Angle, with side wires . . . . . . . . . . . |  | 10 | 100 | 85) | 45 | 9.90 |

The above sockets and receptacles are fitted with if inches of No. $1+\mathrm{B}$. \& S. Stranded labber-covered Wire. Sockets and receptacles with longer wires furnished on special order. Lixtra charge, $\$ 0.18$ per foot. Mfrs. List \$0.09 (\$0.09 each conductor). Mfrs. List \$0.045.

- National Electrical Code Standard.


## BRYANT SOCKETS



No. 25707

## Street Hood Sockets

## 250 Watts, 250 Volts

Schedule "B"
The malleable iron yoke is threaded for $3 / 8$ inch iron pipe.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | ('arton Quantity | Std. <br> Ikg. | Pkg. Wt. Lbs. | $\begin{aligned} & \text { Mirs. } \\ & \text { List } \\ & \text { Fach } \end{aligned}$ | W.E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $25706{ }^{4}$ | With side lugs. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 1) | 100 | 75 | 30.27 | \$5.94 |
| 660 Watts, 600 Volts |  |  |  | Schedule "B" |  |  |
| $2570{ }^{4}$ | With wire leads. | 10 | 10) | 80 | \$0.44 | \$9.68 |

No. 25707 is fitted with 6 inches of No. 14 13. \& S. Stranded lubber-eovered Wire. Longer wire on special order. Extra charge, 18 cents per foot ( 9 cents each conductor).


Sockets for Mogul Base Lamps
660 Watts, 600 Volts

| 660 Watts, 600 Volts |  |  |  | Schedule "B" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | Carton Quantity | Std. <br> I lkg . | $\begin{aligned} & \text { likg. } \\ & \text { Wt. } \\ & \text { I.bs. } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { MIfrs. } \\ \text { List } \\ \text { Each } \\ \hline \end{gathered}$ | W.E. List per Cartor. |
| $\begin{aligned} & 4021^{4} \\ & 4022^{4} \end{aligned}$ | Keyless- $3 / 8$ inch cap <br> Keyless- $1 / 2$ inch cap. | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ | 50 50 50 | 35 | $\$ 1.50$ 1.50 | $\begin{array}{r}\$ 27.60 \\ 27.60 \\ \hline\end{array}$ |
| With $31 / 4$ inch Shade Holder Attached Schedule "B" |  |  |  |  |  |  |
| $\begin{aligned} & 4027^{4} \\ & 4028^{4} \end{aligned}$ | Keyless- $3 / 8$ inch cap <br> Keyless- $1 / 2$ inch cap | 1 | 50 50 | 50 55 | $\begin{aligned} & \$ 1.80 \\ & 1.80 \end{aligned}$ | $\begin{array}{r} \$ 3.96 \\ \hline 3.96 \\ \hline \end{array}$ |

MOGUL WALL SOCKETS
Porcelain Base for $31 / 4$ and 4 Inch Outlet Boxes


Holes for supporting screws are spaced $23 / 4$ and $31 / 2$ inches on centers.
BRASS COVERED BASE


4098 Holes for supporting serews are spaced $23 / 4$ and $31 / 2$ inches on centers.
Standard finish is brush brass.
For other finishes see listing on socket finishes.

- National Flectrical ( ode Standard.

660 Watts, 250 Volts


No. 50715


No. 59275


No. 9171


No. 9394

With Exposed Terminals
Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & \text { Mifs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | W.E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $50715^{\text { }}$ | Pony Cleat | $1 \frac{18}{16} \mathrm{ins}$. | 10 | 250 | 79 | \$0.15 | \$3.30 |
| $59275^{\text {4 }}$ | Cleat, base 1 inch high | 2 ins. | 10 | 250 | 106 | . 18 | 3.90 |
| 9171 | Cleat leceptacle. | . . . . . | 10 | 500 | 135 | 10 | 2.20 |
| 50757 | Cleat, with copper fittings and screws. |  | 10 | 250 | 70 | . 20 | 4.40 |
| 9394 | Cleat, removable ring. . . . . | ...... | 10 | 250 | 70 | .20) | 4.40 |

Nos. 9171,50757 , and 9394 supported by one serew in the center.


No. 9402




Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | $\begin{array}{\|c} \text { Screws } \\ \text { Spaced } \\ \text { on Centers } \\ \hline \end{array}$ | Carton Quantity | Std. Pkg. | Plig. Wt. Lbs. | Mifs. List Each | W. E. <br> List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $9402^{4}$ | Cleat Receptacle | 23,8 ins. | 10 | 250 | 100 | \$0.15 | \$3.30 |
| $4013{ }^{4}$ | Cleat, for W. P. Shade Holder | $2 \frac{3}{8}$ ins. | 10 | 250 | 110 | . 20 | 4.40 |
| 9403 ${ }^{\text {4 }}$ | (leat, with brass ring for strd. shade holder. . . | $23 / 8 \mathrm{ins}$. | 10 | 250 | 100 | . 25 | 5.50 |
| $28795^{4}$ | Cleat Reccpticle. . . . . . . . . . . . . . . . . . . . . . . . . | $17 /$ ins. | 10 | 250 | 95 | .15 | 3.30 |



No. 58301


No. $\mathbf{5 8 3 0} 0$


No. 58949

With Enclosed Terminals
Schedule "B"

| List <br> No. | Description | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. <br> Wt. <br> Lbs. | Mifs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $58301^{\text {4 }}$ | Cleat | $1 \frac{1}{16} \mathrm{ins}$. | 5 | 250 | 165 | \$0.25 | \$2.75 |
| $58300^{4}$ | Cleat, for W. P. Shade Holder | ${ }_{1}^{\frac{1}{16}}$ ins. | 5 | 200 | 165 | . 30 | 3.30 |
| $58949^{\text {a }}$ | Cleat, with brass ring for strd. shade holder. | $1 \frac{1}{16}$ ins. | 5 | 250 | 160 | .35) | 3.85 |

${ }^{\wedge}$ National Electrical Code Standard.

# BRYANT RECEPTACLES 

660 Watts, 250 Volts


No. 4014


No. 4023


No. 4063


Sign Receptacles
Schedule "B"

| List <br> No. | Description | Diam. of Hole <br> Required | Screws Spaced on Centers | Carton Quantity | Std. <br> lkg. | Pkg. I't. Lbs. | Mifs. Jist Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * $4014{ }^{4}$ | "Iruby" Sign, with binding screws. . | $15 / 8$ ins. |  | 10 | 250 | 6 | 80.20 | \$4.40 |
| * $4023^{4}$ | Universal Sign Receptacle. . . . . . . | $11 / 2 \mathrm{ins}$. |  | 10 | 250 | 85 | . 20 | 4.40 |
| * $4063{ }^{4}$ | Sign Receptacle | 138 ins. | $1 \frac{13}{16} \mathrm{ins}$. | 10 | 250 | 75 | . 14 | 3.08 |
| †1700 | Pony Sign Receptacle. | $1 \frac{9}{16}$ ins. | $17 / 8$ ins. | 10 | 250 | 145 | . 14 | 3.08 |
| $\dagger 50899$ | Sign Recejtacle, short skirt. | $1{ }_{1}{ }^{9} 6$ ins | $17 / 8 \mathrm{ins}$. | 10 | 100 | 30 | 25 | 5.50 |
| +50782 | Sign leceptacle, long skirt......... | 19\% ins. | $17 / 8$ ins. | 10 | 100 | 50 | 25 | 5.50 |

See listing on "brass conduit box covers" for receptacles Nos. 4014 and 4023.
*For metal signs. fFor wooden signs.


Receptacles for Conduit Boxes
Schedule "B"

| List No. | Description | Screws <br> Spaced <br> on Centers | $\begin{aligned} & \text { Car- } \\ & \text { ton } \\ & \text { Qnty. } \end{aligned}$ | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \\ & \hline \end{aligned}$ | Mfrs. <br> Jist <br> Fach | W.E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{62357}$ | For use with $31 / 1 /$ inch boxes Outside diametor of base $31 / 2$ inches. | 23, $3^{\text {a }}$ ins. | 5 | 100 | 200 | \$0.35) | \$3.85 |
| 400 ) | For use with 4 inch round box Outside diameter of base $41 / 4$ inches. | 3112 ins. | : | 100 | 120 | 45 | 4.95 |
| 9514 ${ }^{\text {4 }}$ | F'lush Receptacle (two piece) | $17 / 8$ ins. | 10 | 250 | 100 | 30 | 6.60 |
| 4033 ${ }^{\text {4 }}$ | Flush Receptacles (une piece). <br> The hole required for these receptacles is $1 \frac{9}{16}$ ine hes in diameter. | $17 / 8 \mathrm{ins}$. | 10 | 250 | 100 | 20 | 4.40 |
| *4110 | For use with $31 / 4$ inch hoxes, with black japanned eover | $23 / 4$ ins. | 1 | 100 | 70 | 30 | 66 |
| * 4111 | l'or use with $31 / 4$ inch boxes, with sherardized eover. | $\underline{3} / 4$ ins. | 1 | 100 | 70 | 31 | 68 |
| *4112 | For use with $31 / 4$ inch boxes, with hrush brass cover | $\underline{3} / 4 \mathrm{ins}$ | 1 | 100 | 70 | 40 | 88 |
| t+113 | For use with 4 inch boses, with black japanned cover | $31 / 2 \mathrm{ins}$ | 1 | 100 | 96 | 32 | 70 |
| +4114 | For use with 4 inch boxes, with sherardized eover. | $31 / 2 \mathrm{ins}$. | 1 | 100 | 96 | 3:35 | 74 |
| +4115 | For use with 4 inch boxes, with brush brass cover | $31 / 2 \mathrm{ins}$. | 1 | 100 | \% | 4 | 97 |

*Outside diameter $31 / 4$ inches. †Outside diameter $4 \frac{1}{16}$ inches.
Receptacles for Condulets and Adaptiboxes Schedule "B"

| $62355^{4}$ | Condulet Receptacle.... |  | 10 | 250 | 103 | \$0.25 | \$5.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $62356{ }^{\text {4 }}$ | Condulet Receptacle, for W. P. shade holder, |  | 10 | 250 | 110 | . 30 | 6.60 |
| 4076 | Adaptibox Receptacle for shade holder.. | $2 \frac{5}{16}$ ins. | 10 | 250 | ... | . 30 | 6.60 |

[^43]
## BRYANT MISCELLANEOUS RECEPTACLES

660 Watts, 250 Volts



No. 9397


No. 40507


No. 4038

Receptacles for Conduit Boxes
Schedule "B"

| List No. | [)escription | Screws Spaced on Centers | Carton Quantity | Stel. <br> Phg. | Pkg. W't. Lbs. | Mfrs. List Each | W. E. List per Carto |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 93974 | Conduit Box Receptacle. |  |  | 250 |  |  | \$4.40 |
| 40507 ${ }^{\text {® }}$ | Conduit Isox lieceptacle, round base......... . . Outside diameter of base $1 \frac{15}{16}$ inches. | $11 / 4$ ins. | 10 | 250 | 40 | \$0.20 | 3.74 |

## Receptacles for Temporary and Decorative Lighting



No. 4038 Receptacle is provided with pointed binding serews designed to pierce the insulation, making it unnecessary to strip the wires. Stranded wire is preferable for this use.


No. 4037


No. 4056

Receptacles for Temporary and Decorative Lighting

|  |  | Schedule "B" |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \end{aligned}$ Lbs. | Mfrs. List Each | W. E. List per Carton |
| $\begin{aligned} & 4037^{\star} \\ & 4056^{4} \end{aligned}$ | Porcelain Temporary Decorative Receptacle Mica Temporary Decorative Receptacle. . . | 10 10 | 250 250 | 82 100 | $\$ 0.24$ .30 | $\$ 5.28$ 6.60 |

[^44]
## BRYANT RECEPTACLES FOR DECORATIVE LIGHTING



## Ready-wired Receptacles

"hese receptacles will he fumishol ' ready-wired," that is, supplied with approved stranded single brat rubhor covered wire, connertions soldered, and then filled withinsulating eompond. making therereptacles absolutely weatherproof.

We carry at all times a large stock of parts am can usually ship orders of rasomable size the same day that they are received at the tactors.
 each conductor.) Mifs list $\$ 0 .(0.45$ for No. 14 wire and $\$ 0.27$ list per foot, Mfrs List $\$ 0.10$ each ( $\$ 0.11$ each conductor.) Mfrs'. List \$1. 11 each for No. 12 wire.

The list price of receptacles spared more than 30 inclos apart is obtained by adding $\$ 1.75$ per 100 receptacies per ineh. (Mfrs List $\$ 0$. 75 ) to the list of No. $4041 \%$ and $4049 /$ for No. 14 wire and $\$ 1.87$ per 100 receptacles per incla ( Ml frs List $\$ 0.85$. ) to the list of No. $124034 Z .124041 \%$ and $124(12 \mathrm{Z}$ for No. 12 wire.

| List Prices and Data |  |  |  |  | Schedule "B" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | ("arton Quantity | Sted. Pkig. | $\begin{aligned} & \text { Phe } \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | $\begin{aligned} & \text { M1rs } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { W. F. } \\ & \text { Iist I'er } \\ & \text { farton } \end{aligned}$ |
| $\begin{aligned} & 4034 \\ & 4041 \\ & 4042 \end{aligned}$ | Porcelain decorative receptarle Mica decorative receptarle. Derorative | $\begin{aligned} & 10 \\ & 10 \\ & 10 \\ & \hline \end{aligned}$ | $\begin{aligned} & 200 \\ & 2.01 \\ & 2.01 \end{aligned}$ | $\begin{array}{r} 60 \\ 75 \\ 100 \\ \hline \end{array}$ | $\begin{gathered} 8(1.20 \\ .25 \\ .285 \\ \hline \end{gathered}$ | $\begin{array}{r} 84.40 \\ 5.50 \\ 6.27 \end{array}$ |

WIRED WITH NO. 14 WIRE

| Centers | Poreclain Derorative Receptacle |  |  | Mica Decorative Receptacle |  |  | Decorative Cleat Receptacle |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. | $\begin{gathered} \text { Mirs. List } \\ \text { per loo } \\ \text { Receptacles } \end{gathered}$ | $\begin{aligned} & \text { W. F. list } \\ & \text { per low } \\ & \text { Rereptaches } \end{aligned}$ | Jist No. | List Price prer 100 Receptar-les | $\begin{aligned} & \text { W. N. list } \\ & \text { per loo } \\ & \text { Roeptitlos } \end{aligned}$ | List No. | $\left\|\begin{array}{c} \text { M1rs. list } \\ \text { per } 100 \\ \text { reerstacks } \end{array}\right\|$ | $\left\lvert\, \begin{array}{r} \text { W. F: List } \\ \text { perr } 100 \\ \text { Roceptacles } \end{array}\right.$ |
| 4 ins. | $\pm 4034$. | \$26.00 | \$47.8.4 | +40.41.7 | \$31.00 | 357.01 | \$4042A | \$34.50 | \$ 83.48 |
| 5 ins. | $\pm 403413$ | 26.75 | 49.22 | \$40.413 | 31.75 | 58.42 | +404213 | 35.20 | 64.77 |
| 6 ins. | $\pm 4034 \mathrm{C}$ | 27.51 | [14. 60 | $\pm 4041 \mathrm{C}$ | 32.50 | 59.3 (1) | +1042C | 36.00 | 66.24 |
| 7 ins. | \$40341) | 28.25 | 51.95 | +4041D | 33. 35 | 61.18 | +40421) | 36.75 | 67.122 |
| 8 ins. | +40345 | 29.011 | 53.38 | +40.41F | 38.0 (1) | (i2. 50 | +4042 | 37.50 | 69.00 |
| 9 ins . | $\pm 4034 \mathrm{~F}$ | 29.75 | 5.4 .74 | $\pm 40+1 \mathrm{~F}$ | 34.75 | 813.94 | \$4042F | 38.25 | 70.38 |
| 10 ins , | +4034G | 30.50 | $5 \mathrm{5l} .12$ | $\pm 4041 \mathrm{G}$ | 35. 50 | 65.3 | +4042G | 39.00 | 71.76 |
| 11 ins. | $\pm .103411$ | 31.25 | 57.48 | $\pm 4(1) 411$ | 36.25 | 66. 76 | \$ 4042 H | 39.75 | 73.14 |
| 12 ins. | $\pm 4034 \mathrm{~J}$ | 32.00 | 58.88 | $\pm 4041 \mathrm{~J}$ | 37.00 | 18.08 | \$4042J | 40.50 | 74.52 |
| 14 ins. | \$.1034 K | 33.50 | 611.6 .1 | +1041K | 38.40 | 70.69 | \$1042K | 42.00 | 77.28 |
| 15 ins . | \$1034M | 3.4 .25 | 6is. 00 | +4(1)1M | 39.24 | 72.20 | $\pm 4042 \mathrm{M}$ | 42.75 | 78.66 |
| 16 ins. | \$1034N | 35.00 | 64. 40 | $\pm 4041 \mathrm{~N}$ | 40.00 | 73.60 | $\pm 4042 \mathrm{~N}$ | 43.50 | 80.04 |
| 17 ins . | +4034P | 35.75 | (is) 78 | $\pm 40.11 \mathrm{P}$ | 40.75 | 74.98 | $\pm 40421$ | 44.25 | 81.42 |
| 18 ins. | $\pm 403.42$ | 334.50 | f7. 16 | \$4041Q | 41.50 | 76.36 | \$4042Q | 45.00 | 82.80 |
| 20 ins. | +.4034 R | 38.00 | 69.92 | +4041R | 43.00 | 79.12 | $\pm 4042 \mathrm{R}$ | 46.50 | 85.56 |
| 21 ins. | $\pm 403 \pm 5$ | 38.75 | 71.30 | $\pm 4041 \mathrm{~S}$ | 4.3. 7.5 | 80.50 | $\pm 4042 \mathrm{~S}$ | 47.25 | 86.94 |
| 23 ins. | $\pm 4034 \%$ | 39.50 | 72.18 | $\pm 4041 \mathrm{~T}$ | -4.4.50 | 81.88 | $\pm 4042 \mathrm{~T}$ | 48.00 | 88.32 |
| 24 ins. | $\pm 403.4$ | 41.00 | 75.44 | $\pm 4041{ }^{\circ}$ |  | 84.64 | $\pm 4042 \mathrm{U}$ | 49.50) | 91.18 |
| 25 ins. | $\pm 403.4$ | 41.75 | 76.80 | \$4041V | 46.75 | N6.02 | $\pm 4042 \mathrm{~V}$ | 50.25 | 92.46 |
| 26 ins. | $\pm 4034 \mathrm{~W}$ | 42.50 | 78.20 | \$4041W | 47.51 | 87.411 | +4042W | 51.00 | 93.84 |
| 27 ins. | $\pm 403.4 \mathrm{X}$ | 43.25 | 79. | \$1041 | 48.24 | 88.76 | \$4042X | 51.75 | 95.22 |
| $2 \times$ ins. | +4034Y | 41.618 | 80) 91 | \$4041Y | 49 (\%) | (10) 16 | +4042Y | 52.50 | 96.80 |
| 30 ins. | \$403.47 | 45.50 | 83.72 | \$40417 | 51.51) | 02.92 | $\ddagger 4042 \%$ | 54.01 | 99.36 |

- 

$\ddagger 403.47$

| Centers | Porcelain Decorative Receptarles |  |  |
| :---: | :---: | :---: | :---: |
|  | List No. | $\begin{gathered} \text { Mris. I.ist } \\ \text { per 100 } \\ \text { Receptarles } \end{gathered}$ | $\begin{aligned} & \text { W. F. I.ist } \\ & \text { per low } \\ & \text { Receptarles } \end{aligned}$ |
| $4 \mathrm{ins}$. | \#12.4034A | \$28.6in | S.52. 6 |
| 5 ins. | \$124034 B | 29.45 | 54.19 |
| 6 ins. | $\ddagger 124034 \mathrm{C}$ | 30.50 | 516.12 |
| 7 ins. | $\ddagger 124034 \mathrm{D}$ | 31.10 | 57.22 |
| 8 ins. | $\ddagger 124034 \mathrm{E}$ | 31.50 | 57.96 |
| 9 ins. | \$124034F | 32.75 | 60. 26 |
| 10 ins. | \$12.4034G | 33.5 .5 | 61.73 |
| 11 ins. | \$12403. ${ }^{\text {H }}$ | 34.40 | 63.30 |
| 12 ins. | +124034J | 35.20 | 1.4. 77 |
| 14 ins. | $\pm 12403.4 \mathrm{~K}$ | 36.85 | 67. ${ }^{10} 19$ |
| 15 ins. | \$12403.411 | 37.70 | 69.37 |
| 16 ins. | $\pm 124034 \mathrm{~N}$ | 38.50 | 70.84 |
| $17 \mathrm{ins}$. | \$124034P | 39.35 | 72.40 |
| 18 ins. | +124034Q | 40.15 | 73.88 |
| 20 ins. | $\ddagger 124034 \mathrm{IR}$ | 41.80 | 76.91 |
| 21 ins. | $\ddagger 124034 \mathrm{~S}$ | 42.65 | 78.48 |
| 22 ins. | $\pm 124034 \mathrm{~T}$ | 43.45 | 79.95 |
| 24 ins. | \$12403. ${ }^{\text {U }}$ | 45.10 | 82.98 |
| 25 ins. | \$124034V | 46.00 | 84.64 |
| 26 ins. | $\pm 124034 \mathrm{~W}$ | 46.75 | 80.102 |
| 27 ins. | $\ddagger+124034 \mathrm{X}$ | 47.60 | 87.58 |
| 28 ins. | $\ddagger 124034 \mathrm{Y}$ | 48.40 | 89.06 |
| $30 \mathrm{ins}$. | $\ddagger 124034 \mathrm{Z}$ | 50. 10 | $\cdots 18$ |


| Mica Decorative Receptncles |  |  | Decorative Cleat Receptarles |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| İist No. | $\left\|\begin{array}{c} \text { Mifs. list } \\ \text { per 100 } \\ \text { Receptacles } \end{array}\right\|$ | $\begin{aligned} & \text { W, E. list } \\ & \text { per } 100 \\ & \text { Receptacles } \end{aligned}$ | List No. | $\left\|\begin{array}{c} \text { Ifrs. I.ist } \\ \text { per 100 } \\ \text { Receptneles } \end{array}\right\|$ | $\begin{aligned} & \text { W. E. Iist } \\ & \text { per } 100 \\ & \text { Receptaeles } \end{aligned}$ |
| $\ddagger 124041 \mathrm{~A}$ | \$33.611 | Ş1 | $\pm 124042 \mathrm{~A}$ | \$37.16 | \$68. 37 |
| $\ddagger 12404113$ | 34.45 | ti3. 39 | $\ddagger 124042 \mathrm{~B}$ | - 37.95 | 199.83 |
| $\ddagger 124041 \mathrm{C}$ | 35. 510 | 65.32 | $\ddagger+124042 \mathrm{C}$ | 39.00 | 71.76 |
| \$1240411) | 36.10 | 6iti 42 | \$1240425 | 39.60 | 72.86 |
| $\pm 124041 \mathrm{~F}$ | 36.80 | 67. 16 | $\ddagger 124042 \mathrm{E}$ | 40.60 | 73.60 |
| $\pm 12.4041 \mathrm{~F}$ | 37.75 | 69.46 | \$124042F | 41.25 | 75.90 |
| $\pm 124041 \mathrm{C}$ | $38.5 \%$ | 70.93 | \$124042G | 42.05 | 77.37 |
| $\ddagger 1240411 \mathrm{I}$ | 39. 411 | 72. 50 | $\ddagger 124042 \mathrm{I}$ | 42.90 | 78.94 |
| $\pm 124041 \mathrm{~J}$ | 40.20 | 73.98 | $\pm 124042 \mathrm{~J}$ | 43.70 | 80.41 |
| +124041K | 41.85 | 77.00 | \$124042K | 45.38 | 83.50 |
| $\pm 124041 \mathrm{M}$ | 42.70 | 78.57 | +124042M | 46.24 | 85.08 |
| $\pm 124041 \mathrm{~N}$ | 43.50 | 80.04 | $\pm 12.4042 \mathrm{~N}$ | 47.00 | 86.48 |
| $\pm 124011 \mathrm{P}$ | 44.35 | 81. 60 | \$124042P | 47.85 | 88.04 |
| $\pm 124011 Q$ | 45.15 | N3.08 | $\pm 124042 \mathrm{Q}$ | 48.65 | 89.52 |
| $\pm 124041 \mathrm{R}$ | 46.80 | 86.10 | \$124042R | 50.30 | 92.55 |
| $\ddagger 124041 \mathrm{~S}$ | 47.65 | 87.68 | \$124042S | 51.15 | 9.4.12 |
| $\ddagger+124041 \mathrm{~T}$ | 48.45 | 89.15 | 11240.12 | 51.95 | 95.59 |
| $\pm 124041 \mathrm{U}$ | 50.10 | 32.18 | \$12.4042 ${ }^{\circ}$ | 53.60 | 98.62 |
| \$124041V | 51.00 | 93.8 .4 | \$12.4042V | 54.50 | 100.28 |
| $\pm 124041 \mathrm{~W}$ | 51.75 | 135.20 | \$124042W | 55.25 | 101.60 |
| \$124041 | 52.60 | (16. 78 | \$121042 | 56.10 | 103.22 |
| \$124041Y | 53.40 | 98.26 | \$124042\% | 56.90 | 104.70 |
| $\ddagger 1240417$ | 55. 10 | 101.38 | $\ddagger 124042 \mathrm{Z}$ | 58.60 | 107.82 |

$\ddagger$ National Electrical Code standard.

# BRYANT RECEPTACLES AND SPECIALTIES 



Candelabra Candle Switch
$1 / 2$ Ampere, 125 Volts


Socket Rings

| 1273 | Single l'etticoat ('omposition Ring. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1274 1435 | Wouble l'etticoat Composition lking | 100 | 100 100 | 2 | $\begin{array}{r}\text { \$0. } \\ \mathbf{0 1} \\ .04 \\ \hline\end{array}$ | 86.00 6.00 |
| 14.3.) | single Pettreat Porcelain Ring | 100 | 1010 | 4 | (0) | 6.00 7.50 |



No. 1274


No. 451


No. 2424

| 93574 | For 'T. II. Sockets. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H. | 100 | 500 | 20 | 50.04 | \$7.36 |

## Socket Reducers

| $421^{4}$ | Mogul to Medium. . . . . . . . | 10 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $33924{ }^{4}$ | Medium to Candelabra. | 25 | 100 100 | $2 \cdot 3$ | \$0.25 | \$5.50 |
| 391 | Candelabra to Miniatu | 100 | 100 | 1 |  | 4.60 9.00 |

## Canopy and Key Arm Switches <br> 3 Amperes, 125 Volts; 1 Ampere, 250 Volts

$\dagger 451^{4}$
491
492
$\dagger+2424{ }^{4}$
541
542

## Socket Adapters



No. 1682


No. 341

## K.-W. Surface Plug Receptacle

12 Amperes, 125 Volts, 6 Amperes, 250 Volts
Caps are interchangeable and will fit any K.-W. Ilosette Base.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. <br> Pkg. | Pkg. W't. Lbs. | Mifs. <br> List <br> Each | List frice per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1681^{\text {4 }}$ | Concealed, with plug | 1 | 25 | 22 | 80.50 | \$1.10 |
| $1682^{4}$ | Cleat, with plug. . ${ }^{\text {che }}$ | 1 | 25 | 22 | 50 | 1.10 |
| 1683 | 2-Wire Molding, with plug | 1 | 25 | 22 | 50 | 1.10 |
| 1684 | Combination Receptacle. | 1 | 25 | 22 | . 50 | 1.10 |
| 285 | 3 -Wire Molding, with plug. | 25 | 25 | 22 | 20) | 1.10 |
| $1510^{4}$ | Plug only for above. . . . . . | 25 | 25 | 5 30 | . 25 | ${ }_{5}^{9.38}$ |
|  |  | 5 5 | 25 | 30 10 | . 60 | 5. 3.22 |
| 342 $343^{\text {a }}$ | IReceptacle only. Plug only | 5 | 25 | 10 | . 25 | 3.2 3.30 |
| $344{ }^{\text {4 }}$ | Porcelain Sub-Base for cleat and | 10 | 20 | 8 | .10) | 1.84 |

*For concealed work.
Porcelain parts are massive and the current-carrying parts will stand heavy overloads without danger of heating. The contacts are markel in such a way that the plug can be restored to the receptacle without reversing the polarity, but the polarity can be reversed when desired.



No. 439

# Surface Heater Control Combination 10 Amperes, 250 Volts 

| List <br> No. | Description | Carton Quantity | Std. Pkg. | Vfrs. List Each | $\begin{array}{r} \text { List } \\ \text { Price } \\ \text { per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $466{ }^{\text {A }}$ | Combination of a 10 -Ampere, 250-Volt Indicating Switch, an Edison Ieceptacle in multiple, to be used for pilot lamp, and a standard Hubbell attachment plug. | 1 | 10 | \$1.35 | \$2.98 |
| $439^{4}$ | Combination of: 1 No. 1919 Branch Cutout, 1 D. P. Ind. Switch, 1 No. 342 25-Ampere Plug Receptacle, 1 No. 343 25-Ampere Plug, 1-4000 Receptacle for pilot lamp. . | 1 | 10 | 3.50 | 7.70 |

[^45]

KA


No． 100


No． 700


Nos． 101 and 102


KB


KC


KI）


KE


KF

## ＂SPARTAN＂＇INTERCHANGEABLE PLUGS AND RECEPTACLES ＂SPARTAN＂PLUG CAPS— 10 AMPERES， 250 VOLTS

Schedule＂ $\mathrm{H}^{\text {＂}}$
Any of these caps can be furnished＂polarity＂（non－reversible）without extra charge．To specify polarity caps，change the first letter to M，as：MA，MB，MC，etc，Any of these caps can be furnished with the blades set tandem（－＿－instead of parallel（｜｜）without extra charge．To sperify caps with tandem blates，change the first letter to l．，as I．A，I，B，I．C，ete．

| $\begin{aligned} & \text { T.ist } \\ & \text { No. } \end{aligned}$ | Description | Carton （anty． | Std． J＇kg． | Pkg． <br> Wt． | Mifs． List | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { per } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Kıさ | Standard plug cap． Irass covered cap）． | 10 10 | 50 50 | 8 | 80.15 .25 | $\begin{array}{r} \$ 2.55 \\ 4.25 \end{array}$ |

The standard finish on the cap is brush brass or old brass，which will be shipped when no finish is specified．Polished hrass，when specifich，will be shipped without extra charge．For other finishes add to list $\$ 0.12$ ；Mirs．List $\$ 0.0$ ． 2 ．

This cap is offered in response to the domand from certain encineers and others for a cap that pro－ rides some means of detarhing the cap from：its base other than pulling on the conducting cord．Fin－ ishes are the same as for Kll cap listed above．
FIJ $\ddagger$｜Elongated cap
This eap is particularly for use in connection with No． 48 conduit box receptacle when the two are installed in a watertight floor box．


The 2 C．P． 125 volt candrlabra base lamp，which forms a part of this device，is connected in multiple with the current consuming device which is connected to the cap．


This device permits the insertion of a nuedium base lamp in any＂Spartan＂base，or it may be used as an adapter to connect other makes of Edison attachment plugs into Spartan＂bases．＂
＂SPARTAN＂ATTACHMENT PLUGS－660 WATTS， 250 VOLTS

| 100 | $\pm$ Edison screw body | 10 | 100 | 15 | \＄0．10 | \＄2．00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 780 | \＃Body with Standard cap | 10 | 100 | 25 | ． 2.5 | 5.00 |
| KR－100 | $\ddagger$ Body with brass covered cap | 10 | 100 | 25 | ． 35 | 7.00 |
| K゙（－100 | $\ddagger$ Body with finker grip cap | 10 | 50 | 25 | ． 45 | 7.65 |
| K1）－100 | $\pm$ Body with clongated（atp）． | 10 | 50 | 30 | ． 35 | 5.95 |
| KF－100 | $\ddagger$ Body with nilot（ap（125 volte） | 10 | 30 |  | 1.05 | 17.85 |
| にF゙－100 | $\ddagger$ Body with Edison adapter car． | 10 | 30 |  | 1.30 | 5.10 |

For special finishes on brass covered caps，see listing of KB caps above．
＂SPARTAN＂MULTIPLE CURRENT TAPS—660 WATTS， 250 VOLTS

| 101 | \＃Multiple current tap hody | 10 | 50 |  | \＄0．35 | \＄5．95 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－101 | ＋Body with Standard cap． | 10 | 50 | ． | ． 50 | 8.50 |
| K13－101 | $\pm$ Body with brass covered cap | 10 | 50 | ． | 60 | 10.20 |
| KC－101 | $\pm$ Body with finger grip cap． | 10 | 50 | ． | 70 | 11.90 |
| KIJ－101 | $\ddagger$ Body with elongated cap． | 10 | 50 | $\cdots$ | 60 | 10.20 |
| 1KJ－101 | $\pm$ Body with pilot cap（125 volts） | 10 | 30 |  | 1.30 | 22.10 |
| $\underline{\mathrm{KF}-101}$ | $\ddagger$ Body with Edison adapter crar． | 10 | 30） |  | 55 | 9.35 |

＂SPARTAN＂SERIES CURRENT TAPS－660 WATTS， 250 VOLTS

| －102 | \＃Series current tap body ．．．．．．．．．．．． | 10 | $5{ }^{\text {（）}}$ |  | \＄0．35 | \＄5．95 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－102 | $\ddagger$ Body with Standard cap | 10 | 50 | ． | ． 50 | 8.50 |
| K13－102 | $\ddagger$ Pody with brass covered cap | 10 | 50 |  | ． 60 | 10.20 |
| KC－102 | $\ddagger$ Body with finger grip cap．．． | 10 | 50 | $\because$ | ． 70 | 11.90 |
| KD－102 | $\ddagger$ Body with clonzated cap． | 10 | 50 | $\cdots$ | ． 60 | 10.20 |
| KF－102 | $\ddagger$ Body with Edison adapter cap． | 10 | 31） |  | 55 | 9.35 |

## ＂SPARTAN＂CORD COMNECTORS－10 AMPERES， 250 VOLTS

Cord connector body．．．．．．．．．．．．．．

| \％A－103 | 才Cord connector body．．． | 10 | 50 | 10 | 80.30 | \＄5．10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－103 | $\ddagger$ Body with Standard cap | 10 | 50 | 10 | 45 | 7.65 |
| IVB－103 | $\pm$ Body with brass covered cap | 10 | 50 | 15 | .55 | 9.35 |
| KC－103 | $\ddagger$ Body with finger grip cap． | 10 | 50 | 15 | ． 65 | 11.05 |
| KD－103 | $\ddagger$ Body with clongated cap．．． | 10 | 50 | 15 | ． 55 | 9.35 |
| KE－103 | $\ddagger$ Body with pilot cap（125 voits）． | 10 | 30 | ．． | 1.25 | 21.25 |
| KF－103 |  | 10 | 30 | ． | 50 | 8.50 |

Emcrgency shade－holders listed elsewhere may be used in connection with the above current taps． For special finishes on brass covered caps，see listing elsewhere．
$\ddagger$ National Electrical Code Standard．

## ＂SPARTAN＂INTERCHANGEABLE PLUGS AND RECEPTACLES



No．K（i－1）．


No． 104


No． 105


No． 106

No． 107


No． 108


No． 109


K


KB


KC


KD


KE


KF
＂SPARTAN＂MOTOR ATTACHMENT PLUG－10 AMPERES， 250 VOLTS
This dewied is designed for sumplying current to mortable eurrent＂onsuming devees such as heaters and varuma chaners．＇The part with tho knifeblade eontacts（measuring 1 bith inehes in diametor and having holes for supporting serews spaced 1 inch on eenters）is permanently attathed to the apparatus to which current is to be fed．It is well to so homse this part as to protert the contacts from merehaical injury．The berly pieer is attached to the conductors which supply the current and，as all live barts are＂ompletely ronelosed，it is impossible for a
 in contact with some ronducting material．

Schedule＂ H ＂

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Diam． <br> of 13ass <br> 1ur－hes | $\left\|\begin{array}{c} \text { rerews } \\ \text { spacoll } \\ \text { ont } \\ \text { conter } \\ \text { lithes } \end{array}\right\|$ | Carton Qnty． | Stl． 1れg． | $\begin{aligned} & \text { Pks. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mrrs． <br> 1．ist <br> Each | W．E． List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{\Pi(i}$ | F－Motor Atarhment Plug can－． |  |  | 10 | 50 | 10 | 19.20 | \＄3．40 |
| K（－103 | ${ }_{+}^{+}$Nutorattachment plug，complete |  |  | 10 | 50 | 15 |  | 8.50 | ＂SPARTAN＂CLEAT RECEPTACLES－10 AMPERES， 250 VOLTS


|  | ＋＇leat base lrody |  | 1数 | 10 | 50 | 20 | \＄0．2．31 | \＄4． 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－104 | †13ody with Standard cap |  | $1{ }^{3}$ | 10 | 50 | 25 | 41 | 6.85 |
| 1515－104 | \＄13ody with brass covered cap |  | $1{ }^{18}$ | 10 | 50 | 25 | ． 50 | 8.50 |
| lic－10．4 | \＄13ody with finger ¢rip cap． |  | 1 娄 | 10 | 50 | 25 | （3i） | 1020 |
| にD－104 | ＋13ody with clongated cap． |  | 1 th | 10 | 50 | 25 | ． 30 | 850 |
| にE－104 | \＄13ody with pilot cap（ 125 volts）． |  | 111 | 10 | 30 |  | 1.20 | 20.40 |
| KF－104 | \＃Body wath Edison adapter cap （ 660 watts） |  | 138 | 10 | 30 |  | ．4n） | 7.65 |

＂SPARTAN＂CONCEALED RECEPTACLES－10 AMPERES， 250 VOLTS

| 105 | \＃roncealed hase body | 2 | 11. | 113 | 50 | 20 | 150．25 | \＄4．25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－105 | ＊13ody with Standard cap | 23 | 113 | 10 | 50 | 25 | ． 40 | 680 |
| 1213－10．0 | $\ddagger$ Hody with hrass covered cap | 2 | 11\％ | 10 | 50 | 25 | 50 | 8.50 |
| にC－105 | † Rody with finger griy cap | $\underline{97 / 8}$ | 1标 | 10 | 50 | 25 | （1） | 10.20 |
| SD－105 | $\pm$ 13ody with clongated cap | $2{ }^{2} 8$ | $1^{12}$ | 10 | 50 | 25 | ． 00 | 8.50 |
| K゙と－105 | \＃13ody with pilot rap（12．）volts） | 278 | 11／2 | 10 | 30 |  | ． 20 | 20.40 |
| に「゙－10さ | \＃13ody with Edison atapter cap （6ic）watts） | $2 ?$ | 11 | 10 | 30 |  |  |  |

＂SPARTAN＂RECEPTACLES WITH ONE－WAY BASE FOR METAL MOLDING 10 AMPERES． 250 VOLTS

|  | ＊${ }^{\text {a }}$（Way |  |  | 113 | $\therefore 0$ | 21 | ｜S0，2．3｜ | \＄4． 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \＄l3ody with Standard（ap） |  |  | 10 | 50 | 23 | ． 411 | 6.80 |
| 1515－103！ | ＋13ody with lurass covered eap |  |  | 10 | 50 | 23 | ．可 | 8.50 |
| IVC－104i | \＃13ody with finger ${ }^{\text {ariy }}$ cap |  |  | 10 | 50 | $\pm 3$ | ． 610 | 10.20 |
| 11）－109 | \＃Worty with elongated cap． |  |  | 10 | 50 | 25 | ． 51 | 8.50 |
| 1F－100 | ＋Mody with pilot cap（125 rolts） |  |  | 10 | 30 |  | 1．23 | 20.40 |
| KF－106 | \＃13ody，with Edison adapter cap （660 watts） |  | －•• | 10 | 30 | ． | ． 45 | 7.65 |

## ＂SPARTAN＂RECEPTACLES WITH TWO－WAY BASE FOR METAL MOLDING

 10 AMPERES， 250 VOLTS|  | ＊＇wo－xay body |  |  | 10 | $\stackrel{1}{1}$ | ${ }^{20}$ | ｜\＄0．25 | \＄4．25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－107 | ＋Rody with Standard cap |  |  | 10 | 50 | 23 |  | 6.80 |
| 1513－117 | $\ddagger$ Hody with brass eovered cap |  |  | 10 | 50 | 23 | ． 50 | 8.50 |
| 18C－117 | \＃1 body with finger arip eap |  |  | 10 | 50 | 23 | ． 60 | 10.20 |
| 11）－107 | IBody with clongated cap |  |  | 10 | 50 | 25 | ． 0 | 8.50 |
| 1゙ゆ－107 | $\pm$ Rody with pilot cap（125 volts） |  |  | 10 | 30 | ． | 1.20 | 20.40 |
| ぐド107 | Wody with Bdison adapter cap （ 660 watts） |  |  | 10 | 30 |  | 4.5 | 765 |

＂SPARTAN＂RECEPTACLES FOR $1 / 3$ AND 3 INCH PIPE TAPLETS AND WOOD MOLDING－10 AMPERES， 250 VOLTS

| 109 | ＊Taplet body |  | ${ }^{2}{ }^{3} 5$ | 10 | ．i） | 20 | ｜30．35］ | \＄5．95 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| バメー10） | ${ }^{+}$Wody with Standard cap |  | $\underline{23}$ | $11)$ | 50 | 23 | ． i 0 | 8.50 |
| ぐい－105 | \＄Wody with hrass covered car |  | $2{ }^{218}$ | 10 | 50 | 23 | ． 61 | 10.20 |
| 15C－10x | ＋hody with finger erip cap． |  | $2 \frac{8}{18}$ | 10 | 50 | 23 | 70 | 11.90 |
| klold | ＋1Rody with elongated cap | $\ldots$ | ${ }^{2} \frac{1}{18}$ | 10 | 50 | 25 | （1） | 10.20 |
| kb－108 | ＋Rody with pilot cap（125 volis） | ． | $2 \frac{3}{88}$ | 10 | 30 | ． | 1.30 | 22.10 |
| k！－10s | ＋Rory with Edison adapter cap |  | $2 \frac{3}{18}$ | 10 | 30 | ． | 5.5 | 935 |

＂SPARTAN＂RECEPTACLES FOR＂＇INCH OBROUND CONDULETS 10 AMPERES， 250 VOLTS

|  | ＋Condulet body |  |  | 10 | 100 | 0.40 | \＄8 00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11．1－109 | ＋13ody with Standa |  |  | 10 | 50 | ． 5.5 | 935 |
| 113－109 | ${ }^{+1} 13$ dy with brass covered ca |  |  | 10 | 50 | $6{ }^{6}$ | 1105 |
| KC－110， | ＋13ody with fincer grip cap |  |  | 10 | 50 | 75 | 1275 |
| kb－109 | ＋1Rody with clongated cap． |  | ．． | 10 | 50 |  | 1105 |
| にぐ「－109 | ＋1Rody with pilot cap（125 volts） |  |  | 10 | 30 | 1.33 | 22.95 |
| kt－109 | \＃Body with Edison adapter cap （660 watts） |  |  | 10 | 30 | ． 60 | 10.20 |

for special finishes on brass covered caps，see listing elsewhere．
$\ddagger$ National Electrical Code Standard．

＂SPARTAN＂，RECEPTACLES FOR $3 / 4$ INCH OBROUND CONDULETS 10 AMPERES， 250 VOLTS

| Schedule＂H＂ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | Description | Diam． of liase Inches | screws <br> spared （0）1 （ienters Inches | $\begin{gathered} \text { Car- } \\ \text { ton } \\ \text { Qnty: } \end{gathered}$ | Stel． l＇kg． | Pkg． Wt． Lbs． | Mirs． I．ist Each |  |
| 4111 | Condalet boty ．．．．．． | ．． | $\ldots$ | 10 | 100 |  | 80.45 | \＄900 |
| －1－1 111 | Body with Standard cap． | ．．． | ．． | 10 | 50 |  | ． 7 （i） | 10.20 |
| －ハ13－110 | Boly with brass rowered cap． | ．． | $\cdots$ | 10 | 50 |  | 70 | 11.90 |
| － A － $10-110$ | Body with finger arip eap． Body with clongated cap |  |  | 10 10 | 50 50 50 | － | 80 | 13.60 11.90 |
| －¢－－110 |  |  |  | 10 10 | 50 30 |  | .70 1.04 | 11.90 17.68 |
| $4 \mathrm{kN}^{\prime}-110$ | Body with lidison adaptor cap （ifio watts） | ．． | ．．． | 10 | 30 |  | ． 65 | 11.05 |

## ＂SPARTAN＂RECEPTACLES WITH BASE FOR ADAPTIBOXES

## 10 AMPERES， 250 VOLTS

4］ll｜Adaptibox body．
－13－111 Body with Standard cap 4 13－1111 Pody with brass covered cap）． －Kic：－111 Pody with finger arip cap．． －K10－111 Body with clongated cap Ali－111 Body with pilot cap（125 volts）． ＊Kivo 111 Body with lidison adapter cap

| $27 / 8$ | $2{ }^{8}{ }^{3}$ | 10 | 50 | 23 | 80．35 | \＄5．95 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27\％ | $2{ }_{16}{ }^{3}$ | 10 | 50 | 28 | ． 50 | 8.50 |
| 278 | $21^{3} 6$ | 10 | 50 | 28 | ．0） | 10.20 |
| 2\％ | 2 2，${ }^{\text {\％}}$ | 10 | 50 | 2 s | ． 70 | 11.90 |
| 27\％ | $2{ }^{\frac{8}{18}}$ | 10 | ． 50 | 30 | （j0） | 10.20 |
| 2.78 | $2{ }^{\frac{3}{16}}$ | 10 | 30 |  | 1.30 | 22.10 |
| 2\％妥 | $2{ }^{\frac{8}{18}}$ | 10 | 30 |  | ．55 | 9.35 |

＂SPARTAN＂RECEPTACLES WITH BASE FOR CONDUIT BOXES 10 AMPERES， 250 VOLTS

| ${ }^{4} 112$ | Conduit box body |
| :---: | :---: |
| ${ }^{4} \mathrm{~K}$ A－112 | Body with Standard cap |
| ${ }^{4} \mathrm{l} 13-112$ | Body with brass cowered cap |
| ${ }^{4} \mathrm{5}$（）－112 | Body with finger krip cap． |
| $\left.{ }^{4} \mathrm{l} 1\right)-112$ | Body with elongated rap |
|  | Kody with pilot eap，（125 volts）． |
|  | Borly with Fdison adipter cap） （ $\mathrm{fif0}$ ）watts） |

LA－112 Body with Standard cab
A13－112 13ody with brass cowered cap as－ 12 body with finger krip cap．
4 Kis 103 Jody with pilot eap，（ 125 volis）
4K゙ー112 Body with Edison adinter cay

| $13 / 4$ | $5 / 8$ | 10 |
| :--- | :--- | :--- |
| $13 / 4$ | $5 / 8$ | 10 |
| $13 / 4$ | 5 | 10 |
| $13 / 4$ | $5 / 8$ | 10 |
| $13 / 4$ | $5 / 4$ | 10 |
| 13 | $5 / 8$ | 10 |
| $13 / 4$ | $5 / 4$ | 10 |


| 50 | 20 | 80 |
| :--- | :--- | :--- |
| 50 | 23 |  |
| 50 | 23 |  |
| 50 | 23 |  |
| 50 | 25 |  |
| 30 | $\ldots$ |  |
| 30 | $\ldots$ |  |

 7.65

|  | 50 | 21 | 180.25 |
| :---: | :---: | :---: | :---: |
|  | 50 | 23 | 4 |
|  | 50 | 23 |  |
| ， | 50 | 23 | ． 6 |
|  | 50 | 25 |  |
|  | 30 | ． | 1.20 |
|  | 30 | ． |  |

## ＂SPARTAN＂RECEPTACLES WITH BASE FOR CONDUIT BOXES <br> \section*{10 AMPERES， 250 VOLTS}

This receptacle is sperially designed to be installod in a 4 imeh ortagon box of the standard type．The nock of the rewptacle is threaded the same as biz inch conduit and can，therefore，be inserted in any $1 / 2$ inch knockout and sermed by a $1 / 2$ ineh lock mut． When ortagon box＇s are used for ：urface work，this receptacle is extremely useful as the binding posts are so arranged as to be rasily accessible after the box has been installed， so that additional taps for drop cords or the like can be taken off at any time with a very slipht expenditure of habor．

| ${ }^{4} 11: 3$ | Conduit hox borty |  |  | 10 | 50 |  | （\＄0．25 | \＄4．25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KA－113 | I3octy with Standar |  |  | 10 | 50 |  | ． 10 | 6.80 |
| 人13－11．3 | Phody with hanss rovered cap |  |  | 10 | 50 |  | ． 00 | 8.50 |
| K（ -1133 | Isaly with finger grip cap． |  |  | 10 | 50 |  | $(1)$ | 10.20 |
| （1）－11：3 | Rody with elongated eap |  |  | 10 | 50 |  | i0 | 8.50 |
| 人心－113 | Body with pilot rap（12i）valts）． |  |  | 3） | 30 |  | 1.20 | 20.40 |
| にば－113 | Body with Vdison adapter cap （6ik0 watts） |  |  | 10 | 30 |  | 3 | 7.65 |

＂SPARTAN＂RECEPTACLES FOR CONDUIT BOX COVERS

## 10 AMPERES， 250 VOLTS

This receptarle is similar in comstruction to No． 4072 Sign Receptacle listed elsewhere． It may be attached to any outlot box cover havinis a hole 1 it inehes in diameter：No noteh or lug is netessary，as the recentacle is prevented from turning by three fins in the inner porcelain which biteinto the metal of the cover．The outside diameter of the body of the recoptacle is 13,4 inches．

－Ki－111 Body with Standard cap
－K13－114 Body with brass covered cap． AlC－11．4 Bonly with finger grip cap．

－FF，－114 Body with gilot cap（12E volts）

Showing


No． 114

## ${ }^{4}$ K

$\Delta$ 今1゙
－F C－113\} Bualy with AKI）－11：3 Borly with elongated eap． ${ }^{4}$ Kí－1133 Bory with pilot（at）（12：valts）． $\triangle$ Kl＇－113 Body with Edison adapter cap

[^46]
# ＂SPARTAN＂INTERCHANGEABLE PLUGS AND RECEPTACLES 




No． 115


No． 116


No． 117
＂SPARTAN＂RECEPTACLES FOR 3 1NCH OUTLET BOXES 10 AMPERES， 250 VOLTS

| 411tikeceptacle body（rectptack and | $1{ }_{16}$ | 358 | 23 | 1 | in） |  | 80.05 | \＄1 90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $1 \frac{7}{16}$ | 354 | 23 | 1 | 50 |  | 1．10） | 220 |
|  | $1 \frac{7}{16}$ | $3^{5}$ | 23 | 1 | in |  | 1．20 | 2.40 |
| AK゙（＇－116 Hody with finger mrip cap） | $1 \frac{18}{16}$ | 35 | 234 | 1 | 510 |  | 1．30） | 260 |
| 4 II）－110 liody with elongated（＇it） | $1{ }^{7}$ | $3 \%$ | $2^{3}{ }_{4}$ | 1 | 501 |  | 1．20 | 240 |
| ALb－110 Pody with pilot（＂np（125 volts）． | 176 | $3 \%$ | 234 | 1 | 31） |  | 1． 10 | 380 |
| ＊K゙ト＇－110 Pody with Edison alaptor enp （600 watts） | $1 \frac{7}{18}$ | $3^{5 \times}$ | $2^{3} 4$ | 1 | 30 |  | 1．15 | 230 |
| 4 KH－11fithody with duplex ardapter | 178 | $3^{5} 4$ | $2^{3} 4$ | 1 | 301 |  | 16.5 | 3.10 |

## ＂SPARTAN＂RECEPTACLE AND TYPE＂O＂SWITCH COMBINATION 10 AMPERES， 250 VOLTS

This device is a rombination of a＂Spartan＂Flush Receptacte and a Type＂（）＂double pole indicating fush swithh，reads wirel，and designed to he installed in atandard single switeh box．The line wires may be attached to either and of the deviee．If attachod to the switch chd，the switch controls the roceptacle as well as the outgoing circuit： but if attached to the receptacle end，current may be taken off through the recep－ tacle irrespective of the position of the switch，which will control only the other out－ going circuit．

For＂combination plates＂（iefinell elsewhere）specify．＂W＂sections for this device．

| ＊J．ist No． | Description | Diam． of Ilate Inches | Srews <br> Spaced on Conters luches | $\begin{aligned} & \text { Car- } \\ & \text { ton } \\ & \text { Qnty } \end{aligned}$ | Std． Pkr． | Mfrn． I．ist Each | $\begin{gathered} \text { W. E. E. } \\ \text { Eact } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4117 | Device，complete，without | $41 / 2 \times 234$ |  | 1 | 10 | \＄2．00 | \＄4．00 |
| －N゙A－117 | Body with Standard cap． | $41 / 2 \times 23 / 4$ | $3{ }^{3}$ | 1 | 10 | 2.15 | 4.30 |
| ${ }^{4} \mathrm{I}$－ $\mathrm{B}-117$ | Body with brass coyered cap | $412 \times 23$ | $3 \frac{1}{3}$ | 1 | 10 | 2.25 | 4.50 |
| ${ }^{4} \mathrm{l} \mathrm{L}^{\text {C－1 }} 17$ | Body with finger grip eap．． | $41 / 2 \times 23$ | $3{ }^{\frac{1}{2}}$ | 1 | 10 | 2.35 | 470 |
| $410 \mathrm{Cl17}$ | Body with elongater cap | $41 / 2 \times 2{ }^{1 / 2}$ | $3{ }^{\text {暏 }}$ | 1 | 10 | 2.25 | 450 |
| ${ }^{4} \mathrm{l} \mathrm{E}-117$ | Body with nilot cap（125 volts） | $4 \frac{1}{2} \times 23$ | $3{ }^{\text {\％}}$ | 1 | 10 | 2.95 | 5.90 |
| ${ }^{4} \mathrm{~K} E-117$ | Body with lilison adapter cap （660 watts） | $41 / 2 \times 23$ |  | 1 | 10 | 2.20 | 440 |
| ${ }^{4} \mathrm{FH}-117$ | Bonly with duplex adaptor ．．． | $1412 \times 23$ | ${ }^{3} 13^{\text {g }}$ | 1 | 10 | 2.70 | 5.40 |

＂SPARTAN＂FLUSH HEATER CONTROL COMBINATION
467 This device is listod elsewhere．
558 This deviee is listed elsesthere．
＊Jkeceptacles will rcqularly be shipped with the porcelain bases，which project throush the plate，clazel blark．White，when specified，will be shipped without ex－ tra charge．

List priec，standard package，etc．，of $K J$ is the same as $K \mathbb{A}$ ，listed elsewhere．
${ }^{*}$ National Elcctrical Code Standard．

## ＂SPARTAN＂INTERCHANGEABLE PLUGS AND RECEPTACLES



Nos． 429 and 545 3／8 Actual Size


No． 122
3／8 Actual Size

No． $550 \& 551$ 3／8 Actual Size


Schedule＂H＂
＂SPARTAN＂STANDARD FLUSH RECEPTACLES－10 AMPERES 250 VOLTS
For＂Combination Plates＂sperify＂li＂sections to acommodate these recentacles．

| List <br> No． | Description | l＇ack Wt． Pds． | $\begin{aligned} & \text { Car- } \\ & \text { tun } \end{aligned}$ | Stan． <br> P＇ack． | Mifs． List Each | W．E． List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 120 | －Flush Rereptaclo Body | 28 | 1） | 50 | 80.60 | \＄10．20 |
| K $A-120$ | 4 Body with Standard C＇ap | 28 | 10 | 50 | 75 | 12.75 |
| K13－120 | ${ }^{4}$ Budy with Brass Covered（ap） | 28 | 111 | SO | ． 85 | 14.45 |
| KC－120 | ${ }^{4}$ body with loinger（irip（ap）． | 28 | 111 | 50 | 9\％ | 16.15 |
| KD－120 | －Body with Elongated Cap． | 30 | 10 | 50 | ．sis | 14.45 |
| KE－120 | －Boolv with l＇ilot Cap（125 volts） |  | 10 | 30 | 1.55 | 26.35 |
| にF－120 | ${ }^{4}$ Body with Lidison Adaptor Cap（6i60 watts）． |  | 10 | 30 | ． 80 | 13.60 |
| K゙H－120 | ABody with Duplex Adapter |  | 10 | 30 | 1.30 | 22.10 |

Outside supporting screw holes are spaced $3 \frac{9}{32}$ inches on centers．Inside supporting serew holes are spaced $2{ }_{16}^{3}$ inches on centers．

PLATES FOR＂SPARTAN＂STANDARD FLUSH RECEPTACLES
Schedule＂H＂

|  |  |  |  |  | Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 429 |  | 25 | ＊ | 50.35 | \＄0．77 |
| 5．45 | 4 Single l＇ate，solid． $41 / 2 \times 231$ | 25. | ＊ | ． 50 | 1.10 |
| 529 | ${ }^{4}$ Two－gang l＇late，solid， $412 \times 49$ | 10 | ＊ | 1.00 | 2.20 |
| 530 | 4 Three－gang l＇late，solid，41 $\frac{1}{2} \times 1{ }^{3} / 8$ | － | ＊ | 1.50 | 3.30 |
| 5.31 | $\triangle$ Four－gang Plate，solid， $41 / 2 \mathrm{x}^{-16}$ | \％ | ＊ | 2.00 | 4.40 |
| 33600 | ${ }^{4}$ Two－gang Combination I＇late， $41.2 \times 49$ ． 0.40 inch thick，for standard Push 13utton switch and No．120＂wipartan＂Rereptade | 10 | \％） | 4） | Per Carton 7． 36 |

Rereptarles in gangs are spared $1 \frac{3}{16}$ inches on centers．See listing elsewhere for perial finishes on the above plates．
＂SPARTAN＂DUPLEX FLUSH RECEPTACLES
Each Outlet 10 Amperes 250 Volts
Schedule＂H＂
For＂combination phates＂sperify＂$V$＂seetions to areommodate these receptardes．

| List No. | 1）escription | Screws Spaced on Centers Ins． | (ar. | Std． l＇kg． | $\begin{aligned} & \text { Ikg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mirs． <br> List <br> Each | W．E． List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 122 | ${ }^{4}$ Duplex Receptacle I3ody | $3 \frac{9}{32}$ | 111 | \％） | 40 | 80.85 | \＄14．45 |
| K人－122 | ${ }^{4} 330$ dy with two Standard Caps | $3{ }^{3}{ }^{\frac{9}{2}}$ | 10 | 50 |  | 1.15 | 19.55 |
| K13－122 | － 130 dy with two l3rass Covered Caps | $3{ }^{3} 9$ | 10 | 50 |  | 1.35 | 22.95 |
| Kく－129 | ${ }^{4}$ Body with two linger（irip Caps． | ： $3 \cdot \frac{4}{3}$ | 10 | 50 |  | 1.55 | 26.35 |
| に1）－122 | －Borly with two Elongated（ ${ }^{\text {apss．}}$ | ：3 ${ }^{\frac{9}{32}}$ | 10 | 40 |  | 1.35 | 22.95 |
| K1\％－12： | ${ }^{4}$ Body with two l＇ilot（aps（ $12^{\circ} 5$ volts） | 339 | 1 | ：30 | $\ldots$ | 2.75 | 5.50 |
| K下－122 | 4 Body with two Edison Adapter Caps （6if0 watts）． | $3 \frac{9}{32}$ | 1 | 30 |  | 1.25 | 2.50 |
| KII－122 | ABody with Duplex Adapter． | $83^{9}$ | 1 | 30 | ． | 2.25 | 4.50 |

PLATES FOR＂SPARTAN＂DUPLEX RECEPTACLES

|  |  |  |  |  |  |  | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ＊5\％） | Aringle l＇late，stamped，${ }_{1}^{16}$ in．， $4^{1} 2 \times 2{ }^{3}$ |  | 2.5 |  | 15 | \＄0．40 | \＄0．88 |
| ＊ 5 方 1 | STingle llate，solid． $4^{1 / 2} \times 2^{3}$ |  | 25 |  | ． | ． 15 | 1.43 |
| ＊5\％ |  |  | 10 | $\cdots$ | $\cdots$ | 1.30 | 2.86 |
| ＊5．3 |  |  | 5 |  |  | 1.95 | 4.29 |
| ＊）${ }_{\text {j）}}$ | 4＇our－gang Plato．solid， $41 / 2$ X $8_{16}^{33} \ldots .$. | ．． | 5 |  |  | 2.40 | 5.60 |

leceptacles in gangs are spaced $5_{10}^{-3}$ inehes on centers．see listing elsewhere for special finishes on the above plates．
＊A standard package of plates consists of a sufficient number to accommodate 50 single receptacles．©National Flectrical Code Standard．
$\dagger$ A standard package of plates eonsists of a sufficient number to accommodate $\mathbf{5 0}$ Duplex receptacles．\＄List price，standard package，etc．，of KJJ is the same as KA．


No. 950


No. 873


No. 1179

Bryant K.-W. Rosettes

Fusible, 2 Amperes, 125 Volts
Caps are interchangeable and will fit any K.-W. Rosette base.
Schedule "H"

| List <br> No. | Description | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List Fach | W. E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $950{ }^{4}$ | Cleat Rosette, with stamped lugs. | 10 | 250 | 165 | \$0.26 | \$5.72 |
| 870 | Cleat Rosette, with cast lugs. . . | 10 | 250 | 170 | . 26 | 5.72 |
| $\ddagger 871{ }^{\text {4 }}$ | Concealed Rosette. . . . . . | 10 | 250 | 155 | . 26 | 5.72 |
| 926 | Rosette for two-wire molding | 10 | 250 | 155 | 26 | 5.72 |
| 1426 | Rosette for three-wire molding | 10 | 250 | 205 | 26 | 5.72 |
| 872 | Combination Rosette. . . . . | 10 | 250 | 160 | 26 | 5.72 |

$\ddagger$ Outside diameter of base is $27 / 8$ inches. Holes for supporting screws are spaced $15 / 8$ inches on centers.

## Bryant K.-W. Bracket Rosettes

Fusible, 2 Amperes, 125 Volts<br>With Brass Face Plate

Caps are interchangeable and will fit any K.-W. Rosette base.
Schedule "H"

| List <br> No. | Description | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. <br> Lbs. | Mifs. List Each | W.E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *873 ${ }^{4}$ | Bracket Rosette, concealed | 10 | 100 | 72 | \$0.36 | \$7.92 |
| $1176^{4}$ | Bracket Rosette, cleat. . . | 10 | 100 | 75 | . 36 | 7.92 |
| 1177 | Bracket Rosette, 2-wire molding | 10 | 100 | 71 | . 36 | 7.92 |
| 287 | Bracket Rosette, 3 -wire molding. | 10 | 100 | 80 | . 36 | 7.92 |
| 1402 | Bracket Rosette, combination. . | 10 | 100 | 72 | . 36 | 7.92 |


| With Brass Thimble |  |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| * $1073{ }^{4}$ | Bracket Rosette, concealed | 10 | 100 | 72 | \$0.36 | \$7.92 |
| $1178{ }^{\text {4 }}$ | Bracket Rosette, cleat. | 10 | 100 | 72 | . 36 | 7.92 |
| 1179 | Bracket Rosette, 2-wire molding | 10 | 100 | 75 | . 36 | 7.92 |
| 288 | Bracket Rosette, 3 -wire molding | 10 | 100 | 80 | 36 | 7.92 |
| 1403 | Bracket liosette, combination. | 10 | 100 | 75 | .36 | 7.92 |

[^47] centers.
$\triangle$ National Electrical Code Standard.

## BRYANT PORCELAIN ROSETTES



No. 965


No. 298

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Screws Spaced on Centers | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mfrs. List Fach | W.E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 565 | Fuseless Rosette 3 amp. $2 \overline{0} 0$ volts Cleat Rosette. . . . . . . . . . . | $11 / 6 \text { ins. }$ <br> $11 / 6 \mathrm{ins}$. | 20 20 | 250 250 2.0 | 125 | 30 <br> 80 <br> 26 | $\$ 8.80$ <br> 11.44 |

## Bryant Junior Rosettes

## FUSIBLE, 2 AMPERES, 125 VOLTS



FUSELESS, TWO PIECE, 3 AMPERES, 250 VOLTS



No. 1999



No. 1499
Schedule "H"

FUSELESS, ONE PIECE, 3 AMPERES, 250 VOLTS

| List No. | Description | Screws Spaced on Centers | Carton Quantity | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Alfrs. <br> List <br> Each | $\begin{array}{\|} \text { W. E. } \\ \text { List per } \\ \text { Carton } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1999{ }^{4}$ | "Junior" Rosette, cleat and concealed combined. | $11 / 4$ ins. | 10 | 250 | 70 | \$0.05 | \$1.76 |
| $384^{4}$ | "Junior" Rosette, ${ }^{\text {- }}$-wire molding............. | $11 / 4 \mathrm{ins}$. | 10 | 250 | 145 | 0 O | 1.76 |

WITH BASE FOR $31 / 4$ INCH CONDUIT BOX
Schedule "H"

| $\begin{aligned} & \dagger 368^{\Delta} \\ & \ddagger 369^{\Delta} \end{aligned}$ | "Junior", Rosette, fusible. | $23 \frac{1}{4}$ ins. $23 / 4$ ins. | 1 | 100 100 | 290 210 | 80.82 .30 | $\begin{array}{r} \$ 0.70 \\ .66 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Outside diameter of base is $31 / 2$ inches.

K.-P. Fuseless Rosettes<br>3 Amperes, 250 Volts

Schedule "H'


PERKINS FLUSH SWITCHES


No. 2202


No. 2625


No. 2295


No. 2701

Perkins Push Button Gang Switches

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Amperes |  | Carton Quantity | Std. <br> Pkg. | Pkg. Wit. I.bs. | Mifrs. Jist l:ath | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 125 Volts | 250 Volts |  |  |  |  |  |
| 22014 | Single Pole. | 10 | -) | 10 | 100* | 60 |  |  |
| $2^{2} 013^{4}$ | Three-Point . . . . . . . . . . . . . . . . . . . . . | 10 | 5 | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ | $50^{*}$ | 30 | 50.7i | $\begin{array}{\|} \dagger \\ \dagger \\ \dagger 12.90 \\ \hline \end{array}$ |
| $2204^{4}$ | Four-l'oint. . . . . . . . . . . . . . . . | 10 | 5 | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ | $10^{*}$ | $\stackrel{3}{6}$ | $2.01$ | $\begin{aligned} & \dagger 12.88 \\ & \dagger \\ & \dagger \\ & \hline \end{aligned}$ |
| $2(0)^{4}$ | Floetrolier, 1, 2, 1 and 2 , off $\ldots . .$. | \% | 2 | 10 | 10 | \% | 1. (0) | $\begin{array}{r} \top 30.00 \\ 15.75 \end{array}$ |
|  | Eloctrolior, 1, 1 and 2,1 , off ......... | 5 | 2 | 10 | 10 | $\cdots$ | 1.05 | $\begin{aligned} & 15.75 \\ & 15.75 \end{aligned}$ |
| $26{ }^{\circ}{ }^{4}$ | lelectrolier, 1, 1 and 2, 1 and 2 and 3, off | 5 | 2 | 111 | 10 | $\cdots$ | 105 | $\begin{aligned} & 15.75 \\ & 15.75 \end{aligned}$ |
| $2108^{4}$ | lilectrolier, 1 , off, 2 , otf. ........... | 5 | 2 | 10 | 10 | . | 1.05 | $15.75$ |
| $2699^{4}$ | Flectrolier, 1, off, 1 and '2, off . . . . . . | $\overline{5}$ | 3 | 10 | 10 |  | 1.05 | 15.75 15.75 |
| $26.300^{4}$ 30314 | Electrolier, !, I and 2 , off. . . . . . . . | 5 | 2 | 10 | 10 |  | 1.05 | 15.75 |
| ${ }_{2031}$ | I lectrolier, 1, 2, off or'2 speed Fan Motor | 5 | 2 | 10 | 10 |  | 1105 | 15.75 |
| $\underline{26: 324}$ | Electrolier, 1, 2, 3, off or 3 speed Fan | 5 | 2 | 10 | 10 |  | 1.15 | 15.75 |
| $2202^{4}$ | Motor. | 10 | 10 | 10 | $50^{*}$ | 30 | . 70 | +12.88 |
| $20.33^{4}$ | Double Pole | 20 | 20 | 10 | $20^{*}$ | \% | 1.100 | +18.40 |
| $2295{ }^{4}$ | Iouble I'ole . . . . . . . . . . . . . . . . . | 10 | 5 | 10 | 100* | 00 | 1.010 | 12.42 |
| 22964 2297 | Single I'ole, lock. . . . . . . . . . . . . . . . . . | 10 | 5 | 10 | $50 *$ | 30 | 1.30 | 23. 92 |
| $\begin{aligned} & 2297^{4} \\ & 2298^{4} \end{aligned}$ | Three-Point, lock . . . . . . . . . . . . . . . . . | 10 | 5 | 10 | $10^{*}$ | 7 | 23 | 37.50 |
| 22984 2624 | Four-Point, lock. . . . . . . . . . . . . . . . . . . Double Pole, lock | 10 | 10 | 10 | $50^{*}$ | 30 | 1.31 | 23.92 |
| $2624^{4}$ | Double Pole, lock. <br> Double Pole. look. | 20 | 20 | 10) | $2)^{*}$ |  | 1.50 | 27.60 |

## The "Capax" Push Button Switch

10 Amperes, 125 Volts, 5 Amperes, 250 Volts


Bryant Push Button Switches
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Amperes |  | Carton Quantity | $\begin{gathered} * \\ \text { Std. } \\ \text { Pkg. } \end{gathered}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lhs. } \end{aligned}$ | Mirs. <br> Lisit <br> J.ach | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 125) Volts | $2: 010 \mathrm{olts}$ |  |  |  |  |  |
| 6014 | Single Pole. | 10 | 5) | 10 | 50 |  | Si) - |  |
| 6024 | Double Pole. | 10 | 10 | 10 | 10 |  | - | + +13.20 |
| 6094 | Double Pole. | 20 | 20 | 10 | 10 |  | 1.10 | †21.00 |
| 6034 | Three-I'oint. | 10 | 5 | 10 | 20 |  | s | † 16.19 |
| 60.4 | Four-Point. | 10 | 5 | 10 | 10 | $\cdots$ | 20 | + +30.00 |
| $605^{4}$ | Single l'ole, lock. | 10 | 5 | 10 | 50 |  | 1.17 | +30.00 21.53 |
| 6064 | 1)ouble Pole, lock | 10 | 10 | 10 | 10 |  | $1.3: 3$ | 21.53 19.95 |
| $610^{4}$ | Double P'ole, lock | 20 | 20 | 10 | 10 | $\cdots$ | 1.85 | 27.15 |
| $\begin{gathered} 607^{4} \\ 608^{4} \end{gathered}$ | 'Three-l'oint, lock | 10 | 5 | 10 | 20 | $\cdots$ | 1.33; | 24.47 |
| $608{ }^{4}$ | lour-Point. lock | 10 | i | 10 | 10 | $\because$ | 2.4 .5 | 36.75 |

${ }^{4}$ National Electriwal Cole Standard.

 $\dagger$ loor witches with beth huttons white ivery, regular length. adh $\$ 2.20$ to list. Mfrs. Lisit $\$ 1$.fin.
Outside supporting screw holes. $3 \frac{9}{32}$ inches on centers.
Inside supporting screw holes, $\frac{11^{3}}{16}$ inches on centers.
One No. 2299 Key is furnished with earh lock switch. Adjusting frames for aligning Push Button Switches in gangs will be furnished frem unoa aonlication.

## PERKINS' PUSH SWITCH PLATES



Nos. 3166 and 3666


No. 3632


No. 3650

## Standard Solid Push Switch Plates

In One Horizontal Row Schedule " H "

|  | In One Horizontal Row |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Description | Dimensions Height Width | Carton Quantity | Pkg. Wt. Lbs. | IIfrs. Jist <br> Each | W. E. List Each |
| 363! | lor one switch | $41 / 2 \times 23 / 4$ ins. | 25 | 30 | \$0. 50 | \$1.10 |
| 3640 | For two switches. | $41 / 2 \times 4 \frac{9}{16}$ ins. | 10 | 55 | 1.00 | 2.20 |
| $3167^{\text {¹ }}$ | For three switches. | $41 / 2 \times 63 / 8 \mathrm{ins}$. | 5 | 100 | 1.50 | 3.30 |
| $3168{ }^{4}$ | For four switches. | $41 / 2 \times 8 \frac{3}{16}$ ins. | 5 | 120 | 2.00 | 4.40 |
| $3169{ }^{\text { }}$ | For five switches. | $41 / 2 \times 10$ ins. | 5 | 140 | 3.00 | 6.60 |
| $3170{ }^{4}$ | For six switches. | $41 / 2 \times 11 \frac{13}{18}$ ins. | 1 | 160 | 3.60 | 7.92 |
| $3171^{\text {4 }}$ | For seven switches | $41 / 2 \times 135 / 8$ ins. | 1 | 180 | 1.20 | 9.24 |
| $3172^{\text {4 }}$ | For eight switches. | $41 / 2 \times 15 \frac{7}{16}$ ins. | 1 | 220 | 4.80 | 10.56 |
| $3165{ }^{4}$ | For one switch (stamped plates) | $41 / 2 \times 23 / 4$ ins. | 2.5 | 30 | .35) | . 77 |
| $3166{ }^{\text { }}$ | For two switches (stamperl plates) | $41 / 2 \times 4 \frac{9}{16}$ ins. | 10 | 55 | 70) | 1.54 |

Switches in gangs spaced $1 \frac{1}{1} \frac{3}{8}$ inches on centers.

| In One Vertical Raw ("Tandem") |  |  |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3369{ }^{\text {® }}$ | For two switches |  | $81 / 8 \times 23 / 4$ ins. | , | 8 | \$1.20 | \$2.64 |
| $3370{ }^{\text {4 }}$ | For three switches |  | $113 / 4 \times 23 / 4 \mathrm{ins}$. | 1 | 100 | 1.80 | 3.96 |
| $3371{ }^{\text {4 }}$ | For four switches. |  | $153 / 8 \times 23 / 4$ ins. | , | 120) | 2.40 | 5.28 |

Switches in "tandem" spaced $35 / 8$ inches on centers.

## Struck Up Fush Switch Plates

In One Horizontal Row, . 040 Inch Metal $\qquad$

| $3665^{4}$ | For one switch, square cornars. |
| :---: | :---: |
| $3666{ }^{\text {4 }}$ | For two switches, square corners. |
| $3667^{\text { }}$ | For three switches, square corners. |
| 3634 | For four switches. |
| 3635 | For five switches |
| $36: 36$ | For six switches |
| 3637 | For seven switches. |
| 3638 | For eight switches. |
| 36,50) | 'Two gang combination plate for standard push button switch and No. 120 Spartan receptarle. |
| $3631{ }^{4}$ | For one switch, round corners. . |
| $3632^{\text {4 }}$ | For two switches, round corners |
| $3633{ }^{\text {4 }}$ | For three switches, round comers |


| $41 / 2 \times 23 / 4$ ins. | 25 | 20 | 80.14 | \$0.32 |
| :---: | :---: | :---: | :---: | :---: |
| $41 / 2 \times 4 \frac{9}{16} \mathrm{ins}$. | 10 | 40 | 28 | 63 |
| $41 / 2 \times 63 / 8 \mathrm{ins}$. | 5 | 55 | 42 | . 99 |
| $41 / 1{ }^{1} \times 8{ }_{16}^{3}$ ins. | 5 | 18 | 88 | 1.94 |
| $416 \times 10$ ins. | 5 | 16 | 1.10 | 2.42 |
| $41 / 2 \times 1113 \mathrm{ins}$. | 1 | 15 | 1.32 | 2.90 |
| $41 / 2 \times 135 / 8 \mathrm{ins}$. | 1 | 14 | 1.54 | 3.39 |
| $41 / 2 \times 15_{16}^{7}$ ins. | 1 | 13 | 1.76 | 3.87 |
| 4 有 $\times 9$ ins. | 10 | 23 | .40 | 88 |
| $41 / 2 \times 23 / 4 \mathrm{ins}$. | 25 | 20 | 14 | . 34 |
| $41 / 2 \times 4 \frac{9}{16}$ ins. | 10 | 40 | 28 | 67 |
| $41 / 2 \times \quad 63 / 8$ ins. | 5 | 55 | 42 | 1.01 |

## Push Switch Steel Plates

|  | Brush Brass Finish |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | Dimensions Height Width | Carton Quantity | Pkg. Wt. Lbs. | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| 3621 | For one switch. | $41 / 2 \times 23 / 4$ ins. | 25 | 20 | \$0.12 | \$0.26 |
| 3622 | For two switches. | $41 / 2 \times 4 \frac{9}{16}$ ins. | 10 | 40 | . 24 | . 53 |
| 3623 | For three switches. | $41 / 2 \times 63 / 8$ ins. | 5 | 55 | . 36 | 79 |

[^48]
## PERKINS SPECIAL PLATES

## SPECIAL FINISHES ON FLUSH PLATES

Schedule "H"
The standard finish on all Flush Plates, unless otherwise noted. is brush brass, which will be supplied on all orders where no other finish is specified. For all uther special finishes, except those requiring gold and silver, add $\$ 0.23$ (NIfrs List $\$ 0.10$ ) per switch or receptacle to the price of the plate in standard finish. P'rices on plates in gold and silver finishes will be quoted on application. The only sprecial finish that can be applied to steel Plates is genuine 13auer Barff, for which add $\$ 0.83$ Iist (Mfrs List $\$ 0.36$ ) per switch.

## PLATES WITH ROUND CORNERS AND ROUND EDGES

Plates with round corners and round edges, other than those listed will be furnished at $\$ 0.35$ list (Afrs List $\$ 0.1$ ) extra for single plates and $\$ 0.12$ list (Mifrs List $\$ 0.05$ ) extra for each additional switch or receptacle in gang plates.

## PLATES WITH ROUND CORNERS AND BEVELED EDGES

Plates with round corners and beveled edges will be furnished at $\$ 0.35$ list (Mfrs List $\$ 0.15$ ) extra per plate.

## SPECIAL SIZE PLATES

Special size plates for standard devices will be sold at a list price of $\$ 0.14$ ( M frs List $\$ 0.06$ ) per square inch in lots of less than 100 , and $\$ 0.09$ (Mfrs List $\$ 0,04$ ) per square inch in lots of 100 or more plates (not gangs) of one size and type. When plates are other than rectangular in shape, the area by which the list is deternined will be the size of the smallest rectangular piece from which the specified plate can be cut.

Orders for special size plates should always be accompanied by a plainly-marked sketch, giving all dimensions.

## SPECIAL PLATES

The factory has exceptional facilities for producing promptly anything which may be required in the way of special flush plates. Realizing that special plates are usually more urgently needed than stock material, particular attention is given to all orders covering them and are usually able to make shipment promptly.

Plates which are special in ways not covered above will be quoted upon application.
Nothing in the prices listed above shall be understood to mean that special plates of any description will be furnished at a less price than the corresponding standard plate.

## FACE PLATE SCREWS

Face plate screws when bought separately will list at $\$ 1.74$ (Alfrs List \$0.75) per 100; standard package 100 in Schedule "11."

## ENGRAVING

Flush plates will be engraved with words or numbers to indicate the circuits controlled at a list price of $\$ 0.14$ (Mfrs List $\$ 0.06$ ) per letter or numeral.

## ADJUSTING FRAMES FOR* FLUSH SWITCHES

Perkins Adjusting Frames make it a simple matter to line up Flush Switches so that the plate will fit. These franes are made for buth l'ush Ijutton and IRotary Switches, and are supplied gratis to users of Perking
Switches.


No. 3546

|  | BLANK PLATES |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. Pkg. | Mifs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| 3546 | Single Plate, stamped, $1 / 16$ inch brass | 100 gangs | S0.35 | \$0.77 |
| 3551 | Single Plate, struck-up, . 040 inch brass . | 100 gangs | 2. 22 | . 48 |
| 3550 | Single Plate, struck-up, . 040 inch steel. | 100 gange | . 12 | 26 |
| 3628 | Two-gang Plate, stamped, 1/16 inch brass. . | 100 gange | 70 | 1. 54 |
| 3624 | Two-gang Plate, struck-up, . 040 inch brass. | 100 gangs | 44 | 97 |
| 3625 | Three-gang Plate, struck-up, . 040 inch steel . . | 100 gangs | 24 | .53 1.45 |
| 3627 | Three-gang Plate, struck-up, . 040 inch steel. | 100 gangs 100 gangs | 66 365 | 1. 45 |

## TELEPHONE PLATES

With One $3 / 8$ Inch Bushing

| 3606 | Single Plate, stamped, $1 / 16$ inch brass. | 100 gange | \$0.36 | \$0.79 |
| :---: | :---: | :---: | :---: | :---: |
| 3416 | Single Plate, struck-up, 040 inch brass | 100) gangs | - 2.3 | $\$ 0.79$ .51 |
| 3617 | Single Plate, struck-up, , 040 inch steel. | 100 gangs | 13 | 29 |

## With Two $3 / 8$ Inch Bushings

| 3618 | Single Plate, stamped, $1 / 16$ inch brass. | 100 gangs | 180.37 | \$0.81 |
| :---: | :---: | :---: | :---: | :---: |
| 3619 | Single Plate, struck-up, . 040 inch brass | 100 gangs | $\xrightarrow{24}$ | + ${ }^{\text {. }}$. 51 |
| 3620 | Single Plate, struck-up, . 040 inch steel . | 100 gangs | 1.1 | 31 |

## BRYANT-PERKINS COMBINATION PLATES

Combination plates should be deseribed by using the letters shown below on outline euts of the respective plates, giving the letters in order from left to right, or from top to bottom, as the devices are to be mounted. The list price will be the sum of the lists as shown. A combination plate cannot be so considered unless it is lescribed by at least two different letters. The standard paekige quantity is ten plates of one description (not ten gangs).

For combination plates with the different sectione arranged tandem or in more than one horizontal row add $20 \%$ to the list prices given.

Schedule "H"

W. E. List Each $\$ 3.45$ Mirs. Iist Each $\$ 1.50$

W. E. List Each $\$ 1.15$ Mfrs. List Each $\$ 0.50$

W. E. List Each \$1.38 Mrs. List Each \$0.60
W. E. List Each $\$ 1.15$ Mirs. List Each $\$ 0.50$

W. E. List Each $\$ 2.88$ Mifrs. List Each $\$ 1.25$

W. E. List Each $\$ 1.20$ Mfrs. List Jach $\$ 0.52$

W. E. List Each $\$ 3.45$ Mrs. List Each $\$ 1.50$

W. E. List Each \$1.38 Mfrs. List Each $\$ 0.60$

W. E. List Each \$1.15 Mirs. List Each \$0.50

W. E. List Each \$1.61 Mfrs. List Each $\$ 0.70$

W. E. List Each \$1.24 W. E. List Each \$1.15 Mifrs. List Fach $\$ 10.54$

W. E. List Each $\$ 1.50$ Mifs. List Lach $\$ 0.65$

W. E. List Each \$1.61 Mfrs. List Lach $\$ 0.10$


Mfrs. List Each $\$ 0.50$

W. E. List Each $\$ 1.15$

Mirs. List Each $\$ 0.50$

W. E. List Each $\$ 1.61$ Mirs. List Each $\$ 0.10$

W. E. List Each $\$ 6.90$ Mfrs. List Each $\$ 3.00$

W. E. List Each \$1.38 Mirs. List Each $\$ 0.60$

W. E. List Each \$1.15 Mfrs. List Each $\$ 0.50$


Cat. No. 3639
W. E. List Each $\$ 1.15$

Mirs. List Each $\$ 0.50$

W. E. List Each $\$ 1.38$ Mfrs. List Each $\$ 0.60$
W. E. List Each \$1.50 Mirs. List Each $\$ 0.65$

W. E. Liat Each $\$ 3.68$ Mirs. List Each \$1.60
W. E. List Each $\$ 3.45$ W. E. List Each $\$ 4.60$ Mirs. List Each $\$ 1.50$


No. 2355

Perkins Automatic Door Switches
SINGLE POLE.
6 Amperes, 125 Volts; 3 Amperes, 250 Volts Schedule "H"

| $\begin{aligned} & \text { Lst } \\ & \text { No. } \end{aligned}$ | Description | $\begin{gathered} \text { Carton } \\ \text { Quantity } \end{gathered}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Whs. } \end{aligned}$ | $\begin{aligned} & \text { Mirs. } \\ & \begin{array}{c} \text { List } \\ \text { E.ich } \end{array} \end{aligned}$ | $\begin{array}{\|r} \text { W. E. } \\ \text { List per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 235.55^{4} \\ & 23 \overline{3} 6^{4} \end{aligned}$ | ('ircuit closed when door is open. ('ircuit closed when door is closed. | 1 | $\begin{aligned} & 25 \\ & 10 \end{aligned}$ | 15 | $\begin{aligned} & 3.2 \pi \\ & 2.25 \end{aligned}$ | $\$ 4.95$ 4.95 |

The plate measures $45 / 8 \times 11 / 4$ inches and the holes for support ing screws are spaced $33 / 4$ inches on centers. The pormelain hody is $3^{3} \mathrm{~s}$ inches long by 1 inch wide.


## Bull's Eye Receptacles

## For Candelabra Base Lamp

Schedule "H"
The oulfit consists of a flush plate of standard dimensions, in the center of which is a ruby glass bull's eye. The lightel lamp beneath serves as an effective cautionary or danger signal. The lamp-holding receptarle may he installed individually or may be mounted up in gangs with switches and receptacles and the entire conbination covered by a single plate. The many combinations possible are indicated on page to follow.

| Iist No. | Description | Carton Quantity | Std. l'kg. | Pkg. Wt. Lbs. | Mifs. List Each | W. E. <br> List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4274 428 | Receptaele with 2 ( ${ }^{\text {S }}$ S, 125 Volt Candelabra base Iamp | 10 | 30 | 15 |  |  |
| $428{ }^{\text {4 }}$ | Single plate, $4 \frac{1}{2} \times 23$ x ${ }^{\text {a }}$ inches . . . . . . . . . . . . . . . . . . . . . | 5 | 25 |  | 1.25 | $23.00$ |

Outside supporting serew holes. $\mathbf{B}^{\frac{9}{32}}$ inches on centers.
luside supporting screw holes, $2 \frac{13}{16}$ inches on centers.
Plates for mounting these receptanles in gangs will be furnished only on special order. When so mounted the roceptacle will be spaced $1 \frac{13}{16}$ inches on centers.

The above receptacle is designed to receive a Form II (General Electric designation) lamp.

## For 250 Volt Circuits

When Bull's Fye out fits are wanted for circuits of 200 to 250 volts it is necessary to eonnect two No. 427 recptactes in sories and cover them with a No. 436 plate illust rated above.

This device requires a two-gang box. 'There are holes for four supporting screws spaced $3{ }_{3}{ }^{9}$ inches on centers vertically and $1 \frac{13}{13}$ inches on centers horizontally.

Ready Wired Bull's Eye Combinations
10 Amperes, 125 Volts
Schedule "H"

| $514^{4}$ | (omblination of: 1 No. 427 lamp holder with litup, 1 No. 428 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | flush plate, 1 No. 432 DD plug, I No. 400 DD receptacle, 1 No. 50 D D plate. | 1 | 10 |  | \$4.50 |  |
| $515{ }^{4}$ | Combination of: 1 No. 427 lamp holder with lamp, 1 No. 428 ilush plate, 1 No. 2520 receptacle cup, 1 No. 2702 receptacle murchanism, 1 No. 2567 receptacle blug. 1 No. 3639 flush plated | 1 | 10 |  | 8.00 +.00 | $\$ 9.90$ 8.80 |

[^49]
## BRYANT BULL'S-EYE COMBINATIONS



No. 465


No. 437


No 518


No. 558


No. 438

Ready-wired Bull's-eye Combinations
10 Amperes, 125 Volts

| List <br> No. | Description | Carton Quantity | Std. <br> Pkg. | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4654 | Combination, complete with 125-Volt Lamp and Plate. | 1 | 10 | 83.50 | \$7.70 |
| 469 | Same combination as 465 with Rotary Lock Flush Switch. | 1 | 10) | 4.00 | 8.80 |
| 495 | Combination similar to No. $4(55$ but with 3 -point Type 0 Flush Switch instead of double pole switch. | 1 | 10 | 3.50 | 7.70 |

No. 465 combination consisis of a No. 2494 Type " $O$ " double pole indicating switch mounted in a special porcelain that also provides a receptacle for a candelabra base lamp which is covered by a perforated brass cage so that the lamp cannot be removed without removing the plate. The lamp is in circuit whenever the switch is closed. This outfit may be installed in any standard single switchbox.

Outside supporting screw holes, $3 \frac{9}{32}$ inches on centers.
Inside supporting screw holes, $2 \frac{13}{16}$ inches on centers.
Plates for mounting these receptacles in gangs will be furnished only on special order. When so mounted, the receptacles will be spaced $1 \frac{13}{16}$ inches on centers.

Ready-wired $\underset{660 \text { Watts, } 125 \text { Volts }}{\text { Heater }}$ Combination
Schedule 'H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. Prg. | Pkg. Wgt. | Mfrs. <br> List <br> Each | $\begin{gathered} \text { W. E. } \\ \text { List } \end{gathered}$ Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 437 | Combination of: 1 No. 2520 D. 1'. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 fiush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 1708 plug receptacle, 1 No. 544 flush plate. | I | 10) | 30 | \$5.50 | \$12.10 |
| 518 | 10 Amperes, 125 Volts <br> Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. swit ch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 430 D. P. receptacle, 1 No. 520 flush plate, 1 No. 432 D. D. plug. | 1 | 10 | 35 | 6.00 | 13.20 |
| 467 | Combination of: 1 No. 2520 D. P. switch cup, 1 No. 2523 D. P. switch mechanism, 1 No. 3639 flush plate, 1 No. 427 lamp holder with lamp, 1 No. 428 flush plate, 1 No. 120 spartan receptacle, 1 No. 545 "Spartan" phate. | 1 | 10 | 35 | 5.75 | 12.65 |
| 558 | Combination of: 1 No. 25ะ0 D. P . switch cup, 1 No. 2523 D. $\ddot{1}$ switch mechanism, 1 No. 3639 flush plate. 1 No. 427 kmp holder with lamp, 1 No. 122 spartan receptacle, 1 No. 551 spartan plate | 1 | 10 | 30 | 6.25 | 13.75 |
| 438 | Combination of: 1 No. 2344 D. 1'. indicating switch, 1 No. 2345 flush plate, 1 No. 427 lamp holder, with lamp, 1 No. 428 flush plate, 1 No. 1363 Chapman receptacle, 1 No. 543 Chapman plate, 1 No. 397 (hapman plug. | 1 | 10 | 30 | 6.00 | 13.20 |

The above combinations are designed to be installed in a three gang box. There are holes for supporting screws spaced $3 \frac{9}{35}$ inches on centers vertically and $35 / 8$ inches on centers horizontally.

## PERKINS SNAP SWITCHES

125-250 Volts



No. 2000


No. 2002


INo. 2001

SMALL SIZE, SINGLE POLE
5 Amperes, 125 Volts; 3 Amperes, 250 Volts
Schedule "H"

| List <br> No. | Description | Diam. <br> of Base | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \\ & \hline \end{aligned}$ | Mfrs. List Fach | W. E <br> List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2(0) 0^{4}$ | Slotted | 2 ins. | $13 / 8$ ins. | 10 | 2 20 | 75 | \$0.28 | \$6.16 |
| $2220{ }^{\text {4 }}$ | Solid. | 2 ins. | $13 / 8 \mathrm{ins}$. | 10 | 2:0 | 75 | . 28 | 6.16 |
| $2047{ }^{\text {² }}$ | Slotted, indicating | 2 ins. | $13 / 8 \mathrm{ins}$. | 10 | 250 | 75 | . 32 | 7.04 |
| $2035{ }^{\text {4 }}$ | Solid, indieating. . | 2 ins. | $13 / 8$ ins. | 10 | 250 | 75 | . 32 | 7.04 |

LARGE SIZE, SINGLE POLE
5 Amperes, 125 Volts; 3 Amperes, 250 Volts
Schedule "H"
$2170^{4}$
20024 Solid
$2002^{4}$ Slotted
$2254^{4}$
$2255^{\Delta}$
Solid, indicating
Slotted, indicating

$|$| $21 / 1 \mathrm{ins}$. |
| :--- |
| $21 / 4$ ins. |
| $21 / i$ ins. |
| $21 / 4$ ins. |

$\left|\begin{array}{l}11 / 2 \text { ins. } \\ 11 / 2 \text { ins. } \\ 11 / 2 \text { ins. } \\ 11 / 2 \text { ins. }\end{array}\right|$

| 10 | 100 |
| :--- | :--- |
| 10 | 100 |
| 10 | 100 |
| 10 | 100 |


| 30 | 80.36 | $\mathbf{\$ 7 . 9 2}$ |
| ---: | ---: | ---: |
| 30 | .36 | $\mathbf{7 . 9 2}$ |
| 30 | .40 | $\mathbf{8 . 8 0}$ |
| 30 | .40 | $\mathbf{8 . 8 0}$ |

SINGLE POLE

| 10 Amperes, 125 Volts; 5 Amperes, 250 Volts |  |  |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20014 | Slotited | $2 \frac{7}{16}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 100 | 45 | \$0. 48 | \$10.56 |
| 22214 | Solid. | ${ }^{\frac{1}{16}} \frac{7}{16}$ ins. | $1 \frac{23}{3} \frac{3}{2}$ ins. | 10 | 100 | 45 | . 48 | 10.56 |
| $2048{ }^{\text {4 }}$ | Slotted, indieating | ${ }^{\frac{7}{16}} \frac{1}{16}$ ins. | $1{ }^{\frac{3}{3} \frac{3}{2}}$ ins. | 10 | 100 | 45 | . 54 | 11.88 |
| $2036{ }^{\text {4 }}$ | Solid, indicating. . | $2 \frac{7}{16}$ ins. | $1 \frac{3}{32}$ ins. | 10 | 100 | 45 | . 54 | 11.88 |



No. 2455


No. 2175


No. 2176

THREE POINT SWITCHES

| List <br> No. | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. <br> 1’kg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mfrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *24554 | Solid, 3 amperss. | 2 ins. | $13 / 8 \mathrm{ins}$. | 10 | 100 | 25 | \$0.48 | \$10.56 |
| ${ }^{*} 24566^{4}$ | Slotted, 3 amperes | $2 \mathrm{ins}$. | $13 / 8$ ins. | 10 | 100 | 25 | - 48 | 10.56 |
| $\dagger 2175^{\text {4 }}$ | Solid, 5 anmeres. | $21 / 4 \mathrm{ins}$. | $11 / 2 \mathrm{ins}$. | 10 | 100 | 25 | 56 | 12.32 |
| $\dagger 2027^{4}$ | Slotted, 5 amperes | $21 / 4$ ins. | $11 / 2 \mathrm{ins}$. | 10 | 100 | 25 | 56 | 12.32 |
| +2176 ${ }^{\text {- }}$ | Solid, 10 amperes. | $2 \frac{7}{16}$ ins. |  | 10 | 50 | 25 | 76 | 16.76 |
| $\ddagger 2030^{4}$ | Slotted, 10 amperes. | $2 \frac{7}{16}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 50 | 25 | 76 | 16.76 |

[^50]Any of the above switches can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.
-National Electrical Code Standard.



No. 2185


No. 2391


FOUR POINT-5 Amperes, 125 Volts; 2 Amperes, 250 Volts
Jour-point ${ }^{\text {Sw }}$ witehes are used in connection with two "Three-point Switehes where current is to be controlled from any one of more than two points. A Four-point Switch is installed bet ween the Three-point switches at each audditional point.
fiour-point Switches can also be used individually as Pols-changing Switches.

| List No. | Description | Diam. of Base | Screws Sraced on C'enters | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { W't. } \\ & \text { Lbs. } \end{aligned}$ | Mfrs. List Each | W.E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2183{ }^{\text {4 }}$ | Solid | $2{ }^{2} \frac{7}{16} \mathrm{ins}$. | $1 \frac{23}{3} \frac{3}{2}$ ins. | 10 | 30 | 15 | \$0.8t | \$15.82 |
| $2033{ }^{4}$ | Slotted | ${ }^{2} \frac{7}{16}$ ins. | $1 \frac{23}{3} \frac{3}{2}$ ins. | 10 | 30 | 15 | 86 | 15.82 |
| 2-CIRCUIT ELECTROLIER Schedule "H" |  |  |  |  |  |  |  |  |
| $2216^{4}$ | Solid ( $1-2-1$ and 2-off) | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{23}{3} \frac{3}{2}} \mathrm{ins}$. | 10 | 30 | 15 | \$0.76 | \$13.98 |
| $2215{ }^{4}$ | Slotted (1-2-1 and 2-off) | ${ }^{2} \frac{7}{16}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 30 | 15 | . 76 | 13.98 |
| $2188{ }^{\text {4 }}$ | Solid, indicating ( $1-2-1$ and 2-off) - | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{23}{3} \frac{3}{3} \text { inss. }}$ | 10 | 30 | 15 | . 86 | 15.82 |
| $2074{ }^{4}$ | Slotted, indicating ( $1-2-1$ and 2 -off). |  | ${ }^{\frac{23}{3}} \frac{3}{3} \mathrm{ins}$. | 10 | 30 | 15 | 86 | 15.82 |
| 2649 | Solid (1-1 and 2-1-off) ... . . . . . | ${ }_{2} \frac{7}{1 / 6} \mathrm{ins}$. | $1{ }^{\frac{23}{3}} 1$ ins. | 10 | 30 | 15 | 90 | 16.56 |
| 2650 | Slotted (1-1 and 2-1-01f) | $2 \frac{7}{1 / 6}$ ins. | $1 \frac{23}{\frac{23}{12} \text { ins. }}$ | 10 | 30 | 15 | . 90 | 16.56 |
| 2651 | Solid, indicating (1-1 and 2-1-off). | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{33}{37} \text { ins. }}$ | 10 | 30 | 15 | 1.00 | 18.40 |
| 2652 | Slotted, indieating ( $1-1$ and $2-1$-off). | $2_{17}^{7}{ }_{7}^{7}$ ins. | $1 \frac{23}{2}$ ins. | 10 | 30 | 15 | 1.00 | 18.40 |
| 2653 | Solid ( 1 -off-2-ofí) | ${ }_{2}^{2} 7_{16}{ }^{7}$ ins. | $1{ }^{\frac{23}{37} \text { ins. }}$ | 10 | 30 | 15 | 90 | 16.56 |
| 26.54 | Slotted ( 1 -off-2-off) | ${ }_{2}{ }_{17}^{7}{ }^{7}$ ins. | $1{ }^{\frac{2}{5} \frac{3}{2}} \mathrm{ins}$. | 10 | 30 | 15 | . 90 | 16.56 |
| 2655 | Solid, indicating (1-off-2-off) | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{23}{3} \frac{3}{3}} \mathrm{inss}$. | 10 | 30 | 15 | 1.00 | 18.40 |
| 2656 | Slotted, indicating ( 1 -off -2 -off) |  | $1{ }^{1} \frac{23}{3 \frac{3}{3}}$ ins. | 10 | 30 30 | 15 | 1.00 .90 | 18.40 |
| 2657 | Solid (1-off-1 and 2 -off) | ${ }_{2}^{2}{ }^{7}{ }^{7} 7^{7}$ ins. | $1 \frac{23}{3}$ ins. $1 \frac{3}{23} \mathrm{ins}$. | 10 | 30 30 30 | 15 | . 90 | 16.56 |
| 2658 2659 |  |  |  | 10 | 30 30 | 15 | 1.00 | 16.56 18.40 |
| 26.59 2660 | Solid, indicating ( 1 -0ff-1 and $2-0 \mathrm{ff}$ ) |  |  | 10 | 30 30 30 | 15 | 1.00 | 18.40 18.40 |
| 2661 | Solid ( $1-1$ and 2 -off) . . . . . . . . . . | $21 / 1 \mathrm{ins}$. | $1 \frac{3}{3} \frac{3}{\text { 2 }} \mathrm{ins}$. | 10 | 30 | 15 | . 90 | 16.56 |
| 2662 | Solid, indicating (1-1 and 2-off) ... | $21 / 4$ ins. | $1 \frac{3}{3} \frac{3}{2}$ ins. | 10 | 30 | 15 | 1.00 | 18.40 |
| 2663 | Solid, elcet rolier or 2-speed fan motor | $21 / 4 \mathrm{ins}$. | $1 \stackrel{3}{4} \mathrm{ins}$. | 10) | 30 | 15 | 90 | 16.56 |
| 2485 | Solid, indicating, electrolier or 2-speed fan motor. | 21/ins. | $1^{3} \frac{1}{4} \mathrm{ins}$. | 10 | 30 | 15 | 1.00 | 18.40 |

The above switches operate as follows: 1st turn conmects Cireuit One alone. $2 d$ turn connects Circuit Two alone. 3 d turn connects Circuits One and Two. 4th tirn off.

3-CIRCUIT ELECTROLIER
Schedule "H"

| 2185* | Solid (1-1 and 2-1 and 2 and 3-off) . | $2{ }_{1}^{76}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 30 | 15 | \$0.90 | \$16.56 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20704 | Slotted. . . . . . . . . . . . . . . . . . . . . . . | $2 \frac{7}{16}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 30 | 15 | . 90 | 16.56 |
| $2187^{4}$ | Solid, indicating | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{23}{32}}$ ins. | 10 | 30 | 15 | 1.00 | 18.40 |
| $2072{ }^{\text {A }}$ | Slotted, indicating | $2{ }^{\frac{7}{16}}$ ins. | $1 \frac{23}{\frac{23}{2}} \mathrm{ins}$. | 10 | 30 | 15 | 1.00 | 18.40 |

## 3-CIRCUIT ELECTROLIER OR 3 SPEED FAN MOTOR

| 2664 | nold (1-2-3-31) | ${ }^{2}{ }_{2}^{76}$ ins. | 1 㜢 ins. | 10 | 30 | 15 | \$0.90 | \$16.56 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2665 | Slotted ( $1-2-3$-off) | ${ }^{2}{ }_{18}^{7}$ ins. | $1{ }^{\frac{23}{2}}$ ins. | 10 | 30 | 15 | . 90 | 16.56 |
| 2666 | Solid, indicating ( $1-2-3$-off) | $2_{16}^{7}$ ins. | $1 \frac{3}{32} \mathrm{ins}$. | 10 | 30 | 15 | 1.00 | 18.40 |
| 2667 | Slotted, indicating (1-2-3-off) | $2{ }_{17}^{7}$ ins. | $1 \frac{23}{2} \frac{3}{2} \mathrm{ins}$. | 10 | 30 | 15 | 1.00 | 18. |

The above switches operate as follows: 1st turn comneds ('ircuit One. 2d turn eonnects Circuits One and Two. 3d turn connects Cireuits One, Two and Three. 4 th turn off.

DOUBLE POLE, 250 VOLTS

| List <br> No. | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. <br> Wt. <br> Lbs. | Mfrs. <br> List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{23914}$ | Solid, 5 amperes | 2 ins. | $13 / 8$ ins. | 10 | 100 | 30 | \$0. 50 | \$12.32 |
| $23!2{ }^{4}$ | Slotted, 5 amperes | 2 ins. | $13 / 8$ ins. | 10 | 100 | 30 | . 56 | 12.32 |
| 2393 ${ }^{\text {® }}$ | Solid, indicating, 5 amperes | 2 ins. | $13 / 8$ ins. | 10 | 100 | 30 | . 64 | 14.08 |
| $2394{ }^{\text {4 }}$ | Slotted, indicating, 5 amperes | 2 ins. | 13,8 ins. | 10 | 100 | 30 | . 64 | 14.08 |
| $2009{ }^{\text { }}$ | Solid, 10 amperes | $2 \frac{7}{16}$ ins. | $1 \frac{23}{3 \frac{2}{3}}$ ins. | 10 | 100 | 45 | 66 | 14.52 |
| $2017{ }^{\text {4 }}$ | Slotted, 10 amperes. | ${ }^{2} \frac{7}{16}$ ins. | $1 \frac{23}{32}$ ins. | 10 | 100 | 45 | . 66 | 14.52 |
| $2038{ }^{\text {® }}$ | Solid, indicating, 10 amperes | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{2}{3} \frac{3}{2}}$ ins. | 10 | 100 | 45 | 76 | 16.72 |
| $2050{ }^{\text {4 }}$ | Slotted, indicating, 10 amperes. | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{2}{3} \frac{3}{3} \text { ind. }}$ | 10 | 100 | 45 | 76 | 16.72 |

Any switch on this page can be converted into a Lock switch by removing the handle and substituting Universal Lock Attachment. $\quad$ National Electrical Code Standard.

## PERKINS SNAP SWITCHES

125-250 Volts


No. 2011


No. 2611


No, 2025


No 2597

DOUBLE POLE

| 20 Amperes, 250 Volts |  |  |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Description | Dian. of Base | Screws Spaced on C'enters | Carton (Quantity | Stil. <br> 1 kg . | Pkg. Wt. Lbs. | Mfrs. List Each | W. E. List per Carton |
| $2011^{4}$ | Eolid | 3 ins. | $22_{16} \frac{3}{6}$ ins. | 111 | 31 | 25 | \$1.40 | \$25.76 |
| $2019{ }^{4}$ | Slotted | 3 ins. | $2{ }_{16}^{16}$ ins. | 10) | 30 | 25 | 1.40 | 25.76 |
| $20.40{ }^{4}$ | Solid, indicating | 3 ins. | $2{ }^{3} 6 \mathrm{ins}$. | 10 | 30 | 2.5 | 1.50 | 27.60 |
| $\underline{2055}{ }^{4}$ | Slotted, indieating | 3 ins. | $\underline{2}-\frac{3}{6}$ ins. | 10 | $: 0$ | 25 | 1.50 | 27.60 |

DOUBLE POLE
30 Amperes, 250 Volts
Schedule " H "'

| $2013{ }^{4}$ | Solid | $3 \frac{9}{16}$ ins | $2 \frac{9}{16}$ ins. | 1 | 311 | 30 | \$1.70 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20214 | Slotted. | $3{ }^{\frac{9}{16}}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 30 | 1.70 | 3.74 |
| 20424 | Solid. indieating | $3 \frac{9}{16}$ ins. | 29 16 ins. | 1 | $31)$ | 30 | 1.80 | 3.96 |
| $2051{ }^{\text { }}$ | Slotted, indicating | $3 \frac{9}{20} 9 \mathrm{ins}$. | $2 \frac{9}{16}$ ins. | 1 | 30 | 30 | 1.80 | 3.96 |

DOUBLE POLE
50 Amperes, 250 Volts
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mifs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\overline{2015}$ | Solid | $41 / 2$ ins, | $3 \frac{11}{31}$ ins. | 1 | 10 | 15 | 83.00 | \$6.60 |
| $20: 3$ | Slotted | $41 / 2$ ins. | $3 \frac{1}{3} \frac{1}{2}$ ins. | 1 | 10 | 15 | 3.00 | 6.60 |
| 2044 | solid, indicat ing | $41 / 2 \mathrm{ins}$. | $3 \frac{11}{32}$ ins. | 1 | 10 | 15 | 3.10 | 6. 82 |
| 20.50 | Slotted, indicating | $41 / 2 \mathrm{ins}$. | $3 \frac{11}{32}$ ins. | 1 | 10 | 15 | 3.10 | 6.82 |

DOUBLE POLE, DOUBLE THROW
10 Amperes, 250 Volts
Schedule "H"

| 10 Amperes, 250 Volts |  |  |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2611 | Solid | $2 \frac{11}{16}$ ins. | $2{ }_{16}^{1{ }_{6}}$ ins. | 111 | 10 |  | \$2.40 | \$36.00 |
| 26112 | Slotted | $2{ }_{1}^{11} 6 \mathrm{ins}$. | $21 \frac{1}{6}$ ins | 119 | 10) |  | 2.40 | 36.00 |
| 2613 | Solid, indicating | $2_{1}^{11}{ }_{6}^{11}$ ins. | $2{ }_{1 / 6}^{1 / 2} \mathrm{ins}$. | 111 | 10) |  | 2.50 | 37.50 |
| 2611. | Slotted, indicating | $2 \frac{11}{6}$ ins. | $2{ }_{16}^{1 / 6} \mathrm{ins}$ | 10 | 10) |  | 2.50 | 37.50 |

TRIPLE POLE
10 Amperes, 250 Volts
Schedule "H"

| $20255^{4}$ | Solid. . . . . . . . . . . . . . . . . . . . . . . . |
| :--- | :--- |
| $20.3: 3$ |  |
| Slotted. . . . . . . . . . . . . . . . . |  |



$2 \frac{1}{16}$ ins. $2{ }_{1}^{1}$ : ins.

| 10 | 10 | 12 |
| :--- | :--- | :--- |
| 10 | 10 | 2 |
| 10 | 10 | 12 |


| $\$ 1 .(1)$ | $\$ 28.50$ |
| ---: | ---: |
| 1.90 | 28 |
| 20 | 50 |
| 2.00 | 30 |
| 2.00 |  |
| 2.00 | 30 |

Any switch on this page can be converted into a lock switeh by removing the handle and substituting Universal Lock Attachment.

TRIPLE POLE
20 Amperes, 250 Volts
Schedule "H"

**This switch is designed for use in controlling 3 phase alternating current motors up to and including 2 H.P. either 250 or 6010 volts.
^ National Electrical Code Standard.

## PERKINS SWITCH ACCESSORIES



## Miscellaneous Parts

Switch Handles and Lock Attachment
Schedule "H"

| List No. | Description | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mfrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 501399 | Rotary Switch Ilandles, composition or porcelain. | 100) | 100 |  | \$0.0t | \$9.00 |
| 501400 | Rotary Switch Handles, metal. <br> Allowance $\$ 0.05$ (Mfrs. List $\$(0.02$ ) when switches are furnished without handles. | 100 | 100 |  | . 12 | 18.00 |
| 501401 | Switches with metal handles, add. |  |  |  | 06 | 13 |
| 2384* | Universal Lock Attachment. . | 100 | 100 | 4 | 16 | 24.00 |

By substituting this lock attachment for the regular handle on any Perkins Rotary Switch, either surface or flush, lock switches may be obtained. With this lock attachment, special plates are no longer required for Lock Flush Switches.

| Keys for Lock Switches |  |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2126^{4}$ | Key for Rotary Lock Switches. | 100) | 1(0) | 2 | \$0.06 | \$9.00 |
| 2299 | Key for Push Jutton Look Switeh. | 100 | 100 | 2 | . 15 | 22.50 |



No. 2357


No. 2358

Porcelain Switch Blocks
For Wall Sockets, Receptacles and 5 Ampere 250 Volt Switches Schedule " $H$ "

| List No. | Description | Carton Quantity | Std. <br> Pkg. | Pkg. <br> Wt. <br> Lbs. | Mirs. <br> List <br> Each | W. E. List <br> per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2381{ }^{\text {4 }}$ | For surface work. | 10 | 100 | 30 | 80.05 | \$1.10 |
| $2382{ }^{\text {® }}$ | For concealed work | 10 | 100 | 28 | .05 | 1.10 |
| $2383{ }^{\text {4 }}$ | For molding work. | 10 | 100 | 25 | . 05 | 1.10 |
| $2439{ }^{\text {4 }}$ | For molding terminal. . . . . . . . . . . | 10 | 100 | 30 | . 05 | 1.10 |

For 10 Ampere 250 Volt and 5 Armpere 600 Volt Switches
Schedule "H"

| $2357{ }^{\text {® }}$ | For surface work | 10 | 100 | 45 | . 046 | \$1.32 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2252{ }^{\text {® }}$ | For coneealed work | 10 | 100 | 40 | ${ }^{1} .06$ | 1.32 |
| $2222{ }^{\text {® }}$ | For molding work | 10 | 100 | 40 | . 06 | 1.32 |
| $2358{ }^{\text {* }}$ | For molding terminal | 10 | 100 | 45 | 06 | 1.32 |

For 20 and 30 Ampere 250 Volt and 10 and 20 Ampere 600 Volt Switches
Schedule " H "

| $2379{ }^{\text {4 }}$ | For surface work | 5 | 25 | 22 | \$0.15 | \$1.38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2380{ }^{4}$ | For concealed work | 5 | 25 | 24 | ${ }^{.15}$ | 1.38 |
| $2262^{\text {4 }}$ | For molding work | 5 | 25 | 24 | 15 | 1.38 |

Switch Covers
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Std. Pkg. | Mfrs. <br> List <br> Each | W. E. <br> Each |
| :---: | :---: | :---: | :---: | :---: |
| 501417 | Cover for 10 ampere, 250 volt Double PoleSwitch, and any other cover not larger Allowance $\$ 0.07$ (Mfrs. List $\$ 0.0: 3$ ) when switches are furnished without covers | 50 | $\overline{80.08}$ | \$0.18 |
| 501418 | All larger covers. Allowance $\$ 0.18$ (Mfrs. Iist $\$ 0.08$ ) when switches are furnished without covers. | 50 | . 20 | 44 |

- National Electrical Code Standard.


## PERKINS SWITCHES

125-250 Volts


No. 2592

"Straight-through" Switches
6 Amperes, 125 Volts; 3 Amperes, 250 Volts

| List No. | Description | Carton Quantity | Sid. <br> Pkg. | Pkg. IVt. <br> Lbs. | Mifrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25924 | Single I'ole. | 10 | 50 | 13 | \$0.60 | \$11.04 |
| 10 Amperes, 250 Volts Schedule "H" |  |  |  |  |  |  |
| $24.51^{4}$ | 1)ouble pole. | 1 | 25 | 10 | \$2.60 | \$22.04 |
| $2490{ }^{\text {c }}$ | 1 ) ouble Pole, indicating | , | 25 | 10 | 1.30 | \$23.92 |

SERIES MULTIPLE HEAT REGULATING SWITCH
Operating high, medium low, off. 5 amperes, 125 volts; 2 amperes, 250 volts.

| 2678 | Three llcat switch, indicating, single | 10 | 10 | 12 | \$1.30) | \$19.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |



No. 2572


No. 2370

## Type "T"' Pendent Switches

## SINGLE POLE.

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | ])escription | Carton Quantity | Std. <br> Pkg. | Pkg. W't. Lbs. | Mrs. List Each | W. E. List <br> per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25124 | P'ondent Cap, horizontal buttons. | 10 | 100 | 30 | 80. 50 | \$11.00 |
| 2503 | 1/8 inch cap, horizontal buttons. | 10 | 100 | 30 | 80.50 .50 | \$11.00 |
| $257.4^{4}$ | 3 s inch cap, horizontal buttons. | 10 | 100 | 30 | . 60 | 11.00 13.20 |
| $23^{23}{ }^{\text {a }}$ (04 ${ }^{\text {a }}$ | Pendent Cap, vertical buttons. | 10 | 100 | 30 | . 50 | 11.00 |
| ${ }_{2}^{22.500^{4}}$ | $\frac{1}{8}$ inch cap, vertical button.. | 10 | 100 | 30 | . 50 | 11.00 |
| $2270{ }^{4}$ | 3 \% inch cap, vertical bution | 10 | 100 | 30 | . 60 | 13.20 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts
Schedule " H "

| $2359{ }^{4}$ | Pendent Cap, vertical button. | 10 | 100 | 45 | 80.80 | \$17.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $23.33^{4}$ | 1/8 inch cap, vertiral button. . | 10 | 100 | 45 | \% 80 | 17.60 |
| 235.4 | 3\% inch cap. vertical button | 10 | 100 | 47 | 10 | 19.80 |

Note: The standard finish on the above switches is brush brass, which will be supplied on all orders where no finish is specified. Switches will be finished in polished brass, when specifed, at the same price. For switches in any other finish, add \$0. 22 to list price. Mfrs. List \$0. 10.
${ }^{4}$ National Electrical Code Standard.

## PERKINS PULL SWITCHES

Ceiling Pull Switches


| $\begin{aligned} & \text { Li,ist } \\ & \text { No. } \end{aligned}$ | Description | Amperes |  | $\begin{gathered} \text { Carton } \\ \text { Quantity } \end{gathered}$ | Std.Pkg. | $\begin{aligned} & \text { Pk. } \\ & \text { Wt. } \\ & \text { l.bs. } \end{aligned}$ | Mifs. List leach | W. E <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & 125 \\ & \text { Colts } \end{aligned}$ | $\begin{gathered} 250 \\ \text { Volts } \end{gathered}$ |  |  |  |  |  |
| $2388^{-7}$ | Single Pole, solid | 10 | 5 | 10 | 30 | 20 | S1. 10 | \$18.40 |
| $2309{ }^{4}$ | Single Pole, slotted | 10 | 5 | 10 | 30 | 20 | $1 .(1)$ | 18.40 |
| $\underline{3} 384$ | Three-1'oint, solid. | 10 | 5 | 10 | 10 | 8 | 1.18 | 17.70 |
| $2310{ }^{4}$ | Three-Point, slotted | 10 | 5 | 10 | 10) | 8 | 1.1s | 17.70 |
| 23894 | Four-l'oint, solid.. | 5 | 2 | , | 5 | 4 | 1.18 | 2.17 |
| $2311^{4}$ | Four-l'oint, slotted. | 5 | 2 |  | 5 | 4 | 1.18 | 2.17 |
| *2390 ${ }^{4}$ | Blectrolier, 2-circuit, solid | $11)$ | 5 | 1 | 5 | 4 | 1.1N | 2.17 |
| *2312 ${ }^{\text {² }}$ | lilectrolier, 2 -circuit, slotted. | 10 | \% | , | 5 | 4 | 1.18 | 2.17 |
| *2395 ${ }^{2}$ | Electrolier, 3-circuit, solid.. | 10 | 5 | 1 | 5 | 4 | 1.1s | 2.17 |
| *2313 ${ }^{4}$ | Leletrolier, 3-circuit, slotten | 10 | 5 | 1 | 1 | 4 | 1.18 | 2.17 |
| $23916^{4}$ | 1)ouble Pole, solid. . . . . . . | 10 | 10 | 10 | 10 | 8 | 1.18 | 17.70 |
| $231.4{ }^{4}$ | I ouble Pole, slotted. . . . . | 10 | 10 | 10 | 10 | 8 | 1.15 | 17.70 |

Outside diameter of base is $2 \frac{7}{16}$ inches. Holes for supporting serews are spaced $1 \frac{23}{32}$ inches on centers.

## Wall Pull Switches

Schedule "H"

| Si | 10 | 5 | 10 | 30 | 20 | \$1.001\$18.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2547^{4}$ Single Pole, slott.ed | 10 | 5 | 10 | 30 | 20 | 1 (1) 18.40 |
| $2548{ }^{4}$ Three-P'oint, solid. | 10 | 5 | 10 | 10 | 8 | $1.1 N 1770$ |
| $2549^{4}$ 'Three-Point, slotted | 10 | 5 | 10 | 10 | 8 | 1.18 17.70 |
| $2550{ }^{4}$ lour-Point, solid. | 5 | 2 | 1 | 5 | 4 | 1. is 2.17 |
| $2560{ }^{4}$ [ ${ }^{\circ}$ our-Point, slotted | 5 | $?$ | 1 | 5 | 4 | 1.152 .17 |
| *25ti ${ }^{\text {a }}$ - Electrolier, 2 -circuit, solid | 10 | S | 1 | 5 | 4 | 1.152 .17 |
| *25tisa Lectrolier, 2-circuit, slotted | 10 | 5 | 1 | 5 | 4 | 1. is 2.17 |
| *25ti3 Lilectrolier, 3-circuit, solid. . | 10 | i | , | 5 | 4 | 1.182 .17 |
| *25ti+4 Electrolier, 3-circuit, slotted | 10 | i |  | J | 4 | 1.182 .17 |
| 25 ti5 ${ }^{4}$ Double Pole, solid. . | 10 | 10 | 10 | 10 | 8 | 1.1817 .70 |
| $2566 i^{4} \mid$ I ouble Pole, slotted | 10 | 10 | 10 | 10 | 8 | 1.18117 .70 |

Outside diameter of hase is $2 \frac{7}{16}$ inches. Holes for supporting serews are spaced $1 \frac{23}{32}$ inches on centers.

## Type "O'" Pull Switches

With $1 / 8$ Inch Cap
Schedule "H"
25154 |Single Pole.................. 10 | 5 | 10 | $30|12| \$ 1.30 \mid \$ 23.92$

| With 3/8 Inch Cap |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2473 \pm$ Single Pole | 10 | 5 | 10 | 30 | 12 | \$1.31)\$23.92 |
|  | 10 | 5 | 10 | 10 | 4 | 1.33123 .92 |
| 24754 lour-Point. | 5 | 2 | 10 | 10 | 4 | $1.30) 19.50$ |
| *2+76 ${ }^{4}$ 2-Circuit Electrolier. | 5 | 2 | 10 | 10 | 4 | $1.30) 19.50$ |
| *2 $277^{*} 3$-Circuit Electrolier. | 5 | 2 | 10 | 10 |  | $1.30) 1950$ |
| $\underline{2} 788^{4}$ I ouble Pole | 10 | 10 | 10 | 10 | 4 | $1.30) 19.50$ |
| $2479{ }^{4}$ 2-Speed F'an Motor. | 10 | 5 | 10 | 10 | 4 | 1.30) 19.50 |
| $2480{ }^{\text {a }}$ 3-Speed F'an Motor. | 10 | 5 | 10 | 10) | 4 | 1.30119 .50 |

With Hickey Cap

| $\begin{gathered} 4 \mathrm{Sin} \\ \hline 10 \end{gathered}$ |
| :---: |
| $2508{ }^{2}$ Threc-1 ${ }^{\text {P }}$ |
| $2510^{4} 2$-Circuit Electrolie |
| *2511* 3-Circuit Electrolie |
| 25124 Double I'ole |
| $2513^{4}$ 2-Speed Jan |

Note: The above switches are supplied with 10 feet of best quality linen cord. Extra cord, $\$ 0.03$ list per foct, Mfrs. List $\$ 0.01$
*Details of operation of switches given previously.

- National Electrical Code Standard.


No. 2301

20 AMPERES, SINGLE POLE

| List No. | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | Mifrs. List Each | $\begin{array}{r} \text { W. E. } \\ \text { List } \\ \text { per Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{23014}{ }^{\text {230 }}$ | Solid. | $3 \frac{9}{16}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 50 | 70 | \$1.90 | - $\$ 4.18$ |
| 23024 | Slotted. . . . . | $3 \frac{9}{16}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 50 | 70 | $1 .\left(\begin{array}{c}\text { ( }\end{array}\right.$ | 4.18 |
| 23034 | Solid, indicating. | $3 \frac{9}{16}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 50 | 70 | 2.00 | 4.40 |
| $2304{ }^{\text {4 }}$ | Slotted, indicating | $3 \frac{9}{16}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 50 | 70 | 2.00 | 4.40 |

10 AMPERES, DOUBLE POLE
Schedule " H "

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. Wt. Lhs. | Mfrs. <br> List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2445{ }^{\text {a }}$ | Solid. | 3 ins. | $2^{\frac{3}{16}}$ ins. | 10 | 50 | 45 | \$1.80 | \$33.12 |
| 2446 ${ }^{\text {a }}$ - | Slotzed. . . . . | 3 ins. | ${ }^{2} \frac{16}{16}$ ins. | 10 | 50 | 45 | 1.80 1.80 | \$33.12 33.12 |
| ${ }_{24448^{\text {® }}}{ }^{\text {a }}$ | Solid, indicating., | 3 ins. | ${ }^{2} \frac{3}{16}$ ins. | 10 | 50 | 45 | 1.90 | 34.96 |
| $2448{ }^{\text {® }}$ | Slotted, indicating | 3 ins. | $2 \frac{3}{16}$ ins. | 10 | 50 | 4.5 | 1.90 | 34.96 34.96 |

Any Switch on this page can be converted into a lock switch by removing the handle and substituting Universal Lock Attachment.

- National Electrical Code Standard.


# Westert Electric PERKINS SWITCHES 600 Volts 



Nio. 2232

3 AMPERES, THREE-POINT

| List No. | Description | Diam. of lase | Screws Spaced on Centers | Carton Quantity | stid. l'kg. | 1ks. Wit. lhs. | $\begin{aligned} & \text { Mifrs. } \\ & \text { List } \\ & \text { Lach } \end{aligned}$ | $\underset{\text { per }}{\underset{\text { Carton }}{\text { W. E. }}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22324 | Solid | 21/4 ins. | 112 ins. | 10 | 30 | 25 | \$0.70 | \$12.88 |
| 22314 | Slolted. | $21 / 4 \mathrm{ins}$. | 112 ins. | 10 | 30 | 25) | . 70 | 12.88 |

5 AMPERES, THREE-POINT

| 2179 ${ }^{\text { }}$ | Solid | $2 \frac{7}{16} \mathrm{ins}$. | $1{ }_{32}^{23} \mathrm{ins}$. | 10 | 50 | 25 | \$0.90 | \$16.56 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2100^{4}$ | Slotiod | $2 \frac{7}{16}$ ins. | $1{ }^{\frac{2}{3} \frac{3}{2}}$ ins. | 10 | 20 | 25 | . 00 | 16.56 |
| *2113 ${ }^{\text {4 }}$ | Indicating, solid | ${ }^{2} \frac{7}{16}$ ins. | $1{ }^{3 \frac{3}{3} 2} \mathrm{ins}$. | 10 | 50 | 25 | 1.00 | 18.40 |
| *2414* | Indieating, slotiod. | $2 \frac{7}{16}$ ins. | $1 \frac{13}{3} \frac{3}{2} \mathrm{ins}$. | 10 | 50 | 25 | 1.00 | 18.40 |
| 10 AMPERES, THREE-POINT |  |  |  |  |  |  |  |  |
| $2397{ }^{4}$ | Sulid | 3 ins. | $2{ }_{1}^{36}$ ins. | 10 | 50 | 45 | \$1.70 | \$31.28 |
| $2398{ }^{4}$ | Slotted | 3 ins. | ${ }^{2} \frac{3}{16}$ ins. | 10 | 50 | 45 | 1.70 | 31.28 |
| *2415 ${ }^{\text {4 }}$ | Indirating, solid | 3 ins. | ${ }_{-}{ }^{\frac{3}{86}}$ ins. | 10 | 50 | 45 | 1.80) | 33.12 |
| *2.416 ${ }^{4}$ | Indicating, slotted | 3 ins. | ${ }_{-2}{ }^{\frac{3}{6}}$ inss. | 10 | 50 | 45 | 1.80 | 33.12 |

* Those switches indicate "on" and "ulf."




Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Diam. of Buse | Screws Spaced on ("enters | Carton Quantity | $\begin{gathered} \text { Std. } \\ \text { Plkg. } \end{gathered}$ | Pkg. Wt. Ids. | Mfrs. List Fach | $\underset{\text { per }}{\underset{\text { List }}{\text { Carton }}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2181{ }^{\text {4 }}$ | Solid | $2 \frac{7}{16}$ ins. | $1 \frac{23}{3} \frac{3}{2}$ ins: | 10 | 50 | 25 | 80.76 | \$13.98 |
| $2028{ }^{4}$ | Slotter | $2{ }^{2} \frac{1}{16}$ ins. |  | 10 | 50 | 25 | . 76 | 13.98 |
| $2002{ }^{4}$ | Indieating, solid | $9 \frac{7}{16}$ ! $11 \times$ |  | 10 | 50 | 25 | 86 | 15.82 |
| $2068{ }^{4}$ | Indicating, slotted | $2 \frac{7}{16}$ ins. | $1 \frac{23}{3} \mathrm{ins}$. | 10 | 50 | 25 | 86 | 15.82 |
| $\dagger 10$ AMPERES, 2-CIRCUIT |  |  |  |  |  |  | Schedule "H" |  |
| $2409{ }^{\text {a }}$ | Solid | 3 ins. | $2{ }^{\frac{3}{14}} \mathrm{ins}$. | 10 | 50 | 45 | \$1.70 | \$31.12 |
| $2410^{\text {a }}$ | Slotted | 3 ins. | ${ }^{2} \frac{3}{16}$ ins. | 10 | 50 | 45 | 1.70 | 31.12 |
| $2411{ }^{\text {¹ }}$ | Indicating, solid. | 3 ins. | ${ }^{2} \frac{3}{16}$ ins. | 10 | 50 | 45 | 1.80 | 33.28 |
| $2412^{\text {A }}$ | Indicating, slotterd | 3 ins. | $2 \frac{3}{110}$ ins. | 10 | 50 | 45 | 1.80 | 33.28 |

$\dagger \dagger 15$ AMPERES, HEAT REGULATING
Schedule " H "

| $2079^{4}$ | So | $3 \frac{9}{16}$ ins. | $2 \frac{5}{16} \mathrm{ins}$. | 1 | 10 | 30 | \$3.10 | \$6.82 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2081* | Solid, indieating, 2-heat | $3 \frac{9}{16}$ ins. | $2 \frac{9}{16}$ ins. | 1 | 10 | 30 | 3.10 | 6.82 |

$\dagger$ These switches will break the eircuit without the use of an arlditional switch, and are especially adapted for use on street cars as heallight switches and to control the interiur lights.
ttThese Switches are used for the regulation of heat by different eombination* of the heaters.
Any Switch on this page can be converted into a lock switch by removing the handle and substituting Universal Iork Stlachment.

- National Electrical Code Standard.


Porcelain Cap Switches
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Diam. of Base | Screws Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | $\begin{gathered} \text { Mirs } \\ \text { List } \\ \text { Kach } \end{gathered}$ | W. E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2265{ }^{4}$ | 3 ampere, single pole. | $21 / 2$ ins. | $1 \frac{23}{3}$ ins. | 10 | 10 | 9 | 80.72 | \$10.80 |
| $2449{ }^{\text {* }}$ | 3 ampere, single pole, indicating | 21/2 ins. | $1{ }_{3}^{23}$ 23 ins. | 10 | 10 | 9 | . 82 | 12.30 |
| $2267{ }^{4}$ | 5 ampere, single pole | $21 / 2$ ins. | $1 \frac{23}{32}$ ins. | 10 | 10 | 9 | . 82 | 12.30 |
| $2450{ }^{4}$ | 5 ampere, single pole, indicating. | $21 / 2$ ins. | $1 \frac{23}{32}$ ins. | 10 | 10 | 9 | . 92 | 13.80 |
| $22188^{4}$ | 3 ampere, three-point. . . . . . . | $21 / 2$ ins. | $1_{3}^{23}$ ins. | 10 | 10 | () | . 82 | 12.30 |
| $2451{ }^{\text {c }}$ | 3 ampere, three-point, indicating . | $21 / 2 \mathrm{ins}$. | $1{ }^{\frac{23}{3}}$ ins. | 10 | 10 | 9 | . 92 | 13.80 |
| 2272 * | 5 ampere, three-point. . . . . . . . | $21 / 2$ ins. | $1{ }^{\frac{2}{3}}{ }^{\text {a }}$ ins. | 10 | 10 | 9 | 1.06 | 15.90 |
| 24524 | 5 ampere, three-point, indicating. | $21 / 2$ ins. | $1{ }^{3} \frac{3}{3}$ ins. | 10 | 10 | , | 1.16 | 17.40 |
| 22734 | 3 ampere, 2-circuit. . . . . . . . . . | $21 / 2 \mathrm{ins}$. | $1{ }^{\frac{2}{3} \frac{3}{2}}$ ins. | 10 | 10 | 9 | . 92 | 13.80 |
| $2453{ }^{*}$ | 3ampere, 2-circuit. indicating | $21 / 2 \mathrm{ins}$. | $1{ }^{\frac{3}{3} \frac{3}{3} \text { ins. }}$ | 10 | 10 |  | 1.02 | 15.30 |

The above switches cannot be supplied on slotted bases.

## FUSIBLE

Schedule " $H$ "

| 2077 | 3 ampere, S. P., indieating. | $31 / 2$ ins. | $1 \frac{15}{16}$ ins. | 1 | 10 | 1.5 | \$1.ti0 | \$3.52 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2277 | 3 ampere, s. P., indicating, brown porcelain. |  |  | 1 | 10 | 15 | 60 | 352 |
| 2078 | 3 ampere, 2-circuit | $31 / 2 \mathrm{ins}$. | $1 \frac{15}{16}$ ins. | 1 | 10 | 15 | 1.60 | 3.52 |
| 2278 | 3 ampere, 2-circuit, brown porcelain | $31 / 2$ ins. | $1 \frac{18}{18}$ ins. | 1 | 10 | 15 | 1.60 | 3.52 |

The above switches cannot be supplied on solid bases.

## Brown Porcelain Cap and Base



No. 2315

|  | Connections for Enclosed Fuses |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Description | Carton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mfrs. List Each | W. E. List per Carton |
| $2315{ }^{4}$ | 3 ampere, single pole, indicating | 1 | 25 | 18 | \$1.50 | \$3.30 |
| $2404{ }^{\text {4 }}$ | 3 ampere. 3 -point, indicating. . | 1 | 25 | 18 | 1.50 | 3.30 |
| $2405^{\text { }}$ | 3 ampere, 2 -circuit, indicating . | 1 | 25 | 18 | 1.50 | 3.30 |


|  |  | Enclosed Fuse |  | Schedule "E" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2316^{\text {a }}$ | 3 ampere enclosed fuse $3 \frac{3}{16}$ ins. long, $1 / 2$ inch diameter. | 25 | 100 | 7 | \$0.30 | \$8.85 |

The above switch prices do not include fuses. One fuse will be furnished with each switch, however, unless otherwise specified, and charge made for it at the regular price.

- National Flectrical Code Standard,


# Western Electric <br> SWITCHES 



Western Electric Switch


Showing the size of the small plate Which can be used with this switch as compared with the standard push button switch plate.


View Showing Mechanism

The Westarn Flertrie switch is the latest and most revolutionary improvement in switeh design. It combines convenience and nentorss with a positive long-wearing mechanisn.

The small neat lever, mobtrusively presenting itself through the flush switch plate, is the logical means of turning lights on or off. A flip up of the lever, lights, a flip down, extinguishes, both actions the most natural and logical and both the quickest in energency. The metal lever is thoroughly insulated from current carrying members by fiber discs.

There is no fumbling for the right button or twisting off the switch key, the lever is large enough to be found readily, yet smad enough not to protrude umecessarily. There can be nothing neater than a Western Electrie switch. Its eonstruction admits of a small compart mechanism, while the entire athsence of screw holes in the plate pernits of novel desigs or of matehing the dominant architectural fratures of the house. The Western Wilcetric switeh does more than lend itself to arehitectural design; it ornaments. The artistic effects and finishes possible winh the Wistern Flectric switch are not feasibl, with any other type of switeh.

The phosphor bronze spring will stand a far greater mumber of operations than switches of other types push button, phunger, cte. due to the peroliar mechanism, positive action, clean and rapid make and break. The direreting st rain of the mechanism eamot be changeri, and this adts to the longevity of this type of switch. This mochanism is completely huried in a solid porcelain container with ample roon for complete isolation of current carrying parts.

The Western Eleotrie switeh is furnished in single double pole, three-way, four-way, emergency, remote control, and two and three circuit dectrolier.

The Type A switch is for use with any standard outle box or wall case. The Type 13 is for use only with ontlet boxes and special Western lhertrie cower. The mechanism of both types of switches is exactly the same, the only difference boing the length of bridge. The Type $B$ switch has a short, bridge, which is neressary beeause of the ase of the smaller plates. The dimensions of porechain container is $21 / 4$ incles long, $15 / 8$ inches wide, and $17 / 8$ inches deep. The poredain is stamped "Underwriters laboratory inspection."

| List ㅊo. | Style | Capacity | Std. l’ikg. | W. E. <br> List <br> Price |
| :---: | :---: | :---: | :---: | :---: |
| 101 | Single pole. |  | 50 | \$1.10 |
| 102 | Double pole. | 10 amp. 125 volts | 30 | 1.70 |
| 103 | Three-wily | $\left\{\begin{array}{c}10 \mathrm{amp}, 125 \text { volts } \\ 5 \mathrm{amp}, 250 \mathrm{volts}\end{array}\right\}$ | 30 | 1.70 |
| 104 | Four-way | $\left\{\begin{array}{l}5 \text { amp. } 125 \text { volts } \\ 3 \text { amp. } 250 \text { volts }\end{array}\right\}$ | 10 | 4.40 |
| 105 106 | Fmergeney . . . |  | 10 | 4.40 |
| 107 | Two cireuit electrolier |  | 10 | 4.40 4.40 |
| 108 | Three circuit elatrolier | . | 10 | 4.40 |

Switches supplied in Type A for standarl plate aml Type IS for small plates. Aways specify number and full description when ordering.


Type A Standard


Type B Cast


Type B Oval


Type B Round-Solid

## Switch Plates

The switch plate for the Western Electric switeh is fastened in by means of a locknut which holds it in place semurely, and in order to complete the appearance of the contire devier the locknut is covered by a small round escutcheon. There are no unsightly serews or buttons to mar the appearance of the plate. On acerunt of the peculat mannor in which our plates are fastenel they can be set straight in the wall even if the boxes are not in straight. This is a decided advantage which the lack of serew holes gives us in aligning the plates when the boxes are not set quite siraight in the wall. With the push button type of switeh, the direction of the plate is the same as that of the box; that is to say, if the box is crooked the plate mont also be crooked.

A feature which appeals to the arehitect is the possibility of finishing the phate and the lever differently; for instance, a very attractive combination is a polished brass plate and a black lover or vice versa. This featare is capable of endless combinations and lends itself to almost any seheme of decoration.

The standarl finish of these plates is brush brass, but they can be furnished in any sperial finish specified.
The standard switch plates adapted for the WESTERN ELECTRIC switches are furnished in threesizes, the dimensions are as follows: Type A, $2^{3} \frac{1}{4} \times 41 / 2$ inches, Type $M, 25 / 8 \times 4$ inches, Type $B, 21 / 2 \times 35 / 8$ inches. The Type A plate will fit any stamdard outlet box or wall case in use at the present time. The Type M will fit all but a very few wall cases on the market. When used with standard outlet boxes, the sperial WeStern ELECTRIC cover must be specified. The Type l3 cannot be used with wall cases, but can be used with any standard outlet boxes and special WESTERN ELECTRIC cover. The Type M and B plates are considerathly smaller than the ordinary switeh plate.

## Plates

| $\begin{aligned} & \text { List } \\ & \mathrm{N} 0 \text {. } \end{aligned}$ | Letter | Shape | Size | Dimensions | Type | List I'rice per (bang |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Solid | Stamped |
| 201 | $A$ | Rectangular | Large |  | Stamped or solid | \$1.12 | S0. 019 |
| 20) 2 | M | Reretangular | Merlinm | $258 \times 4$ ins. | Stamped or solid | 1.12 | . 31 |
| $210: 3$ | 13 | Reetangular | Small |  | Solid or cast | 1.12 |  |
| 20.4 | 1) | Hoal |  |  | Solid or cast | 1. 110 |  |
| 20.5 | 12 | liound |  |  | Solisl | 1.50 |  |

Standard finish is brush brass. Special finishes supplied. I'rices on application.
Type A and Type M above three gang must be furnished in solid phates. Accordingly, the price of solid brass phates will apply on these sizes and above three gangs.

## COVER

The cover referred to above is known as the Suceial WESTERN Electric cover. 'The ohject of this cover is to enable the use of small plates. The opening is smaller than that of the stamdard outlet box cover. It is furnished in both galvanized and japanned finishes.

In addition to this special cover, the (rouse II inds ("o. have put on the market for use in connection with the WESTERN ELECTRIC Switch a special cover known as the sporial DS-25 condulet cover. This is furnished in both back and galvanized finishes.

SPECIAL COVER
W. E.

## Style

Sta. Pkg. List I'rice
One gang special eover , . . . . . . . . . . . . . . . . . . . . . . . 100 $\$ 0$. $\$ 0.40$
'lwo gang special cover . . . . . . . . . . . . . . . . . . . . . . . . 100 (6)

Three gang special cover. :.......................... 10 ,
90
These covers are furnished either galvanized or japained.
Condulet Cover

|  | Yeinch <br> Carton 25 |  | trimeh <br> Carton 25 | Pendent <br> Carton 25 | Yinnch Male <br> Carton 25 |  | 54-rinch Male <br> Carton 25 | Xinch Angle <br> Carton 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. 3618 <br> Carton 25 | Carton 25 | No. 3619 <br> Carton 25 | No. 3620 <br> Carton 25 | Carton 25 | Cartor 35 | No. 3777 <br> Carton 25 | No. 3757 <br> Carton 25 |
| Nio. 61 Key Socket <br> Carton 25 | No. 3664 <br> Carton 25 | No. 3770 <br> Carton 25 | No. 3665 <br> Carton 25 | No. 3666 <br> Carton 25 | No. 3682 <br> Carton 25 | No. 3778 <br> Carto: 25 | No. 3780 <br> Carton 25 | No. 3758 <br> Carton 25 |
| No 62 Keyless Socket <br> Carton 25 | No. 3667 <br> Carton 25 | No. 3771 <br> Carton 25 | No. 3668 <br> Cartot 25 | No. 3669 <br> Cirton 35 | No. 3781 <br> Carton 25 | No. 3779 <br> Carton 25 | No. 3683 <br> Carton 25 | No. 3759 <br> Carton 25 |
|  |  | Carton 10 | No. 5703 <br> Carton 10 |  | Certon 10 |  | No. 5893 |  |
|  |  |  |  |  |  |  |  |  |
|  | No. 6361 <br> Carton 10 | No. 6362 <br> Carten 10 | Carten 10 | No. 6364 <br> Carton 10 |  |  | No. 6367 <br> Cartor 10 |  |
| No. 66 Wall Switch <br> Carton 10 | No. 6376 <br> Carton 10 | No. 6377 <br> 4 <br> Carton 10 | No. 6378 <br> Carton 10 | No. 6379 <br> Carton 10 | No. 6380 <br> Carton 10 | No. 6381 <br> Cartan 10 | No. 6382 <br> Carton 10 | No. 6383 |


| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Car- tor | Std. <br> Pler |  | W. Li. Iist Per Cartom | List No. | Car- <br> ton | Std. Pks. | Mins. List Each | W. E. List Per Carton | İst No. | Car- <br> tos <br> 10 | Std. | Mirs. List Finch | W, 上, List Per. Carton | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Car- } \\ & \text { ton } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { W.E, } \\ & \text { List Per } \\ & \text { Carton } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | 25 | 200 | \$0.53 | \$34.25 | 378 | 25 | 100 | \$0.33 | \$17.50 | 5.183 | 10 | 20 | \$0.6t | \$13. 10 | 63, | 10 | 20 | \$0.60 | \$11.00 |
| 61 | 25 | 500 | . 26 | 1+25 | 37.59 | 25 | 100 | . 35 | 16. 00 | 57104 | 10 | 20 | . 60 | 11.10 | 6345 | 10 | 20 | 60 | 11.00 |
| 62 | 2.5 | 500 | . 23 | 12.75 | 3769 | 25 | 100 | 69 | 31.75 | 5734 | 10 | 20 | . 69 | 12.70 | 6366 | 10 | 20 | 69 | 12.70 |
| 63 | 10 | 50 | . 53 | 9.80 | 3770 | 25 | 250 | 42 | 23.00 | 5891 | 10 | 20 | . 60 | 11.00 | 6367 | 10 | 20 | 69 | 12.70 |
| 64 | 10 | 50 | . 68 | 10.80 | 3771 | 25 | 250 | . 39 | 21.50 | 5892 | 11) | 20 | 69 | 12.70 | 6368 | 10 | 20 | 65 | 12.00 |
| 65 | 10 | 50 | . 53 | 9.80 | 3775 | 25 | 250 | . 60 | 33, 00 | 58.3 | 14) | 20 | 69 | 12.70 | 6376 | 10 | 50 | 60 | 11.00 |
| 66 | 10 | 50 | . 53 | 9.80 | 3776 | 25 | 100 | . 69 | 31.75 | 6300 | 1) | 50 | 75 | 13.80 | 6337 | 10 | 20 | 69 | 12.70 |
| 3618 | 25 | 2.50 | . 10 | 33.00 | 377 | 25 | 110 | . 69 | 3175 | 6301 | 10 | 20 | . 4 | 15. 30 | 6378 | 10 | 20 | 66 | 12.10 |
| 3619 | 25 | 100 | . 66 | 30.25 | 3778 | 2.5 | 250 | . 42 | 23.00 | 63302 | 10 | 20 | 81 | 14.90 | 63.9 | 10 | 20 | 60 | 11.00 |
| 3620 | 25 | 250 | . 60 | $3: 3.00$ | 3759 | 25 | 280 | .39 | 21.50 | 63003 | 10 | 20 | . 75 | 13.80 | 6380 | 10 | 20 | 60 | 11.00 |
| 3664 | 25 | 500 | . 33 | 18.25 | 37.50 | 25 | 250 | . 42 | 23.0 (\%) | 63304 | 10 | 20 | . 84 | 15.50 | 6381 | 10 | 20 | . 69 | 12.70 |
| 3665 | 25 | 250 | . 39 | 21.50 | 3781 | 25 | 500 | .30 | 16.50 | 6*'55 | 10 | 20 | . 84 | 15.50 | 0382 | 10 | 20 | . 69 | 12.70 |
| 3666 | 25 | 560 | . 33 | 18.25 | 5702 | 10 | 50 | . 60 | 11.00 | 6.310 | 10 | 20 | . 65 | 12.00 | 6383 | 10 | 20 | . 65 | 12.00 |
| 3667 | 25 | 500 | . 30 | 16.50 | $1 / 8 \mathrm{in}$. | 25 | 500 | . 07 | 3.75 | 6361 | 10 | 20 | . 60 | 11.00 | 6403 | 10 | 20 | . 80 | 14.70 |
| 3668 | 25 | 250 | .36 | 19.75 | 1/in. | 95 | 330 | . 16 | 8.75 | 63342 | 10 | 20 | . 69 | 12.70 | 6427 | 10 | 20 | .75 | 13.80 |
| 3669 | 25 | 5140 | . 30 | 16.50 | 3\% in. | 25 | 250 | 13 | 7.25 | 6363 | 10 | 20 | . 66 | 12.10 |  |  |  |  |  |
| 3682 | 25 | 50) | . 33 | 18.25 | I'ch- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3683 | 25 | 2.50 | . 39 | 21.50 | dent | 25 | 500 | . 07 | 3.75 |  |  |  |  |  |  |  |  |  |  |
| 3757 | 2.7 | . 30 | . 65 | 30.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

HUBBELL "QUICK CATCH" SOCKETS AND PULL SWITCHES
Schedule "B" and "F"

| Y. Linch Angle <br> Carton 25 | Hriach Angle <br> Carton 25 | 8.inch Fixture <br> Carton 25 | $x$ Inch Fixture <br> Carton 25 | Sh-inch Angle Fuxture <br> Carton 25 | W. inch Angle Fisture <br> Carton 25 | Small Concealed Bate <br> Carton 10 | Small Conceated Coverea Bem Carton to |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. 3760 <br> Carton 25 | Carton 25 |  | Carton 25 | Carton 25 | Carton 25 | Carton 10 | No. 3734 <br> Carton M5 |
| No. 3761 <br> Carton 25 | No. 3764 <br> Cartor 25 | No. 3347 <br> Carton 25 | No. 3348 <br> Carton 25 | Nंo. 3353 <br> Carton 25 | No. 3354 <br> Carton 25 | ํ.. 3732 <br> Carton 10 | No. 3735 <br> Cartor 10 |
| No. 3762 <br> Carton 25 | No. 3765 <br> Carton 25 | No. 3349 <br> Carton 25 | No 3350 <br> Carton 25 | No. 3355 <br> Carton 25 | No 3356 <br> Carton 25 | No. 3733 <br> Carton 10 | No. 3736 <br> Cartor 10 |
|  |  |  |  |  |  | No. 5795 |  |
|  |  |  |  |  |  |  |  |
| No. 6369 <br> Carton 10 |  | No. 6371 <br> Carton 10 | $\begin{gathered} \text { No. } 6372 \\ \text { Carton } 10 \end{gathered}$ | No. 6373 <br> Carton 10 | No. 6374 <br> Cartón 10 | Carton 10 | No 5901 <br> Cartor: 10 |
| No. 6384 <br> \$ <br> Carton 10 | No. 6385 <br> Carton 10 | No. 6386 <br> $\dagger$ <br> Carton 10 | No. 6387 <br> Carton 10 | $\begin{gathered} \text { No. } 6388 \\ \square \end{gathered}$ <br> Carton 10 | No. 6389 <br> Carton 10 | No. 6096 <br> Carton 10 | No. 6097 <br> Carton io |


 forit list. Mirs. Iist Solu. Th: stnu no the fixture cans and fixture sockets listod above are deaigned so arcommodato Zinch, $/ 4$ inch and es inch fixure strut.s.

## HUBBELL "QUICK CATCH" SOCKETS AND PULL SWITCHES



| Surface Wiring Base <br> Cartan 10 | Wood Moulding Base Carton 10 | Condulet <br> Base <br> Carton 10 | Carton 10 |  | Two-Way National Rase <br> Cartan 10 | Concealed <br> Roselte Pase* <br> Carton 10 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No 3885 <br> Carton 10 | No. 3888 <br> Carton 10 |  |  | No. 3855 <br> Carton 10 | No. 3858 <br> Carton 10 |  |  |
| No. 3886 <br> Carion 10 | No. 3889 <br> Carton 10 |  | No 3747 <br> Carton 10 | No. 3856 <br> Carton 10 | No. 3859 <br> Carton 10 | No, $3738^{\circ}$ <br> Cartan 10 |  |
| No. 3887 <br> Carton 10 | No. 3890 <br> Cartan 10 |  | No. 3748 <br> Carton 10 | No. 3857 <br> Carton 10 | No. 3860 <br> Cartan 10 | No 3739* <br> Cation 10 |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Carton 10 | No. 6030 <br> Carton 10 |  |  | No. 59.12 <br> Carten 10 | No 5943 <br> Cartun 10 |  |  |
|  | No. 6391 <br> Cumen: 10 | No. 6392 <br> Corten 10 | Canten 10 | No. 6394 <br> Catom 10 | No 6395 <br> Catton 10 | Cartor 10 |  |


| List <br> No. | Car- | Std. | $\begin{aligned} & \text { Mfrs, } \\ & \text { List } \\ & \text { Harh } \end{aligned}$ | W. . $\%$ List per Cirtosi | List No. | Car- | Std. Pkg. | Mfrs. <br> List <br> Wach | H. Ji <br> list per <br> (arton | List No. | Car- | Strd. | Mfrs. List Janh | W. bi. List per ('artom | List No. | Car- | Std. l'kg. | Mfrs. List Fach | $\overline{W^{\prime} . E}$ <br> List per $\qquad$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3 \overrightarrow{37}$ | 111 | 211 | \$1.111 | \$20.20 | 3585 | 10 | 1019 | \$1.76 | \$1ti, 70 | 6029 | 111 | 211 | 80.76 | 81.521 | 6i3.12 | 10 | 20 | \$1.11 | 8.4 .20 |
| 3738 | 111 | 101 | . 75 | 1650 | 38515 | 10 | 250 | . 419 | 11) 80 | 6030 | 111 | $\stackrel{11}{ }$ | .71 | $14.20)$ | 6398 | 111 | 20 | 76 | 15.20 |
| 3739 | 10 | 50 | . 72 | 1320 | 3857 | 10 | 250 | 410 | 1010 | 6031 | 111 | 21 | .71 | 14.20 | fix 314 | 10 | 21) | 71 | 14.211 |
| 3740 | 10) | 20 | 1.10 | 2020 | $38 \times 8$ | 10 | 100 | 71 | 150 | 6347 | 10 | 211 | . 71 | $15: 30$ | $66^{3} 45$ | 111 | 20 | . 71 | 14.211 |
| 3741 | 10 | 1011 | . 75 | 16 51) | 3849 | 10 | 2511 | 41 | 970 | 6348 | 10 | 211 | 71 | 1420 | ${ }^{\text {ti393 }}$ | 111 | 10 | 1.02 | 16.32 |
| 3742 | 10 | is | .-2 | $13: 3$ | $3 \times 90$ | 10 | 250 | 11 | 9 (1) | 6319 | 10 | $\cdots 1$ | 71 | 14.211 | 6396 | 10 | 10 | 1.32 | 1632 |
| 3746 | 111 | 31 | .76 | 14 | 3< 311 | 10 | 100 | 71 | 1i. till | 63.50 | 11 | 21 | 7 it | $15 \cdot 3$ | 6119 | 10 | 20 | 91 | 18.8 |
| 3747 | 10 | 100 | .49 | 1010 | 3<! | 10 | 250 | 41 | 971 | 63.51 | 111 | 21 | 71 | 14.20 | $62{ }^{2} 1$ | 16 | 20 | 86 | 17.2\% |
| 3718 | 10 | 1110) | .46 | 1080 |  | 10 | 2501 | 41 | 0 (11) | 63.52 | 111 | 211 | i1 | 14.29 | 612\%1 | 10 | 20 | $8{ }^{2}$ | 1720 |
| 385.5 | 10 | 100 | .71 | 15 tit) | 511 3 | 10 | 20 | 1113 | 2110 | 63.33 | 111 | 111 | 1112 | 1632 | (it) ${ }^{\text {a }}$ | 111 | $21)$ | 91 | 18.24 |
| 38.56 | 10 | 2.50 | .44 | 973 | 5918 | 10 | 20 | 1.12 | 20110 | 6331 | 111 | 111 | 1112 | 1fi32 | (6, $\mathrm{S}^{2} 3$ | 111 | 20 | 86 | 1720 |
| $3 \times 57$ | 111 | 250 | . 41 | 9 NO | $5!19$ | 19 | 20 | .71 | 1420 | 6375 | 111 | 211 | 7\% | $15 \%$ | (it? | 111 | 20 | . 86 | 1720 |
| 3858 | 10 | 100 | .71 | 15 m | 5943 | 10 | 20 | .71 | 14.20 | 6390 | 111 | 211 | . 70 | 1.30 | 6.426 | 14 | 10 | 1.02 | 1432 |
| 3859 | 10 | 250 | . 44 | 9.70 |  |  |  |  |  | 6391 | 10 | 211 | 71 | 14.20 | (i)28 | 111 | 10 | 1.17 | 18.2 |
| 3860 | 10 | $2^{\text {in }}$ | .41 | 9 (1) |  |  |  |  |  |  |  |  |  |  | 6429 | 111 | 10 | 1.17 | 18.72 |

 threaded shells. For special finishes see listing elsewherr-

For prices of socket harls sep listing elsewhere. Soeku-furnished with chsins owep ineches in length except ceiling and rosette, add to list ner foot \$0.22. Mfrs. List \$0.10.

|  | Three Wire Moulding Base ${ }^{0}$ <br> Carton 10 | Smatl Covemed Ceiling Base: <br> Carton 10 | Insulated Ceiling Rase 31/' Outes Box <br> Carton 10 | Large Covered Ceiling <br> Ba파 <br> Cartan 5 | Insulated Ceiling Base $4^{\prime \prime}$ Outlet Box Carton 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. $3743^{\circ}$ <br> Carten 10 |  | No. 3749 <br> Carton 2 | No. 3750 <br> Cartor: 2 |  | $\text { No. } 3880$ <br> Carton I |
|  | No. $3548^{*}$ <br> Carton 10 | No. 3751 <br> Cartom 2 | No. 3752 <br> Cartor 2 | No. 3878 <br> Cartor: 1 | No. 3881 <br> Carton 1 |
| No. $3745^{*}$ <br> Carton 10 |  | No. 3753 <br> Carton 2 | No. 3754 $\qquad$ <br> Cartars 2 | No. 3879 <br> Carten 1 | No. 3882 <br> Carton 1 |
|  |  |  |  | No. $\$ 359$ | No. 5360 |
|  |  |  |  | No. 6434 |  |
|  |  | No. 5905 <br> Cartun 2 | No. 5!06 <br> Carton 2 |  | No. 5950 <br> Carton 1 |
|  |  |  |  | No. 6401 <br> Cartan I | No. 6402 <br> Cartun 1 |


| I.ist No. | Car- | Std. <br> I'kg. | M!1"s. Farh | W, E. <br> list per <br> Cirton | İist No. | Car- <br> tor | Std. <br> Pkg. <br> 10 | $\begin{aligned} & \text { Mlrs. } \\ & \text { list } \\ & \text { Earht } \end{aligned}$ | W. E. List per Curton | Inst <br> Nor. | Car- <br> ton | $\begin{aligned} & \text { Std. } \\ & \text { I'kg. } \end{aligned}$ | $\begin{aligned} & \text { Mars } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | W. E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3547 | 10 | 20 | \$1.10 | \$20.20 | 3882 | 1 | 100 | 88.100 | \$1.98 | (6.3131 | 1 | 20 | \$1.20 | \$2.76 |
| 35.48 | 10 | 100 | . 75 | 16.5!) | 5901 | 10 | 20 | 1.02 | 20.40 | 6331S | 10 | 10 | 1.02 | 16.32 |
| 3549 | 10 | 50 | . 72 | 13.20 | 500)5 | 2 | 20 | . 90 | 4.14 | 63399 | 2 | 24 | . 10 | 4.14 |
| 3743 | 10 | 20 | 1.10 | 20.20 | 5906 | 2 | 20 | (1) | 4.14 | $6 \pm 10$ | $\cdots$ | 201 | . 90 | 4.14 |
| 3744 | 111 | 100 | . 75 | 16.5!) | l3ase |  |  |  |  | $6 \pm 11$ | 1 | $\because 11$ | 1.20 | 2.76 |
| 3745 | 10) | 50 | .72 | 13.20 | '1wo-wire | 1() | 50 | 49 | 9.00 | 6402 | 1 | 10 | 1.20) | 2.76 |
| 3749 | $\stackrel{3}{2}$ | 50 | 1.00) | 4.40 | 'llhreewirt | 10 | 50 | .49 | 9.00 | ( 4330 | 10 | 111 | 1.17 | 18.72 |
| 3750 | 2 | 51) | 1.10 | 4.40 | Smadl covel | $11)$ | 100 | . 37 | S. 10 | 6.431 | 111 | 10 | 1.17 | 18.72 |
| 3751 | 2 | 100 | (13) | 2.78 | 5919 | 1 | 20 | 1. 20 | 2.76 | 64:32 | 2 | 201 | 1.05 | 4.83 |
| 3752 | 2 | 100 | . 63 | 2.78 | 5) 9 5! | 1 | 20 | 1.20 | 2. 76 | (i):3\% | 2 | $21)$ | 1.05 | 4.83 |
| 3753 | 2 | 100 | . 60 | 2.64 | 6026 | 10 | 20 | 1.02 | '1) 40 | 15131 | 1 | 20 | 1.35 | 3.10 |
| 3754 | 2 | 100 | 60) | 2.64 | 6:35.5 | 10 | 10 | 1.02 | 16.32 | 12436 | 1 | 20 | 1.35 | 3.10 |
| 3877 | 1 | 50 | 1.30) | 2. 86 | 6.356 | 10 | 10 | 1.02 | 16.32 | Pase |  |  |  |  |
| 3878 | 1 | 100 | . 93 | 2.05 | 03357 | 2 | 211 | . 90 | 1. 14 | Insulateal | 10 | 100 | . 37 | 8.10 |
| 3879 | 1 | 100 | . 90 | 1.88 | 63.358 | 2 | $21)$ | . 90 | 4.14 | Covd. ceil. | 5 | 110) | . 67 | 7.35 |
| 3880 | 1 | $51)$ | 1.34 | 2.86 | 6359 | 1 | 20 | 1.20 | $\stackrel{3}{2} 76$ | Ins. ceiling. | 5 | 100 | .67 | 7.35 |
| 3881 | 1 | 10t) | . 93 | 2.05 |  |  |  |  |  | 硣 |  |  |  |  |

Ceiling and Rosette sockets with chainsover 18 in. in length, udd to list per ft. $\$ 0.23$. Mfrs. List \$0. 10 . All pullswitches are equipped with short chain 6 ft. linen corl an i No 5919 Adjustable Acorn, extra cori 80.02 per ft. Jist. Mfrs. hist $\mathbf{\$ 0 . 0 1}$. For listing of separate caps and bases see elsewhere.

| National <br> Electrical Code Szandard Pull Sockets 250 Walis. 250 Volta <br> Key Sorkets 250 Watts 260 Voles Keyless Snckets <br>  AllPultSwitches 3 Amperes, 175 Volt 1 Ampere. 200 Volt |  | Sinch <br> Cartom 25 | $34 \text {-inch }$ $\text { Carton } 25$ |  | stinch Male <br> Garton 25 | 8 -inch Mate <br> Carton 25 | Y-inch Male Carton 25 | Xinch Angle Carton 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. 3821 <br> Cartos 25 | No. 8823 <br> Carton 25 | No. 3826 <br> Cartan 35 | No. 3210 <br> Carton 25 | No. 3851 <br> Carton 25 | Carton 25 | No. 3212 <br> Carton 25 | Carton 25 |
| No. 71 Key Socket <br> Carton 25 | No. 3822 <br> Cartor 25 | No. 3824 <br> Carton 25 | No. 3827 <br> Carton 25 | No. 3213 <br> Carton 25 | No. 3852 <br> Carton 25 | No. 3214 <br> Carton 25 | $\text { No. } 3215$ <br> Carton 25 | No. 3843 <br> Carton 25 |
| No. 72 Keyless | No. 3756 <br> Carton 25 | No. 3825 <br> Carton 25 | No. 3828 <br> Carton 25 | No. 3216 <br> Carton 25 | No. 3853 <br> Carton 25 | No. 3217 <br> Certon 25 | No. 3218 <br> Carton 25 | No: 3844 <br> Carton 25 |
| No. 73 KeylessShort <br> Carton 25 | No. 3899 <br> Carton 25 | No. 3900 $\text { Carton } \widehat{25}$ | No. 3901 <br> Carton 25 | No. 3902 <br> carton 25 | No. 3903 <br> Carton 25 | No. 3904 <br> Carton 25 | No. 3905 <br> carton 25 | No. 3906 <br> Carton 25 |


| List No. | $\begin{aligned} & \text { Car- } \\ & \frac{10 n}{0=} \end{aligned}$ | $\begin{array}{r} \text { Std. } \\ \mathrm{I}^{\prime} \mathrm{k} g . \\ \hline \end{array}$ | Altis. <br> List <br> Farch | $\begin{aligned} & \text { W. W } \\ & \text { List Fer } \\ & \text { (irton } \end{aligned}$ | $\begin{aligned} & \text { Iist } \\ & \text { No. } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Car } \\ & \frac{1011}{02} \end{aligned}$ | sid. $\mathrm{I}^{\prime k g} \text {. }$ | $\begin{aligned} & \text { Mirs. } \\ & \text { J.ist } \\ & \text { E:nch } \\ & \hline \end{aligned}$ | $\begin{array}{r} \text { W, Fi. } \\ \text { 1,ist I? } \\ \text { C'nrton } \end{array}$ | Iist <br> No. | $\begin{aligned} & \text { Car } \\ & \text { torn } \end{aligned}$ | Std. Pkr. | Mfrs. Jist kiach | W. $\%$ List Per <br> Cartom |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 70 | 25 | 250 | 50.5 | \$29. ${ }^{5}$ | 3218 | 25 | 2.01 | \$0.39 | \$21.50 | 38.1 | 25 | 2 E 210 | \$0.40 | \$.5.t.19 |
| 71 | 25 | 500 | . 26 | 12.75 | 37 ta | 25 | 510 | . 30 | 14. 30 | 385 | 25 | S! 10 | . 33 | 14. 25 |
| 78 | 45 | 500 | .03 | 12.75 | 3821 | 25 | 250 | . 110 | 333.00 | $3 \times 8.3$ | 25 | S14 | . 30 | 16.50 |
| 73 | 25 | 500 | . 3.3 | 12.75 | 38:2 | 25 | 510 | . 3313 | 15.25 | 359! | $\underline{25}$ | $510)$ | . 30 | 16. 50 |
| 3210 | 25 | 250 | . 30 | 33. (10) | $3 \times 23$ | 25 | 1(x) | .199 | 31.75 | : 39010 | 25 | 250 | . 39 | 21.50 |
| :2311 | 25 | 110 | . 19 | 3N. (17) | 3824 | 2.5 | 250 | . 4 | 23.00) | 3901 | 25 | 2511 | . 36 | 19.75 |
| 5012 | 2.5 | 100 | . 99 | 38.010 | $3 \times 25$ | 2.5 | 2.30 | . 319 | 21.51 | 3902 | 25 | 511) | . 31 | 10.50 |
| :3213 | 25 | 5 SO | .33 | 18.35 | $3 \times 26$ | 2.3 | 101 | . 1,6 | 30) 25 | 35010:3 | 25 | Fill | . 30 | 11.50 |
| 3211 | 2.5 | 250 | . 42 | 2:3. (1) | :3:7 | 2.0 | 200 | . 31 | 21.81 | :391\% | 25 | 2.51 | . 39 | 21.50 |
| 3215 | 25 | 250 | 42 | $2: 3$ (11) | 38.8 | $\because$ | 2.50 | Sti | 19\% | 390.5 | 25 | 2511 | . 39 | 21.50 |
| : $3: 117$ | 25 | 314 | . 30 | 16. $\mathrm{F}^{\text {a }}$ ) | $3 \times 12$ | 25 | 50 | (15) | :30.00) | 33015 | 25 | 130 | . 35 | 15.00 |
| $3: 17$ | 20, | 2.910 | . 31 | 21.71) | 3843 | 25 | 1(6) | \% | 17.50) | 18 in male | 23 | 30 | . 07 | 3.25 |
| 1s in. cap | 25 | 5110 | . 07 | 3.75 | $3 \mathrm{3N4}$ | 25 | 1(x) | 3 | 16.00 | $1{ }^{1}$ in. matr | 25 | 50 | . 16 | 7.25 |
| l'in. cap | 25 | 1100 | $1 ;$ | 7.25 | 3\% in. cap | 25 | 250 | 13 | $7.2 \overline{5}$ | 3 in mate | 5 | 50 | . 16 | 7.25 |

For special finishes bee listing elsewhere Ali semarate pull sorket bortios equipped with 8 inch chains. For listing of separate clectrolier capb and bases see elsewhere. "()uick Catch" deviees supplied with threaled shells.

SEPARATE CAPS, BASES AND BODIES FOR STANDARD "QUICK CATCH" DEVICES

| $\begin{aligned} & \text { Tist } \\ & \text { No. } \end{aligned}$ | Descrintion | $\begin{aligned} & \text { ('ar- } \\ & \text { ton } \\ & \hline \end{aligned}$ | Strl. <br> Pkr. | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Fiach } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { W. Fi, } \\ & \text { List I'er } \\ & \text { C'arton } \end{aligned}$ | $\begin{aligned} & \text { Kist } \\ & \text { No. } \end{aligned}$ | Deseription | $\begin{gathered} \text { Car- } \\ \text { ton } \end{gathered}$ | Std. 1'kis. | Mifs <br> 1.is" <br> Each | $\begin{gathered} \text { W. W. } \\ \text { Inist I'er } \\ \text { curton } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | Pullsocket hods, 8 in. chain. |  |  |  |  | 2 | Thathale fixture eapy | 2.5 | 50 | 80.21 | 89.75 |
| 79 | chaill <br> Pull socket body, 18 | 2.) | 250 | \$0.5.3 | 329.25 | 25 20 20 | Small conceated basm. | 111 | 250 | 18 | 4.00 |
|  | in. chain......... | 25 | 250 | . 61 | 33. 50 | 26 | smat cowered eon | 111 | 250 | 28 | 6. 20 |
| 61 | K'y socket borly | 25 | 500 | . 24 | 14.25 | 27 | Surfate wiring base | 111 | 2501 | .23 | 5.10 |
| 62 | Furloss socket hody. . | 25 | 500 | 2:3 | 12.75 | 28 | Wood mombling bise | 111 | 1(1) | 18 | $4.10)$ |
| 63 | Pendent pull switeh |  |  |  |  | $\because 9$ | 位in. condulet buse. | 111 | 250 | 18 | 4.00 |
|  | Fixture pull Switch | 25 | 50 | .53 | 24.50) |  | Angle concealed hase. | 111 | 110 | . 23 | 5.11 |
| 64 | Fixture pull switch borly. | 25 | 50 | ,68 | 31.25 | 31 32 | Onc-way National base Two-way National | 11 | 2 EO | . 18 | 4.00 |
| 65 | Rosctte puld switch |  |  |  |  |  | base . . . . . . . | 111 | 2.50 | . 18 | 4.00 |
|  | brody in . . . . . . | 25 | 50 | - 3.3 | 24.50 | 33 | Concealedrosettebase. | 111 | 50 | . 49 | 9.06 |
| 111 | Wall pull switch bowly. | 25 | 50 | .i.3 | 21.50 | 34 | C leat rusette base | 10 | 50 | .49 | 9.00 |
| 112 | 1/8 in. cap. . . . . . . . . . | 25 | 500 200 | 197 117 | 3.75 8.8 8.5 | 35 | Twowire moulding |  |  |  |  |
| 13 | $3,8 \mathrm{in}$ cap | 25 | 250 | 113 | 78 | 36 | Thasede-wire moviding | 10 | 50 | 49 | 9.00 |
| 14 | Pendent cap | 25 | 500 | .07 | 3.75 |  | base. | 10 | 50 | 49 | 9.00 |
| 15 | 1/8 in. nale thread cap. | 25 | 100 | .117 | 3.75 | 37 | Small covered ceiling | 10 | 5 | 19 | 9.10 |
| 16 | 1/4, in. male thread rap. | 25 | 50 | $11 i$ | 7.25 |  | baso........... | 10 | 100 | 37 | 8.10 |
| 17 | $3 / 8 \mathrm{in}$, mate thread cap. | 25 | 250 | $11 i$ | 8.75 | 38 | Insulated cealing base |  |  |  |  |
| 18 | 1/8 in. angle cap. . . | 2.5 | 100) | 111 | $5.51)$ |  | for 31/4 in: ontlet |  |  |  |  |
| 19 20 | 1/4 in. angle cap. | 2.3 | 100 | $\therefore!$ | 9.75 |  | boxes. . . . . . | 10 | 100 | . 37 | 8. 111 |
| 20 21 | $3 / 8$ in. angle cap. | 2.3 | 109 | 1s | 8.25 | 39 | Large covered coiling |  |  |  |  |
| 21 22 | 1/k in. fixture cap. | 2. | $1(1)$ | $1: 3$ | 6.00 |  | bate. ${ }^{\text {a }}$. . . . | 5 | 100 | 37 | 7.35 |
| 22 23 | $1 / 4 \mathrm{in}$. fixture cal. $1 / 8 \mathrm{in}$ angle fixture cap | 2\% | 11910 | 16 | 7.25 | 40 | Insulated ceiling base |  |  |  |  |
|  |  | 2.8 |  |  | 8,2\% |  |  | ; | 100 | . 67 | 7.35 |


| W-inch Angle <br> Carton 25 | H-inch Angle Carton 25 | 3-inch Fixture Carton 25 | W.inch Fixture Carton 25 | 3/ inch Angle Fixture <br> Carton 25 | 4-inch Angle Fixture <br> Carton 25 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Carton 25 | Carton 25 | $\text { No. } 3357$ <br> Carton 25 | $\begin{gathered} \hline \hline \text { No. } 3358 \\ \text { ? } \\ 0 \\ 0 \end{gathered}$ $\text { Carton } 25$ | Carton 25 |  |
| No. 3846 <br> Carton 25 | No. 3849 <br> Carton 25 | No. 3359 <br> Carton 25 | No. 3360 <br> Carton 25 | No. 3365 <br> Carton 25 | No. 3366 Carton 25 |
| No. 3847 <br> Carton | No. 3850 <br> Carton 25 | No. 3361 <br> Carton 25 | $\text { No. } 3362$ <br> Carton 25 | No. 3367 <br> Carton 25 | No. 3368 <br> Carton 25 |
| No. 3907 <br> Carton 25 | No. 3908 <br> Carton 25 | No. 3909 <br> Carton 25 | No. 3910 <br> Carton 2 s | No. 3911 <br> Carton 25 | No. 3912 <br> Carton 25 |

"QUICK CATCH"AND PRESTURN SOCKETS AND PULL SWITCHES WITH PORCELAIN STRAIN RELIEF BUSHING


No. 3404

| Schedule "B") |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| "(Yuick list No. | $\left\|\begin{array}{c} \text { P'res- } \\ \text { turn } \\ \text { List No. } \end{array}\right\|$ | Description | Std. Pkr. | M1fs. <br> , hist <br> I'rice | $\begin{aligned} & \text { W.E. } \\ & \text { Cartor } \end{aligned}$ |
| 5.5 | 148 | *Pendent cas only. | 510 | 80.07 | \$3.75 |
| 344 | 3401 | *Pull socket. . | 2.51 | 60 | 33.00 |
| 3405 | 3402 | *Key socket. | 500 | 33 | 17.50 |
| 3406 | 3173 | *ieyless socket. | 500 | 30 | 14.00 |

*Carton, 25

| \$i.57\% | Schedule |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | *'ciling pull switeh...... | 20 | 87.60 | \$12.00 |
| 6.577 | (th) 1 | *Fixture pull switch... | 20 | 75 | 15.00 |
| 85878 | $65{ }^{\text {6 }}$ : | *Rosette pull switch..... | 20 | 60 | 12.00 |
| 6in) 9 |  | $\underset{\text { suiteh }}{6}$ | 20 | 60 | 12.00 |

Carton, 10.
These socket caps interchange with all standard "(uick Cateh" and Presturn devices.
Electrolier Sockets

| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | Schedule | Carton | Sted. Pkg. | Mfrs. List Each | W. E. $\begin{gathered}\text { List per } \\ \text { Carton }\end{gathered}$ (S0. | List <br> No. | Scinedule | ('urton | Stu. I'にな. | Mifs. <br> 1.ist <br> Each | W.E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3:357 | B | 25 | 100 | \$0.66 | \$30.25 | 3848 | 13 | 25 | 50 | \$0.71 | \$32.75 |
| 3:358 | B | 25 | 100 | . 69 | 31.75 | 3849 | I3 | 25) | 100 | 44 | 20.25 |
| 33359 | 13 | 25 | 250 | 39 | 21.50 | 38.50 | 13 | 2 | 100 | 41 | 18.75 |
| 33360 | I | $\because 5$ | 250 | . 42 | 23.00 | 39017 | 13 | 25 | 100 | . 41 | 20.25 |
| 3361 | B | 25 | 250 | . 36 | 19.75 | 3908 | I3 | 25 | 100 | . 41 | 18.75 |
| 3362 | B | 25 | 250 | . 39 | 21.50 | 3909 | 13 | 2.5 | 250 | . 36 | 16.50 |
| 3363 | B | $\underline{25}$ | 50 | . 71 | 3275 | 3910 | 13 | 9.5 | 2517 | . 39 | 18.50 |
| 33364 | I3 | 25 | 50 | . 71 | 34.00 | 3911 | 13 | 25 | 110 | .41 | 18.75 |
| 3365 | 13 | 25 | 100 | . 4.4 | 20.25 | 3912 | 13 | 25 | 100 | . 44 | 20.25 |
| 3366 | 13 | 25 | 100 | . 17 | 21.50 | 1 if in. angle | I3 | 25 | 0 | 21 | 22.25 |
| 33367 | B | 25 | 100 | . 41 | 18.75 | $3 / 8 \mathrm{in}$, angle | B | 95 | 50 | 18 | 8.25 |
| 33.368 | 13 | 25 | 100 | 4.4 | 20.25 | 1/8 in. fixture | 13 | 25 | 50 | 13 | 6.00 |
| 3845 | 13 | 25 | 50 | . 74 | 34.00 | 1/i in. fixture | 13 | 25 | 50 | 16 | 7.25 |
| 3846 | B | 25 | 100 | .47 | 21.50 | 1/8 in. angle | 13 | 25 | 50 | 18 | 8.25 |
| 3847 | 13 | 25 | 100 | . 44 | 2025 | 1/2 in. angle | 13 | 25 | 50 | 21 | 9. 75 |

The steps on the fixture caps listed alove are designed to acommondate $5 / 8,3 / 4$ and sockets with chatins over 8 inches in length. add to list per foot $\$ 0.10$, W. W. I.ist, so.s2.

SEPARATE CAPS AND BODIES FOR ELECTROLIER "QUICK CATCH" DEVICES

| List No. | Description |
| :---: | :---: |
| 70 | * Pull socket body . |
| 71 | *Key sockut body |
| 72 | * Veyless sucket borly |
| 73 | *Keyless socket body, shart shell. |
| 41 | *1/8 in. cap.... |
| 42 | *1/4 in. cap. |
| 43 | *3/8 in. cap.. |
| 44 | * Pendent cap |
| 45 | * $1 / 8$ in. male thread cap. |
| 46 | * $1 / 4$ in. male thread cap. |
| 47 | *3/8 in. nuale thread cap. |
| 48 | *1/8 in. angle cap. . . . . |
| 49 | *1/4 in. angle cap. . . . . . . . . . . . |
| 50 | *3/8 in. anrle (inp. . . . . . . . . . . . . |
| 51 | * $1 / 8 \mathrm{in}$. fixture cap. |
| 52 | * $1 / 4$ in. fixture cap. |
| 53 | *1/8 in. ancle fixture cap. |
| 54 | *1/4 in. anyle fixture cap. . |

PARTS OF SOCKETS

|  | Schedule "B' |  |  |
| :---: | :---: | :---: | :---: |
| Description | StI. Pkg. | Mfrs. List Each | W. E List per Carton |
| shells, key, without | 250 | \$0.071/2 | \$0.17 |
| Shelle, keyless, without linings. . . . . | 2.50 | . 07112 | . 17 |
| Shells, pull, without linings | 250 | . 07112 | . 17 |
| Caps, $1 / 8$ in., without linings | 250 | . 06112 | . 15 |
| Caps, $1 / 4 \mathrm{in}$., without linings | 250 | . $151 / 2$ | . 33 |
| Caps, $3 / 8$ in., without linings. | 250 | . $121 / 2$ | 27 |
| Caps, pendent, without linings | 250 | . $061 / 2$ | 15 |
| Lininges, shell, all kinds. . . . | 250 | . $021 / 2$ | 06 |
| finings, cap, all sizes. | 250 | . $001 / 2$ | 01 |
| Interiors, pull, without chain or eyelet | 250 | . 30 | 66 |
| Interiors, pull, with chain, acorn and evelet. | 250 | .43 | 95 |
| Interiors, key | 250 | . 16 | 35 |
| Interiors, kes, 660 watts. | 250 | . 19 | 1.01 |
| Interiors, keyless. | 250 | . 13 | 68 |

KEYLESS SOCKETS

| 35053 | Keyless, $1 / 8$ in. cap | 25 | 127 | 500 | \$0.30 | \$16.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 3768 \\ \hline \end{array}$ | Keyless, $1 / 4 \mathrm{in}$. cap | 25 | 65 | 250 | . 39 | 21.55 |
| 35054 | Keyless, $3 / 8 \mathrm{in}$. cap | 25 | 65 | 250 | . 36 | 19.75 |
| 35055 | Keyless, pendent cap | 25 | 135 | 500 | . 30 | 16.50) |

## 660 Watt Key Sockets "QUICK CATCH" AND PRESTURN SHELLS

| Quick Catch" List No. | Presturn List No. | Description | Carton | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \\ & \hline \end{aligned}$ | Std. Pkg. | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Each } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { W. E. } \\ \text { per } \\ \text { Carton } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 75 | 89 | Socket body | 25 | 100 | 500 | \$0.29 | \$16.00 |
| 3300 | 3110 | Socket, $1 / 8$ in. cap | 25 | 135 | 500 | . 36 | 19.75 |
| 3301 | 3141 | Socket, $1 / 4$ in eap. | 25 | 70 | 250 | 45 | 24.75 |
| 3302 | 3142 | Socket, $3 / 8 \mathrm{in}$. cap | 25 | 70 | 250 | 42 | 23.00 |
| 3303 | 3143 | Socket, pendent cap | 25 | 138 | 500 | 36 | 19.75 |
| 3304 | 3144 | Socket, $1 / 8 \mathrm{in}$. angle cap | 25 | 30 | 100 | 41 | 18.75 |
| 3305 | 3145 | Socket, $1 / 4 \mathrm{in}$. angle cap. | 25 | 30 | 100 | 50 | 23.00 |
| 3306 | 3146 | Socket, $3 / 8 \mathrm{in}$. angle cap . | 25 | 30 | 100 | . 47 | 21.50 |
| 3307 | 3147 | Wall socket, small concealed base....... | 10 | 100 | 250 | . 47 | 10.30 |
| 3308 | 3148 | Wall socket, small covered concealed base. | 10 | 115 | 250 | . 57 | 17.50 |
| 3309 | 3149 | Wall socket, surface wiring base.. | 10 | 145 | 250 | 52 | 11.40 |
| 3310 | 3150 | Wall socket, wood moulding base. | 10 | 120 | 250 | 47 | 10.30 |
| 3311 | 31.51 | Wall socket, $1 / 2 \mathrm{in}$. condulet base | 10 | 120 | $\bigcirc 50$ | 52 | 11.40 |
| 3312 | 3152 | Wall socket, one-way National base. | 10 | 125 | 250 | 47 | 10.30 |
| 3313 | 3153 | Wall socket, two-way National base. . . . | 10 | 125 | 250 | 47 | 10.30 |
| 3314 | 3154 | Wall socket, angle concealed base. . . . . . | 10 | 50 | 100 | 52 | 9.60 |
| 3315 | 3155 | Ceiling socket, small covered ceiling base . | 2 | 75 | 100 | . 66 | 2.90 |
| 3316 | 31.56 | Ceiling socket, insulated ceiling base, 31/4 in. outlet boxes. | 2 | 75 | 100 | . 66 | 2.90 |
| 3317 | 31.57 | Ceiling socket, large covered ceiling base. | 1 | 180 | 100 | . 96 | 2.11 |
| 3318 | 3158 | Ceiling socket, insulated ceiling base, 4 in . outlet boxes. | 1 | 180 | 100 | . 96 | 2.11 |

[^51]No. 6100 connecting block listed elsewhere. Supplied with No. 3343 and No. 3153 without extra charge.

# HUBBELL PULL SOCKETS Equipped with＂Economy＂Extender ＂QUICK CATCH＂＇AND PRESTURN SHELLS 



Schedule＂B＂

| －（2uick <br> （＇atch＂ <br> ListNo． | Presturn list No． | Description | （＇arton | Nt． 1. <br> Pkis． | Pkg． Wirt． Lbs． | Mifs． <br> List <br> Each | $\begin{aligned} & \text { W. E. } \\ & \text { per } \\ & \text { Carton } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 67 | Sit |  | 10 | 1010 | 35 | 80．7．3 | \＄16．10 |
| 38：36 | 30 s | With $\frac{1}{8}$ inch cap． | 111 | 100 | 3．） | ． 80 | 17.60 |
| 38.37 | 3079 | With 3 y inch cap）． | 111 | 10） | ：3：${ }^{\text {a }}$ | ． 810 | 18.90 |
| 3838 | 3080） | With small concealod base． | 111 | ：3） | 27 | ． 91 | 16.70 |
| 3x39） | 30181 | With small eovered，concoaled hase． | 111 | i3） | 27 | 1.101 | 18.60 |
| 3868 | 308. | With concoulerd rosette base．． | 10 | 20 | 20 | 1．2\％ | 22.40 |
| 3849 | $3(1) \times 5$ | With cloat rosette bisee． | 111 | 30 | 20 | 1． $2 \times$ | $\underline{22.40}$ |
| ：3870 | ：30815 | With two－wire molding batse | $11)$ | 20 | 20 | 1． 22 | 22.40 |
| 3872 | 3127 | With threrowire molding base | 10 | $21)$ | 20） | 1．23 | 22.40 |
| 38.14 | 3128 | With surface wiring bive． | 10 | 30 | 27 | ． 910 | 17.70 |
| ：38015 | 312！ | With wood molding base． | 10 | $30)$ | 27 | ．！1 | 16.70 |
| 380\％ | $31: 30$ | With $1 / 2$ inch condulot buse． | 10 | 30 | 27 | ． 16 | 17.70 |
| 3875 | $30 \times 7$ | With one－way National base． | 10 | 30 | 25 | .91 | 16.70 |
| 3887 | 308゙ | With two－way National base． | 10 | 30 | 25 | ． 91 | 16.70 |
| 3S 40 | 30バこ | With small covererl reiling base． | 9 | 30 | 31 | 1.10 | 4.86 |
| $38 \pm 1$ | ：30， 3 | With inside coriling base for ${ }^{1 / 4} \mathrm{inch}$ out let box | 2 | 30 | 31 | 1．10） | 4.86 |
| ：378 | ：31：31 | With large covered ceiling base．．．．．．．．．．．．． | 1 | 30 | 35 | 1．40） | 3.08 |
| 3871 | ：31：3\％ | With insido coiling hatso for tincla matlot box． | 1 | 30 | 35 | 1．10 | 3.08 |



SINGLE POLE， 3 AMPERES－ 125 VOLTS， 1 AMPERE 250 VOLTS Schedule＂F＂

| 63 | ss | losette pull switeh body with＂Leonomiv＂ext． | 11） | 30） | 15 | S0．7．3 | \＄14．（i） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5920 | （i）0） | With small concealed base．．．．．．．．．．．．．． | 1） | 20 | 25 | ． 91 | 18．20 |
| 5921 | （10） | With small covered，concealed base． | 10 | 20 | 25 | 1.01 | 20.20 |
| 5022 | （0）00．3 | With concealed rosette base． | 10 | 20 | ：3：3 | 1．30 | 24.40 |
| 5933 | 600.1 | With cleat rosette base． | 10 | 20 | 333 | 1.93 | 24.40 |
| 50.24 | （5）（0） | With two－wire molding base | 10） | 20 | 33 | 1．29 | 24．40 |
| 6028 | （60）${ }^{(10)}$ | With three－wire molding base | 11 | 20 | $3: 3$ | 1．23 | 24.40 |
| 60：32 | （\％）10 | With surface wiring base | 10） | 30 | 3.3 | ．${ }^{\text {\％}}$ | 19．20 |
| 60：3：3 | boll | With wood molding． | 10 | 20 | 33 | ． 91 | 18．20） |
| 6034 | （0） $3: 36$ | With $1 / 2$ inch condulet base． | 10 | 20 | 33 | ． 91 | 19．20 |
| 5944 | （0） 20 | With one－way Vilional base． | 10 | $\cdots(1)$ | $3: 3$ | .91 | 18．20 |
| 5945 | 6021 | With two－way National base． | 10） | 20 | 33 | ．91 | 18.20 |
| 5925 | （j） 0 （ ${ }^{\text {a }}$ | With small covered ceiling base | 2 | 20 | 30 | 1．10 | 5.1 F |
| 5926 | bio）7 | With inside ceiling base for $31 / 4$ inch outlet box | 2 | 20 | 30 | 1．10 | 5.015 |
| 59.51 | 603：3 | With large covered coiling base．．．．．．．．．．． | 1 | 20 | 35 | 1．40 | 3.28 |
| 59.52 | 1502：3 | With inside reiling base for 4 ineh out lex hox． | 1 | 20 | 35 | 1．10 | 3． 3.2 |

All of the above sockets and switehes are equipped with 6 feet of extrat qualit $y$ linen cord and No． 5919 adjustable acorn．Additional cord，W．E．list $\$ 0.02$ and Mfrs．List \＄0．01．Necial acorn，W．F．List． $\$ 0.14$ and Mfrs．List $\$ 0.06$ ．＂Quick Catch＂sockets equipped with threaded shells only．Presturn sockets equipped with beaded shells only，Standard finishes are brush brass and polished brass．Brush brass furnished where no finish is specified．For suitable outlet boxes，see corresponding type of sockets on charts．Switches in speeial finish subject to same corresponding addition of list price as standard pull sockets and W．E．List $\$ 0.12$ and Mfrs．List $\$ 0.05$ additional for switches with＂Economy＂extender at－ tacher！．＇The＂Economy＂extender takes the place of the regular chain evelet，being attached direct to eyclet brarket．

## HUBBELL ATTACHMENTS <br> FOR PULL SOCKETS



## Attachment for Pull Sockets

This attachment is made of sheet brass of ample stiffness to resist strain of contimuous use. Attaches direct to the sorket, not to the shade holder. "The spring hamb at the cord of the horizontal arm snaps around the socket. A slot hooks over a screw by which the band is secured.

Schedule "F"

| List No. | Description | Carton Quantity | Std. <br> 1'kg. | $\begin{aligned} & \text { l'kg. } \\ & \text { Wgt. } \\ & \text { Ihs. } \end{aligned}$ | Mfrs. List <br> Each | $\begin{array}{r} \text { W. E. } \\ \text { List per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5828{ }^{4}$ | l'or 8, 10 and 12 in. reflectors. | 25 | 250 | 21 | \$0. 25 | \$13.75 |
| $5829{ }^{\text { }}$ | For 14 in . reflectors. | 25 | 250 | 22 | . 25 | 13.75 |
| $5953{ }^{4}$ | For 16 in. reflectors | 25 | 100 | 24 | . 30 | 13.75 |
| $5954{ }^{\text {4 }}$ | For 18 and 20 in . reflectors. | 25 | 100 | 24 | . 30 | 13.75 |
| 6317 | For 22 in. reflectors. | 25 | 100 | 35 | . 40 | 18.75 |

## Attachments for Porcelain Pull Sockets

| 5057 | Fors 8,10 and 12 in . reflectors |  | 2 5 | 2 O | 21 | \$0.25 | \$13.75 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 590\% | lior 14 in. reflectors |  | 25 | 250 | 22 | . 25 | 13.75 |
| 5959 | For 16 in. reflectors |  | 25 | 100 | 24 | . 30 | 13.75 |
| 5960 | lor 18 and 20 in . reflectors |  | 2.5 | 100 | 24 | . 30 | 13.75 |
| 59661 | For 22 in . roflectors. |  | 2.5 | 100) | 2.5 | . 40 | 18.75 |
| "ECONOMY" EXTENDER ONLY Schedule "F" |  |  |  |  |  |  |  |
| $5880^{4}$ | Extender only for Standard sockets. |  | 25 | 250 | 18 | \$0.30 | 1816.50 |
| 6306 | Extonder only for electrolier sockets. | ........ . . . | 25 | 250 | 18 | . 30 | 16.50 |

Attachments sold sejaratcly do not come under $S$ chedule " $B$ " but are subject to Schedule " $F$ " discounts.
The above price covers attachments in polished brass and old brass finishes. For special finish add \$0. 11 to W. Li. list, to Mfrs. list \$0.05.
${ }^{4}$ National Flectrical Code Standard.


Showing No. 5403 Attached to Lamp

Incandescent Light Attachment FOR OIL LAMPS
250 WATTS-250 VOLTS

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 1)escription | Carton Quantity | Pkg. Wt. Lbs. | Std. Pkg. | $\begin{aligned} & \text { Mirs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\begin{array}{r} \text { W. E. } \\ \text { List per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5403 | With plug and 7 ft . of silk cord. | 1 | 15 | 20 | \$2.00 | \$4.40 |
| 5529 | Without cord or plug. . | 1 | 10 | 20 | 1.50 | 3.30 |

This is a handsome and inexpensive device for attaching to an oil lamp, to give it the practical advantage of an electric lamp.

The base of the socket is easily and quickly fitted to any lamp with a common burner, either flat wick or central draft.

It does not injure the lamp in any way and requires no tools to attach.
When sold complete it is fitted with 7 feet of silk parallel lamp cord and Hubhell Plug No. 5406.

Socket fitted 12 inch chain.
Standard finishes are polished brass, old brass and brush brass. Brush brass shipped unless otherwise specificd.

For special finishes see listing elsewhere. HUBBELL PORCELAIN SOCKETS AND RECEPTACELS

|  | 至量 | $A$ | $1 / 4$ | E |  |  |  | eve |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\xrightarrow[y]{4}$ | 蕅 |  |  |  |  |  |
|  | $\begin{aligned} & 20.381 \\ & 080 \end{aligned}$ |  |  | $1$ |  |  |  |  |
|  | $\begin{aligned} & \text { No. } 3822 \\ & 0 \\ & 0 \end{aligned}$ |  |  |  |  |  | Mim | No． |




No, 3030-No, 3621 3/6 Actual Size


No. 3036--No. 3620 3/8 Actual Size


No. 30.39-No. 3673 y Actual size

PULL SOCKETS WITH $2^{1 /}$ INCH SHADE HOLDER ATTACHED
Schedule "B"

| "Quick <br> Catch" <br> List <br> No. | Presturn List No. | Description | Carton Quantit? | Stal. Pkg. | I'kg. Wigt. Lbs. | Mifs. <br> List <br> lach | $\begin{aligned} & \text { W. E. } \\ & \text { per } \\ & \text { Car }{ }^{2} n n \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 76 | 167 | Pull socket body unly. | 10 | 250 | 70 | 80. 59 | \$13.00 |
| 3621 | 30:30 | l'ull socket $1 / 8$ in. caip. | 10 | 250 | 75 | (6i) | 14.50 |
| 3622 | 3031 | l'ull socket $3 / 8 \mathrm{in}$. cap) | 10 | 100 | 35 | 72 | 15.8(\%) |
| 3623 | 3032 | l'ull socket pendent cap | 10 | 250 | 75 | 16 | 14.80) |

PULL SOCKETS WITH 2
Schedule "B"

| 164 | 170 | Pull socket body only. | 10 | 100 | 45 | \$0.67 | \$14.70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3624 | 30:33 | P'ull soeket $1 / 8 \mathrm{in}$. cap | 10 | 100 | 50 | 74 | 16.30 |
| 362.5 | 30:34 | Prull socket ${ }^{\text {s }} \mathrm{in}$. cap | 10 | 100 | 5.5 | 80 | 17.80 |
| 3626 | 3035 | Puld socket pendent cap | 10 | 100 | $5)$ | 74 | 17.30 |

KEY AND KEYLESS SOCKETS WITH 2 ' 1 NCH SHADE HOLDER ATTACHED
Schedule "B"

| 77 | 168 | Key socket hody only | 111 | 510 | 140 | \$0.32 | \$7.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3670 | 30.36 | Key socket $1 / 8$ in. (a) | 10 | 300 | 150 | 39 | 8.60 |
| 3671 | 3037 | k'y socket 3\% in. (ap) | 10 | 250 | 75 | 45 | 9.9 |
| 3672 | 3038 | Key socket pendent (an) | 10 | 50 | 150 | . 39 | $\therefore \mathrm{Al} 0^{\prime}$ |
| 78 | 169 | lieyless socket body only. | 10 | 300 | 140 | . 29 | (i. 40 |
| 3673 | 3039 | Keyless socket 's in. cap | 10 | 500 | 140 | . 31 | 7.90 |
| 3674 | 3040 | Keyless socket 3 \% in. cap. | 10 |  | 70 | 42 | 9.20 |
| 3675 | 3041 | Keyless socket proment rap | 10 | 300 | 140 | 36 | 7.90 |

KEY AND KEYLESS SOCKETS WITH 3 INCH SHADE HOLDER ATTACHED
Schedule "B"

| 165 | 171 | Fey sucket body only. | 111 | 100 | 4.$)$ | S0.40 | 88.80 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3676 | 3042 | Key socket $1 / 8 \mathrm{in}$. cap | 111 | 100 | 45 | 47 | 10.30 |
| 3677 | 3043 | Rיy socket $3 / 8 \mathrm{in}$. cap | 10 | 100 | 30 | .53 | 11.70 |
| 3678 | 3044 | liey socket pendent cap. | 10 | 100 | 4\% | 47 | 10.30 |
| 166 | 172 | Kicyless socket body only. | 10 | 100 | 45 | .37 | 8.10 |
| 3679 | 3045 | keyless socket 1/8 in. cap. | 10 | 100 | 45 | 44 | 9.70 |
| 3680 | 3046 | Keyless socket 3 \% in. cap) | 10 | 100 | 50 | . 50 | 11.00 |
| 3681 | 3047 | Licyless sorket pembent rap | 10 | 100 | 4.) | 4 | 9.70 |

Sockets furnished with chains over 8 inches in length, add to W. E. List, jer foot, \$0.22, and to Mfrs. List, per foot, $\$ 0.10$

Pull sockets may be equipped with 3 feet of linen cord in place of chain without additional cost.
For separate chains not attached to socket, see listings elso wher
For special finishes, ser listings olse where.

# HUBBELL SOCKETS AND RECEPTACLES <br> Candelabra Pull Sockets <br> Two Screw 



No. $\mathbf{3 4 . 5 5}$
No. 5742


No. 5792


No. 5753


No. 5686


No. 5814

| List <br> No. | Description |
| :---: | :---: |
| $555^{4}$ <br> 5836 | Pull, Fd. Candelabra base. <br> Pull. Miniature base. ...... |


| Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mlirs. <br> List <br> Each | $\left\lvert\, \begin{gathered} \text { W.E. } \\ \text { per } \\ \text { Carton } \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: |
| 10. | 50 | $10)$ | \$0.60 | \$12.00 |
| 10 | 50 | 10 | .60) | 12.00 |

QUICK CATCH FASTENING Schedule "F"


## Candelabra Sockets with Ediswan Base

Lock Shell and Two Point Snap Shell Fastening, 75 Watts- 125 Volts Schedule "F'"

| 5792 | Pull, Ediswan bise, lock shell | 10) | 5 | 10 | \$0.76 | \$14.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5783 | Keyless Ediswan base, two point snelp shell-. . . . . . . | 10 | 50 | 10 | .30 | 6.00 |

Standard length of chain tu pull socket, 4 inches. For chains over 3 inches in length add to list, per foot, \$0.2is Mfrs. List \$0.10.

Ftandard finishes are brush brass, old brass, and polished brass.
Fer C $a n d$ labra and Miniature Pull Sockets, equipped with extension 'yelets, auld to W. E. List $\$ 0.0) 2 \frac{1}{2}$ inch extension eyelets, are standard. Separate extension eyelets $\$ 0.28$ each ${ }^{1}$. E. List.

## Candelabra Keyless Sockets

Lock Shell Fastening, 75 Watts- 125 Volts Schedule "F"


## Candelabra Candle Receptacles <br> 75 Watts- 125 Volts

Schedule "F"

| $5688{ }^{\text {a }}$ | Receptacle with $5_{10}^{\prime}$ inch male thread bushing. | 25 | 200 | 12 | \$0.12 | \$6.90 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5812 | Receptacle with $5 / 16$ inch male thread bushing, with extra long porcelain skirt. | 25 | 200 | 12 | .12 | 6.90 |
| 5808 | Receptacle with 5 in inch female thread bushing. | 25 | 200 | 12 | 12 | 6.90 |
| 5819 | Rcceptacle with $1 / 8$ inch pipe tap female thread bushing | 25 | 200 | 12 | 2 |  |
| 13164 | Recreptanle with $\frac{1}{8}$ ins. pipe tap, male thread bushing | 2.5 | 200 | 19 | 12 | 6. 90 |

No. 5812 receptacle is provided with porcelain shirt $\frac{1}{8}$ inch longer than standard. Is otherwise identical in construction to No. 5686 .

EXTENSIONS, COLLAR AND CANDLE
Schedule "F"


No. 5481


No. 5483


No. 6145

| Schedule 'F |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { an } \end{aligned}$ | Deseription | Carton Quantity | Std. <br> Pkg. | Ikg. Wit. I bs. | Mirs. List Fach | W.E. List per Carton |
| 5-181 | Extension, candelabra base, $4 \frac{3}{8}$ ins. long. . . . | 50 | 50 | 1 | \$0.35 | \$28.00 |
| 5879 | Extension, miniature base, 43 ins. iong. | 50 | 50 | 1 | . 35 | 28.00 |
| 6145 | Candleextension, medium serew base. | 2.5 | 51 | 5 | 0 | 25.00 |
| 5182 | Collar, for candelabra socket | 50 | 50 | 1 | 5 |  |
| $54 \times 3$ | Candle, 4 ins. long, for candelabra socket. | 25 | 50 | 2 | 1.5 | 7.50 |

Extensions over $43 / 8$ inches in length, add to list, $\$ 0.23$ per inch or fraction thereof. Mfrs. List $\$ 0.10$.
('andles over 4 inches in length, add 10 list $\$ 0.09$ per inch or fraction thereof. Mfrs. List \$0.04.

Extensions less than $43 / 8$ inches in length and randles less than 4 inches, take same list price as standarl.

Extensions, although $43 / 8$ inches in length, are designed to take a 4 inch candle.

For special finished collar, add to list s0.05. Mfrs. List $\$ 0.02$. lirush brass furnisherl unless ot therwise specified.

HUBBELL PORCELAIN MOGUL SOCKETS
1500 WATTS, 600 VOLTS


No. 3465


No. 3390
No, 3289


No. 3468


No. 3464

| No. |  | Carton Quantity | Strd. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \\ & \hline \end{aligned}$ | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { per } \\ \text { Carton } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3465 | Kevless, without eup or yoke | 2 | 50 | 70 | 80.70 | \$2.80 |
| 3390 | Keyless, 38 in. aluminum (etp). | 2 | 50 | 75 | 1.00 | 4.00 |
| 33391 | Keyless, $1 / 2 \mathrm{in}$. aluminum cap | 2 | 50 | 75 | 1.00 | 4.00 |
| 33392 | Keyless, $3 / 4 \mathrm{in}$. aluminum cap. | 2 | 50 | 75 | 1.00 | 4.00 |
| 3289 | Keyless, 38 in . cast iron yoke. | 2 | 50 | 8 8) | . 85 | 3.40 |
| 3290 | Keyless, $1 / 2 \mathrm{in}$. cast iron yoke. | 2 | 50 | 85 | 85 | 3.40 |
| 3291 | Keyless, ${ }_{4} \mathrm{in}$. cast iron yoke. | 2 | 50 | 8.5 | 8.5 | 3.40 |

One Piece Porcelain


Supporting serew holes spared $27 / 8$ inches on eenters.
Screw holes in all Mogul sockets sealed with heat-proof compound.
1500 WATTS, 600 VOLTS


No. 3383


No. 3460


No. 3385


No. 3.463

HUBBELL BRASS SHELL MOGUL SOCKETS

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Carton <br> Quantity | Std. Pkg. | Pkg. <br> Wt. <br> Lbs. | Mifs. List Each | $\begin{aligned} & \text { W. E. } \\ & \text { per } \\ & \text { Carton } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 338:3 | Lerless, $3 / 8 \mathrm{in}$. cap | 10 | $5)$ | 35 | \$1.50) | \$25.50 |
| 3:384 | Keyless, $1 / 2 \mathrm{in}$. cap | 10 | 50 | 38 | 1.50 | 25.50 |
| 33885 | Keyless, 36 in . cap with $31 / 4 \mathrm{in}$. shate holder.. | 1 | 50 | 50 | 1.80 | 3.60 |
| 3386 | Keyless, $1 / 2 \mathrm{in}$. cap with $31 / 4 \mathrm{in}$. shade holder.. | 1 | 50 | 3.5 | 1.80 | 3.60 |

These Mogul base sockets are fitted with special, high heat-resisting linings capable of withstanding the intense heat generated by Type C gas-filled lamps.

Shell and cap are fastened together by means of a serew thread and held in place hy a steel set screw.

| 3460 | heyless ceiling socket, porcelain base, for $31 / 4$ or 4 in . outlet boves | 1 | 50 | 95 | \$1.50 | \$3.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3461 | Same with $31 / 4 \mathrm{in}$. shade holder attached. | 1 | 50 | 100 | 1.80 | 3.60 |
| 3462 | Keyless ceiling socket, insulated base, for $31 / 4$ or 4 in. outlet boxes. | 1 | 50 | 100 | 1.75 | 3.50 |
| 3463 | Same with $31 / 4 \mathrm{in}$. shade holder attacherl | 1 | 50 | 105 | 2.05 | 4.10 |

Diameter of base, $45 / 8$ inches.
Supporting screw holes, $23 / 4$ inches and $31 / 2$ inches on centers.
For 4 inch shade holders for brass shell Mogul sockets, see listing elsewhere.
For special finish on Mogul base sockets without the shade holder, add to list price twice the addition made for special finishes on standard sockets.

For special finish on Mugul base sockets with shade bolder, ald to list price twice the regular addition for standard socket and the regular addition for the standard $31 / 1$ inch shade holder.

Standard finish, brush brass.


No. 9402


No. 4013


No. 28795


No. 9171


No. 59275

Porcelain Cleat Receptacles 660 Watts 250 Volts

Schedule "B"

| 660 Wats 250 Volt |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { Carton } \\ & \text { Quantity } \end{aligned}$ | Pkg. Wt. Lbs. | $\begin{aligned} & \text { Std. } \\ & P \mathrm{Pko} \end{aligned}$ | $\begin{aligned} & \text { Mirs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | W. E. List per Carton |
| $9402$ | Cleat receptacle .............. | 10 | 115 | $250$ | \$0.15 | \$3.30 |

Holes for supporting screws are spaced $2^{3}$ s inches un eenters.
Outside dimensions of base 215 by $2 \frac{23}{3}$ inches.

Holes for supporting serews are spaced $17 / 8$ inches on centers.
Outside diameter of base $2 \frac{5}{16}$ inches.


Supported by one screw in center.
Outside diameter of base $1 \frac{15}{16}$ inches.

Holes for supporting screws are spaced 2 inches on centers.
Outside dimensions of base $2 \frac{7}{16}$ inches and $2 \frac{3}{32}$ inches.
Arranged with square recess for stove bolts.


No. 50715


No. 25706


No. 61988


No. 4099

## Porcelain Cleat Receptacles

660 Watts- 250 Volts
Schedule "B"


Holes for supporting screws are spaced $1 \frac{15}{16}$ inches on centers.
Dimensions of base $2 \frac{7}{16} \times 2 \frac{7}{16}$ inches.


The malleable iron yoke is threaded for $3 / 8$ inch iron lipe.

# Porcelain Receptacles <br> FOR CONDUIT BOXES AND METAL SIGNS 

660 Watts-250 Volts
Schedule "B"

| 660 Watts-250 Volts |  |  |  |  | Schedule "B" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 61988 | Receptacle with screw ring. | 10 | 85 | 250 | \$0.20 | \$4.40 |
| * 4099 | Receptacle with covered terminals. | $10)$ | 100 | 250 | . 25 | 5.50 |

A hole $11 / 2$ inches in diameter is required for these receptacles.
*This receptacle is fitted with it separate porcelain base for use with outlet boxes.
These receptacles are constructed with five notches in the base designed to prevent the receptacle turning, once it is installed. One projection in the metal plate bent down into any one of the noteles will insure the permanent location of the receptacle in its original position.

Rubber gaskets are regularly supplied, but leather gaskets may be had when so ordered without extra charge.

The design of these receptacles makes possible the removal of the serew shell without disturbing the wirme.

Porcelain rings only, Mfrs. list price \$0.06, W.F. List \$0. 1:3-standarl package 250.

## HUBBELL MISCELLANEOUS SOCKETS



No. 35024 3́s actual size


Wall Switch Porcelain Base


Wall Switch Metal Covered Base


No. 5610-Fixture Switch Side Outlet

PULL SOCKET WITH LAMP BASE ATTACHMENT
"Lock Shell" Fastening
250 Watts-250 Volts Schedule "B"


Pull socket with hamp base attachment can be attached to an ordinary key socket or receptacle.

## "Lock Shell" Pull Switches <br> TWO SCREW FASTENING-SINGLE POLE <br> 3 Amperes- 125 Volts, 1 Ampere- 250 Volts

Schedule "F"

| 5027 ${ }^{\text { }}$ | Wall pull switch, small conces | 10 | 16 | 2() | \$0.71 | \$14.20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5089{ }^{4}$ | Wall pull switch, small covered | 10 | 18 | 20 | . 81 | 16.20 |
| $2010{ }^{\text {a }}$ | Wall pull switeh, $1 / 8 \mathrm{in}$. cap | 10 | 14 | 50 | . 30 | 12.00 |
| 50314 | Wall pull switch, $3 / 8 \mathrm{in}$. cap | 10 | 15 | 20 | . 19 | 13.80 |



No. 3287


No. 3444


No. 3275

Porcelain Sockets
WITH "KNOSTRAIN" BUSHING FOR ARMORED CORD Schedule "B"

| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. <br> 1 kg . | $\begin{aligned} & \text { Jkg. } \\ & \text { Wt. } \\ & \text { Ths. } \end{aligned}$ | Mifrs. List Fach |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 163 | (ap only with "Knostrain" bushing | 10 | 50 | 15 | \$0.55 | \$10.10 |
| 3286 | l'ull socket with "IKnostrain" bushing | 10 | 50 | 3.5 | 1.30 | 23.90 |
| 3287 | Key socket with "Mnostrain" bushing | 10 | 100 | 50 | . 80 | 17.60 |
| 3288 | Keyless socket with "Knostrain" bushing | 10) | 100 | 4.5 | 77 | 16.90 |

TAPPED FOR $1 / 2$ INCH PIPE AND $3 / 4$ INCH LOCK NUT

| 173 | 1/2 in. aluminum cap only | 10 | .0) | 10 | \$0.40 | \$7.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.42 | 1'ull socket, $1 / 2$ inch aluminum cay | 10 | . 0 | 3.5 | 1.15 | 21.20 |
| :3443 | Key socket, $1 / 2 \mathrm{in}$. aluminum (ap). | 10 | 100 | 50 | . 0 | 12. 10 |
| 3444 | J̌eyless socket, $1 / 2 \mathrm{in}$. aluminum (ap). | 10 | 100 | 4.5 | 62 | 13.60 |

Porcelain Husk Socket

| List <br> No. | Description | Carton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Its. } \end{aligned}$ | Mfrs. List <br> Each | $\begin{array}{r} \text { W.E. } \\ \text { per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3,375 | Kieyless, $1 / 8$ in. brass covered cap. | 10 | 100 | 45 | \$0.34 | \$7.50 |
| 3377 | Keyless, $\frac{3}{8} \mathrm{in}$. bras covered cap. . | 10 | 100 | 4.5 | . 37 | 8.10 |

Length of socket overall, $2 \frac{21}{32}$ inches. Diameter $11 / 2$ inches. Special wrench for inserting socket cap in husk, supplied without clarge.
${ }^{\wedge} \mathrm{N}^{2}$ ational Electrical Code.

## HUBBELL ATTACHMENT PLUGS AND CURRENT TAPS

| National Electrical Code Standard All Screw Base Plugs 650 W'ziss, 2.50 Volts All other Plugs. Comnectors and Receptacles <br> 6 Amperes, 250 Volls | No. 6918 <br> Composition Cap <br> rolarzed | No. 6919 Brass Crvered Comperstion Polarized | No. 6921 <br> Comprosition "Knostran" | No. 6565 <br> Br. Cov. Conipo., <br> "Knostrein" | No. 5419 <br> Porcelan Cap | No. 5420 Composition Cup | No. 5421 Brass Covered Porcelain Cap |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. 6817 <br> Porcelain Base | No. $\$ 15$ | No. 6816 |  | Cap No. 6565 <br> Base 6817 | 2 | 5 | $\underset{\sim}{3}$ |
| No. 6917 Composition Base | No. 1915 | $\text { No. } 6916$ | Cap No. 6921 Base 0917 1 | Cap No. 6565 Base 6917 | W | 20 | ${ }^{\text {A }}$ |
| No. 5607 Porcelain Base | Cap No. 6918 Base No. 5607 | Cap No. 6919 Base No. 5607 | Cap No. 6921 <br> Base <br> 5607 | Cap No. 6565 <br> Base fa 5607 | No. 5406 | No. 5408 | No. 5410 |
| No. 5612 <br> Composition Base | Cap Nu. 6918 Base No. 5612 | Cap No. 6919 Base No. 5512 |  | Cap No. 6565 <br> Besern 5612 | Cap No. 5419 Base No. $56{ }^{12}$ | No. 5467 | Cap No 5421 Base No 5612 |
| No. 5756 Porcelan Bawe Cartringe Fuse | Cap Na. 6918 Base No. 5756 | Cap No 6919 Base No. 5756 | Cap No. 6921 <br> Base $_{\text {wiy }} 5756$ | Cap No. 6565 <br> Base fs 5756 | No. 5729 | Cap No. 5420 Base No. 5756 | Cap No. 5421 <br> Base No. 5756 |
| No. 5826 <br> Compositron Base Cartridge Fuse | Cap N゙ィ. 6918 <br> Hase No. 5826 | Cap No. 6919 Base No. 5826 | Cap No. 6921 Baseger $582 t$ |  | Cap No. 5.419 base No. 5826 | Cap No. 5420 Base No. 5826 | Cap No. 5421 liase No. 5826 |
| No. 6295 <br> tCurent Tap | Cap No. 6918 Base No. 6295 | Cap No 6919 Base No, 6295 | Cap No 6921 Base No. 6295 | Cap No. 6565 Base' No. 6295 | No. 5638 | Cap No. 5420 Base No. 6295 | Cap No. 5421 <br> Base No. 6295 |

List Price and Data
Schedule "H"

| CAPS |  |  |  |  | BASES |  |  |  |  | BASES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Carton | Std. Pkg. | $\begin{aligned} & \text { Mfrs. } \\ & \text { Lidt } \\ & \text { Each } \end{aligned}$ | $\left\|\begin{array}{c} \text { W. Fi } \\ \text { per } \\ \text { Carton } \end{array}\right\|$ | $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | Cartion | Std. Pkg. | $\begin{aligned} & \text { Mifs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\left\lvert\, \begin{gathered} \mathrm{W} . \mathrm{W} \\ \text { Carton } \end{gathered}\right.$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | C'arton | Std. Pkg. | $\begin{aligned} & \text { Mifrs. } \\ & \text { List } \\ & \text { Earh } \end{aligned}$ | $\begin{gathered} \text { W.E. } \\ \text { per } \\ \text { Carton } \end{gathered}$ |
| 5419 | 10 | 50 | \$0.15 | \$2, 70 | 5406 | 10 | 250 | \$0.30 | \$6.6i) | 7756 | 10 | 100 | \$0.60 | \$13.20 |
| 5420 | 10 | $5)$ | . 20 | 3.60 | 5108 | 10 | 250 | . 35 | 7.70 | 5820 | 10 | 100 | . 75 | 16.50 |
| 5421 | 10 | 50 | 25 | 4.50 | 5 110 | 10 | 250 | . 40 | 8.80 | (ix95 | 10 | 50 | . 35 | 6.30 |
| 6565 | 10 | 50 | . 5.5 | 9.90 | 5167 | 10 | 250 | . 40 | 8.80 | 6815 | 25 | 100 | . 25 | 11.25 |
| 6918 | 10 | 50 | . 15 | 2.70 | 5 fi 17 | 10 | 250 | . 15 | 3.30 | 4816 | 25 | 100 | . 35 | 15.75 |
| 6919 | 10 | 50 | . 25 | 4.50 | $5 \mathrm{fl2}$ | 10 | 250 | . 20 | 4.40 | ¢8817 | 10 | 100 | . 15 | 3.30 |
| 6921 | 10 | 50 | .25 | 4.50 | 54.38 | 10 | 50 | . 50 | 9.00 | 6915 | 25 | 100 | . 25 | 11.25 |
|  |  |  |  |  | 5729 | 10 | 100 | .75 | 16.50 | 69916 | 25 | 100 | .35 | 15.75 |
|  |  |  |  |  |  |  |  |  |  | 14917 | 10 | 100 | 15 | 3.30 |

[^52]HUBBELL ATTACHMENT PLUGS AND CURRENT TAPS

| No. 5523 E3pass Covered Compostuin |  |  |  |  | No 5i25 Purc. Minti Currem Tal) |  | No. End Proncelan l.amp Recemacle | Nor 5897. Composition l.amp Recemacle |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | है | $\therefore$ | $\therefore$ | $\leqslant$ | \% | 8 | 23 | S7 |
| * | 之 | $\therefore$ | $\therefore$ | $\%$ | 2 | $\cdots$ | \% | $\therefore$ |
| Cap Nu 5523 Base No 5601i |  |  |  | Cap No b3B4 Base No 5604 |  |  | $\therefore$ | \% |
| No. 5468 |  |  | No. 5701 | Cap No (i) 3 쫑 Hase No. 5612 |  |  | is | ? |
| Cap No. 5523 Base No. 5756 |  |  |  | Cap No 6:323 Base Nis $575 \%$ |  |  |  |  |
| Cap No. 5523 Base No. 5826 |  |  |  |  |  |  |  |  |
| Cap No. 5523 <br> Base No 6295 | Cap No. 6336 Base No. 6295 | Cap No. 5657 Base No. 6295 | Cap No. 5700 Base No. 6295 | Cap No.6328 Base No. 6295, | $\underset{\sim}{2}$ | 5 | Rer. No 5424 Base No. 6295 | Rec. No. 5897 Base No. 6295 |

List Prices and Data

| CAPS |  |  |  |  |  | BASES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Schedule | Carton | Stul. Pkg. | $\begin{aligned} & \text { Mfrs } \\ & \text { J.ist } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \mathrm{W} \cdot \mathrm{l}_{\mathrm{i}} \\ & \mathrm{p} \mathrm{r} \\ & \text { carton } \end{aligned}$ | $\begin{aligned} & \text { Jint. } \\ & \text { Nue. } \end{aligned}$ | Sthedule | Carton | $\begin{aligned} & \text { Std. } \\ & \text { Plig. } \end{aligned}$ | $\begin{aligned} & \text { Mifrs. } \\ & \text { Tist } \\ & \text { Eisch } \end{aligned}$ | $\begin{aligned} & \text { W. E. } \\ & \text { Carton } \end{aligned}$ |
| 5424 | II | 10 | 50 | S0. 25 | \$4.50 | 5468 | I | 10 | 250 | \$0.50 | \$11.00 |
| 5523 | H | 10 | 50 | . 30 | , 40 | 5493 | H | 10 | 100 | . 65 | 14.30 |
| 5625 | H | 10 | 50 | . 35 | 6.30) | 5607 | H | 10 | 250 | . 15 | 3.30 |
| 5657 | H | 10 | 50 | . 45 | - 10 | 5012 | H | 10 | 250 | . 20 | 4.40 |
| 5700 | H | 10 | 50 | . 55 | 3190 | 5701 | H | 10 | 100) | . 75 | 16.50 |
| 5897 | H | 10 | 50 | . 30 | 5.40 | 57.50 | H | 10 | 100 | . 60 | 13.20 |
| 6328 | H | 10 | 50 | . 35 | (i) 30 | 5826 | H | 10 | 100 | . 75 | 16.50 |
| 6335 | H | 10 | 50 | . 25 | 450 | 629.5 | H | 10 | 50 | . 35 | 6.30 |
| $63: 36$ | H | 10 | 20 | .60) | 10.80 |  |  |  |  |  |  |

> The above cartridge fuse nlurs are furnished comblete with ti a mpere Type o baby fuses.

Length overall. $11 / 2$ inches: diameter $\frac{18}{}$ inch. These fuses approved hy the National board of Underwriters for use with Hubbell cartridge fuse attachment plugs

Designed particularly for use with electrically operated portable machines, such as drills, grinders, etc
When furnished without the fuse, deduct $\$ 0.55$ trom fist. Mfra. List 80.25 .

## HUBBELL

CURRENT TAPS-FIXTURE RECEPTACLES-CORD CONNECTORS

| National Electrical Code Standard <br> All Screw Base Plugs 660 Watts, 250 Volts All other Plugs, Connoctors and Recep. tacles <br> 6 Amperes. 230 Votes |  | No. 6919 <br> Bras Covered Composition Polarized |  | Ni). 6,665 [3r.Cov.Compo Knostrain Prolar: myzer CHIV a I 8 | No. 5419 Porcelain Cap | No. 5420 Composition Cap | No. 5421 \{3rass Covered Porcelain Cap |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cap No. 6918 <br> Base No. 6297 | Cap No. 6919 Base No. 6297 | Cap No. 6921 Base No. 6297 | Cap No. 6565 Base No. 6297 | $\text { No. } 5735$ | Cap No. 5420 Base No. 6297 | Cap No. 5421 Base No. 6297 |
|  | Cap No. 6918 <br> Base No. 6339 | Cap No. 6919 Base No. 6339 | Cap No. 6921 Base No. 6339 | Cap No. 6565 13ase No. 6334 | Cap No. 5119 Base No 6339 | No. 6338 $\nabla$ | Cap No. 5421 Base No. 6339 |
| No. 6250 Fixture Rexeptack with Brass Camm | Cap No. 6918 Base No. 6250 | Cap No. 6919 Base No. 6250 |  | Cap No. 6565 Base No. 6250 | Cap No. 5.119 Base No. 6250 | Cap No. 5420 Base No. 6250 | Cap No. 5421 Base No. 6250 |
|  | Cap No. 6918 Base No. 6251 | Cap No. 6919 Base No. 6251 | Cap No. (6921 <br> Base par 6251 |  | Cap No. 5119 Base No. 6251 | Cap No. 5420 Base No 6251 | Cap No. 5421 Base No. 6251 |
| No. 6252 Fixture Receptacle with $/ 8$-inch Bushing | Cap No. 6918 Base No. 6252 | Cap No. 6919 Base No. 6252 | Cap No. 6921 Base No. 6252 |  | Cap No. 5419 Base No. 6252 | Cap No. 5120 Base No 6252 | Cap No 5421 Base No. 6252 |
| No. 6253 Fixture Receptacle with 多-inch Bushing | Cap No. 6918 Base No. 6253 | Cap No. 6919 Base No. li253 | Cap No. 6921 Base No. 6253 | Cap No. 1 i505 Base No. 6253 | Cap Nu, 5119 Base No. 6:253 | Cap No. 5420 Base No. 6253 | Cap No. 5421 Base No 6253 |
| No. 6087 Porcelan Cord Connector Body | Cap No. 6918 Base No. 6087 | Cap No. 6919 Base No. 6087 | Cap No. 6921 Base No. 6087 | Cap No. 6565 13ase gax 6087 | Cap No. 5419 Base No. 6087 | Cap No. 5420 Base No. 6087 | Cap No. 5421 Base No. (i087 |

Schedule "H"

| CAPS |  |  |  |  | BASES |  |  |  |  | BASES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List Nu. | Carton | stcl. <br> 1'kg. | $\begin{aligned} & \text { Mlfs. } \\ & \text { I.ist } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & W . E \\ & \text { per } \\ & \text { Cart. } \end{aligned}$ | List No. | Carton | Std. Prg. | Mfrs. Iist Whar | W. इ ger Cart. | List No. | Carton | Std. | Mfrs. List Each | $\begin{aligned} & \text { W. E. } \\ & \text { Curt. } \end{aligned}$ |
| 5419 | 10 | 50 | 80.15 | \$2.70 | 5735 | 10 | 50 | 80, 30 | \$3 013 | 6253 | 10 | 20 | 80.50 | \$4.00 |
| 5420 | 10 | 50 | . 20 | 3.60 | 6087 | 10 | 51) | . 25 | 4.50) | 6297 | 10 | 50 | . 35 | 6.30 |
| 5421 | 10 | 50 | .25 | 4 . $2 ;$ | 62.50 | 10 | 20 | 45 | 819 | 6:338 | 10 | 50 | . 65 | 11.70 |
| 6565 | 10 | :) | 55 | 9.90 | 6251 | 10 | 20 | . 31 | 5.) 410 | 63339 | 10 | 50 | . 45 | 8.10 |
| 6918 | 10 | 51 | 15 | 280 | 6252 | 10 | 20 | .4.) | S. 10 |  |  |  |  |  |
| 6919 | 10 | 50 | 25 | 4 |  |  |  |  |  |  |  |  |  |  |
| 6921 | 10 | 50 | . 2.5 | 4 - |  |  |  |  |  |  |  |  |  |  |

Standard finishes, brush brass and pohished hrass. For other finishes on fixture receptacles, add to list \$0.22. Mfrs. List \$0.10. For sperial finished rims on No. 6251 receptacle, uld to list. 0.11 . Mirs. list so. 05 . Brush brass shipped untrss otherwise specified. When two list numbers appear with illustration, the base and cap are packed and sold as separate units, the price of the whole heing the aggregate of the units. Where only one list number appears, the device is packed complete.

## HUBBELL

CURRENT TAPS-FIXTURE RECEPTACLES-CORD CONNECTORS

| No. 5523 Brass Covered Composition | No, 6336 Elunsated Compostrion |  |  | No. 6328 Compo. Swivel "Knostrann" Bushing | ive. 5125 I'rore. Mult. Current Tap | No. 6335 Compo.Mult. Current Tap | No. 5424 Porcelain Lamp Receptacle | No. 5897 Composition Lamp Receptacle |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cap No. 5523 <br> Base No. 6297 | Cap No. 6,$36 ;$ lase No. 6297 |  | Cap No. 5700 Base No. 6297 | Cap No. 6328 Base No. 6297 | $\underset{\sim}{0}$ | \% | Ree. No. 5124 Base No. (i, M) ${ }^{4}$ | Rec. No 5897 Base No 6292 |
| Cap No. 5523 [3ase No. 6339 | Cap No. 6.336 <br> Base No.6330 | Cap No. 5657 <br> Base No. 6339 | Cap No. $57(10$ Lase No. 6339 | Cap No. 6328 Base No 6339 |  | $\hat{\sim}$ | Rec. No. 5424 Base No 633 ? | Rec No. 5897 L3ase No 6339 |
| Cap No. 5523 Base No. $6 \cdot 250$ | Cap N. 6336 Base No. 6250 |  | Cap No $57(0)$ Base No 6250 | Cap No. 6328 Base No. 6250 |  | Tap No. 6335 Bast Nio 6250 | kec. No. 5 . 2 lase No 6250 | Rec. No 5897 Base Nu 6250 |
| Cap No. 5523 lase No. 6251 |  |  |  | $\left\lvert\, \begin{gathered} \text { Cup No. } 6328 \\ \text { Base } N_{0} .6251 \\ \text { N } \\ \text { N } \end{gathered}\right.$ |  |  |  |  |
| Cap No. 5523 Base No. 6\% 22 | Caj No. 6336 Base No. 6252 |  |  | $\begin{gathered} \text { Cap No. } 6328 \\ \text { Base No. } 6252 \\ \text { san } \\ \text { a } \end{gathered}$ |  |  | Rec. No. 512. Blase No. 6252 | Kec. No. 5897 Base No. 6252 |
| Cap No. 552:3 Base No. 6253 | (ia) No. (33: Base Nc. $625 \%$ |  |  | Cap Nis. ${ }^{\circ} 328$ Base No. 6253 |  |  | Rec. No 542.1 Base No 6253 | Rec. No. 5897 Base Nu. $625: 3$ |
| Cap No. 5523 Base No.COS7 |  |  |  |  |  |  | Rec. No 5424 Base No. 1087 |  |

List Prices and Data

| CAPS |  |  |  |  | BASES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Carton | stid. 1'kゅ. | $\underset{\text { Fach }}{\substack{\text { Mirs. List }}}$ | $\left\|\begin{array}{cc} \text { W } & \text { E. par } \\ \text { Cirton } \end{array}\right\|$ | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | C inrton | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{gathered} \text { Mifs. Jist } \\ \text { Fach } \end{gathered}$ | $\begin{gathered} \text { W. Fi, per } \\ \text { Carton } \end{gathered}$ |
| 5427 | 10 | 50 | \$0. 25 | \$2.50 | 6087 | 111 | 50 | \$(1). | 31 31 |
| 5523 | 10 | 51 | . 30 | 5. 40 | 12:97 | 111 | 50 | . 35 | (f.30 |
| 5625 | 10 | 51 | . 35 | (5.30) | (03339 | 111 | 51 | . 45 | 8.10 |
| 56.57 | 10 | 50 | . 45 | S.1. | 6250 | 10 | 20 | . 45 | 8.10 |
| 5700 | 10 | 50 | . 5.5 | 9.90 | 6251 | 10 | 20 | . 30 | 5.40 |
| 5897 | 10 | 50 | . 30 | 5.40 | 62.52 | 10 | 20 | . 45 | 8.10 |
| 6328 | 10 | E0 | . 35 | 6.30 | $6: 53$ | 10 | 20 | . 50 | 9.00 |
| 6.335 $\mathbf{6 3 3 6}$ | 10 | 50 50 | . 20 | 7.29 4.50 |  |  |  |  |  |

[^53] add to W. L. List, \$0.11, to Manufacturars hist \$0.05. *Not a practical combination.

## HUBBELL CORD CONNECTORS AND WALL RECEPTACLES



All devices listed above packed 10 to a carton. Standard finishes for caps, brush brass, polished hrass. Brush brass shiphed unless ofherwises specified. For special finished brass-covered caps, add to list \$0.11. Mfrs. list \$0.05. When two (atalog numbers appear with illustration the base amb rap arm packed and sold as separate units, the priee of the whole being the aggregate of the units. When only one catalog number apmars the device is packen complete.

## HUBBELL CORD CONNECTORS AND WALL RECEPTACLES



List Prices and Data

| List |  | Sted. |
| :--- | :---: | :---: |
| No. | Cartun | $1^{\prime} \mathrm{kg}$. |
| $5+24$ | 10 | 50 |
| 5523 | 10 | 50 |
| 5625 | 10 | 50 |
| 5657 | 10 | 50 |
| 56699 | 10 | 50 |
| 5700 | 10 | 50 |
| 5897 | 10 | 50 |
| 6328 | 10 | 50 |
| 6335 | 10 | 50 |


W. E. Iist
per
Carton
84.50
5.40
6.30
8.10
24.30
0.90
5.10
6.30
7.20

Schedule "H"

| List |  | Stel. |
| :---: | :---: | :---: |
| No. | Cartun | l kg . |
| 63.3.36 | 10 | 50 |
| 50.74 | 10 | 5) |
| 51317 | 10 | 50 |
| 5618 | 10 | 50 |
| 5419 | 10 | 50 |
| 5939 | 10 | 50 |
| (6048 | 10 | 50 |
| (50.0.5 | 10 | 50 |


| Mirs. | W.E. List |
| ---: | ---: |
| per |  |
| List | Lach <br> $\$ 0.25$ |
| .30 | $\$ .50$ |
| .30 | 5.40 |
| .30 | 5.40 |
| .30 | 5.40 |
| .30 | 5.40 |
| .30 | 5.40 |
| .30 | 5.40 |
| .80 | 14.40 |


| Natoonal Electrical Code Standird <br> AllScrew [3ace I'luge 650 Walls 250 vishs <br> All other Plugs, Connectors and Receptacles <br> 6 Amperes 250 Volts | No. tigls Compration Cap 1olarized | No 6919 Brass covered Composition Polanzed |  | No. 18565 i3r Ciou Compo. Polar Krys man | No. $5+19$ Porcelan Cap | No. 5420) C'mponstion Cap | No 5421 <br> Disans Covered Porcelan Cap |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cap No. 6918 Base No. 5620 | Cap No. 6919 Base No. $5 t \mathrm{t}^{2} 0$ | Cap No. 6921 13asegry 5620 |  | Cap No. 541! Base No. 5620 |  | Cap No 5121 Base No. 5620 |
|  | Cap No. 6918 Base No. 5624 | Cap No. 6919 Base No. 5624 |  |  | Cap No. 5419 Base No 5624 | Cap No. 5420 Base No. 5624 | Cap No. 5421 Base No. 5624 |
| No. 6103 Conduit 13ox Recep. Cover Suspension | Base No. 6103 | Base No. 6103 | Base No. 6103 |  | Cap No. 5119 Base No. 6103 | Cap No. 5420 Base No. 6103 | Cap No. 542! Base No. 6103 |
| No. 6294 <br> Porcelann Weather proo Recentacle $\square$ | Base No. 6244 |  |  |  | Cap No. 5419 Base No. 6294 | Cap No. 5120 Base No 6294 |  |
| No. 6293 <br> Comp. Weather. prool Receptacle |  | Cap No. 6919 Base No. 6293 |  | $\left\{\begin{array}{c} \frac{1}{4} \\ \frac{1}{2 \pi} \\ \frac{1}{2} \end{array}\right.$ | Cap No. 5419 Base No. 6293 | Cap No. 5420 <br> Base No. $6 \times 43$ | Cap No. 5121 Base No. 6243 |
| No. 6282 <br> Flush Ireceplacle 24" "Plate Assembled |  | Cap No. 6919 Base No. 6282 |  |  | Cap No. 5.119 Base No. 6282 | Cap No. 54? Base No. 6282 | Cap No. 5421 Base No. 6282 |
|  |  | Base No. 6283 | Base No. 6283 |  | Base No. 6283 | Cap No. 5420 Base No. 6283 | Cap No. 5421 Base No. 6283 |

## List Prices and Data

|  |  | Caps |  |  |  |  | Bases |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Carton | Std. Pkg. | Mifs. List phach |  | List No. | Carton | ${ }_{\text {Pld }}^{\text {Ste }}$ | Mfrs. |  |
| 5419 | 10 | 50 | \$0.15 | S. 70 | 5620 | 10 | 50 | 80.3.5 | 36.30 |
| 5420 | 10 | 50 | . 20 | 3.60 | 5624 | 10 | 50 | . 30 | 5. 10 |
| 5421 | 10 | 50 | . 25 | 4 [ 5 | 6103 | 10 | 50 | . 35 | 6. 30 |
| 6535 | 10 | 50 | . 55 | 9.90 | 6282 | 1 | 50 | . 85 | 1.87 |
| 6918 | 10 | 50 | . 15 | 2.70 | 628:3 | 1 | 50 | . 95 | 2.09 |
| 6919 | 10 | 50 | . 25 | 4.50 | 6293 | 10 | 30 | . 65 | 11.70 |
| 6921 | 10 | 50 | . 25 | 4.50 | 6294 | 10 | 30 | . 50 | 9.00 |

Polished brass, brush brass, polished l ronze, oxidized copper, standard finishes for hrass riates. All other finishes, exeapting fold and silmer, add to list \$0.22. Mirs. list \$0.10. Hrush brass s! inpel unles otherwise specifird. 23 inches rotad platc. supporting screw holes, $1^{7}$ inch on centers. Plate only, with strurs, I ist No. 5616. Sta. pleg. 50. Mfrs. List Price $\$ 0.50$. W. E. List $\$ 1.10$. $31 / 4$ in"h ropul plate, supporting serew holis, 2 if inches on centers. Plate only, with straps, list No. 5616. Std. pkg. 50. Tist Irice $\$ 1.32$ Nifs. List \$0.60. Porcelnin receptarle only for No. 6282 or No. 6283, List No. 56li. Stil pkg, 50. Mirs. List $\$ 0.50$, W. L. List $\$ 1.10$. For sperial finished brass rovered raps add to list each $\$ 0$ dis. W. F. List \$0.1:.
Western Electric

CONDUIT BOX, WEATHERPROOF AND FLUSH RECEPTACLES


## List Prices and Data

|  |  | Caps |
| :---: | :---: | :---: |
| Jist |  | Stil. |
| Fo. | Carton | 1 kg . |
| 5129 | 10) | \%) |
| 55.3 | 10 | 50 |
| 5625 | 10 | 50 |
| 5 i 57 | 10 | 51 |
| 5710 | 10 | 50 |
| 5897 | 10 | 50 |
| 6:328 | 10 | 50 |
| 63335 | 10 | 50 |
| 63336 | 10 | 50 |


| Mfrs. <br> Lisit F: \$0.25 .30 .35 .45 .85 .30 .35 .40 |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



Schedule " $H$ "

| Bases |  |  |
| :---: | :---: | :---: |
|  | Mfrs. | W. F. |
| Stt. | I.ist | per |
| Pkr. | Fach | Carton |
| 5 | \$1.35 | \$1.30 |
| 31 | . 30 | 5.10 |
| . 11 | . 35 | 6.30 |
| 510 | . 85 | 1.87 |
| 50 | . 95 | 2.09 |
| 311 | . 65 | 11.70 |
| 30 | . 50 | 9.00 |

w. F.

Carton
\$5. 30
5. 40
6.30
1.87
2.09
11.70
9.00

Weatherproof plugs are designed for use out of doors, being particularly elesirable for railroad roundhouses, ehipmaiking plants-in fact any place where aphag would be subjerted to all wather eonditions.
 Whentworatalog numbers appear with montration the lase ant cap arepacked and sold rs separate units, the price of the whole beime the agereyte of the mats. *Not a pratical eombination,

## HUBBELL FLUSH RECEPTACLES

| Narional Electrical Code Standard <br> all Scres Basc Plugs ${ }_{560}$ Wates, 250 Volts <br> All other Plugs, Connectors asd Receptacles <br> 6 Amperes 250 Volts | No. 6918 Composition Cat P'olarizad | Nu. C 919 <br> Bisencovered <br> Crmpsition Ithatzeed | No. $6 y^{2} 21$ <br> Compostion <br> "Kibstrath" <br> Prolarized | No. 6505 <br> Br Cov Cimpa <br> Knemerin Polarized | No. 5119 <br> Porcelan Cap | No. 5420 Compmitoon Cap | No. 5421 Brass Covered forcelain Cap |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cap No. 6918 Rec. No. 5547 | Cap No. 6919 Rec, No. 5547 | Cap No. 6921 Rec. No 5547 | Cap No. 6565 Rec. No. 5547 | Cap No. 5119 Rec. No. 5547 | Cap No 5420 Rec. Nu. 5547 | Cap No. 5421 Rec. No. 5547 |
| No. 5579 <br> Flush Receptacle With Lift Cover | Cap No. 6918 Rec. No. 5579 | Cap No. 6919 Rec. No. 5579 | Cap No. 6921 Rec. No 5579 | Cap No. 6565 Rec. No. 5579 | Cap No. 5419 Rec. No. 5579 | Cap No. 5420 Rec, No 5579 | Cap No. 5421 Rec. No. 5579 |
| No. 6257 <br> Duplex <br> Flush Receptacle | Cap No. 6918 Rec. No. 6257 | Cap No. 6919 Rec. No. 6257 | Cap No. 6921 Rec. No. 6257 | Cap No. 656 n . Rec. No, 6257 | Cap No. 5119 Rec. No. 6257 | Cap No 5420 Rec. No 6257 | Cap No 5421 Rec. No. 6257 |

## List Prices and Data

| List <br> No. | ('arton | Std. 1 k . | $\begin{aligned} & \text { Mifs } \\ & \text { List } \\ & \text { Fach } \end{aligned}$ | $\left\lvert\, \begin{gathered} \text { W. J.. } \\ \text { per } \\ \text { cirton } \end{gathered}\right.$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | (arton | stal. Plig. | Mifrs. Jist <br> Fach | W. F. per parten |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5419 | 10 | 5) | 81.15 | \$2.70 | 55. 47 | 10 | 50 | 80.60 | \$10.80 |
| 5420 | . 11 | 51 | 20 | 3.60 | 5.579 | 10 | 50 | . 60 | 10.80 |
| 5121 | . 111 | 5) | 25 | 4.50 | ti2.57 | 10) | 50 | . 85 | 15.30) |
| 6563 | . 10 | 50 | 35 | 9.40) |  |  |  |  |  |
| 6918 | . 10 | 5) | 15 | 2.70 |  |  |  |  |  |
| 6919 | . 10 | 30 | 20 | 4.50 |  |  |  |  |  |
| 6021 | . 10 | $5)$ | 2\% | 4.50 |  |  |  |  |  |

FLUSH PLATES FOR HUBBELL NO. 5547 RECEPTACLE


No. 5.748
No. 6585

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Imseription | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Stıl. Pkr. | $\begin{aligned} & \text { Thg. } \\ & \text { wt. } \\ & \text { Ihs. } \end{aligned}$ | $\begin{aligned} & 11 \mathrm{irs} \\ & 1 . \mathrm{ist} \\ & \text { Ginfl } \end{aligned}$ | $\begin{aligned} & \text { W. Fi, } \\ & \text { pir } \\ & \text { Cirton } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5548 | Simyle (stamped (10, m metal) 41 自 $\times 2$ 名 ins . | 10 | 311 | $1{ }^{16}$ | S0.3.) | \$7.019 |
| 15585 | Single (solid) $416 \times 23 / 4$ ins. | 111 | 51 | 18 | (1i.) | 11.71 |
| 5349 | 2 Latu (stimped (ofi() metal) | 1 | ?-1 | $1: 3$ | +1.91) | 2.33 |
| 6586 |  | 1 | $\because$. | 1.5 | $\dagger 1.30$ | 2 xt |
| ถัทล\% |  | 1 | 21 | 181 | +1.95 | 429 |
| Eisas |  | 1 | 10 | $\because 1$ | +2.60 | 5.72 |

STEEL PLATE (GENUINE BAUER-BARFF FINISH)



No. 6584
$\dagger$ For plates arranged in tandem. add $20 \%$ to the list prire.
Polished brass, brush hrass, polished bronze and oxidized copper are standard finishes for brask flush plates, ill other finishes on standard plates excepting pold and silver, add to list, per unit, Sl. 10 . W. F. list So.2.2.; for phate withont list cover and 80.20 per unit for phate with lift eover, W. E. List $\$ 0.44$. Brush hrass minper unkes otherwise fperinert.

HUBBELL FLUSH RECEPTACLES

| No. 5523 Brasi Covered Composition | No. 6356 Elongated Composiluan |  | 10.5700 Br.Cov.Compo "Knostrain" Bushing | No. 6328 Compo. Sulvel "Knistrain" Bushing | No, 3625 Porcelain Muluple Current Tino | No, 8335 Compo ition multiple Cispent Tap | iv. 5424 Porcelain Lamp Rectptacle | No. 5897 Compostion Lamp Receptacle |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cep No. 5523 Rec. No. 554 t | Cap No. 6336 Rec. No. 5547 | Cap No. 5657 Rec. No 5347 | Cap No. 5700 Rec. No. 5547 |  | Tap No. 5625 Rec. No. 5547 | Tap No. 6335 Rec. No. 5547 | Rec. No. 5424 Rec. No. 5547 | Rec. No. 589\% Rec No. 55si |
| Caf No. 5527 iec. No. 5579 | Cap No. 6336 Rec. No. 5579 | Cap No. 5657 Rec Na 5579 | Caf No. 5700 Rec. No. 5579 | Cap No. 6323 Rec. No. 5579 | 2 | * | Ric. No. 5424 Rec. No. 5579 | * |
| Cap No. 5523 Rec. No. 6257 | Cap No. 6336 Rec. No. 6257 | Cap No. 5657 <br> Rec. No. 6257 | Cap No. 5700 Rec. No. 6257 | Cap No. $6: 328$ Rec. No. 6257 | Tan Monvorz Rec, No, 6257 | Tan rivg. 53.35 Rec No. 6257 | Ret No. 542.4 Rec. No. 6257 | Rec. No. 5897 Rec. No. 6257 |

Schedule "H"

| Jist No. | Carton. | Std. <br> Pkg. | Mfrs. <br> List <br> Each | $\begin{aligned} & \text { W. E: } \\ & \text { Curton } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | C'irton | Std Pkg. | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Mfrs. <br> List <br> Each | $\begin{array}{r} \text { W. F. } \\ \text { pur } \\ \text { Carton } \end{array}$ |
| 5424 | 10 | 50 | 80.25 | 84.50 | 5x 097 |  |  |  |  |
| 55.3 | 10 | 50 | . 30 | 5. 5.40 | (125.37 | 10 | 50 | 80.30 .85 | \$5.40 |
| 5.247 | 10 | 50 | . 60 | 10.80 | 6;328 | 10 | \%10 | . 35 | 15.30 6.30 |
| 5657 | 10 | 50 | . 35 | (i.30 | 03335 | 111 | 50 | . 40 | 7.20 |
| 5700 | 10 | 50 | - 55 | 8.10 | 6336 | 10 | 51 | . 25 | 4.50 |

Flush Plates for Hubbell No. 5579 Receptacles Listed Above
DOUBLE HINGE LIFT COVER PLATES


No. 5580

| Jist No. | Descriptiota | Carton | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wget. } \\ & \text { J.is. } \end{aligned}$ | $\begin{aligned} & \text { Mifs. } \\ & \text { I.ist } \\ & \text { Fach } \end{aligned}$ | $\begin{aligned} & \text { W. } \mathrm{E} \\ & \text { Part. } \\ & \text { Cart. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5580 | Singe(solid) $41.15{ }^{3}$ |  |  |  |  |  |
| 5581 | 2 gange solid) $4^{1}-2 x+16$ ins | 1 | 25 | 18 | 178180 | $\$ 2.520$ 6.16 |
| 5582 50.000 |  | , | 20 | 17 | $1+5.20$ | $\because \cdot 16$ |
| 56\% 6 |  | 1 | 10 | 20 | $1+5.60$ | 12.32 |

PLATES EOR NO. 6257 DUPLEX RECEPTACLE LISTED ABOVE

| 6258 | Singlw (stamped .0f0 metal) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6588 | Single (solid) 4 . | 10 10 | 501 80 | 15 16 | 8040 | S8.00 |
| (1259) | 2 karg (stamped .0rio metal) <br>  |  |  |  |  | 11.70 |
| $\mathrm{fl}_{688}$ | 2 gang (solid) 41 \% 4 最 ins | 1 | 25 | 12 13 | $\dagger 1.30$ +1.50 | 2.99 3.30 |
| AiPtin |  | , | 20 | 17 | +1.50 | 3.30 4.9 .5 |
| 6261 | 4 gathy (bolid) 4 ! ${ }^{\text {a }} \times 88^{\frac{3}{6}}$ ins... | 1 | 10 | 18 | 3.00 | (1.9.70 |



No. 6258
No. 6587 without extra charge. When two Nos appear with iljustration, thicereptarle and rap are pached and sold as separate


## HUBBELL ATTACHMENT PLUGS AND RECEPTACLES



Multiple Attachment Plugs
WITH MEDIUM SCREW BASE
660 Watts-250 Volts Schedule "H"

| 660 Watts-250 Volts |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List] } \\ & \text { No. } \end{aligned}$ | Description | Carton | Pkg. Wt. Lbs. | Std. Pkg. | Mirs. List Each | W. E. per Carton |
| 6287 | Multiple plug, serew base, two outlets, less caps . . . . | 5 | 10 | 10 | \$0.70 | \$6.30 |
| 6288 | Multiple plug, screw base, three outlets, less caps.... | 5 | 15 | 10 | 1.05 | 9.45 |

## WITH KNIFE-BLADE CONTACTS

6 Amperes- 250 Volts
FOR USE WITH ALL HUBBELL RECEPTACLES, EXCEPTING FLUSH RECEPTACLES HAVING LIFT COVER

| 6289 | Multiple plug, knife-blade base, two outlets, less caps . . I | 5 |  | 15 | 1 | 10 | 1 | \$0.70 | \$6,30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

FOR USE ONLY WITH FLUSH RECEPTACLES HAVING LIFT COVER
No. 5579 Type


FOR USE WITH ALL HUBBELL RECEPTACLES, EXCEPTING FLUSH RECEPTACLES HAVING LIFT COVER

| 6290 | \| Multiple plug, knife-blade base, three outlets, less caps. | 5 | 1 | 15 | 1 | 10 |  | $\$ 1,05$ | 189.45 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

FOR USE ONLY WITH FLUSH RECEPTACLES HAVING LIFT COVER, No. 5579 TYPE | 6292 | \| Multiple plug, knife-blade base, three outlets, less caps. | | 5 | 1 | 15 | 1 | 10 | 1 | $\$ 1.05$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Interchangeable caps for multiple attachment plugs are listed elsewhere.
Angle Lamp Receptacle
660 Watts-250 Volts Schedule "H"

| List <br> No. | Description | Carton | Pkg. Wt. <br> Lbs. | Std. Pkg. | Mirs. List Each | $\begin{gathered} \text { W. E. } \\ \text { per } \\ \text { Carton } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{\mathrm{No.}}{5515}$ | Porcelain angle receptacle . . . . . . . . . . . . . . . . . . . . | 10 | 12 | 50 | \$0.40 | \$7.20 |

Designed for show case and window lighting.
Made to fit any Hubbell Standard plug base, wall or flush receptacle.
The easy manner in which a lamp can be inserted and the cap connected or disconnected, is a feature of merit and economy.

# HUBBELL SIGNALITES AND CURRENT TAPS 



No. 56017 Base


No. 5612 Base


No. 6917 Base


No. 6109
"Signalite"


No. 6111
Polarized "Sipnalite"

## Signalites

FOR HUBBELL PLUGS AND RECEPTACLES
6 Amperes, 125 Volts
With Standard Knife-Elade Contacts

|  | With Standard Knife-Elade Contacts |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { list } \\ & \text { no. } \end{aligned}$ | Wescription | $\begin{aligned} & \text { C'artor } \\ & \text { (Inty: } \end{aligned}$ | Std. Ilig. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mfrs. List Each | W. E. <br> per Carton |
| 6108 | "Signalite" without lamp | 11 | 30 | 12 | \$0.55 | \$.). 90 |
| 6109 | "Signalite" complete with lamp | 13 | 30 | 12 | . 95 | 17.10 |
| 63311 | "Signalite" without lamp, but with No. oboz porcelain base. | 10 | 30 | 15 | . 70 | 12.60 |
| 6312 | "Sigualite", complate with lamp and No. jbot poreclain base | 10 | 30 | 20 | 1.10 | 19.80 |
| 6313 | "Signalite", without lamp, but with No. 5612 composition base | 11 | 30 | 15 | . 75 | 13.50 |
| 6314 | "Signalite" complete with lampand No. 5812 comporition has* | $11)$ | 30 | 20 | 1.15 | 20.70 |

## WITH SMALL POLARIZED KNIFE-BLADE CONTACTS

| 6110 | "Signalite" without la | 10 | 30 | 12 | \$0.55 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6111 | "Signalite" complete with la | 1) | 30 | 12 | 95 | 17.10 |
| 6315 | "Signalite" without lamp, but wit | 10 | 30 | 15 | 0 | 12.80 |
| 6316 | "Signalite" completo with lamp and No. 6917 composition b | 10 | 0 | 15 | 1.10 | 19,80 |

"Signalites" are suitable for use with all elertrically heeted deviers of 6 anpures, 125 volts or less.
Each plug is supplied with an chectro-wolded lamp guard to protect the lamp from breakage.
"Signalites" are supplied with red lamps.
All brass parts are nickel-plated. Eduipped with either standard fubholl knife-blade contacts, or small polarized type, and are interehangeable with the entime line of Ifutholl Ahachment Plugs.


## Double Outlet Current Tap <br> MULTIPLE-PORCELAIN

660 Watts, 250 Volts
Schedule " $\mathbf{H}$ "

| 660 Watts, 250 Volts |  |  |  | Schedule "H' |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 1)escription | $\begin{aligned} & \text { Carton } \\ & \hline \text { (2nty } \end{aligned}$ | Std. Phg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | Mifs. List Earh | $\begin{gathered} \text { W. F. } \\ \text { per } \\ \text { (arton } \end{gathered}$ |
| 6553 | Current tap with two No. 5419 porcelain caps | 10 | 5) | 30 | \$0.80) | -14.40 |
| 6554 | Currant tap, borly onlyan $\therefore$. | 10 | 50 | 20 | . 50 | 0.00 |
| SERIES CURRENT TAFG |  |  |  |  |  |  |
| 5653 | Without shade holder groove. | 10 | 50 | 25 | \$0.50 | \$.9.00 |
| 5736 | With shade holder groove. . . . .............. | 10 | (0) | 25 | - 50 | 9.00 |
| 5626 | Lammereptacle current tapm side wive outlot. | If) | 5) | 15 | . 35 | 6.30 |

## HUBBELL SPECIALTIES



ㅊ. 5567


No. 5737


No. 5898

No. 5553
No. 6156

## Separate Caps and Lamp Receptacles FOR LARGE TYPE POLARIZED PLUG RECEPTACLES

 5nos Porechath lamp receptable for 20 anpere phass

Standard finishes for brass covered eaps are brush brass or polished brass
Brush brass furnished unless otherwise specified.
All other finishes excepting gold and silver, add to list \$0.11. Mirs. List \$0.05.


Nio. 5743

No. 6821


No. 5525


No. 5526

Composition Cord Connector
WITH METAL COVERED "KNOSTRAIN" BUSHINGS


POLARIZED COMPOSITION CORD CONNECTOR 6 Amperes- 250 Volts

| POLARIZED COMPOSITION CORD6 Amperes- 250 Volts |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 574.3 | Polarized connector, with brass covered can | 10 | 30 30 30 | 110 | 81.00 | $\$ 18.00$ <br> 1100 |
| 6278 | Composition body maly . . . . . . | 10 | 331 | 123 | 誰 | 9.10 |
| 5567 | (ap only. . . . . . . . . . |  |  |  |  |  | 5567 Cap only

Brush brass standard finisit or catps.
For special finisticd brass covered caps, sce listing elsewhere.
SMALL POLARIZED CORD CONNECTOR
6 Amperes- 250 Voits


6822
6918 Composition cap only

FUSIBLE PLUG CAPS
Equipped with Extra Set of Binding Screws for Fuse Wire-6 Amperes-250 Volts
$\overline{5524}$ | Porechain rap
5525 Composition cap
Equipped with "Knostrain" Bushing for Reinforced Cord

The above caps are a trifle deeper than the regulat conbert Ilubs.

 When furnished with flush receptacles, no extra charge is made for corresponding standard finish of plates.

## HUBBELL ATTACHMENT PLUGS AND RECEPTACLES

For Three-wire Work--Polarized


## Separable Attachment Plugs

660 Watts- 250 Volts
Schedule "H"

| $\begin{aligned} & \text { l.ist } \\ & \text { No. } \end{aligned}$ | )escription | Carton <br> Quantity | $\begin{aligned} & \text { Phg. } \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | Std. 1 kg . | Mirs List Fach | $\begin{array}{r} \text { W. E. } \\ \text { per } \\ \text { Cartor } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $6{ }^{61.10}$ | With poredain cap. . . . . . . . . . | 10 | 40 | 100 | 80.50 | \$11.00 |
| $614+1$ 6146 | With brass covored porrelain (ay). | 10 | 40 | 100 | . 60 | 13.20 |
| 63108 6308 | With brass covered compme. . . . . | 10 10 | 40 40 | 100 100 | 5.5 | 12. 10 |
| (i) 42 | Porrelain base only . . . . . . . . . . . | 10 | 30 | 100) | . 30 | 14.30 (i.6) |
| (6)43 | Porcelain cap only | 10 | 12 | 50 | 25 | 4.50 |
| (6) 14 | Brass covered porcelain cap | 10 | 12 | 51 | .35) | 6.30 |
| 61.49 | Composition cap only . . . . | 10 | 15 | 50 | . 30 | 5.40 |
| 6150) | Brass covered composition cap only | 10 | 1.5 | 50 | 4) | 7.20 |

## Composition Cord Connector

| 6 Amperes-250 Volts |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6408 | Cord commedor | 10 | 20 | 50 | \$0.s0) | \$14.40 |
| 6409 | ('omposition body only | 10 | 15 | \%) | . 50 | 0 |

## Wall Receptacle

| 6 Amperes-250 Volts |  |  |  |  | Schedule "H'? |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6045 | With porcelain cap. | 10 | 30 | 50 | \$0.75 | \$13.50 |
| 60)46 | With brass covered porcelain cap | 10 | 30 | 5) | . 85 | 15.30 |
| 6147 | With composition cap) . . . . . . . | 10 | 30 | 50 | . 80 | 14.40 |
| $6: 309$ | With brass covered composition (ap) | 10 | 30 | 50 | . 90 | 16.20 |
| 66) 47 | Concealed base only. . . . . . . . . . . . | 10 | $2)^{\circ}$ | 50 | . 55 | 9.90 |

The neutral contact blade of the three-wire cap is made slightly longer than the others and makes contart first when the plug is inserted, and holds contart until after the others are disconnected. The polarity arrangement insures proper comection at all times.

Supporting screw holes 13 inches on conters.
Brush brass and polished brass are standard finishes for brass eovered caps, Brush brass shipped unless otherwise specified.

For special finished brass covered caps, add $\$ 0.11$ to list. Mfrs. List $\mathbf{8} 0.05$.

## 20 Ampere Wall Receptacle <br> 20 Amperes- 250 Volts

Schedule "H"

| 6055 | Receptacle, with eoncealed base and polarized cap | 10 | 30 | 30 | \$1.25 | \$22.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60.58 | Polarized cap only . . . . . . . . . . . . . . . . . . . . | 10 | 15 | 30 | . 60 | 10.80 |
| 6059 | Concraled base only | 10 | 25 | 30 | . 65 | 11.70 |

Brush brass and polished brass are standard finishes for caps; all other finishes, excepting gold and silver, add to list $\$ 0.11$. Mrrs. List \$0.(0).

Supporting screw holes, $13 / 4$ inches on centers.

No. 6143
MOTOR ATTACHMENT PLUGS
Reverse Type
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description <br> 6 Amperes- 250 Voltz | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List, Each | $\begin{array}{r} \mathrm{W} . \mathrm{F} . \\ \text { per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5746^{4}$ | Comp. borly, purcelain cap | 10 | 50 | 15 | N0.45 | \$8.10 |
| $5747{ }^{\text {* }}$ | Comp. body, with knostrain bushing, porcelain cap | 10 | 50 | 15 | 95 | 17.10 |
| $5744^{\text {4 }}$ | Porcelain cap only with knife-blade contarts. | 10 | 50 | 10 | 15 | 2.70 |
| $5894^{\text {® }}$ | Comp. boby, conrposition cap. . . . . . . | 10 | 30 | 15 | . 50 | 9.00 |
| $5895{ }^{\text { }}$ | Comp. body, with knostrain bushing, comp. cap | 10 | 50 | 20 | 1.00 | 18.00 |
| 5896 ${ }^{\text {- }}$ | Composition cap only with knife-blade contar | 10 | 50 | 10 | . 20 | 3.60 |
| 6069 | Porcelain borly, porcelain cap......... | 10 | 5 | 15 | . 40 | 7.20 |
| 6087 | Porcelain borly only.... | 10 | 50 | 10 | $\therefore 25$ | $\pm 40$ |
| 5574 | Composition body only. | 10 | 50 | 10 | -30) | 540 |
| 6095 | Composition body only with knostrain bushing. | 10 | 50 | 15 | .80 | 14 -10 |

POLARIZED MOTOR PLUG

| 6277 | Composition polarized motor plug, it amperes, 250 volts. . | 10 | 30 | 15 | \$0.80 | \$14.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6278 | Composition body only | 10 | 30 | 12 | . 50 | 9.00 |
| 6279 | Composition cup, with knife b | 10 | 30 | 10 | 30 | 5.40 |

## REVERSE ATTACHMENT PLUGS

Schedule "H"

| 5652 | Composition attachment plug, 10 amp.-250 $\mathrm{V} \ldots \ldots . .$. | 10 | 50 | 20 | 0.75 | $\$ 13.50$ |
| :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| 6098 | Composition base only with enclosed terminals........ | 10 | 50 | 15 | .45 | 8.10 |
| 6099 | Composition cap with knife blade contacts............ | 10 | 50 | 10 | .30 | 5.40 |

## REVERSE MOTOR PLUG-With Knostrain Bushing

Schedule "H"


Screw holes for attaching the base to apparatus are spaced $1 \frac{29}{32}$ inches on centers.
The diameter of base is $21 / 4$ inches. Height over all, $23 / 4$ inches.
20 AMPERE WALL RECEPTACLES FOR NATIONAL METAL MOULDING
20 Amperes- 250 Volts
WITH ONE-WAY BASE
Schedule "H"


No. 6090

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Std. Pkg. | Pkg. Wt. Lbs. | Mirs. List Each | $\left\lvert\, \begin{array}{r} \text { W. F. } \\ \text { per } \\ \text { carton } \end{array}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6090 | With brass covered cap, polarizel. | $11)$ | 30 | 20 | \$1.00 | \$18.00 |
| 6091 | Base only:....... | 10 | 30 | 15 | . 50 | 9.00 |
| 5553 | Brass covered cap only, polarized. . | 10 | 30 | 10 | . 50 | 9.00 |

## WITH TWO-WAY BASE

| $6 i) 92$ | With brass covered cap, polarized. . | 10 | 30 | 20 | \$1.00 | \$18.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6093 | Base only. . . . . . | 10 | 30 | 15 | . 50 | 9.00 |
| 5553 | Brass covered cap only, polarized. | 10 | 30 | 10 | . 50 | 9.00 |

## HUBBELL WALL RECEPTACLES Porcelain Wall Receptacles



No. some



POLARITY WALL RECEPTACLES
6 Amperes- 250 Volts

| 6 Amperes-250 Volts |  |  |  | Schedule ' $\mathrm{H}^{\prime \prime}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Description | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List <br> Each | $\begin{aligned} & \text { W. E. } \\ & \text { Per } \\ & \text { Carton } \end{aligned}$ |
| 5882 | Receptacle with concealed base and polarized cap | 10 | 30 | 16 | \$0.75 | \$13.50 |
| 5883 | Receptacle with cleat base and polarized cap.. . | 10 | 30 | 17 | . 75 | 13.50 |
| 5884 | Receptacle with molding base and polarized cap | 10 | 30 | 17 | . 75 | 13.50 |
| 5567 | Polarized cap only . . . . . . . . . . . . . . . . . . . . . | 10 | 30 | 12 | . 50 | 9.00 |
| 5885 | Base only, concealed type. | 10 | 30 | 9 | . 30 | 5.40 |
| 5886 | Base only, cleat type.... | 10 | 30 | 10 | . 30 | 5.40 |
| 5887 | Base only, molding type. | 10 | 30 | 10 | . 30 | 5.40 |

Supporting screw holes: No. 5882 , concealed base, $11 / 2$ inches on centers; No. 5 sא:3, cleat base, $1 \frac{13}{16}$ inches on centers; No. 5884 molding base, $11 / 8$ inches on centers.

20 Amperes- 250 Volts
Schedule "H"

| 5557 ^ | Receptacle with concealed base an I polarized | 10 | 30 | 25 | \$1.00 | \$18.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5558{ }^{\text {® }}$ | Receptacle with cleat base and polarized cap. | 10 | 30 | 25 | 1.00 | 18.00 |
| $5559{ }^{\text {4 }}$ | Receptacle with molding base and polarized cap | 10 | 30 | 25 | 1.00 | 18.00 |
| $5553{ }^{\text {® }}$ | Polarized eap only..... | 10 | 25 | 10 | . 50 | 9.00 |
| $5621^{\star}$ | Base only, concealed type | 10 | 30 | 18 | . 50 | 9.00 |
| 5622 ${ }^{\text {® }}$ | Base only, cleat type.. | 10 | 30 | 18 | . 50 | 9.00 |
| $5623{ }^{4}$ | Base only, molding type | 10 | 30 | 18 | . 50 | 9.00 |

Brush brass and polished brass, standard finishes for caps. All other finishes, excepting gold and silver, add to Mfrs. List \$0.05. W. E. List \$(0).11. Supporting screw holes: No. 5557, concealed base, $1 \frac{7}{16}$ inches on centers; No. 5558 , eleat hase, $1 \frac{25}{32}$ inches on centers; No. 2559 , molding base, $11 / 2$ inches on centers.

POLARITY CONDUIT BOX RECEPTACLES
20 Amperes- 250 Volts
Schedule "H"

| 5605 | Polarity receptacle, brass covered cap | 10 | 25 | 20 | \$1.00 | \$18.0) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5757 | Polarity receptacle, base only. | 10 | 25 | 15 | . 50 | 0.00 |
| $5553{ }^{4}$ | Brass covered cap only | 10 | 25 | 10 | 50 | 9.00 |

Supporting screw holes $5 / 8$ inch on centers.
Brush brass standard finish for cap. All other finishes excepting gold and silver add to W. I. Jist. $\$ 0.11$, to Mrs. List $\$ 0.05$.

POLARITY WALL RECEPTACLES
With Knostrain Bushing for No. 10 Jumper Cable 20 Amperes- 250 Volts

Schedule ' H '"

| $5726^{\star}$ |
| :--- |
| $5727^{\star}$ |
| $5728^{\star}$ |
| $5665^{\star}$ |
| $6621^{\star}$ |
| $5622^{\star}$ |
| $5623^{\star}$ |


| Concealed base, screw holes 1716 inches on centers. . . . . . | 10 | 30 | 32 | \$1.50 | \$7.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cleat base, screw holes $1 \frac{8}{3} \frac{8}{2}$ inches on centers. . . . . . . . . | 10 | 30 | 32 | 1.50 | 27.00 |
| Molding base, screw holes $11 / 2$ inches on cent | 10 | 30 | 32 | 1.50 | 27.00 |
| Cap only, polished brass. . . . . . . . . . . | 10 | 25 | 12 | 1.00 | 18.00 |
| Base only, concealed. . | 10 | 30 | 18 | . 50 | 9.00 |
| Base only, cleat. | 10 | 30 | 18 | . 50 | 9.00 |
| Base only, molding. | 10 | 30 | 18 | . 50 | 9.00 |

Standard finish for caps polished anl brush brass. All other finishes excepting gold and silver add to list $\$ 0.11$. Mfrs. List $\$ 0.05$. For separate caps see listing elsewhtre. Supporting screw holes: No. 5726 , concealed base, $1 \frac{7}{16}$ inches on centers, No. 5727 , cleat base, $1 \frac{25}{3}$ inches on centers; No. 5728, moldink base, $11 / 2$ inches on centers.
${ }^{4}$ National Flectrical Code Stanlard.

HUBBELL FLUSH RECEPTACLES


No. 5722
No. 5565
No. 5551

## Polarity Flush Receptacles

20 Amperes- 250 Volts

|  |  | Schedule "H" |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Description | ('arton Quantity | Std. 1'kr. | $\begin{aligned} & \text { l'ky. } \\ & \text { Wit. } \\ & \text { I.h. } \end{aligned}$ | Mfrs. <br> I.ist <br> f:ach |  |
| *57224 |  | . | 30 | $3{ }^{2}$ | 82.50 | 5.7. 50 |
| *55514 | Complete with cap and $41 / 2 \times 23.4$ inch plato. . . . . . . . . . . . . . . |  | 301 | 32 | $\because .100$ | 1. 411 |
| $5.552 *$ | Receptacle only . . . . . . . . . . . . . . . . . . . . . . | 111 | 30 | 17 | . 75 | 1:3.50 |
| 55534 | Cap only........... | 10 | 310 | 111 | . 311 | (1) 110 |
| $55.54{ }^{4}$ | Single gang plate, $41 / 2 \times 23$ inulu | 10 | 311 | $11)$ | . 75 | 1350 |
| $55.55{ }^{4}$ | †Two pang plate, $41 / \frac{1}{2}+\frac{y}{16}$ inchas | 1 | 1.5 | 10 | +1.50 | 3319 |
| 5.5564 | $\dagger$ Three gang plate, $41 / 2 \times 16^{3}$ inches. | , | 10 | 111 | +2.25 | 4.30 .5 |
| $5586{ }^{4}$ | \$Howr gang rlate, 41/2xN it inches. . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 1 | 10 | 14 | +3.00 | 15.60 |

Polarity Flush Receptacles




 listing elsewhere. Brush brass platos aml caps will be furnishod of all orders unless of herwise sperified
*Poreclain: receptacle, plate ahd cap parked in separate fartons moder their tespertive catalog number.
$\dagger$ For plates arranged in tandem, arden per cent to the list priere.
Flush Receptacles
6 Amperes, 250 Volts Polarized. For Three-Wire Work


[^54]No. 6119


Quoted on Request
Western Electric
HUBBELL FLUSH RECEPTACLE
With Adjustable Aligning Plate
(National Electrical Code Standard)


No. 6618


Nio. 6619


Showing Construction of Adjustable Lugs and Slides

|  | 6 Amperes - 250 Volts |  |  |  | Schedule " $\mathrm{H}^{\prime \prime}$ " |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Description | Carton Quantity | Stal. Pkg. | $\begin{aligned} & \text { lpg. } \\ & \text { Wt. } \\ & \text { Ibss. } \end{aligned}$ | $\begin{aligned} & \text { Mifs. } \\ & \text { List } \\ & \text { Price } \\ & \hline \end{aligned}$ | IV. E. List per (arton |
| *6618 | Porcelain flush receptacle, complete with adjustable aligning plate. | 10 | 50 | 35 | *\$0.60 | \$10.80 |
| 6619 | Single, brass flush plate, stamped (out metal)..... . | 10 | 50 | 15 | . 3.5 | 6.30 |
| 66:20 | Two-gang, brass flush plate, stamped (.040 metal). | 1 | 25 | 12 | 1.00 | 2.20 |

lolished brass, brush brass, polished bronze and oxidized copper are standard finishes for brass flush plates. Brush brass shipped unless otherwise specified.
*When the No. 6618 receptacle is sold with the No. 6619 brass face plate the list price of the receptacle will be $\$ 1.32$, and of the brass plate, $\$ 0.77$, making a total list price oi $\$ \geq .09$. When the receptacle is sold separately, without the brass face phate, the list price of the receptacle with aligning plate only, will be $\$ 1.54$.


No. 617.)


No. 6179
Exploded View


No. 5598
Composition Attachment Plug
FOR SMALL MOTORS
6 Amperes- 250 Volts

| List <br> No. | Description | Carton Quantity | Stol. Pkr. | $\begin{aligned} & \text { Plos. } \\ & \text { Wht. } \\ & \text { Ihs. } \end{aligned}$ | $\begin{aligned} & \text { Mifrs. } \\ & \text { List } \\ & \text { Prir } \\ & \hline \end{aligned}$ | IV. V. List per carton Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6179 | ('mmposition motor plug. | 10 | 50 | 27 | 80.35 | \$6.30 |
| $6 \mathrm{6ti3)}$ | ('omposition motor plag boly only | 10 | 50 | 20 | . 20 | 3.160 |
| 6 ti 31 | ( omposition motor plug hase only. | 10 | 50 | 15 | .15 | 2.70 |

The motor phag listed above is designed for use with deviees emploving smatl motors such as vacum cleaners, foor serubhers and the like. It is constructed of a high-grade, heat-proof composition, measuring, assembled, $15 / 8$ inches in length and $1 \frac{1}{32}$ inches diameter at bottom of base. The portion with contact blade is arranged with hoding slots or grooves for fitting into the apparatus and all current carrying parts of the portable boily are carefully concealed within patented areing chambers to prevent accidental contact.

## Heavy Duty Polarized Attachment Plug 660 Watts- 250 Volts

| 5508 | Poreelain plug with brass covered cap | 10 | 30 | $\stackrel{2}{2}$ | 80.65 | \$11.70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6652 | Iorcelain body only. . . . . . . . . . . | 10 | 30 | 1.5 | . 15 | $\because .70$ |
| 5nit | lirass covered polarized eap. | 10 | 30 | 12 | . 50 | 9.00 |

| 3rush brass standard finish for cap.
All other finishers, add \$0.11 to list.
Polarized cap No. 5567 shown above interchanges with 6 ampere polarized receptacles listed.


Showing Casing Attached


No. 5767


No. 6580

No. 5748


## Rubber Casing and Ring <br> FOR ATTACHMENT PLUGS



# P \& S SOCKETS AND RECEPTACLES Porcelain-Interchangeable 



No. 61217


No. 61317


No. 61227


No. 488


No. 1218

The body of the "interchangeable" line is held to the base ant cap by the one contact screw.
The interchangeable line is very convenient for filling rush orders. For example: you have in stock a quantity of P\&S 61217 and 435 . Yon receive an order for 60217 and have none in stock; by changing the cap from 61217 to 435 and from 435 to 61217 you will have 60217 keyless socket to fill the order, leaving in stock No. 434 key socket.

Schedule "B"

| List <br> No. | Description | Carton Quantity | Stel. Pkg. | Pkg. Wgt. | Mfrs. List Each | W.E.List perCarton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢12174 | Key, all porcelain, with pendent (at) | 10 | 250 | 101 | \$0.33 | \$7.26 |
| 602174 | Keyless, all porcelain, with pendent cap | 10 | 250 | 88 | 30 | 6.60 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 1218 | Key, $3 / 8$ in. brass angle calp | 10 | 100 | 37 | \$0.55 | \$12.10 |
| 1219 | Keyless, $3 / 8 \mathrm{in}$. brass angle cap | 10 | 100 | 35 | . 52 | 11.44 |
| 1220 | Key, $3 / 8$ in. aluminum angle cap | 10 | 100 | 25 | . 70 | 15.40 |
| 1221 | Keyless, $3 / 8$ in. aluminum angle (tap). | 10 | 100 | 2.3 | . 67 | 14.74 |



No. 4.34


No. 61327


No. 485


No. 1222
Schedule "B"

| List No. | Description | Carton <br> Quantity | Std. Plig. | Pkg. Wgt. | Mirs. List Each | W. E. List perCarton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $434^{4}$ | Key, polizhed brass cap, with $1 / 4 \mathrm{in}$. (ap). | 10 | 10) | 42 | \$0.45 | \$9.90 |
| $435{ }^{4}$ | Keyless, polished brass cap, with $1 / 4$ in. eap. | 10 | 100 | 33 | . 42 | 9.24 |
|  |  |  |  |  |  |  |
| $61327^{\wedge}$ | Key, polished brass catp, with 38 in. cilp... | 10 | 100 | 42 | \$0.40 | \$8.80 |
| $60327^{4}$ | Keyless, polished brass cal], with 3 , in. caj). | 10 | 10) | 38 | . 37 | 8.14 |
|  |  |  |  |  |  |  |
| $485{ }^{4}$ | Key, with $1 / 2$ in aluminum cap. | 10 | 10) | 42 | \$0.60 | \$13.20 |
| $241{ }^{\text {² }}$ | Keyless, with $1 / 2$ in. aluminum cap. <br> The cap of this socket is made of ahmimmen and is not supplied in special finishes. | 10 | 100 | 38 | . 57 | 12.54 |
|  |  |  |  |  |  |  |
| 122\% | Sey, $1 / 2 \mathrm{in}$. aluninum angle cap. | 10 | 100 | 26 | 50.80 | \$17.60 |
| 1223 | Keyless, $1 / 2 \mathrm{in}$. aluminum angle (cap). | 10 | 100 | 24 | . 77 | 16.94 |

- National Electrical Code Standard.

MOGUL BASE SOCKETS AND RECEPTACLES



No. 517


No. 1183


No. 524

Mogul Porcelain Sockets

| List No. | Description | Schedule | Carton ${ }_{\text {Cuantity }}$ | Std. Pkg. | $\begin{aligned} & \text { likg. } \\ & \text { Wt. } \\ & \text { has. } \end{aligned}$ | $\begin{gathered} \text { Mirs. } \\ \text { List } \\ \text { Earhh } \end{gathered}$ | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 13 | 2 | 50 | 70 | 81.00 | \$4.40 |
| 518 | With $1 / 8 \mathrm{in}$. brass cap, loug skirt. | 13 | 2 | 50 | 70 | 1.00 | 4.40 |
| 517 | With $3 / 4 \mathrm{in}$. brass cap, lone skirt. | 13 | 2 | 50 | 70 | 1.00 | 4.40 3.74 |
| 1183 | With 38 in. cast jron yoke, long skirt | 13 | 2 | \%) | $\ldots$ | . 85 | 3.74 |
| 1184 | With $3 / 2 \mathrm{in}$, cast iron yoke, long skirt | 13 | 2 | 50 | - | 85 | 3.74 |
| 1185 | With $\frac{3}{1}$ in. cast iron yoke, long skirt | 13 | $\stackrel{2}{2}$ | 50 |  | 85 | 3.74 |
| 5:3 | Without cap, long skirt. | 13 | $\stackrel{2}{10}$ | 50 | 50 | .79 | 3.08 |
| 524 | Without (ah), short skirt. | 13 | 10 | 50 | 50 | ${ }^{75}$ |  |

[^55]National Electrical Code Standard Illustrations 3'z actual sizu

## P \& S DECORATIVE SOCKETS

SOCKETS WIRED WITH NO. 12 WIRE Schedule "B"

| 6610tis | 4 in. | \$62.92 | $6 \mathrm{k} 1115^{4}$ | 13 in . | \$79.42 | $66130^{4}$ | n. | \$95.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $66107^{4}$ | 5 in . | 64.79 | $66116^{4}$ | 14 in . | 81.07 | $66132^{4}$ | 23 in . | ${ }^{97} .46$ |
| $66108{ }^{4}$ | 6 in . | 67.10 | $661117^{4}$ | 15 in . | 82.9 .1 | 66134 ${ }^{\text {4 }}$ | $24 \mathrm{in}$. | 99.22 |
| 661094. | 7 in . | 68.42 | $66118{ }^{4}$ | 16 in . | 84.60 | 661364 | 25 in. | 101.20 |
| $66110^{4}$. | 8 in. | 69. 30 | $66120^{4}$ | 17 in . | 86.57 | 661384 | 26 in. | 102.85 |
| $65111^{4}$. | 9 in . | 72.05 | $66122^{4}$ | 18 in . | 88.33 | 661404 | 27 in. | 104.72 |
| 661124. | 10 in . | 73.81 | 6612.4 | 19 in . | 90. 20 | 66142 ¢ | 28 in. | 106.48 |
| (601134. | 11 in . | 75.65 | $66126^{4}$ | 20 in . | 91.96 | $66144{ }^{\text {4 }}$ | 29 in . | 108.35 |
| mil144. | 12 in. | 77:44 | 66128 | 21 in . | 93.83 | 661464 | 3 in . | 110.29 |



Ready Wired Mica Sockets
SOcKETS WIRED WITH NO. 14 WIRE
Schedule "B"

| List No. | Centers | IV. L. List Price per 100 | List <br> No. | Centers | $\left\|\begin{array}{c} \text { W. E. } \\ \text { List I'rice } \\ \text { per } 100 \end{array}\right\|$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Centers | W. F. List Pric per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $220{ }^{4}$ | 4 in . | Stis. 20 | 2304 | 13 in. | \$83.05 | 2454 | 22 in . |  |
| 2214 | 5 in . | 60.85 | 2314 | 14 in. | 84.70 | 2464 | 22 in. | $\$ 97.30$ 99.55 |
| 2224 | $6 \mathrm{in}$. | 71.60 | 2324 | 15 in. | 81.35 | $248{ }^{4}$ | 24 in. | 101.20 |
| $223{ }^{\text {A }}$ | 7 in. | 73.15 | 2344 | 16 in . | 88.00 | 2494 | 25 in. | 102.85 |
| 22.14 | 8 in . | 7.80 | 2354 | $17 \mathrm{in}$. | 89.65 | 2504 | 26 in . | 104.50 |
| 2954 | 9 in . | 76.45 | 2364 | 18 in . | 91.30 | 2514 | 27 in . | 106.15 |
| 2248 | 10 in . | 78.10 | $238{ }^{4}$ | 19 in. | 92.95 | 2524 | 28 in . | 107.80 |
| 2284 | $11 \mathrm{in}$. 12 in. | 79.75 81.40 | 2394 | 20 in. | 94.60 | 2534 | 29 in. | 109.45 |
| SOCKETS WIRED WITH NO. 12 WIRE Schedule "B" |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 2554 | 4 in. | \$73.92 | $264{ }^{\text {a }}$ | 13 in. | \$10.40 | $273{ }^{4}$ |  | \$11)(i.59 |
| $251{ }^{4}$ | 5 in. | 75.79 | $265^{4}$ | $14 \mathrm{in}$. | 02.07 | 2744 | 23 in . | $\begin{array}{r} 108.46 \\ 10.409 \end{array}$ |
| $25.4{ }^{4}$ | $6 \mathrm{in}$. | 78.10 | $266^{4}$ | 15 in . | 93.91 | 2754 | 24 in. | 110.22 |
| 25884 | 7 in . | 79.42 80.30 | $267^{4}$ | 16 in. | 95.70 | 2764 | 25 in. | 112.20 |
| 2594 | 8 in . | 80.30 | $2688^{4}$ | 17 in . | 97.57 | 2774 | 26 in . | 113.85 |
| 2604 | 9 in. | 83.05 | 2694 | 18 in . | 99.33 | 2784 | $27 \mathrm{in}$. | 115.72 |
| 2614 | 10 in. | 8\% 81 | 2704 | 19 in. | 101.20 | 2794 | 28 in . | 1117.48 |
| $26{ }^{104}$ | 11 in . | 8, 688 | 2714 | 20 in. | 109.36 | 2804 |  |  |
| $263{ }^{4}$ | $12 \mathrm{in}$. | 85.44 | 2724 | 21 in . | 1948 | 2814. | $39 \mathrm{in}$. | $\begin{aligned} & 119.35 \\ & 121.22 \end{aligned}$ |

${ }^{2}$ National Electrend Cone standard.

## $P$ \& S SOCKETS AND RECEPTACLES Porcelain-Interchangeable



No. 100136



No. 61087

RECEPTACLE WITH MOLDING BASE
For Use with Wood Molding
Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. Pkg. | Pkg. Wgt. | Mfrs. List Each | W. E List perCarton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 100136^{\star} \\ 426^{\star} \end{array}$ | Key, with molding base ............................. Keyless, with molding base . ....................... <br> Holes for supporting screws are spaced $17 / 6$ inches on centers. <br> Shade holder P \& S 119 or 1190 may be used. | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ | 100 100 | 50 lbs 48 lbs | $\$ 0.35$ .32 | $\$ 7.70$ 7.04 |

## SOCKETS WITH CONCEALED WALL BASE

| $\begin{aligned} & 61237^{\wedge} \\ & 60237^{\Delta} \\ & 61250^{4} \end{aligned}$ | Key, with concealed base. . . . . . . . . . . . . . . . . . . . Keyless, with concealed base. Keyless, without shade holder groove... <br> Shade holder P \& S 119 and 1190 may be used with the first two numbers. | 10 10 10 | $\begin{aligned} & 100 \\ & 100 \\ & 100 \end{aligned}$ | 45 lbs $3: 3 \mathrm{lbs}$ 45 lbs | $\begin{array}{r} \$ 0.35 \\ .32 \\ .28 \end{array}$ | $\begin{array}{r} \$ 7.70 \\ 7.04 \\ 6.16 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PORCELAIN RECEPTACLES |  |  |  |  |  |  |
|  | Key, with concealed wall base. . . . . . | 10 | 100 | 62 lbs | \$(). 35 | \$/.70 |
| $490$ | Keyless, with concealed wall base, without shade holder groove. | 10 | 250 | 157 lbs | . 28 | 6.16 7.04 |
| $60247^{\text {4 }}$ | Keyless, with concealed wall base. . . . . . . . . . . . . . <br> Shade holder P \& S 119 or 1190 may be used. <br> Holes for supporting screws are spaced $21 / 4$ inches on centers. | 10 | 100 100 | 59 lbs | .32 35 | 7.04 7.70 |
| $\begin{aligned} & 61087^{\star} \\ & 61107^{4} \end{aligned}$ | Key, with cleat wall base. . . . . . . . . . . . . . . . . . . . . Keyless, with cleat wall base. <br> Holes for supporting screws are spaced 1 inch on cent ers. | 10 10 | 100 100 | $4{ }^{48 \mathrm{lbs}} 4$ | .32 | 7.70 7.04 |



No. 46


Porcelain Wall Receptacles
Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Screw Spaced | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List Each | W.E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 100 | 95 | \$0.50 | \$1.10 |
| 46 | Key, for $31 / 4$ in, outlet boxes. | $23 / 4$ | 1 | 100 | 92 | . 47 | 1.03 |
| 4. |  | $31 / 2$ | 1 | 100 | 152 | . 55 | 1.10 |
| 88 | Key, for for 4 in. outlet boxes. | $31 / 2$ | 1 | 100 | 149 | . 52 | 1.14 |

- National Electrical Code Standard.


# P \& S RECEPTACLES For Metal Sign and Outlet Box Receptacles 



No, 427


No. 102704


No. 86


No. 61988


No. 497

FOR METAL SIGNS AND OUTLET BOXES
Schedule "C'"

| $\begin{aligned} & \text { Jist } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. Pkg. | Pkg. Wt. | Mfrs. List Each | W. 1. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $427^{4}$ | With ring and gasket complete. <br> Punch required for this receptacle is $11 / 2$ inches in diameter. | 25 | 250 | $77 \mathrm{lbs}$. | 80 | \$11.00 |
| $102704^{4}$ | With ring and gasket complete. <br> The button on the back is readily removed without tools. Keplacing the button after the contact is made completely encloses the contacts. <br> Punch required for this receptacle is $11 / 2$ inches in diameter. | 26 | 250 | N(1) lis. | . 25 | 13.75 |
| $860^{4}$ | With ring and gasket complete. <br> Wrench supplied in each box for tightening ring, <br> The front of this receptade is practically flush with the face of the sign, and may be painted to match the sign. The ring is made of non-corrosive gilder's metal, rich in copper. <br> lunch required for this receptacle is $1 / x$ inches in diameter. | 25 | 250 | 92 lhs. | . 20 | 11.00 |
| 61984 | With ring and gasket complete. <br> The terminals are recessed in the grove, so sealing compound may be poured in. | 25 | 2910 | W011s. | . 20 | 11.00 |
| $\begin{array}{r} 4: 37^{4} \\ 497^{4} \end{array}$ | With wide ring and gasket complete. | 25 | 290 | Nolbs. | 20 | 11.00 |
|  | With porcelain ring and rubber gasket complete. | (2) | 250 | N0 lhs. | $\therefore 0$ | 11.0 |



No. 61577


No. 4003


No. 40.35

Schedule "C"

| List No. | 1)escription | $\begin{aligned} & \text { (carton } \\ & \text { (Quantity } \end{aligned}$ | $\begin{aligned} & \text { Stid. } \\ & P_{1} . \end{aligned}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \end{aligned}$ | Mfrs. List Each | W. E List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $61577^{4}$ | With ring and gasket complete.......... . . Ring elazed porcelain onls. | 10 | 2.50 | 1141 bs | 80.8 | \$6.16 |
| $61578{ }^{\text {s }}$ | With ring and gasket complete............ Body glazed porcelain. | 10 | 290 | 115 lbs | :3i; | 7.92 |
| $4003{ }^{4}$ | 7/ inch back with ring and gasket complote. | 10 | 250 | 100 lbs | 28 | 6. 16 |
| $4035{ }^{4}$ | I inch back witl ring and gasket eomplete. . | 10 | 250 | 95 lbs | 28 | ti. 16 |

Theserecoptacles are fitted with 6 inches stranden! No. It double bead New (ode rubber covered wire. Rereptacles with longer wires furnished to order.

## P \& S RECEPTACLES

Sign and Outlet Box Receptacles


No. 61977


No. 61777


No. 61072

FOR METAL SIGNS AND OUTLET BOXES
Schedule "C"

| List No. | Description | Carton (quantity | Sted. Plis. | Pks. Wt. | Mifrs. List Each | W. F. Jist per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 61977 ${ }^{\text {® }}$ | With fastening screws complete | 25 | 250 | 70 lbs. | \$0.17 | \$9.35 |
| 61777 ${ }^{\text {® }}$ | With fastening screws complete. | 25 | 250 | $7 \overline{5} \mathrm{lbs}$. | . 17 | 9.35 |

The punch required for these receptacles is $13 / 8$ inches in diameter,
See pages elsewhere for list of outlet box covers which may be used with these receptacles.
FOR WOOD SIGNS
Schedule "C"

| 61072 ${ }^{\text {4 }}$ | With 1 inch skiot, serews are spaced $1 \frac{13}{16}$ inches on centers. | 25 | 250 | (15) 1 lbs . | \$0.14 | \$7.70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

The hole required for these receptacles is $1 \frac{1}{2}$ inches in diameter.



Nu. 900


No. 677


No. 778
FOR METAL SIGNS AND OUTLET BOXES

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton (quantity | Std. <br> Pkg. | $\begin{aligned} & \text { Pkiq. } \\ & \text { Wt. } \end{aligned}$ | Mifrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $54^{\text {® }}$ | With fastening screws complete. The punch required for this receptacle is $13 / 8$ inches in diameter. | 2.) | 2.\% | 75 Hm | \$0.14 | \$7.70 |
| $900{ }^{4}$ | Sign receptacle. <br> The punch required is $11 / 2$ inches in diameter. | 25) | 250 | 75 11 s. | 20 | 11.00 |
| 878 | Candelabra base, with ring and rubber gasket. <br> The punch required for this receptacle is $\frac{25}{32}$ inch in diameter. | 2i) | 250 | $22 \mathrm{lh} \%$. | . 17 | 9.35 |
| $677^{4}$ $7788^{4}$ | Candalabra base, complete, with fastening screws The punch required for this receptacle is $\frac{25}{32}$ inch in diameter. Holes for supporting screws are spaced $1 \frac{3}{16}$ inches on centers. | 25 | 250 | 30 lh : | 16 | 8.80 |
| $778{ }^{4}$ | Candelabra base, complete, with fastening screws. <br> The punch required for this receptacle is $\frac{25}{32}$ inch in diancter. <br> Joles for supporting screws are spaced $1 \frac{3}{16}$ inches on centers. | 25 | 250 | 201 hs. | 16 | 8.80 |

[^56]
## P \& S PORCELAIN RECEPTACLES

 Metal Molding and Cleat Receptacles

No. 61670


No. 61770


No. 61971


No. 50715

FOR USE WITH WOOD MOLDING
Schedule "B'"

| List No. | Description | Screws Spaced | $\begin{aligned} & \text { Carton } \\ & \text { Quantity } \end{aligned}$ | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & W_{e} t . \end{aligned}$ | $\begin{aligned} & \text { Mifrs. List } \\ & \text { Fach } \end{aligned}$ | $\underset{\text { t'W. E. List }}{\substack{\text { per Carton }}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $61670^{4}$ | With shade holcler groove Shade holder P \& S 28 or 29 may be used. Without shade holder groove. | $2{ }_{16}$ | 10 | 250 | 100 11 s s. | \$0.30 | \$6.80 |
| $61770^{4}$ |  | $2 \frac{5}{16}$ | 10 | 250 | 100 lbs . | .25) | 550 |

## CLEAT RECEPTACLES

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 619714 \& \begin{tabular}{l}
With inclosed terminal. . \\
Holes for supporting screws are spaced \(15 / 8\) inches on centers. \\
Wires are carricd 1 inch from surface and \(21 / 2\) inches apart. Drain holes are provided in the bottom of the receptacle. \\
Used extensively in amusement parks and alt outdoor electrical decorating. \\
Pony, without shade holder groove \\
Holes for supporting screws are spaced 15/4 inches on centers. \\
This receptacle will fit a pony receptaclecondulet. cover made by Crouse-Hinds, which is used with \(1 / 2\). \(3 / 4\) and 1 inch types S, SV,SL,ST and SX condulets.
\end{tabular} \& 10

10 \& 250

250 \& 140 llss. \& 30.25

15 \& $\$ 5.50$

3.30 <br>
\hline
\end{tabular}



Schedule "B"

| $\begin{aligned} & \text { List. } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { Carton } \\ & \text { Quantity } \end{aligned}$ | Std. Pkg. | $\begin{aligned} & \text { Plig. } \\ & \text { Wgt. } \end{aligned}$ | Mfrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 62358 ${ }^{\text {4 }}$ | With 1 inch base. <br> Holes for supporting screws are spaced 115 inches on centers. | 10 | 250) | 103 lbs. | \$0.18 | \$3.96 |
| $4013{ }^{\text {4 }}$ | With shade holder groove. . . . . . . . . . . . . . . . . . | 10 | 250 | 115 lbs . | . 20 | 4.40 |
| 9402 ${ }^{\text {¢ }}$ | Without shade holder groove. . <br> Holes for supporting screws are spaced $23 / 8$ inches on centers. | 10 | 250 | 115 lbs . | .15 | 3.30 |
| 88259 | With shade holder groove. | 11 | -50 | 107 13s. | . 30 | 6.80 |
| 4.51 | Without shade holder groove | 10 | -50 | 114 1 sm. | 25 | 5.50 |

[^57]
## P \& S PORCELAIN RECEPTACLES



No. 598


No. 599


No. 4000

FOR CONCEALED OR CLEAT WIRING
Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | sitd. <br> Pkg. | Pkg. Wt. | Mifs. List Each | W. E. List Per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 598 | Without shade holder groove | 10 | 250 | 14\% lbs. | \$0.25 | \$5.50 |
| 599 | With shade holder groove. | 10 | 254 | 14:5 lhs. | . 30 | E. 60 |
| 4000 | Without shade holder groove | 10 | 250) | !2 lbs . $^{\text {d }}$ | 25 | 5.50 |
| 4001 | With shade hodder groove. | 10 | 250 | (1) (h)s. | 30 | 6.60 |
| 1233 | Two-piece poreclain sockel, without shade holder groove. | 10 | 100 | 44 4 ln . | 35 | 7.20 |
| 1234 | Two-piece porcelain socket, with shade holder groove. | 10 | 100 | 4.41 sm | 40 | 8.80 |

WEATHERPROOF SOCKETS
660 Watts- 600 Volts


Schedule "B"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | $\begin{array}{\|c\|} \hline \text { Carton } \\ \text { Quantity } \\ \hline \end{array}$ | Std. Pkg. | Pkg. Wgt. | $\left\lvert\, \begin{gathered} \text { Mfrs. List } \\ \text { Each } \end{gathered}\right.$ | W. E. List perCarton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $80^{4}$ | Porcelain, weatherproof socket. | 2.5 | 250 | 83 lbs: |  |  |
| $9366{ }^{4}$ | Porcelain, weatherproof socker | 25 | 250 | 90 lbs. | $\left.\right\|^{30.20}$ | $11.00$ |

Schedule "S M"

| $\begin{aligned} & 43310^{4} \\ & 60666^{4} \end{aligned}$ | Molded mica, weat herproof socket. Black composition weatherproof socket <br> These sockets are not supplied with extra long wires unless ordered in substantial quantities and ample time given for delivery. <br> Each socket is fitted with 6 inches stranded rubber covered wire. | 10 10 | 250 250 | ${ }^{28} 86$ lbs. | $\$ 0.22$ .24 | $\$ 4.84$ 5.28 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

CONDENSITE WEATHERPROOF SOCKET
Schedule "B"


- National Electrical Code Standard.


## P \& S PORCELAIN ROSETTES




LITTLE GEM CLEAT ROSETTES

| List <br> No. | Description | Carton Quantity | Std. Pkg. | Pkg. Wgt. | Mfrs.List Fach | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $400^{4}$ | Fusible, two-piece. | 10 | 250 | 115 lbs . | \$0.16 | \$3.52 |
| $76^{4}$ | Fuseless, two-picee. <br> Iloles for supporting serews are spaced 1 th inches on renters. | 10 | 250 | 115 lbs. | . 15 | 3.30 |
| LITTLE GEM CONCEALED ROSETTES |  |  |  |  |  |  |
| $390{ }^{4}$ | Fusible, two-piece. | 10 | $25)$ | 146 lbs . | \$0.16 | \$3.52 |
| $79^{\text {4 }}$ | Fuseless, two-piece. <br> Holes for supporting screws are spaced $1 \frac{1}{3} \frac{5}{2}$ inches on centers. <br> This rosette will fit Crouse-IIinds condulets, types <br> G, GL, GF, GX, H and H. 5 and 10 ampere size. | 10 | 250 | 140 lbs . | . 15 | 3.30 |
| LITTLE GEM MOULDING ROSETTE |  |  |  |  |  |  |
| $810{ }^{\text { }}$ | I'usible, two-piece. | 10 | 250 | 117 lba . | \$0.16 | \$3.52 |
| $176{ }^{\text {4 }}$ | Fuscless, two-piece. <br> Holes ior supporting screws are spuced 1 1/4 inches on centers. | 10 | 250 | 117 lbs. | . 15 | 3.30 |
| 1999 | Fuseless cleat or concomad roselte. . . . . . . . . . . | 10 | 250 | 62 lbs. | . 08 | 1.76 |

See pages elsewhere for list of outhet boxes, which may be used with these rosettes.


No. 604


No. 610


No. $60 \%$
ROSETTE


No. 565
Schedule "XA"

| $\begin{aligned} & \text { Bist } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { Carton } \\ & \text { Quant ty } \end{aligned}$ | std. Pkg. | Pkg. Wgt. | $\begin{gathered} \text { Mirs. List } \\ \text { Each } \end{gathered}$ | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $60^{4}$ | Fuseless, two-piece. | 10 | 2.50 | 125 lbs. | \$0.17 | \$3.74 |
| $605^{4}$ | Fxtral cap only <br> lloles for supporting sorews are spaced $1 \frac{31}{32}$ inches on eenters. | 10 | 250 | 115 lbs | 11 | 2.42 |

ROSETTE FOR WOOD MOULDING

| $(1))^{4}$ | Fuseless, two-piece <br> Not necessary to cut the moulding or wires. Loop up and over the terminal plates and run through the rosette. <br> Holes for supporting screws are spaced $2 \frac{9}{37}$ inches on centers. | 10 | 250 | 55 lbs . | 80.17 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WITH ENCLOSED TERMINALS |  |  |  |  |  |  |
| $607^{\text {4 }}$ | Fuseless cleat, two-piece. <br> Holes for supporting serews are spaced $15 / \mathrm{s}$ inches on centers. | 25 | 250 | 81 lbs. | \$0.17 | \$3.74 |

FUSELESS CONCEALED TERMINAL CLEAT ROSETTE


## CEILING BUTTON



- National Electrical Code Standard.


# CUTLER-HAMMER SWITCHES 

## Porcelain Pendent Switches



No. 70.010


No. 7001


No. 7007


No. 7044

6 Amperes, 125 Volts; 3 Amperes, 250 Volts
List
Xo.
ren Single pole

## Description <br> on

(antun sta Quantity l'kg Pkg.
N. Five

To.
Tho Single pole.
10100
10 Amperes, 125 Volts; 5 Amperes 250 Volts
7010 Single polle
10 J14)


## With Brass Cap

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

| 70011 | Single pole ${ }^{1} \times$ itr pipe thread. | 10 | 110 | 3.4 | \$1.21 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 71112 | Single pole ${ }^{3} \mathrm{~S}$ in. pipe tharead. | 111 | 101) | 34 | 1.32 | 70月3'3 Singlo pole for perment use only ........... $10 \quad 1140 \quad 31 \quad 1.21$

Stamdard barkage disrount allowed on assortment (ial unborown arforn) of Nos. 7001,7012 ath 70103.

Standard finish: Gray. White or brown can be furniwhel whin mectifed.

## 6 Amperes, 125 Volts; 3 Amperes, 250 Volts

7001 Sinplopola, 3 point, $1 / 2$ in. pipe thread...... 10 50


Standard parkage disoount allowed on assortnent. (in umbroker cartons) of 50. Nos. 7004, 7(k). and 7006.
standard finish: (iray. White or brown will be furnished whatn specified.
('aps of Nos. $\quad$ (0): and 700 H has composition bushing with $\frac{13}{32} \mathrm{in}$. Wole for reinforced cord.

## Two-circuit Pendent Switches

6 Amperes, 125 Volts; 3 Ainperes, 250 Volts

|  |
| :---: |

No. Desmiption



 finisl es add soly tor lat price.

Stan fa゙d paciayo discount allowiol on assontmont of finishes in full cartons of 10 trich.

## Brass Shell Pendent Switch

6 A niperes, 125 Volls; 3 Amperes, 259 Volts

(1)? Acorn $\boldsymbol{y}^{2}$





## FEED THROUGH SWITCH

6 Amperes, 125 Volts; 3 Amperes, 250 Volis
70 U Black compmsition, singrapolo.
10
[10 8
\$0.92

## Feed Through or Cord Switch

## 6 Amperes, 125 Volts; 3 Amperes, 250 Volts

'These suitches arm designeal fur use with flat irons, whlarint iruns, stoves. hoasters, vachum en eaners.
704! Three lacat, single polde. hrans shall, podi-hed nirkel

111
$\begin{array}{rrr}50 & 15 & 82.20 \\ 50 & 8 & 1.30\end{array}$



 out or euttimg out with a penknife the intoer collan of the bushangs.


No. 7040


No. 7150

CUTLER-HAMMER SWITCHES
PUSH BUTTON CANDELABRA SWITCH
$1 / 2$ Ampere, 125 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Qnty: | Strl. <br> Pkg. | $\left\|\begin{array}{c} \mathrm{Pkg} \\ \mathrm{~W}_{\mathrm{t}} \\ \mathrm{Ths} . \end{array}\right\|$ | $\begin{aligned} & \mathrm{W} \text { I. } \\ & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7150 | Porcelain body, brass stem for 4 inch eandle. | 20 | 100 | 20 | 81.98 |

Standard push bars are $15 / 8$ inches long. laars $13 / 4$ or 2 inches long substituted without extra cost, if specified.

Extra stems, 13 conts each; std. pkg., 50. Extra push bars, 22 rents each. Sitems for 3 inch or 5 inch candle will be substituted without extra charge, if sperified. I'riec inchules stem spider piece for supporting the switeh thad tibre washer for holding the candle conemtric with the stem and socket.

## PUSH BUTTON SURFACE SWITCHES

6 Amperes, 125 Volts; 3 Amperes, 250 Volts. Rectangular Base



Glazed in white only. Standard finish cap polishol nickel.
Standard package discounts allowed on assortment (in unbroken cartons) of 100 Nos. 7102 and $710: 3$.


No. 7108

## PUSH BUTTON SURFACE SWITCHES

6 Amperes, 125 Volts; 3 Amperes, 250 Volts

## 7117

7108
7109
7109
保 Sincle pole, withouk label holdor slotted base inge pole, with label hokor, sott ed base. .

| 10 | 100 |
| :--- | :--- |
| 10 | 100 |
| 10 | 100 |
| 10 | 100 |


| 24 | 30.74 |
| :--- | ---: |
| 24 | .74 |
| 24 | .74 |
| 24 | .74 |


(ilazed in white only. Standard finish cap polishod nickel
Standard parkage discounts allowed on assortment (in unbroken rartome) of 100 Nos. 7107 and 7108 , or Nos. 7109 and 7110.

## SWITCHES FOR NATIONAL METAL MOLDING

ONE WAY BASE


| I.ist No. | Description | Carton Qnts. | St.cl. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Ths. } \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { Wis } \\ & \text { Prist } \end{aligned}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7111 | With label hodder. | 10 | 1(0) | 38 | \$0.92 |
| 7112 | Without label hodder. | 10 | 100 | 38 | . 92 |

## TWO WAY BASE

| 7113 |  | 111 | 100 | 30 | 92 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7114 | Without labed holdor | 10 | 100 |  |  |

Standard package discounts allowed on atsort ment (in unbroken cartons) of 100 Nos. 7111 and 7112 or Nos. 7113 and 7114.


No. 7151

PUSH AND PULL CANOPY SWITCHES
3 Amperes, 125 Volts; 1 Ampere, 250 Volts


No. 7152
No. 7152


No. 7155

## DOOR SWITCHES

## WITH PLATE AND APPROVED BOX FOR ARMORED CABLE



No. 7240
lBox is $1 \frac{1}{3}$ inches wide by $23 / 4$ inches long.
I'late is $45 / 8 \times 11 / 4$ inches and will fit no other box.
6 Amperes, 125 Volts; 3 Amperes, 250 Volts

| List No. | Description | $\left\lvert\, \begin{gathered} \text { Carton } \\ \text { (enty } \end{gathered}\right.$ | Sill. I'ks, | $\left\|\begin{array}{l} \text { 1'ker } \\ \text { Wt. } \\ \text { T.los. } \end{array}\right\|$ | $\begin{aligned} & \text { W. E. } \\ & \text { I isist } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7240 | Circuit closed when door is open | 5 | 35 | 20 | \$5.18 |
| 72.41 | Circuit chosed when slowr is rloseod | 5 | 2.5 | 20 | 5. 18 |

## WITH UNIVERSAL PLATE BUT WITHOUT BOX <br> 6 Amperes, 125 Volts; 3 Amperes, 250 Volts

T'niversal plate is $53 / 8 \times 13 / 4$ inches

| 7245 | Circuit closed when door is open | 5 | 25 |  | 154.t. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7246 | Circuit closed when door is closed | 5 | 25 | 20 |  |

Standard package discounts allowed on assortments (in unbroken cartons) of 25


No. 7245 Nos. 7240, 7241, 7245 and 7246

Button flush plates. Polished brass, brush brass, polished bronze, oxidized copper and polished nickel are all standard finishes, no extra charge. Wolid brass plates in gangs or tandem can be furnished.

## CUTLER-HAMMER SOCKETS

PUSH-BUTTON PORCELAIN SOCKETS
660 Watts, 250 Volts


No. 7400


No. 7501


No. 7510


No. 7516

|  |  |  | Sch | dule | "B1" |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pkg. | W. W. |
| J.ist <br> No. | Description | Carton | Std. <br> Pkg. | Wk. | List |
|  |  |  |  | I.bss. | Price |
| 7100 | For pendant usc | 10 | 100 | 42 | 81. 79 |
| 7101 | With brass nozze $1 / 8 \mathrm{in}$. pipe thread | 10 | 100 | 12 | 89 |
| 7.405 | With brass nozzle yo in pipe thread. | 10 | 160 | 42 | $0 \%$ |

Standard finish gray. White, ivory amd brown furnishod ma request

PUSH-BUTTON BRASS SHELL SOCKETS
660 Watts, 250 Volts

| 7500 | 1/8 in. cap. | 25 | $5(1)$ | 100 | \$0. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7502 | $1 / 4 \mathrm{in}$. cap. | 25 | 2:51) | $5 \overline{5}$ | 1.11 |
| 750.4 | 3/8 in. cap. | 25 | 250 | 58 | .! 1 |
| 7506 | Pendant cap with strain reliei | 25 | 510 | 100 |  |
| 7560 | 1/8 in, cap with extra insulation bushed inlet.. | 2.5 | 250 | 05 | 8.1 |

Special 2 inch over-all mush-butoon for standard socket enver or husk will be furnished without extra eost, when speeified.


## ELECTROLIER KEYLESS SOCKETS

660 Watts, 250 Volts

| 7511 | 18 in. cap. | 25 | 1(1) | 20 | \$0.7 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7513 | 1/4in. cap | 2.5 | 1(6) | 20 |  |
| 7515 | 3/6in. cap. | 25 | 1(\%) | 31 |  |

## REMOVABLE BUTTON-PUSH SOCKET

 660 Watts, 250 Yolts| 7510 | 1/8 in. (al) | 25 | 250 | 51) | \$0.94 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7.512 | 1/4 int. (al). | 25 | 250 | 0.3 | 1. |
| 7514 | 3/8 in. (at) | 25 | $2 \mathrm{O})$ | sis | 1. |

PORCELAIN BASE WALL SOCKETS

660 Watts, 250 Volts, for Concealed Work

| 75.30 | n | 111 |  |  | 1.06 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -.5.11 | Keyless | 10 | 9 O | s0 |  |
| 751 | Short koyless. | 10 | 2301 | -\% |  |
| standard finishes are polished and special brass. Sperial brass furnished unless otherwise specified Gther finishes can be furnished at speceinl advance. Special ${ }^{2}$ inch over-all push-buttons for standari sorke |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | lusk will be |  |  |  |  |

## CANDLE LENGTH SOCKETS

660 Watts, 250 Volts
Camdle length sockets combine Fdison serem sholl, sooket mechunism, borly and binding serews, and switeh nuechanism in the push type, in a 4 inch white fibre candle locked in a metal cap which may be finished in cither white enamel or brass.

PUSH SOCKETS


No. 7550

| 7514 | 1/8 in. cap. | 10 | 50 | 12 | \$1.70 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7518 | 17 in. cap. | 10 | 50 | 12 | 3.26 |
| 7526 | 3/8 in, cap | 10) | (3) | j2 | $\underline{2} .18$ |
| 7503 | 1/8 in. (ap) with extra insulation bushed inlet. . . | 10 | 50 | 12 | $\because .60$ |
| 7528 | 1/8in. cap. With extra metal | 10 | 50 |  | - 0 |

## KEYLESS SOCKETS

| 7517 | 1 |
| :--- | :--- |
| 75.519 | $1 / 4$ |
| 7557 |  |
| 7537 | 1 |
| 7529 | 1 |


Standard finish white ramdle and brush brass cap
White eap furnishod whohout extra charge.

## C-H CANDLE FIXTURE SOCKET

| 00 | 12 | 81.40 |
| ---: | ---: | ---: |
| 00 | 12 | 1.90 |
| 50 | 12 | .82 |
| 0 | 12 | 1.73 |
| 00 | 12 | 1.73 | 1.73

C-H 7509 fiber candle socket is arranged to be supported inside the cundle on an adjustable stem with fixture wires connecting to a switch mechanism below or directly into fixture arm when no switch is used. This sooket ghn be used in candes incasuring $1 \frac{3}{5}$ inch or more inside dianteter.



No. 7509

## SEPARABLE ATTACHMENT PLUGS



No. $760 t$


C-H ATTACHMENT PLUGS
660 Watts, 250 Volts

| $\begin{aligned} & \text { finet } \\ & \text { Xo. } \end{aligned}$ | Deseription | Carton Quantits | sid. Ihy. | Pks. W\%. I.ls. | $\begin{aligned} & \text { W. I: } \\ & \text { i.ine } \\ & \text { Fin+ } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Fan\% | White porcolain hase and cap plug | $11)$ | 2.01 | S11 | \$1)..n |
| 3601 | White porcelain trase, black composilion can phag. | 10 | 230 | (1) | -1. |
| 7tinl? | IRlack comporition baxe atal canplur. | 10 | 2 201 | 81 | 7 |

 CORD CONNECTOR

| $\begin{aligned} & \text { I.ist } \\ & \text { Sor } \end{aligned}$ | Doseription | (arton ${ }^{\text {Quantity }}$ | Stel. 1’ks. |  | $\begin{array}{r} \mathrm{W}: \ldots \\ \text { Inist } \\ H ; a c h \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| -16:0) | 131ark rompurition corsl monnector. | 25 | 1(\%) | 23 | 80.901 |

MOTOR ATTACHMENT PLUG


7700 ATTACHMENT PLUG

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 1 )escription | Carton Quantit: | Sid. 1kg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { I.hs. } \end{aligned}$ | $\begin{aligned} & \text { in } \\ & \text { intis } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7701 | Sopmarabe attachonent plag. | 10 | 100 | 18 | \$0. 5 5 |
| 7704 | l'olarity attarhing cap only | 10 | 50 | 4 | . 33 |
| 7703 | l'atulem attarhing cap only | 10 | 51 | 18 | 14 |
| 7701 | Iherly only . . . . . . . . | 10 | 110 | 14 | 2 |
| 7704 | Brass-rovereal (at on | 10 | 5) | - |  |



MESCO SEPARABLE ATTACHMENT PLUGS
3 Amperes, 250 Volts; 6 Amperes, 125 Volts

| $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | [ beseription | Carton Quantity | $\begin{gathered} \text { sid. } \\ \text { l'kir. } \end{gathered}$ | W12. | $\begin{aligned} & \text { Whin } \\ & \text { Disach } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 16.409 | (iompoxition plue atwl (ap | 10 | 1100 | $\underline{31}$ | 80.80 |
| 16.10 | Powclatinghy ant caple. | 10 | - 50 | 13:3 | 13 |
| 16.411 | jorcelain braly, rompoxition cap. | 111 | $\bigcirc 50$ | - | 51 |
| 16.40t | Wratsi-moverod cap nhly. . . . . . . |  | 51 | 7 | 43 |
| 16405 | Porrelatin hash maly... |  | \%10 | 17 | 26 |
| 164116 | Porcelain rap only |  | . 01 | 1 | $2{ }^{2}$ |
| 164117 | ( (emposition cap only |  | 50 | , | 34 |
| 16408 | (omposition bute only |  | 160) | $1: 3$ | 3 |
| 16433 | (iomposition pluy and cap | 111 | 101 | $1: 3$ | . 43 |

Receptacles for Attachment Plug Caps 10 AMPERES, 250 VOLTS


No. 16410


ROUND BASE RECEPTACLES FOR CONCEALED WORK


No. 7 hl 7
ROUND SLOTTED BASE SURFACE RECEPTACLES

No. 7612

| 7627 | Porrelaill atp plug | 10 | 50 | ? | \$11. 71 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7688 | (omposition crap plug. | 10 | 510 | - | . 7 |
| 7629 | Without bluz. | 10 | 51 | $\underline{2}$ | 4 |

CORD CONNECTOR



## "H \& H" SURFACE SWITCHES



5 Amperes, 125 Volts; 3 Amperes, 250 Volts

| $2)^{4}$ | Golid Ihase. | Plain | $21 / 8 \mathrm{ins}$. | $1 \frac{7}{16}$ ins. | 10 | 100 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1204 | Nlotted ISase, | Plain | $21 / 8 \mathrm{ins}$. | ${ }^{1} \frac{1}{16}$ ins. | 10 | 100 | 30 30 | \$0.36 | \$7.92 |
| $220{ }^{4}$ | Solid İase. . | Indicating | 21/8 ins. |  | 10 | 100 100 | 30 30 | .36 .40 | 7.92 8.80 |
| $320{ }^{4}$ | Slotted 13ase | Indicating | $21 / 8 \mathrm{ins}$. | $1{ }^{\frac{1}{16}}$ ins. | 10 | 100 | 30 | 40 | 8.80 |
| 5 Amperes, 125 Volts; 3 Amperes, 250 Volts |  |  |  |  |  |  |  |  |  |
| 2684** | Solirl Jase | Plain | ${ }^{2}$ 2 ins. | $1{ }^{\frac{1}{3} \frac{3}{2} \text { ins. }}$ | 1) | 100 | 28 | 80.36 | 57.92 |
| 2054** | folid luase. | Indieating | 2 ins. | $1 \frac{13}{32}$ ins. | 10 | 100 | 28 | $\begin{array}{r}10 \\ \hline 10\end{array}$ | 8.80 |

The above switches have a metal covered base,
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| 21* | Solid 13ase | 1 lain | $2{ }^{\frac{1}{35}} \mathbf{3}$ ins. | $13 / \mathrm{ins}$. | 10 | 100 | 53 | \$0.48 | \$10.5f |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1214 | Slotted Jase | Plain | $2{ }^{\frac{1}{32}} \mathbf{3}$ ins. | $13 / 4$ ins. | 1) | 100 | 53 | . 48 | 10.56 |
| $221 *$ | Solid liase. | Indicating | ${ }^{2} \frac{15}{3}$ ins. | 13.4 ins. | 10 | 100 | 53 | 54 | 11.88 |
| $321^{4}$ | Slotted liase | Indicating | $2{ }^{\frac{1}{3}}$ 䂞 ins. | 13 ins. | 10) | 100 | 53 | 5.4 | 11.88 |

10 Amperes, 250 Volts


## 20 Amperes, 125 Volts

| 31 | Solid liase. | Ilain | $3 \frac{1}{16}$ ins. | $2{ }^{\frac{5}{37}}$ ins. | 1 | 10 | 15 | \$0.90 | \$1.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 131 | Slotted ISase. | Plain | $3{ }_{1}^{16}$ ins | $2{ }^{\frac{5}{3}}{ }^{3}$ ins. | 1 | 10 | 15 | . 90 | 1.98 |
| 231 | Solid Jase. | Indicating | $3{ }^{\frac{1}{16}}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 10 | 15 | 1.00 | 2.20 |
| 331 | Slotted I3ase. | Indicating | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 10 | 15 | 1.00 | 2.20 |

## 30 Amperes, 125 Volts

| 40 | Solid liase. | 1 l lain | $31 / 2$ ins. | $2 \frac{7}{16}$ ins. | 1 | 10 | 17 | \$1.40 | \$3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 140 | Slotted liase | 1'lain | 31 \% ins. | $2 \frac{7}{26}$ ins. | 1 | 10 | 17 | 1.40 | 3.08 |
| 240 | Solid I3ase. . | Indicating | $31 / 2$ ins. | $2 \frac{7}{16}$ ins. | 1 | 10 | 17 | 1.00 | 3.30 |
| 340 | Slotted 13ase. . . . | Indicating | 313 ins. | $2 \frac{7}{16}$ ins. | 1 | 10) | 17 | 1.50 | 3.30 |

The above switches may be converted into lock switches by the use of the Lock Attachments.

When spccificd, round handles will be furnished on the above switches in 3,5 and 10 ampere sizes without extra charge.

- National Electrical Code Standard.


## "H \& H" SURFACE SWITCHES



No. 432


No. 2152


No. 23


No. 43

DOUBLE POLE
5 Amperes, 250 Volts


| 1 iameter of llase |  |
| :---: | :---: |
| $\underline{\sim 2}$ 's ins. | 1 |
| 218 ins. |  |
| 21'sins. |  |
| $21 / 8 \mathrm{ins}$. |  |

$\qquad$ Schedule "S"

| List No. |
| :---: |
| $2085^{\text {¹ }}$ |
| $2086{ }^{\text {4 }}$ |
| $2087^{\text {¹ }}$ |
| 20884 |
| 2\% ${ }^{\text {a }}$ |
| 12: ${ }^{4}$ |
| 222* |
| $322^{4}$ |

Solid Base. . . . . .
Slotted Base. . . .
Solid Base. . . . .
Slotted Base. . . .

10 Amperes, 250 Volts

| $32^{4}$ | nulid Base. | Main | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 31 | \$1.40 | \$3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $132{ }^{2}$ | Slotted liase | l'ain | $33_{1 / 6}^{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 30 | 1.40 | 3.08 |
| $432{ }^{\text { }}$ | Solid l3ase. | Indicating | $3_{16}^{1} 6$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 30 | 1.50 | 3.30 |
| $532^{\text {4 }}$ | Slotted has. | Indieating | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 30 | 1.50 | 3.30 |

30 Amperes, 250 Volts

| 424 | solid | leain | $31 / 2$ ins. | ${ }^{2} \frac{7}{16}$ ins. | 1 | :30 | 41 | \$1.70 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1424 | Slotted Base | Plain | $31 / 2$ ins. | $2 \frac{7}{16}$ ins. | 1 | 30 | 41 | 1.70 | 3.74 |
| 442 * | Solid l 3 ase | Indicating | $31 / 2$ ins. | $\frac{27}{16}$ ins. | 1 | 30 | 44 | 1.80 | 3.96 |
| 542 | Slotteel kasm | Indicating | $31 / 2 \mathrm{ins}$. | $2 \frac{7}{16}$ ins. | 1 | 30 | 4.4 | 1.80 | 3.96 |

## THREE WAY

3 Amperes, 125 Volts; 1 Ampere, 250 Volts

| ${ }^{2} 152^{4}$ | Solid hase | Plain | 2, 8 ins | $1 \frac{7}{16}$ ins. | 10 | 100 | 31 | 80.4.8 | \$10.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2153{ }^{4}$ | Slottal latse. . . . . | Plain | 2'íns. | $1 \frac{7}{16}$ ins. | 10 | 10.0 | 31 | 18 | 10.50 |

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

| $2(18)^{2}$ | Sulid 13as | l'lain | 2 'sins. | 1 $\frac{7}{17}$ ins. | 10 | 100 100 | 35 | \$0.56 | \$12.32 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ? $0900^{4}$ | Slotted liase. | Plain | 21/6ins. | $1 \frac{7}{16} \mathrm{ins}$. | 10) | 100 | 35 | . 51 | 12.32 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts


20 Amperes, 125 Volts

| 33 133 | Solid Base........ ${ }_{\text {S }}^{\text {Sloted Iase. . . . }}$ | $\begin{aligned} & \text { Pain } \\ & \text { Plain } \end{aligned}$ |  | $2 \frac{5}{32}$ ins. $2 \frac{3}{32}$ ins. | 1 | 14 10 | 17 | $\$ 1.50$ 1.50 | $\begin{array}{r}\$ 3.30 \\ 3.30 \\ \hline\end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

30 Amperes, 125 Volts


The above swit ches may be converted into lock switches ly the use of the Lock Attachments. When specified, round handles will be furnished on the above switches in 3,5 and 10 ampere size, withont extra charge.

- National Electrical Code Standard.


No. 24


No. 2545


No. 3030

FOUR-WAY
5 Amperes, 125 Volts; 2 Amperes, 250 Volts


TRIPLE POLE
10 Amperes, 250 Volts

| $21^{1}$ | Solid liase | Plain | $2 \frac{1}{6}$ ins. | 2 , $\frac{1}{6}$ ins. | 1 | 10 | 11 | S1 (0) | ct 18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $126^{4}$ | Slotted Base. | Plain | $2 \frac{1}{1}$ ins. | $2{ }^{16}$ ins. | 1 | 10 | 11 | 31.90 | 4t. 18 |
| $226^{4}$ | Solid 13ase. . | Indicating | $2 \frac{1}{2} \frac{1}{6}$ ins. | ${ }_{2}^{216}$ ins. | 1 | 10 | 11 | 1.90 | 4.18 |
| $3 \because 6{ }^{4}$ | Slotted Base | Indiconting |  | 2, ins. | 1 | 10 | 11 | 2.00 2.00 | 4.40 4.40 |


| 30 Amperes, 250 Volts |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{30}$ | Solid liase. . . . | Plain | $41 / 4$ ins. | $3{ }^{\frac{1}{16}}$ ins. | 1 | $11)$ | 10 | ¢. 90 | \$ti. 38 |
| $2656^{4}$ | Slotted Base. . | Plain | $41 / 4$ ins. | ${ }_{3}^{3} \frac{18}{16} \mathrm{ins}$. | 1 | 10 | 10 | 2.90 | 80. 68 |
| $2657{ }^{\text {4 }}$ | Solid 13ase. . . . | Indicating | $41 / 4$ ins. | $3^{1 / 8}$ ins. | 1 | 10) | 10 | 3.10 | 6.60 |
| $20.58{ }^{4}$ | Slotted Base... | Indicating | $41 / 4$ ins. |  | 1 | 10 | 10 | 3.0 | (6. (0) |

## Taplet and Wood Molding Switches <br> SINGLE POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts


## Switches for Mounting on $1 / 2$ Inch Condulets

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

| $\begin{aligned} & 361\left(0,3^{\mathbf{4}}\right. \\ & 30: 30)^{4} \end{aligned}$ |  | Plain Indicating |  |  | 1010 | 100100 | 42 | 80)36 $\$ 7.92$ <br> 40 9.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |

The alowe swit ches may be converted into lock swit ches by the use of the Lock Attachmonts shown below.
When specified, round handles will be furnished on the above switches in 3,5 and 10 ampere size without extra charge.

Lock Attachments for Rotary Switches

|  | Mr. <br> No. |  | Std. Pkg. | Pkg. Wt. Lbs. | $\begin{aligned} & \text { Mrrs. } \\ & \text { List } \\ & \text { Price } \\ & \text { Fach } \end{aligned}$ | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Price } \\ \text { Fach } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5001 ${ }^{\text {A }}$ | Lock attarhment only, for 5 and 10 ampere 250 volt |  |  |  |  |
|  | 5010 | Lock attachment only for 20 ampere 600 volt switch. . . . . | 100 | 3 | \$0. 16 | \$0.36 |
|  |  | for 15 and 20 ampere 6C0 volt switch. . . . . . . . . . . . | 100 | 3 | . 16 | 36 |
|  | $5009{ }^{\text {A }}$ | Lock attachment only, for 30 ampere 250 volt switch and for 10 ampere 600 vo't switeh. |  |  |  |  |
|  | $5002{ }^{4}$ | Loek key only, to fit all the above lock attachments | 100 | 3 | . 16 | .36 .14 |

[^58]
# "H \& H" SURFACE SWITCHES 



No. 325


No. 2503


No. 2615


No. 2728

## Electrolier Type

## THREE SECTIONS. CONNECTIONS 1, $1 \& 2,1 \& 2 \& 3$, OFF

These switches operate as follows: First turn connects section One. Sccond turn connects sections One and Two. Third turn connects erections (her, Two and 'Three. Fourth turn, Off.

| *5 Amperes, 125 Volts; 2 Amperes, 250 Volts |  |  |  |  |  |  |  | Schedule "S" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. |  |  | Diameter of Base | Screns <br> spaced al (enters | Carton <br> Quantity | Std. Pkg. | Pkg. Wit. L.bs. | Mirs. List Each | W. T. List pa: Carton |
| 25 | Solid Base | I lain | $2 \frac{15}{3} \mathrm{ins}$. | i $3 / 4 \mathrm{ins}$. | 10 | 30 | 17 | \$0.90 | \$16.56 |
| $125^{4}$ | Slotted Base. | Plain | $2{ }^{2} \frac{5}{3} \frac{5}{2} \mathrm{ins}$. | 13 ins. | 10 | 30 | 17 | . 90 | 16.56 |
| $225{ }^{4}$ | Solid Base. | Indicating | $2 \frac{15}{32}$ ins. | Y 3 ins. | 10 | 30 | 17 | 1.00 | 18.40 |
| $325{ }^{4}$ | Slotted Base. | Indicating | $2 \frac{15}{32} \mathrm{ins}$. | $13 \% \mathrm{ins}$. | 10 | 30 | 17 | 1.00 | 18.40 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| 25014 | Solid | Plain | $3 \frac{1}{16} \mathrm{ins}$. | $2{ }^{\frac{5}{2}}$ ins. | 1 | 30 | 30 | \$1.40 | 83. 38 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2502{ }^{\text {4 }}$ | Slotted Base | Plain | $3 \frac{1}{16} \mathrm{ins}$, | $2{ }^{-\frac{5}{3}}$ ins. | 1 | 30 | 30 | 1.40 | 3.108 |
| $2503{ }^{4}$ | Solid Base. | Indicating | $3{ }_{1}^{16} \mathrm{i}$ ins. | $22^{\frac{3}{32}}$ ins. | 1 | 30 | 31 | 1.50 | 3.30 |
| $2.504^{4}$ | Slotted IBase. | Indicating | $3 \frac{1}{16}$ ins. | $2 \frac{8}{32}$ ins. | 1 | 30 | 31 | 1.50 | 3.30 |

## THREE SECTIONS. CONNECTIONS 1, 2, 3, OFF

These switches operate as follows: First turn connects section One. Second turn connectssection Two, Third turn connects section Three. Fourth turn, Off.
*5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $2615{ }^{\text {4 }}$ | Solid Izase. | 1 lain | $2 \frac{15}{32}$ ins. | $13 / 4 \mathrm{ins}$. | 10 | 30 | 17 | \$0.90 | \$14.5i |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2616{ }^{4}$ | Slotted Base. | Plain | ${ }^{2} \frac{15}{32}$ ins. | $13 / 2 \mathrm{ins}$. | 10 | 30 | 17 | . 010 | 16.81 |
| $2617^{4}$ | Solid Base. | Indicating | $2 \frac{15}{32}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | 1.00 | 18.40 |
| 2018 | Slotted Base.. . . . | Indicating | $2 \frac{15}{32}$ ins. | $13 \frac{1}{4} \mathrm{ins}$. | 10 | 30 | 17 | 1.00 | 18.40 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| $2725{ }^{4}$ | Solid 13 | Plain | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. |  | 30 | 29 | \$1.40 | \$3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2726^{4}$ | Slotted Base | Plain | $3 \frac{1}{16}$ ins. | $2 \frac{68}{32}$ ins. | 1 | 30 | 29 | 1.40 | 3.08 |
| $2727{ }^{\text {4 }}$ | Solid Base. | lndicating | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 29 | $1 . .50$ | 3.30 |
| $2728{ }^{\text {4 }}$ | Slotted Base.. | Indicating | $3 \frac{1}{16} \mathrm{ins}$. | $2 \frac{5}{32}$ ins. | 1 | 30 | 29 | 1.50 | 3.30 |

The above switches may be converted into lock switches by the use of the Lock Attachments.

* When specified, round handles will be furnished on the above switches without extra charge.
- National Electrical Code Standard.


# "H \& H" SURFACE SWITCHES 



No. 2664


No. 2671


No. 329


No. 2507

## Electrolier Type

## TWO SECTIONS. CONNECTIONS $1,2,1 \& 2$, OFF

These switches operate as follows: First turn connects section One. Second turn connects section Two. Third turn connects sections One and Two. Fourth turn, Off
*5 Amperes, 125 Volts; 2 Amperes, 250 Volts
Schedule "S"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  |  | Diameter of Base | Screws <br> Spaced on Centers | Carton Quantity | Std. Pkg. | Pkg. Wt. L.bs. | Mifs. List Price Each | W. E. List pur Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2661{ }^{4}$ | Solid Base. | Plain | $2{ }^{\frac{1}{3} 5} \mathrm{ins}$. | $13 / 4$ ins. | 10 | 30 | 17 | \$0.76 | 813,98 |
| $2602^{4}$ | Slotted Base. | Plain | $2 \frac{15}{32} \mathrm{ins}$. | $13 \% \mathrm{ins}$. | 10 | 30 | 17 | . 710 | 13.98 |
| $2663{ }^{-1}$ | Solid Base. | Indicating | $2 \frac{18}{3 \frac{5}{3} \text { ins. }}$ | $13 / 4 \mathrm{ins}$. | 10 | 30 | 17 | Nif | 15, $\mathrm{c}^{2}$ |
| $2661^{4}$ | Slotted I a ase. | Indicating | $2 \frac{15}{32} \mathrm{ins}$. | $13 / 4 \mathrm{ins}$. | 10 | 30 | 17 | N(i) | 15.82 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| $2669^{4}$ | $\cdots$ | Plain | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 30 | \$1.40 | 5:3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2670{ }^{\text {2 }}$ | Sloited liase | Plain | $3{ }^{\frac{1}{16} 6}$ ins. | $22^{\frac{5}{32}}$ ins. | 1 | 30 | 30 | 1.41 | 3.108 |
| $6_{1}^{-14}$ | Solit ! 3ase. | Indicating | $3 \frac{1}{16}$ ins. | $2 \frac{5}{32}$ ins. | 1 | 30 | 30 | 1. 514 | 3.30 |
| $26.2{ }^{\text {a }}$ | Slotted I3as | Indicating | $33_{16}^{1 / 2}$ ins. | $\xrightarrow{2} \frac{5}{32}$ ins. | 1 | 30 | 30 | 1.5.) | 3.30 |

TWO SECTIONS. CONNECTIONS $1,1 \& 2,1$, OFF
These switches operate as follows: First turn comects section Onc:. Second turn connects sections One and Two. Third turn comects section ()ne. Fourth turn, ()ff.
*5 Amperes, 125 Volts; 2 Amperes, 250 Volts
Schedule " S "

| list No. |  |  | Hiameter of Base | Screws <br> Spaced on ('enters | ('arton Quantity | sitc. Pkg. | $\begin{aligned} & \text { lk: } \\ & \text { IIt. } \\ & \text { Ibs: } \end{aligned}$ | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { P:co } \\ & \text { Each } \end{aligned}$ | $\left\lvert\, \begin{gathered} \text { W. E. } \\ \text { List } \\ \text { prr } \\ \text { Carton } \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Solinl laise. . . . . . . | Plain | $\because{ }^{2} \frac{15}{5}$ int | 13. | 10 | 30 | 11 | 50.90 | \$1:3.54 |
| 1294 | Shitted Base..... | Plain |  | $1^{3}{ }^{4}$ ins. | 10 | 311 | 17 | . 91 | 16.54 |
| $\because 294$ | S.lid Base. . . . . . . | Indicating | "-15 ${ }^{\frac{1}{4} 2} \mathrm{ins}$. | 13.1 ins. | 10 | 30 | 17 | 1.00 | 18. ! 0 |
| 329 | Shotterl l a ${ }^{\text {ase . . . . . }}$. | Indicating | $\underline{\square} \frac{12}{32}$ ins. | 13. | 10 | 30 | 17 | 1.0 | 18.10 |

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| 25054 | Solid Base | I'ain | $33_{16}^{16}$ ins. | $\because-\frac{5}{3}$ ins. | 1 | $30)$ | 30 | S1. 10 | S3.03 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2: 066^{4}$ | Slotted lase. | Ilain |  | $2{ }^{2} 5$ ins. | 1 | 30 | 30 | 1.40 | 3.15 |
| $2507{ }^{\text {* }}$ | Solid Base | Indicating | $3{ }_{16}^{16}$ ins. | ${ }^{2}{ }^{\frac{5}{3} 5} \mathrm{E}$ ins. | 1 | 30 | 30 | 1.513 | 3.30 |
| $2508{ }^{\text {4 }}$ | Slot ted l3ase | Indicating | ${ }_{3}^{12}{ }_{16}^{16}$ ins. | $2{ }_{-3}{ }^{5}$ ins. | 1 | 31) | 30 | 1.50 | 3 3: |

The above switches may be converted into lock switches by the use of the Lock Attachments.
*When specified, round handles will be furnished on the above switches without extra charge

- National Electrical Code Standard.


## "H \& H" SURFACE SWITCHES



No. 2611


No. 2499


No. 2609


No. 2602

## Electrolier Type <br> TWO SECTIONS. CONNECTIONS 1, 2, OFF

These switches operate as follows: First turn connects section One. Second turn eonnects section Two. 'Third turn, Off.

| *5 Amperes, 125 Volts; 2 Amperes, 250 Volts |  |  |  |  |  |  | Schedule "S" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. |  |  | Diameter of lase | ScrewHoles Spaced on a Circle | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mirs. <br> List <br> Price <br> Fach | W. E. List per Carton |
| 2611 ${ }^{\text {c }}$ | Solid Base. | Plain |  | $13 / 4 \mathrm{ins}$. | 10 | 30 | 17 | \$0.90 | \$10.50 |
| 2612 ${ }^{\text {4 }}$ | Slotted Base. . . . . . | Plain | $2 \frac{155}{3}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | . 90 | 16.3i |
| $2613{ }^{\text {4 }}$ | Solid Base.. | Indicating | $2 \frac{15}{3} \frac{1}{2}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | 1.00 | 18.40 |
| $\underline{2614}{ }^{4}$ | Slotted Base... | Indicating | $\underline{2} \frac{35}{32}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | 1.00 | 18.40 |

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

| $2496{ }^{\text {a }}$ | Solid l3ase | 1'lain | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | \$1.70 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2497{ }^{\text { }}$ | Slotted Base | Plain | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | 1.70 | 3.74 |
| $24!8{ }^{\text {4 }}$ | Solid 13ase | Indicating | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | 1.80 | 4.010 |
| $\underline{249)^{\text {A }}}$ | Slotted Mase | Indicating | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | 1.80 | 4.00 |

TWO SECTIONS. CONNECTIONS $1 \& 2,1$, OFF
These switches operate as follows: First turn connects sections One and Two. Second turn connects section One. Third turn, Off.
*5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $2607^{4}$ | Nolid l3ase | Plain | $2^{\frac{1}{3} 5}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | \$0.90) | \$16.57i |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2608{ }^{4}$ | Slotted liase | Plain | $2 \frac{15}{32} \mathrm{ins}$. | $13 / 4$ ins. | 10 | 30 | 17 | .(9) | 16.51 |
| $2 \mathrm{~b} 09^{4}$ | Solid I3ase | Indicating | $2 \frac{15}{32}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | 1.00 | 18.40 |
| $2610{ }^{\text {a }}$ | Slotted lisase. | Indicating | $2 \frac{15}{32}$ ins. | $13 / 4$ ins. | 10 | 30 | 17 | 1.00 | 18.40 |

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

| $\overline{2480^{4}}$ | Solid l3ase | I'lain | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | \$1.70 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2487{ }^{\text {* }}$ | Slotted l3ase, | Plain | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 38 | 1.70 | 3.74 |
| $2488{ }^{\text {4 }}$ | Solid l3ase | Indicating | 31/2 ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 39 | 1.80 | 4.00 |
| $2489{ }^{4}$ | Slotted 13ase | Indicating | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 39 | 1.80 | $4.0 \%$ |

TWO SECTIONS. CONNECTIONS $1,1 \& 2$, OFF
*5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $260{ }^{34}$ | Solid liase | l'lain | $\because \frac{13}{32}$ ins. | $13 / 4 \mathrm{ins}$. | 10 | 30 | 16 | 80.90 | \$16.07 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 26034 | Slotted Base | Plain | $2 \frac{15}{32}$ ins. | $13 / 4$ ins. | 10 | 30 | 16 | .(9) | 16.56 |
| $2604^{4}$ | Solid I3nse. | Indicating | $2{ }^{\frac{15}{3} \frac{5}{2}}$ ins. | 13 ins. | 10 | 30 | 16 | 1.00 | 1s.40 |
| $26055^{4}$ | Slotted Base. | Indicating | $\underline{2} \frac{15}{3} \frac{1}{2}$ ins. | $13 / 4 \mathrm{ins}$. | 10 | 30 | 16 | 1.00 | 18.40 |

15 Amperes, 125 Volts; 10 Amperes, 250 Volts

| $248{ }^{4}$ | Solid liase | Plain | $31 / 2$ ins. | $2 \frac{9}{-6} \mathrm{ins}$. | 1 | 30 | 39 | \$1.70 | 83.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2483{ }^{\text {4 }}$ | Slotied 13ase | Plain | $31 / 2$ ins. | $2 \frac{9}{16}$ ins. | 1 | 30 | 39 | 1.70 | 3.71 |
| $248.4{ }^{\text { }}$ | Solid l3ase. | Indicating | $31 / 2$ ins. | 2 $\frac{9}{16}$ ins. | 1 | 30 | 39 | 1.80 | 4.00 |
| $2485^{4}$ | Slottert l3ase | Indicating | :31/2 ins. | $\frac{9}{16} \mathrm{ins}$. | 1 | 30 | 39 | $1 . \mathrm{sol}$ | 4.00 |

The above switches may be converted into locs switches by the use of the Lock Attachments.
*When epecified, round handles will be furnished on the above switches without extra charge. ${ }^{4}$ National Electrical Code Standard.

## "H \& H" SURFACE SWITCHES

With Porcelain Covers and Handles



SINGLE POLE
5 Amperes, 125 Volts; 3 Amperes, 250 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  |  | Diameter of liase | Screws <br> Spaced on ('enters | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. <br> List <br> Price <br> Fach | W.E. <br> List <br> per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2025{ }^{4}$ | Solid Case. | Plan | $2 \frac{5}{16}$ ins. | 17 $\frac{7}{16} \mathrm{ins}$. | 1 | 30 | 17 | $\$ 0.32$ | \$0.71 |
| $2626^{\text {4 }}$ | Slotted Mase. | Plain |  | $1 \frac{7}{16}$ ins. | 1 | 30 | 17 | . 32 | . 71 |
| 26274 | Solid Jase. . | Indicating | $2 \frac{5}{16} \mathrm{ins}$. | $1 \frac{7}{16} \mathrm{ins}$. | 1 | 30 | 17 | . 36 | . 79 |
| $2628^{4}$ | Slotted Base. | Indicating | $2 \frac{5}{16}$ ins. | $1 \frac{7}{16} \mathrm{ins}$. | 1 | 30 | 17 | . 36 | . 70 |

SINGLE POLE
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| 22314 | Sulid Lase | IMain | 25 \% ins. | $13 / 1 \mathrm{ins}$. | 1 | 30 | 25 | \$0.64 | \$1.41 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22324 | Slotted Base. | Ilain | $25 / 8$ ins. | $13 / 4 \mathrm{ins}$. | 1 | 30 | 25 | . 64 | 1.41 |
| $2205{ }^{\text {A }}$ | Solid Base | Indicating | $25 \%$ ins. | 13 ins . | 1 | 30 | 25 | . 74 | 1.63 |
| $2206{ }^{4}$ | Slotted Jas | Indicating | $25 \% \mathrm{ins}$. | $13 / 4 \mathrm{ins}$. | 1 | 30 | 25 | . 74 | 1.63 |

DOUBLE POLE
5 Amperes, 250 Volts

| 2629 4 | Soinl Lase | I'lain | $2 \frac{8}{16}$ ins. | $1 \frac{7}{16}$ ins. | 1 | 10 | 8 | \$0.52 | \$1.15 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2630{ }^{\text {4 }}$ | Slotted Base. | Plain | ${ }^{2} \frac{1}{16}$ in ins. | $1 \frac{7}{18}$ ins. | 1 | 10 | 8 | . 52 | 1.15 |
| $2631{ }^{\text {4 }}$ | Sulirl Base... | Indicating | $2 \frac{5}{16}$ ins. | $1 \frac{7}{16}$ ins. | 1 | 10 | 8 | . 60 | 1.32 |
| 2632 * | Slotted 13ase | Indicating | $2 \frac{5}{16}$ ins. | $1 \frac{7}{16}$ ins. | 1 | 10 | 8 | 60 | 1.22 |

DOUBLE POLE
10 Amperes, 250 Volts

| 22 | Solil Base | I'lain | $25^{5}$ ins. | 13/4 ins. | 1 | 10 | 9 | S0.8- | \$1.81 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2245{ }^{\text {4 }}$ | Slotted Base | Plain | $25 / 8$ ins. | $13 / 4 \mathrm{ins}$. | 1 | 10 | 9 | . 82 | 1.81 |
| $2207{ }^{\text {4 }}$ | Solid Base | Indicating | 25/8 ins. | $13 / 4 \mathrm{ins}$. | 1 | 10 | 10 | . 92 | 2.03 |
| 2208* | Slotted Ibase | Indicating | 258 ins. | $13 / 4 \mathrm{ins}$. | 1 | 10 | 10 | . 92 | 2.03 |

THREE-WAY
5 Amperes, 125 Volts; 3 Amperes, 250 Volts

| ${ }^{203334}$ | Solid Liuse.. | Plain | 2 $\frac{3}{16}$ ins. | $1 \frac{9}{16}$ ins. $1 \frac{1}{19}$ ins. | 1 | 10 10 | 8 | \$0.52 | \$1.15 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2634{ }^{\text {® }}$ | Slotter Base | Jlain | $2 \frac{5}{16} \mathrm{ins}$. | $1 \frac{1}{16}$ ins. | 1 | 10 | 8 | . 52 | 1.15 |

THREE-WAY
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

| $220{ }^{\text {4 }}$ | Solid Case. | l'lain | $25,8 \mathrm{ins}$. | 13/4 ins. | 1 | 10 | 10 | 80.92 | \$2.03 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2210^{4}$ | Slotted Base. | Plain | $25 \%$ ins. | 13, ins. | 1 | 10 | 10 | . 92 | 2.03 |

FOUR-WAY
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $\begin{aligned} & 2234^{4} \\ & 2235^{4} \end{aligned}$ | Solid Base. . Slotted Rase. | $\begin{aligned} & \text { Plain } \\ & \text { Plain } \end{aligned}$ | $\begin{aligned} & 2^{5} 8 \text { ins. } \\ & 22^{5} \text { ins. } \end{aligned}$ | $\begin{aligned} & 13 \\ & 1_{4}^{3} \text { ins. } \mathrm{ins} . \end{aligned}$ | 1 | 10 10 | 9 9 | $\left\|\begin{array}{l}\$ 1.02 \\ 1.02\end{array}\right\|$ | $\begin{array}{r}\$ 2.25 \\ 2.25 \\ \hline\end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

The above switches may be converted into lock switches by the use of the Lock Attachments.
Then specified, round handles will be furnished on the above switches in 3,5 , and 10 ampere sizes. Without extra charge.

- National Electrical Code Standard.


## "H \& H" ROTARY SURFACE SWITCHES

## With Porcelain Covers and Handle



No. 2240


No. 2676


No. 2246

## Electrolier Type

THREE SECTIONS. CONNECTIONS 1, 2, 3, OFF.
5 Amperes, 125 Volts; 2 Amperes, 250 Volts
Schédule "S"

| List <br> No. |  |  | Diameter of Base | ScrewHoles spaced on a circle | ('arton <br> (buantit: | Strl. I'kg. | 14g. W't. [.bs. | Mirs. <br> Listl'rice <br> Each | W.E. List Price per Certon |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27-47 | Solid Base | Plain | $\underline{-2}^{50} 8$ ins. | 134 ills. | 1 | $11)$ | 10 | \$1.06 | \$3.33 |
| $2748{ }^{4}$ | Slotted Base | Plain | $5{ }^{5}$ 年ins. | 13 ins. | 1 | 10 | 10 | 1.06 | 2.33 |
| $2749^{\text {a }}$ | Solid Base | Indicating | $22^{5}$ \% ins. | $134 \mathrm{ins}$. | 1 | 10 | 10 | 1.16 | 2.55 |
| $2750{ }^{4}$ | Slotterl Rase | Indicating | $22^{5} 8 \mathrm{ins}$. | $1^{3 \prime} \mathrm{i}$ ins. | 1 | 10 | 10 | 1.10 | 2.55 |

THREE SECTIONS. CONNECTIONS $1,1 \& 2,1 \& 2 \& 3$, OFF 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| 22404 | Solid Base | Plain | $22^{5}$ ins. | $1^{3} \mathrm{i}$ i.ss. | 1 | 10 | 9 | \$1.09 | \$2.3:3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22414 | Slotted Base | 1'lain | $2{ }^{5}$ 'sins. | $1{ }^{3} \mathrm{i}$ ins. | 1 | 10 | 9 | 1.06 | ¢ 3 |
| $2242{ }^{\text {4 }}$ | Solid Base | Indicating | 25 \% ins. | 134 ins . | 1 | 10 | 9 | 1.16 | 2.5 |
| $2243{ }^{4}$ | Slotted 13ase | Indicating | $25 / 6 \mathrm{ins}$. | $1^{3} \mathrm{i}$ ins. | 1 | 10 | ) | 1.16 | 2.5 |

TWO SECTIONS. CONNECTIONS $1,2,1 \& 2$, OFF

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $2673^{4}$ | Solid Base | Platu | $\underline{0}$, i..s. | 131 i, s. | 1 | 11) | 10 | 20.913 | \$1.11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2674{ }^{\text {4 }}$ | Slotted Base | Ilain | $2^{2} 8{ }^{\text {s }}$ ins. | 134 ins . | 1 | 10 | 10 | . $9+5$ | 2.11 |
| $2675{ }^{4}$ | Solid Base | Indicating | 2'\% ins. | $13 / 4 \mathrm{inss}$. | 1 | 10 | 10 | 106 | 2.33 |
| 26764 | Slotted Base | Indicating | 25 ¢ ins. | 13'10.s. | ] | 10 | 10 | 1.04 | 2.33 |

TWO SECTIONS. CONNECTIONS $1,1 \& 2,1, \mathrm{OFF}$

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| 22364 | Solid Base | Plain | 2 sins. | 133/1.s. | 1 | 10 | 9 | \$0.96 | \$2.11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 22374 | Slotted Base | Plain | $2^{5}$ ins. | 13 i ins. | 1 | 10 | 9 | .9: | 2.11 |
| $2238{ }^{\text {4 }}$ | Solid Base | Indicating | 2 \% ins. | $13 / 1 \mathrm{ins}$. | 1 | 10 | 9 | 1.06 | 2.33 |
| $2239^{\text {® }}$ | Slotted Base | Indicating | $2^{5}$ ins. | 13 全ins. | 1 | 10 | 9 | 1.061 | 2.33 |

TWO SECTIONS. CONNECTICNS $1,1 \& 2,2$, OFF

* 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| 2246 ${ }^{4}$ | Solid Base | Phain | 258 ins. | 134 ins. | 1 | 10 | 9 | 81. 96 | \$2.11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2247^{4}$ | Slotted Base | Plain | $25 / 8$ ins. | 131 ins. | 1 | 10 | 9 | . 96 | 2.11 |
| $2248{ }^{4}$ | Solid Base | Indicating | $25 / 8 \mathrm{ins}$. | 13.1 ins. | 1 | 10 | 9 | 1.0t | 2.33 |
| $2249^{4}$ | Slotted Base | Indicating | 25/8ins. | 13 íns. | 1 | 10 | 9 | 1.06 | 2.33 |

TWO SECTIONS. CONNECTIONS 1, 2, OFF
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

| $2739^{\text {a }}$ | Solid Base | Plain | 25 ins. | $13 / 4 \mathrm{ins}$. | 1 | 10 | 10 | \$0.96 | \$2.11 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2740{ }^{\text {4 }}$ | Slotted Base | Plain | $2{ }^{5}$ \% ins. | $13 / 4 \mathrm{ins}$. | 1 | 10 | 10 | . 96 | 2.11 |
| 27414 | Solid Base | Indicating | 25\% ins. | 13 ins . | 1 | 10 | 10 | 1.06 | 2.33 |
| 2742* | Slotted Base | Indicating | 25\%ins. | 13 i ins. | 1 | 10 | 10 | 1.061 | 2.33 |

The above switches may be converted into lock switches hy the use of the Lock Attachments. When specified, round handles will be furnished on the above switches in 3.5 . and 10 ampere sizes, without extra charge.

* Screws spaced on centers.
- National Electrical Code Standard.


No. 2338


No. 2335


No. $350 \frac{1}{2}$


No 2166

For Electric Railway Use
5 Amperes, 600 Volts
FUSED SWITCHES

| List No. |  | Diam. of Base | Screws Spaced on C'enters | Carton Quantity | Std. <br> l’kg. | Pkg. Wt. J.bs. | Mifr. <br> List <br> Each | W.E. <br> List per <br> ('arton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2333,4 | Single pule, indicating, wihout fuse |  | $31 / \mathrm{ins}$. | 1 | 25 | 80 | \$1.50 | \$3.30 |
| 23336 | "lhree-way, plain, without fuse.... |  | $31 / 4 \mathrm{ins}$. | 1 | 25 | 80) | 1.50 | 3.30 |
| 23354 | 'lwo-circuit, indicating, without fuse. |  | $31 /{ }^{1}$ ins. | 1 | 25 | 8 | 1.50 | 3.30 |
| $2319{ }^{4}$ | Fuse for aboup, 5 amperes, 600 volts Sicherinle "H" |  | $3^{1}$ í ins. | 10 | 100) | 1 | . 40 | 8.80 |

The above prires do not include fuses. Fuses will not be shipped with switches unless they are specifically ordered, and then they will be billed extra at the regular price.

SINGLE POLE

## 5 Amperes, 600 Volts

| $511{ }^{1}$ | Solit Buse. | Plain |  | $1^{\frac{25}{32}}$ ins. | 1 | 50 | 37 | \$80. 66 | \$1.45 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15013 | Slotted Base. | J'ain | $2{ }^{\frac{1}{3} \frac{5}{2} \text { ins. }}$ | $1{ }^{\frac{3}{3}}{ }^{\frac{5}{2}} \mathrm{ins}$. | 1 | 50 | 37 | . 6.6 | 1.45 |
| $2501 /{ }^{1}$ | Solid Ilase. | Indicating | $2 \frac{18}{32}$ ins. | $1{ }^{1} \frac{2}{8}$ ins. | 1 | 50 | 37 | .76 | 1.67 |
| $3501 /{ }^{1}$ | Slotted liase. | Indicating | $2 \frac{32}{32}$ ins. | $1 \frac{185}{32}$ ins. | 1 | 50 | 37 | . 76 | 1.67 |

SINGLE POLE
10 Amperes, 600 Volts

| $2164{ }^{4}$ | Solid liase. | 1hain | $13^{\frac{3}{16}}$ ins. | $2 \frac{7}{16}$ ins. | 1 | 50 | 74 | \$1.101 | \$3.52 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2165{ }^{\text {4 }}$ | Sloted Base. | I lain | $3 \frac{3}{16}$ ins. | $2 \frac{7}{16}$ ins. | 1 | 50 | 74 | 1.60 | 3.52 |
| $2166{ }^{\text {4 }}$ | Solid Base | Indicatimg | $3 \frac{3}{186}$ ins. | $2{ }^{2} \frac{1}{6}$ in ins. | 1 | 50 | 74 | 1.70 | 3.74 |
| $2107^{4}$ | Slotterl hase. | Indicating | $3 \frac{3}{16}$ ins. | $2 \frac{7}{16}$ ins. | 1 | 50 | 74 | 1.70 | 3.74 |

SINGLE POLE
20 Amperes, 600 Volts

| $2411{ }^{1 / 4}$ | Solid 13 | Plain | 312 ins . | ${ }^{2}{ }^{7} 76 \mathrm{ins}$. | 1 | 50 | 76 | \$1.90 | \$ 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3411 | Slotted lase | Plain | $31 \%$ ins. | $2 \frac{7}{16}$ ins. | 1 | 50 | 76 | 1.90 | 4.18 |
| $4411 /{ }^{1}$ | Solid Izase. | lndicating | 31 采 ins . | $2 \frac{7}{16}$ ins. | 1 | 50 | 76 | 2.00 | 4.40 |
| 5411 | Slotted I3a | Indicating | : $31 / 2 \mathrm{ins}$. | $2 \frac{7}{16}$ ins. | 1 | 50 | 76 | 2.00 | 4.40 |

DOUBLE POLE
5 Amperes, 600 Volts

| 3015 | Solid loase |
| :---: | :---: |
| $301 \mathrm{E}^{\text {4 }}$ | Slatted liase. |
| $301 \%^{4}$ | Solid Base. |
| 30198 | Slotted Basp. |


| Plain |  | ins. | $1{ }^{\frac{25}{3} 7}$ ins. |  | $5{ }^{5}$ | 36 | \$0.90 | \$1.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plain | $2 \frac{15}{3}$ | ins. | $1 \frac{25}{3}$ ints. | 1 | 50 | 36 | . 90 | 18 |
| Indicating | $\bigcirc{ }^{2} \frac{15}{3}$ | ins. | $1{ }^{\frac{2}{3}} \mathbf{5}$ ins. | 1 | 50 | 36 | 1.00 | 2.20 |
| Indicating | $2{ }^{\frac{1}{3}}$ | ins. | $1 \frac{25}{2}$ ins. | 1 | 50 | 36 | 1.00 | 20 |

## DOUBLE POLE

10 Amperes, 600 Volts

| $214.8{ }^{4}$ | , | Plain | $3 \frac{3}{16} \mathrm{ins}$. |  | 1 | 50 | 74 | 81.80 | \$3.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2169^{4}$ | Slotted lias | 1Plain | $3 \frac{16}{16}$ ins. | $2 \frac{1}{16}$ ins. | 1 | 50 | 74 | 1.80 | -3.96 |
| 21704 | Solid Fiase | Indicating | $3 \frac{3}{16}$ ins. | ${ }_{2} \frac{1}{16}$ Itus. | 1 | 50 | 74 | 1.90 | 4.18 |
| 21714 | Slatted Hase. | Indicating | ${ }^{\frac{1}{16}}{ }^{\frac{1}{6}}{ }^{\frac{1}{16}} \mathrm{ins}$ ins. |  | , | 50 | 74 | 1.90 | 4.18 |

The above switches may be converted into lock switches by the use of the Lock Attachments.

- National Electrical Cöde Standard.


## "H \& H" BARRIER 600 VOLT SWITCHES



For Electric Railway Use

THREE-WAY

| THREE-WAY |  |  |  |  |  |  |  |  | Schedule "S' |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Amps. 600 Volts |  | Diam. of lase Inches | Fichews Spaced Centers Inches | (arton Quantity | Std. lkg. | Pkg. Wt. Lbs. | Mirs. <br> List <br> Price <br> Fach | $\begin{array}{r} \text { W. E. } \\ \text { List } \\ \text { per } \\ \text { Carton } \end{array}$ |
| $531 / 2$ | Solid l3ase. | 5 | Plain | $2{ }^{\frac{15}{32}}$ | $1{ }_{5}^{25}$ | 1 | 50) | 37 | \$0.90) | \$1.98 |
| 1531/2 | Slotted hase. | 5 | Plain | $2 \frac{15}{3 \frac{5}{2}}$ | $1{ }^{3} 5$ | 1 | 50 | 37 | . 90 | 1.98 |
| 2172 | Solid hase. | 10 | Plain | $3 \frac{3}{16}$ | $2 \frac{7}{16}$ | I | ה) | 74 | 1.70 | 3.74 |
| 2173 | Slotted base. | 10 | Plain | $33_{18}^{16}$ | $2 \frac{7}{16}$ | 1 | i) | 74 | 1.70 | 3.74 |

Two-Circuit Switches

| $57^{4}$ | Solid base. | 5 | 1'lain | $\stackrel{2}{ } \frac{15}{32}$ | $1 \frac{235}{3 \frac{2}{5}}$ | 1 | 50 | 37 | 50.90 | \$1.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1.57{ }^{\text {¹}}$ | Slotted base. | 5 | 1'ain | $2 \frac{15}{32}$ | $1 \frac{25}{32}$ | 1 | . 50 | 37 | . 90 | 1.98 |
| $257^{4}$ | Solid base | 5 | Indicating | $2 \frac{15}{3}$ | $1 \frac{35}{32}$ | 1 | 50 | 37 | 1.00 | 2.20 |
| $357{ }^{\text { }}$ | Slotted base. | 5 | Indicating | $2 \frac{15}{3}$ | $1 \frac{35}{32}$ | 1 | 50 | 37 | 1.00 | 2.20 |
| 2174 | Solid base | 10 | Plain | $3 \frac{3}{16}$ | $2 \frac{7}{16}$ | 1 | 50 | 74 | 1.70 | 3.74 |
| 2175 | Slotted base | 10 | Plain | $3 \frac{1}{16}$ | $2 \frac{7}{16}$ | 1 | 50 | 74 | 1.70 | 3.74 |
| 2176 | Solid base. | 10 | Indicating | $3 \frac{3}{16}$ | $2 \frac{7}{16}$ | 1 | 50 | 74 | 1.80 | 3.96 |
| 2177 | Slotted base. | 10) | Indicating | $3 \frac{8}{16}$ | $2 \frac{7}{16}$ | 1 | 50 | 74 | 1.80 | 3.93 |

## Sectional Switches for Car Heaters

Connections 1, 2, 1 and 2, Off

| 2193 | Solid base. | 10 | Plain | $3{ }^{3} \frac{3}{16}$ | ${ }^{2} \frac{9}{16}$ | 1 | 50 | 75 | \$1.70 | \$3.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2194 | Slotted hase | 10 | Plain | $3{ }^{\frac{3}{16}}$ | $2 \frac{7}{16}$ | 1 | 50 | 75 | 1.70 | 3.74 |
| 2195 | Solid base. | 10 | Indicating | $3 \frac{3}{16}$ | $2 \frac{7}{16}$ | 1 | 50 | 75 | 1.80 | 3.96 |
| 2196 | Slotted hase. | 10 | Indicating | $3{ }^{\frac{3}{16}}$ | $2 \frac{7}{16}$ | 1 | 50 | 75 | 1.80 | 3.96 |
| 799 | Solid base. | 15 | Plain | $45 / 8$ | $31 / 2$ | 1 | 10 | 35 | 3.00 | 6.60 |
| 800 | Solid hase | 15 | Indicating | +5/8 | $31 / 2$ | 1 | 10 | 35 | 3.10 | 6.82 |

35 Amperes, 600 Volts. Reciprocating


## Handles for Rotary Switches

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. Pkg. | Phg. <br> Wt. <br> Lbs. | Mfrs. List Price Each | W. E. <br> List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2910 | Round handle of rubber composition for 5 and 10 ampere 250 volt switch, and for 3 and 5 ampere 600 volt switeh. | 100 | 21/4 | \$0.06 | \$0.13 |
| 5004 | Handle of rubber composition for 5 and 10 ampere 250 volt switch, and for 3 and 5 ampere t $i 00$ volt switch. | 10) | 2 | 06 | \$0. |
| 5005 | Handle of rubber composition for 20 ampere $2 \% 0$ volt switch and for 15 and 20 ampere $\mathbf{i} 00$ volt switch | 100 | 3:2 | . 06 | 13 |
| 4242 | Handle of rubber composition for 30 ampere 250 volt switch and for 10 ampere 600 wolt switch | 100 | 4 | 06 | 13 |
| 2156 | Handle of porcelain for 5 and 10 ampere 250 volt switch and for 3 and 5 ampere 600 volt switch. | 100 | 3 | 06 | 13 |
| 2157 | llandle of porcelain for 20 ampere 250 volt switch and for 15 and 20 ampere 600 volt switch. | 100 | i) | 06 | 13 |
| 2218 | Itande of poreclain for 30 ampere 250 volt switeh, and for 10 ampere di(0) volt suiteh | 100 | 5 | . 06 | 13 |

[^59]
## "H \& H" SWITCHES AND SWITCH PLATES



No. 601



Nos. 3004 and 3054


No. 2891

Rotary Flush Switches
Schedule " S "

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amperes |  | Without Plate | Carton Quantits | std. Pkg. | Ikg. W't. L.bs. | Mirs. <br> List <br> Price <br> Fach | $\begin{array}{r} \text { W. Fi. } \\ \text { List } \\ \text { per } \\ \text { Carton } \\ \hline \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 125 |  |  |  |  |  |  |  |
|  | Colts | Volts |  |  |  |  |  |  |
| +600^ | 5 | 3 | Single pole, plain | 10 | 100 | 55 | 8t). 612 | \$13.64 |
|  | 10 | 5 | Simple pole, plain... | 10 | 50 | 30 | \% 71 | 13.06 |
| 2881* | 10 | 5 | Single pole, maticating | 10 | 5) | 30 | . 81 | 14.90 |
| 602* | 10 | 10 | Double pole, phain | 10 | 50 | 30 | 1.05 | 19.3 ? |
| $2 \mathrm{SN} 2^{4}$ | 10 | 10 | I Oouble pole, indicating. | 10 | 50 | 30 | 1.15 | 21.16 |
| 221334 | 5 | 3 | Three-way, plain. ... | 10 | 50 | 30 | . 82 | 1.5 .09 |
| ${ }^{503}{ }^{\text {a }}$ | 10 | 5 | Three-way, plain | 10 | 50 | 30 | 1.05 | 19.22 |
| (i0)4 ${ }^{\text {4 }}$ | 5 | 2 | Four-way. plain. | 10 | 1) | 8 | $1.0 \%$ | 15.75 |

30 AMPERE, 250 VOLT ROTARY FLUSH SWITCHES

| $3061{ }^{4}$ |  | 30 | Ningle pole platin | 1 | 10 | 25 | \$1.90 | \$4.18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $3004{ }^{4}$ |  | 30 | Double pole, plain | 1 | 10 | 2. | 1.90 | 4.15 |
| $30.54^{\text {® }}$ |  | 30 | Single plate, $41 \frac{1}{2} \times 4 \frac{9}{16}$ | 10 | 10 | 12 | 1.00 | 2.25 |

These switches can he furnished with indicating lials. They can also be furnished in three-way, fourway and electrolier comnections.

## Electrolier Type

TWO SECTIONS. CONNECTIONS 1, 1 AND 2, 1, OFF


TWO SECTIONS. CONNECTIONS 1, 1 AND 2, 2, OFF

| 6194 | 5 | 2 | Plain | 10 | 1) | 8 | \$1.0i | \$15.75 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2887^{4}$ | 5 | 2 | Indicating. | 10 | 10 | 8 | 1.15 | 17.25 |

TWO SECTIONS. CONNECTIONS 1, 2, 1 AND 2, OFF

| 26814 | 5 | 2 | Plain | 10 | 1) | 8 | \$1.0is | \$1.5.75 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2888 | 5 | 2 | Indicating. | 10 | 10 | 8 | 1.15 | 17.25 |

THREE SECTIONS. CONNECTIONS 1, 1 AND 2, 1 AND 2 AND 3, OFF

| $60.5{ }^{4}$ | 5 | $\stackrel{2}{2}$ | 1'ain | 10 | 10 | 8 | \$1.05 | \$15.75 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\underline{2885}$ | 5 | 2 | Indicating. | 10 | 10 | 8 | 1.15 | 17.25 |

THREE SECTIONS. CONNECTIONS $1,2,3$, OFF

| $33^{35}{ }^{4}$ | 5 | 2 | 1'ain | 10 | 10 | 8 | \$1.05 | \$1.5.75 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 29804 | 5 | 2 | Indicating | 10 | 10 | 8 | 1.1\% | 17.2\% |

## Plates for Rotary Flush Switches

| IMain <br> List <br> No. | Indicating Isist No. | Style | Size <br> Ins. | Carton Quantity | Std. Pkg. | Pkg. Wt. Lhs. | Mifrs. <br> List <br> Price <br> Each | $\begin{array}{r} \text { W. li.. } \\ \text { List } \\ \text { per } \\ \text { Carton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4067 |  | Single, struck up 040 in, brass. . |  | 25 | * 100 | $2 \cdot 3$ | $80.41)$ | \$18.40 |
| $40.31{ }^{\text {a }}$ | 25914 | Single, solid $1 / 8$ in. brass. | $41 \frac{1}{2} \times 23$ | 2.5 | *100 | 40 | . 60 | 27.611 |
| 40:324 | 28:924 | 2 gathe, solid $\frac{1}{4}$ in. brass..... | $41 \%$ x 4 年 | 10 | *:0 | 3.3 | 1.20 | 22.08 |

> *100 single plates, or the equivalent in gangs is a standard package. Larger gangs and tan- flem gangs can be furnished at proportionate prices.

When specified, round handles will be furnished on the above switches in 3,5 and 10 ampere sizes, without iextra charge.

- Vational lilectrical Code Standard.


## "H \& H" SWITCHES



No. 2081


No. 2083-Lock


No. 2967


No. 4401
*Push Button Switches
Schedule " S '"

| List <br> No. | Amperes |  |  | Carton Quantity | Std. <br> Pkg. | Pkg. <br> Wt. <br> Lbs. | $\begin{gathered} \text { Mirs. List } \\ \text { Price } \\ \text { Each } \\ \hline \end{gathered}$ | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $125$ | 250 Volts |  |  |  |  |  |  |
|  | 10 | Vonts | Ninule Pole | 10 | 100 | 56 | \$0.45 | \$9.90 |
| $2082^{\text {4 }}$ | 10 | 10 | Double Pole | 10 | 50 | 31 | . 70 | 12.88 |
| $2083{ }^{4}$ | 10 | 5 | Three-Way. | 10 | 50 | 31 | . 70 | 12.88 |
| $2084^{\text {* }}$ | 10 | 5 | Four-Way. | 10 | 10 | 9 | 2.00 | 30.00 |

*LOCK PUSH BUTTON SWITCHES

| ListNo. |  | Aniperes |  |  | Carton Quantity | Std. Pkg. | $\begin{aligned} & \text { Ykg. } \\ & \text { Wt. } \\ & \text { Ibs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \\ & \hline \end{aligned}$ | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 125 | 254 |  |  |  |  |  |  |
|  |  | Volts | Volts |  |  |  |  |  |  |
| $2081^{\text {² }}$ | Lock | 10 | 5 | Single P'ole | 10 | 100 | 56 | \$1.06 | \$23.32 |
| $2082^{4}$ | Loek | 10 | 10 | Double l'ole | 10 | 50 | 31 | 1.30 | 23.92 |
| $2083{ }^{4}$ | Lock | 10 | 5 | Three-Way. | 10 | 50 | 31 | 1.30 | 23.92 |
| $2084^{4}$ | Lock | 10 | 5 | Four-Way. | 10 | 10 | 8 | 2.50 | 37.50 |
| $5003{ }^{\text {a }}$ | Key | Loek | ush | utton Switch |  | 100 | 2 | . 15 | each . 33 |

"NUTMEG"' PUSH SWITCHES


## *Electrolier Type of Push Button Switches

This switch gives the same alternate, consecutive, or simultaneous control of a group of lights that can be obtained by using any other types of eleetrolier switches, and in addition it has a great advantage over other types because the lights can be extinguished at any time hy simply pushing the black button.

This convenience appeals greatly to the householder who has hitherto had to snap, an electrolier switch through all its different combinations before the lights could be put out.

The external appearance and dimensions are the same as the regular push button switches, and this switch fits all standard plates and wall eases.

## THREE SECTION CONNECTIONS

This switch operates as follows:

Pearl Button
First Push: Lights section One.
Second I'ush: Lights sections One and Two.
Third Pish: Lights sections One and Two and Three. Off

Schedule "S"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 125 Volts | 250 Volts | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. I.hs. | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Fach } \end{aligned}$ | List per <br> List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2967{ }^{\text {² }}$ | 10 Amperes | 5 Amperes | 10 | 11 | 8 | 51.15 | \$17.25 |

## TWO SECTION CONNECTIONS

These switches operate as follows:
No. 2968-One, Off, One and Two, Off.
No. 3264 -One, Off, Two, Off, One and 'Two, Off.

| List <br> No. | 125 Volts | 250 Volts | Carton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ Each | W. E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2968{ }^{\text {4 }}$ | 10 Amperes | o Amperes | 10 | 10 | 8 | :1.15 | $\overline{\$ 17.25}$ |

*Depth of switches without plates, $1 \frac{33}{64}$ inches. Outside supporting screw holes, $3 \frac{9}{32}$ inches on centers. Inside supporting screw holes, $2 \frac{13}{13}$ inches on centers.

- National Electrical Code Standard.


## "H \& H" SWITCHES AND RECEPTACLES



No. 3048


No. 3065
Panel Board Switches



No. 2958

## METAL CAP ROTARY PANEL BOARD SWITCHES <br> Schedule "S"

| $2955^{5}$ | Double pole indicator, square base square corners |  |  |  |  |  | Schedule "S' |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 10 | 2.0 | 10 | 100 | $5: 3$ |  |  |
| $\begin{aligned} & 29564 \\ & 0 \end{aligned}$ | Touble pole indicator, round bise | 10 | 250 | 10 | 100 | 2,3 | 50.91 | $\$ 20.00$ 18.92 |
|  | with round morners. . . . . . . . . . | 10) | ?.8) | 10) | 100 | ii) | 91 | 20.00 |

*Poredain bases with black composition cowers contirely covoring all eurent carrying parts, and matehing the slate of the panel.


Momentary Contact Switches


No. 2061. Pressure on either button closes its respoctive single pole switch, and the release of the button opens the circuit with a quick snap.
 as the No. 2 )(in.

## Pilot Lamp Receptacles

Schedule " $H$ ",
$41+4)^{6}$
$2999^{4}$
$30(1){ }^{4}$
$4152^{4}$

| ('omb. push plate and bull's eve, lexpt with 2 (.P. 125 volt cande Single plate ( $41 / 2 \times 23$ ) with bul Conh. plate only (416 $\times 6^{3}{ }^{3}$ ) f lamp and phag receptache. |
| :---: |
|  |  |
|  |  |
|  |  |

"H \& H" RECEPTACLES AND SWITCHES


No. 2934


No. 2034
Base Board Receptacle

| List <br> No. |  |
| :---: | :---: |
| $2934{ }^{4}$ | Receptacle complete. |
| $3001{ }^{\text {4 }}$ | Jase ouly . . . |
| $3002{ }^{\text {® }}$ | l'lug only. |
| 3011* | Plate only . . . |



## Dirt Proof Base Board Receptacles

SHUTTERS ON THE PLATE
Schedule " H "

| $2034^{4}$ | Receptacle complete. . . . . . . . . . . . . . . . . . | 10 | 125 | 1 | 30 | 31 | \$1.4) | \$3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20014 | Receptacle base |  |  | 10 | 30 | 15 | . 50 | 9.20 |
| $20012^{4}$ | Receptarle plug | . . | . . | 10 | 30 | 5 | . 25 | 4.60 |
| $2033{ }^{\text {4 }}$ | Single plate for receptacle. |  |  | 15 | 30 | 15 | . 6.5 | 17.94 |

USED WITH STANDARD SWITCH PLATE

| 3087 | Reeeptacle eomplete | 10 | 250 | 1 | 30 | 31 | \$1.40 | \$3.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28.0 | Receptacle base... | . . |  | 10 | 30 | 15 | . 80 | 14.72 |
| 2002 | Recoptacle plug | . |  | 10 | 30 | 8 | . 20 | 4.60 |
| 2:301 | Single plate for roreptacle. | . |  | 1 | 100 | 30 | 35 | . 77 |

These receptacle plates may be furnished in gangs, and also in gang combinations with switch plates. Receptacles in gangs are spaed $1 \frac{13}{16}$ inches between centers. Outside supporting serew holes are spaced $3 \frac{9}{32}$ inches on centers. Inside supporting serew holes are spaced $212{ }_{1}^{2}$ inches on centers.


No. 2532


No. 2532


No. 2022


No. 3047

Pendent Switch


Schedule " $H$ "

| Pkg. | Mifrs. | W |
| :---: | :---: | :---: |
| Wt. | List |  |
| Lhs. | Each | C |
| 32 |  |  |

Standard finish polished brass. No extra charge for brush brass.

## Automatic Door Switch

Schedule "S"

| $2022^{4}$ | S. I. 6 alnp. 125 v.; 3 amp. 250 v . | 10 | 30 | 22 | \$2.25] $\$ 41.40$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $2023{ }^{4}$ | S. P. 6 amp. 125 v.; $3 \mathrm{amp}, 250 \mathrm{v}$. | 10 | 10) | 10 | 2.2533 .75 |

List No. 2022. Light on when door is opened, List No. 2023. Light on when door is closed.
The shell of the switch is of sheet steel .081 inch in thickness. Dinensions of plate, $33 / 4 \times 11 / 4$ inches. Opening required, $25 / 8 \times 1 \frac{1}{16}$ inches. Depth, $13 / 4$ inches.

## Wall Case for Door Switch

Schedule "H"
A sperial wall case is made for this switch, to be ussd with flexible non-metallic conduit or with iron ronduit, with knockout outlets for $5 / 8$ inch and $7 / 8$ inch conduit. $307^{4} \mid$ lor one door switch $11 / 4 \times 27 / 8 \times 23 / 4$ ins. . . . . . . . . . . . . .
${ }^{4}$ Vational Electrical Code Standard.
"H \& H" BRASS PLATES


No. 4077


No. 4052


No. 4068


No. 3144


No. 3244
Plates for Push Button Switches

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Dimeosions  <br> Height Length <br> Inches Inches | Carton Quantity | Std. Plig. | $\begin{aligned} & \text { Phg. } \\ & \text { I!t. } \\ & \text { Lbs. } \end{aligned}$ | Mirs. List l'rice Each | W. E. List ner Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4077 | For Une Switch. | $41 / 2 \times 23 / 4$ | 25 | * | 23 | \$0.14 |  |
| 4078 | For Two Switches. | $41 / 2 \times 4 \frac{9}{16}$ | 10 | * | 20 | .28 | 6.14 |
| 4079 | For Three Switches. | $4 \frac{1}{2} \times 13 \frac{8}{8}$ | 5 | * | 19 | .4² | 4.8 |

The above plates are stamped from . 040-inch rolled brass and have reinfored bevelled odges to make them strong. 'The screw holes are deeply countersunk to rest upon the frame of the switch, so that the plate will not dip in under pressure of the screws.

## WITH REGULAR SQUARE EDGES

| $\begin{aligned} & 2301 \\ & 23012 \end{aligned}$ | For (ne siwitch. l'or Two Switches | $41 / 2 \times 23 / 4$ $41 / 2 \times 4 \frac{9}{6}$ | 25 10 | * | 32 25 | 80.35 .70 | S1N. 38 16.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| The above plates are stamped from . Oto-inch rolled brass and are as strong and rigid as solid platces. |  |  |  |  |  |  |  |
| STANDARD SIZE SOLID PLATES <br> Made from $1 / 8$-inch hard rolled brass. |  |  |  |  |  |  |  |
| 4051 | For ()ne Switch | 41/2 $\times$ 2 $3 / 4$ | 25 | * | 40 | \$0. 50 | \$26. 35 |
| 4052 | For Two šwitches | $41 / 2 \times 4 \frac{9}{16}$ | 10 | * | 35 | 1.00 | 23. b)() |
| 40.3 | for Three Switches | $41 / 2 \times 13 \%$ | i |  | 35 | 1.50 | 17.95 |
| 4054 | For Four Switches. | $412 \mathrm{x} 8_{16}^{\frac{3}{6}}$ | 5 |  | 35 | 200 | 2:3.00 |
| 4055 | For Five Switches. | $412 \times 10^{16}$ | 1 |  | 35 | $3 .(1)$ | 6.93) |
| 405 y | For Six Switches. | $41 / 2 \times 11 \frac{13}{16}$ | 1 |  | 3.5 | 3.00) | 8.98 |
| 4057 | For Seven Switches | $41 / 2 \times 138$ | 1 | * | 35 | 4.20 | 9. 6 (i) |
| 40:58 | For light Switelies | $416 \times 15 \frac{7}{16}$ | 1 | * | 35 | 4.80 | 11.14 |

SMALL SIZE SOLID PLATES
Made from $1 / 8$-inch hard rolled hrass.

| 4041 | lior One Switch. | $4 \times 214$ | 1 | * | 30 | 40. 0 | \$1.1.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4042 | For Two switches | $4 \times 41 / 8$ | 1 | * | 28 | 1.00 1.00 | 2.:10 |
| 40.43 | lor Three Switches. | $4 \times 5 \frac{15}{16}$ | 1 | * | 28 | 1.50 | 3.45 |
| 4044 | For Four Switches | $4 \times 73$ | 1 | * | 28 | 2.00 | 4.10 |

On horizontal gang plates, switches in gang are spaced $1 \frac{13}{16}$ inches between centers.

## TANDEM PLATES

Made from $1 / 6$-inch hard rollerl brass


[^60]



No. 1)-221


No. [)-200

SINGLE POLE
5 Amperes, 125 Volts, 3 Amperes, 250 Volts
10 Amperes, 125 Volts, 5 Amperes, 250 Volts

| List <br> No. | Std. <br> l kg . | Mirs. <br> List l'rice | W. E. List Price |  | List No. | Std. <br> Pkg. | Mirn List IPrice | W. E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 200 | 250 | \$0.28 | \$0.67 | Pony, Slotted or Open, Plain |  |  |  |  |
| D200 | 250 | . 32 | . 77 | Pony, Slotted or Open, Dial |  |  |  |  |
| $\underline{2} 0$ | 100 | . 36 | . 86 | Concealed-Plain | 221 | 100 | \$0.48 |  |
| D2:0 | 100 | . 40 | . 96 | Concealed-Dial | D221 | 100 | 80.78 | $\$ 1.15$ 1.30 |
| 2?(0) | 100 | . 36 | . 86 | Slotted-Plain | 2210 | 100 | . 48 | 1.15 |
| D2200 | 100 | . 40 | . 96 | Nlotted-Dial | D2210 | 100 | . 5.4 | 1.30 |

20 Amperes, 125 Volts

| 321 | 30 | $\$ 0.92$ | $\$ 2.21$ | Concealed—I'lain | 421 | 30 | $\$ 1.40$ | $\$ 3.36$ |
| ---: | ---: | ---: | ---: | :---: | ---: | ---: | ---: | ---: |
| D321 | 30 | 1.00 | 2.40 | Concealed—Dial | D421 | 30 | 1.30 | 3.60 |
| 3210 | 30 | .92 | 2.21 | Slotted—Plain | 4210 | 30 | 1.40 | $\mathbf{3 . 3 6}$ |
| D3210 | 30 | 1.00 | 2.40 | Sloticed—Dial | D4210 | 30 | 1.50 | 3.60 |

DOUBLE POLE
5 Ampcres, 250 Volts

| 122 | 100 | $\$ 0.60$ | $\$ 1.44$ | Concealed—Plain | 222 | 100 | $\$ 0.70$ | $\$ 1.68$ |
| ---: | ---: | ---: | ---: | :---: | ---: | ---: | ---: | ---: |
| D1222 | 100 | .14 | 1.54 | Concealed—Dial | D222 | 100 | .76 | 1.82 |
| 1220 | 100 | .60 | 1.44 | Slotted—Plain | 2220 | 100 | .70 | 1.68 |
| D1220 | 100 | .64 | 1.54 | Slotted—Dial | D2220 | 100 | .76 | 1.82 |

20 Amperes, 250 Volts
30 Amperes, 250 Volts

| 322 | 30 | \$1.40 | \$3.36 | Concealed-Plain | 432 | 20 | \$1.70 | \$4.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Di3: | $30)$ | 1.50) | 3.60 | Concealed-Dial | D4:3 | 30 | 1.80 1.80 | $\$ 4.08$ 4.32 |
| 32.20 | 30 | 1. 40 | 3.36 | Slotted-l'lain | 4220 | 30 | 1.70 | 4.08 |
| Dij2: 0 | 30) | 1.50) | 3.60 | Sotted-Dial | D4220 | 30 | 1.80 | 4.08 4.32 |



No. 8022

## Series Parallel Switches

These swifches have been speciatly designed for use on heating and cooking apparatus. They are arranged for three heats-"IIgh-Medium-Low"- with an "Off" position, and are particularly suited to the control of ovens, hot plates, ranges, flatirons, ete. Dials tre furnished for these switches in two styles. The regular standard switeh dial earried by the switch merhanism under the metal shell, or an outside heavy metal dial which moves with the handle and completely covers the front of the switch. With the latter type ne dirt, soot or other objec-
tionable material can get into the mechanism.

| Inside Dials |  |  |  |  | Outside Dials |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Strl. I'kg. | $\begin{gathered} \text { Mfrs. } \\ \text { List } \\ \text { Each } \end{gathered}$ | W. E. <br> List <br> Each |  | List No. | Std. <br> I'kg. | Mirs. <br> List <br> Each | W. E. <br> List <br> Each |
| 801 | 100 | 80.68 | \$1.63 | \{ 5 amperes, 2.50 volts $\}$ |  |  |  |  |
| 80? | 100 |  |  | \{ 5 amperes, 125 volts $\}$ | 8012 | 100 | 80. 68 | \$1.63 |
| S02 | 100 | . 84 | 2.02 | $\left\{\begin{array}{r}5 \text { amperes, } 250 \\ 10 \text { amperes, } 125 \text { volts } \\ 10 \text { vols }\end{array}\right\}$ | 802: | 100 | . 84 | 2.02 |
| 803 | 100 | 1.50 | 3.60 | \{ 10 amperes, 250 volts $\}$ |  |  |  |  |
| S01 | 30 | 1.80 | 4.32 | $\left\{\begin{array}{l}20 \text { amperes, } 105 \mathrm{~L} \text { volts }\} \\ 1.5 \text { amperes, } 250 \mathrm{volts} \text { \} }\end{array}\right.$ | 8032 | 100 | 1.50 | 3.60 |
|  |  |  |  | i 30 amperes, 125 volts i | 8042 | 30 | 1.80) | 4.32 |

Delivery IF, O. B. Factory, liartford, Conn. For warehouse deliveries write nearest housc.

## DIAMOND "H" PUSH BUTTON SWITCHES



No. 060


No. 1160 Showing Heavy Porcelain Base


No. 065


No. 090

## Push Button Switches

Laboratory Ratings. Single pole, 3 way and 4 way, 10 ainperes, 125 volts- 5 amperes, 250 volts, Double pole, 10 amperes, 250 volts.

Shallow base, $11 / 2$ inches deep. Switch supporting screws $3_{32}^{9}$ inches cent.or to center,

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Std. Prkg. | $\begin{aligned} & \text { Mifs, } \\ & \text { List } \\ & \text { Fach } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| +0:0 | Single Pole, without plates | 100 | \$(0.45 | \$1.08 |
| toio | Double Pole, without plates. | 50 | . 70 | 1.68 |
| +070 | 3 Way, without plates. . . . | 50 | . 70 | 1.68 |
| tos() | 4 Way, without plates. | 10) | 2.00 | 4.80 |
| +0:3 | Single Pole, lock type, without plate | 100 | .90) | 2.16 |
| †0\% | Double l'ole, lock type, without plate | 50 | 1.15 | 2.76 |
| +07\% | 3 Way, lock type, without plate. | 50 | 1.15 | 2.76 |
| +085 | 4 Way, lock type, without plate | 10 | 2.45 | 5.88 |

MOMENTARY CONTACT SWITCH

| 090 | Momentary contact switch without plate | 25 | \$2.40 | \$5.76 |
| :---: | :---: | :---: | :---: | :---: |
| 091 | Single Button, momentary contact switch normally open | 25 | 2.40 | 5.76 |
| 092 | Single Button, momentary contact switch normally closed | 25 | 2.40 | 5.76 |
| $09: 3$ | Momentary contact switch-with one side open one side closed. | 25 | 2.40 | 5.76 |
| 09:5 | Momentary contact lock type without plate | 25 | 2.85 | 6.84 |
| 25\%) | Liey only for lock switch...... | 25 | 10 | 24 |

## PLATES FOR PUSH BUTTON SWITCHES

100 Single Plates or Equivalent in Gauge in a Standard Package


No. T112

| List <br> No. |  | Size <br> Inches | Mifs. List Each | W. E. List <br> Fach |
| :---: | :---: | :---: | :---: | :---: |
| 111 | Solid single plate $1 / 8$-in. thick. | $23 / 4 \times 412$ | 80.50 | \$1.2J |
| 112 | Solid 2 gang plate $1 / 8-\mathrm{in}$. thick | $51 / 2 \times 41 / 2$ | 1.00 | 2.40 |
| 113 | Solid 3 gang plate $1 / 8$-in. thick | $81 / 4 \times 41 / 2$ | 1.50 | 3.63 |
| 11.4 | Solid 4 gang plate $1 / 8-\mathrm{in}$. thick. | $11 \times 41 / 2$ | 2.00 | 4.80 |
| 115 | Solid 5 gang plate $1 / 8-\mathrm{in}$. thick | $1: 3 \frac{1}{4} \mathrm{x} \quad 41 / 2$ | 3.00 | 7.20 |
| 116 | Solid 6 gang plate $1 / 8-\mathrm{in}$. thick | 161/2x $+1 / 2$ | 3.60 | 8.61 |
| 1111 | Single plate . 040 stamped brass | $23.1841 / 2$ | 35 | 84 |
| 1112 | 2 gang plate . 060 stamped brass. | $23 / 4 \times 8 \frac{7}{16}$ | 70 | 1.63 |
| 'T112 | 2 gang tandem plate solid. | $23.4 \times 8.76$ | 1.20 | 2.88 |
| '1113' | 3 gang tandem plate solid. | $23 / 4 \times 12{ }^{\frac{1}{6}}$ | 1.80 | 4.32 |
| T114 | 4 gang tandem plate solid. | $23 / 4 \times 17 \frac{7}{16}$ | 2.40 | 5.76 |

## SPECIAL SIZE PLATES

Ilates of special dimensions can be furnished immediately upon reccipt of order. Special antomatic machinery enables us to make them up, without delay.

Orders for special size plates should always be accompanied by a plainly marked sketeh giving all dimensions.

Prices on application.
Push but ton plates can be supplied with rims of $1 / 8$-inch brass, cither $1 / 4$-inch, 38 -inch, (or $\frac{1}{2}$-inch deep, at $\$ 3.00$ list per gang extra.

Delivery F. O. B. Factory, Hartford, Conn. For warehouse deliveries write nearest house.

## DIAMOND "H" RECEPTACLES AND SWITCHES



No. 6500


2 Gang Combination Push and Receptacle Plate

These receptacles operate antomatically by inserting or withdrawing the plug. Plates can be furnished either singly, in gangs or in combination gangs with push buttons, or rotary flush switines and bull's-eye receptacle.


3 Gang Combination Tandem Plate
10 Amperes, 125 Volts- 5 Amperes, 250 Volts

| $\begin{aligned} & \text { List } \\ & N_{0} \end{aligned}$ |  | Std. Pkg. | Mfrs. Price Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Price } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 6500 | Receptacle complete. | 100 | \$1.40 | \$3.36 |
| 6511 | Plate only, 060 stamped hrass. Plate only, solid brass | 100 | \$1.70 | $\begin{array}{r}1.68 \\ \\ \hline\end{array}$ |
| 6520 | Receptacle only...... | 100 | .90 | 2.16 |
| 6530 | Plug only, brass cap | 100 | . 40 | . 96 |
| 6531 | Plug only, black steel cap. | 100 | . 30 | . 84 |
| 6533 | Speeial two cord plug, black steel cap | 100 | . 35 | . 72 |

Combination Plates without Switches

| List No. | Combination | Std. Pkg. | Mfrs. List Each | $\begin{gathered} \text { W. E. List } \\ \text { Price } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1460 | Push Button Switch and 13ulls'-Jiye |  |  |  |
| 1461 | Rotary Switch and Bull's-Eye - . | 2.) Inits | $\$ 1.75$ 1.85 | $\$ 4.20$ 4.44 |
| 1462 | Reneptacle, Bull's-Eye and Push Button Switch | $25)$ | 2.815 | 4.44 6.36 |
| 1464 | Bull's-Eye Plate with Lamp Rece | 25 Units | 1.15 | 3.00 |
| 1465 | Receptacle and Push Button Switch.. | 25 Units 25 l"nits | 1.00 1.40 | 2.40 3.36 |

The price of a combination gang is the aggregate price of the units eomposing the gang.

## Pendant and Feed-through Switches <br> 3 Amperes, 250 Volts- 6 Amperes, 125 Volts



No. 700

Finished in nickel, polished or old brass.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \\ & \hline \end{aligned}$ | Mfrs. <br> List <br> Each | W.E.List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| 700 702 | Feed-through switch | 100 | $\$ 0.60$ | \$1.44 |
| 802 | Pendant Switeh. | 100 | . 50 | 1.20 |

20 Ampere Rotary Flush Switch

| List <br> No, | Style | Std. <br> Pkg. | Mfrs. List Each | $\begin{array}{\|} \text { W. E. List } \\ \text { Price } \\ \text { Each } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1321 | Single Pole. |  |  |  |
| 1322 | Double Pole | 30 | $\$ 1.20$ 1.60 | $\begin{array}{r} \$ 2.88 \\ 3.84 \end{array}$ |
| 1281 | Wall C'ase. | 30 | 1.80 | $\begin{aligned} & 3.84 \\ & 1.92 \end{aligned}$ |

Delivery F. O. B. Factory, Hartford, Comm. For warehouse deliveries write neareat house.

## "DIAMOND H" SWITCHES



No. 061 Without Cover


No. 61 DP Panel Board Surface Switch l’ush Button Iype


No. 1222 DP Panei Board Switch Rotary Type


No. 1222 Without Cover

## Panel Board Type Surface Switches

Push Button Type

| Push Button Type |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Stule | $\begin{aligned} & \text { Std. } \\ & \text { Prig. } \end{aligned}$ | Mfrs. List Each | $\begin{gathered} \text { W.E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| $\underset{6 i 1}{(1)}$ | Double pole without covir Double pole with eover | 100 100 | $\$ 0.88$ 1.15 | $\begin{array}{r}\$ 2.11 \\ \mathbf{2 . 7 6} \\ \hline\end{array}$ |

Rotary Type


Fupporting serus $\frac{13}{6}$ renter to center cover $2 \times 2$ inphes. (overs and bases shated for bus bars spaced 112-2uch centers.

Battery Type Push Button Switches

| $\begin{aligned} & \text { 1.ist } \\ & \text { No. } \end{aligned}$ | Type | Std. | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 31 | Single pole. | 100 | \$0.50 | \$1.20 |
| :32 | 2 garig. | \%0 | 1.00 | 2. 40 |
| 3 | 3 gang. | 3 | 1.50 | 3.60 |
| 3 | 4 pang. | 95 | 2.00 | 4.80 |
| $\begin{array}{r} 3: 1 \\ 3: 1 \\ 1: 1 \\ 1: 3 \end{array}$ |  |  |  |  |
|  | 3 Way single. | 100 | 81.75 | \$1.80 |
|  | Astomatic door swateln. | $\begin{array}{r}100 \\ \hline .01\end{array}$ |  | 1.68 |
|  | 2 rircuit........... | . 0 |  | 3.60 |

## Door Switches



No. 601

## 6 AMPERE 125 VOLT, 3 AMPERE 250 VOLT

| $\begin{aligned} & \text { List } \\ & \text { Nio. } \end{aligned}$ |  | std. $1_{\mathrm{kg} .} .$ | Nirs. List Fach | $\begin{aligned} & \text { W. E. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| (i)1 | Lighto on with doer oren. | 25 | \$2.25 | \$5.40 |
| (it) 2 | Jiglt off with dour open. | 10 | 2.25 | 5.40 |
| (is) | Comluit hox with clamp. |  | . 40 | 56 |

Flates and strikes for door switch are made of hard brass - $\boldsymbol{T}_{2}^{3}$ inch thick.
I)divery F. O. B. Hartford, Conn. Fo: warehouse deliveries,


No. 681 write reatest hrouse.

## "DIAMOND H" REMOTE CONTROL SWITCHES



3 Pole Type $F$
Remote Control Switch


Wirine IDagram
TYpe $F$ Switch

## Type F Remote Control Switch

The remote enntiol switeh is loeated where the circuit is to be onened and consed. The push button may be loeated wherever ennvenient, at any distance from the switeho, if desired, several push buttons may be used to operate the same switch from difforent locations.

The remote eontrol switch is useful for controlling small motors or groups of sign lamps, as well ar for the service mentioned above, and is a saver of time and trouble wherever used.

The solennids that operate the switch are located at each end of the switch housing directly under the brush yokes, and give a straight pull without rocking or eramping. The releasing solennid is in the center of the housing and operates on the locking mechunisin direet. All working parts are entirely enclosed and ramnot become damaged through rough usage. All weariug parts are of casc-hardened and tempered steel.

| List <br> No. |  | Amp. <br> Capacity | Mfrs. list Each | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: |
| 730 | Double pole, single throw. | $2 \%$ | \$319.00 | \$64.80 |
| 740 | Double pole, single throw: | 50 | 48.00 | 86.411 |
| 750 | Double pole, single throw. | 7 | 60.00 | 108.00 |
| 76 | Double pole, single throw. | 100 | 93.60 | 168.48 |
| 780 | Double pole, single throw. | 150 | 108.00 | 194.40 |
| 880 | Double pole, single throw. | 200 | 122.40 | 220.32 |
| 890 | Triple pole, single throw.. |  | $4: 3.20$ | 77.76 |
| 800 | Triple pole, single throw. | 50 | 54.00 | 97.20 120.96 |
| 810 | Triple pole, single throw. | 7.5 | 67.20 108.00 | 120.96 |
| 820 | Triple pole, single throw. | 100 | 108.00 | 194.40 |
| 630 | Triple pole, single throw. | 150 | 124.80 | 224.64 |
| 640 | Triple pole, single throw.. | 200 | 139.30 | 250.56 |
| 610 | Four pole, single throw. | 25 | 5.4 .00 | 97.20 |
| 620 | lour pole, single throw. | 8 | 18.00 | 122.40 |
| 630 | Four pole, single throw. | 75 | 112.00 | 201.60 |
| 640 | Four pole, single throw. | 100 | 12. 2.00 | 230.40 |

## Type A Remote Control Switch CONTINUOUS CURRENT, NO VOLTAGE RELEASE



Remote Control Switch 'rype A

For remote control of small motors, for vacuum cleaners, automatic elevators, cte.

| List No. |  | Pole | Amp. Capacity | Mfrs. List Each | W. E. Lisit Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 605 | Double pole |  | 30 | \$48.00 | \$68.40 |
| 615 | Double pole |  | 50 | 54.00 | 97.20 |
| (32\%) | Triple pole |  | 30 | 60.00 | 109.00 |
| 635 | Triple pole |  | 50 | 68.00 | 122.40 |

## Tank Switch



Tank Switch

| List |  | Mfrs. | W. E. |
| :---: | :---: | :---: | :---: |
|  |  | List | List |
| No. |  | Each | Fach |
| 72 | Tank switch with float | \$25.00 | \$45.00 |
| 721 | Tanks witch without fluat | 10.00 | 18.00 |

Delivery F. O. B. Factory, Hartford, Conn. For warehouse deliveries write nearest house.

# CUTLER HAMMER BATTERY SWITCHES <br> For Automobile Lighting 



No. 7160 or 7170
With Plate No. 7161


No. 7184 Switch


No. 7172 With No. 7162 With No. 7185 ilate

## Push and Pull Battery Switches

| Iist <br> No. | Switches Without Plates | C'arton (quant:ty | Std. <br> Pkg. | $\begin{aligned} & \text { Ikg. } \\ & \text { Wt. } \\ & \text { Ihs. } \end{aligned}$ | Retail <br> P'rice <br> Each | List Jace per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7100 | Single, 10 amperes, $8(0)$ volts | 20 | 101) | 20 | \$0.5t | \$8.40 |
| 7172 | 2 (iang, horizontal, 10 amperes, 80 volts | 10 | 50 | 20 | 1.12 | 16.80 |
| 7173 | 3 (iang, horizontal, 10 amperes, 80 volts | 6 | 30) | 20 | 1.68 | 25.20 |
| 7174 | 1 Gang, horizontal, 10 amperes, 80 volts | 5 | 25 | 20 | 2.24 | 33.10 |
| 7184 | 2 Gang, tandem, 10 amperes, 80 volts. | 10 | 50 | 20 | 1.12 | 16.80 |
| 7186 | 3 Gang, tandem, 10 amperes, 80 volts | 6 | 30 | 20 | 1.68 | 25.20 |
| 7188 | 4 Gang, tandem, 10 amperes, 80 volts | 5 | 25) | 20 | 2.24 | 33.10 |
| 7191 | Single 3 wire swit ch, 10 amperes, 80 volts. | 20 | 100 | 20 | . 64 | 9.60 |
| 7192 | 2 Ciang, 3 wire switch, 10 amperes, 80 volts. | 10 | 50 | $?$ | 1.28 | 19.20 |
| 7193 | 3 Gang, 3 wire switch, 10 amperes, 80 volts. | 6 | 30 | 18 | 1.92 | 28.80 |
| 7170 | Single, 3 way switch, 10 amperes, 80 volts. | 20 | 100 | 20 | 1.00 | 15.00 |
| 7177 | Series parallel switch, 10 amperes, 80 volts. | 10 | 50 | 20 | 1.40 | 21.00 |
| 7180 | Momentary contact switch, 10 ampreres, 80 volts | 20 | 100 | 20 | . 45 | 6.80 |
| 7198 | Plug ignition switch, 10 amperes, 80 volts. . . . . . | 20 | 100 | 20 | 64 | 9.60 |
| 7171 | Plug switch for grounding magneto, 10 amperes, 80 volts. | 20 | 100 | 20 | . 64 | 9.60 |

Standard package discounts allowed on an assortment (in unbroken cartons) equivalent to 100 single switches. Standard finishes: Polished brass, biush brass, polished nickel, gun metal. Specify finish desired.

Struck-up Switch Plate

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Dimensions Height Width | Std. Pkg. | Retail Price Each | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7161 | For one switch, in one horizontal row | $2 \frac{9}{32} \times \frac{15}{16} \mathrm{in}$. | 100 | \$0.12 | \$0.22 |
| 7162 | For two switehes, in one liorizontal row | $2 \frac{9}{32} \times 13 / \mathrm{ins}$. | 50 | . 24 | . 43 |
| 7163 | For three switches, in one horizontal row | $2 \frac{9}{32} \times 21.3$ ins. | 30 | . 31 | . 65 |
| 7164 | For four switches. in one horizontal row. | $29 \mathrm{9} \times 31 / \mathrm{ins}$. | 25 | 48 | . 87 |
| 7178 |  | $21 / 2 \times 2 \frac{9}{32} \mathrm{ins}$. | 50 | 36 | 68 |
| 7179 | Sperial plate for No. 7177 and one additional switch. | 31/4 $\times 2 \frac{9}{32} \mathrm{ins}$. | 30 | 48 | 87 |

Standard finishes: Polished brass, brush brass, polished nickel, gun metal. Specify finish desired.
Solid Switch Plates (Tandem)

| 7185 | For two switches, in one | $35.8 \times \frac{15}{16} \mathrm{in}$. | 50 | \$0.24 | \$0.43 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7187 | For three switches, in one ver | $5 \frac{3}{5} \times \frac{15}{16} \mathrm{in}$. | 30 | 36 | . 65 |
| 7189 | For four switehes, in one vertieal |  | 2.5 | 48 | 7 |

Standard package discount allowed on assortment of plates aggregating holes for 100 switches.
Standard finishes: Polished brass, brush brass, polished nickel, gun metal. Specify finish desired.

## Door Switch <br> FOR AUTOMOBILE DOOR



## TYPE "A" KNIFE SWITCHES

Be sure to note the following points when ordering Type "A" Switches.
Unless otherwise specified, back-connected switches will be furnished in polished finish and are so listed. Back-connected switches, plain finish, 30 to 400 amperes, deduct 10 per cent.; above 400 amperes, deduct 5 per cent.

All back-connected switches, 800 amperes and above, regularly equipped with square posts.

Screws for back-connected switches are for 1 inch slate, unless otherwise specified.

Back-connected switches packed unmounted. Wood templet for 30 to 600 amperes, inclusive, add 10 per cent. Above 600 amperes, wood templet regularly furnished.

Front-connected switches are listed in plain finish.
Front connection switches, polished finish, add 30 per cent. on 30 to 200 amperes; above 200 amperes, add 20 per cent.

Front-connected switches unmounted, without slate bases, deduct 10 per cent.

All double break switches, add 50 per cent. to single break prices.
All 125 volt spacing, same price as 250 volt.
Quick-break attachments, see page 21.
All 250 volt, single, double ard three-pole switches, 800 amperes and above and all four-pole switches regularly equipped with spade handles.

All 500 volt, A.C., three-pole switches, 800 amperes and above, and all four-pole switches, regularly equipped with spade handles.

All 600 volt, three and four-pole switches regularly equipped with spade handles.

Spade handles for other sizes than those regularly so equipped or for extra handles, see listing on page 21.

Multiple blades are regularly used on switches 800 amperes and above.
All fusible 500 volt, A.C., switches arranged for 600 volt fuses.
No fuses included in list prices.
Box Sizes for front-connected switches, see pages 26 and 27.
Prices apply to arrangements listed only. Any deviation necessitates special work and must be charged for accordingly. Orders requiring special work are not subject to cancellation after our acceptance of same.

Current Carrying Parts. All Current Carrying Parts are made of pure hard drawn copper, and are of heavier stock than Underwriters' requirements, which demand a current density rating of 1000 amperes per square inch of copper, sliding contacts being rated 75 amperes per square inch.

All Type "A" Switches will easily carry 100 per cent. overload.
Finish (Plain). All metal parts of our plain-finished switches are emery finished over the entire surface and lacquered. This finish closely resembles draw file finish; gives all metal parts a uniform surface and a better contact, all scales, seams, roughness, unevenness in the metal being thus removed.

The bases are of high-grade black slate, oiled.
(Polished). All copper parts are polished, buffed and lacquered, the slate bases being of high-grade black slate, oiled. The fibre cross bars are polished and buffed.

## TYPE A SWITCHES

FRONT CONNECTED

250 Volts D.C. and 500 Volts A.C. Plain Finish. No Fuse, Single Throw

|  |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  | FOU |  |  |  | IR POL |  |
| List <br> No. | List l'rice | Net Wt. Fach Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Net W't. Each Lbs. |  | List No. | List <br> Price | Net W't. Each Lbs. | List <br> No. | list <br> Price | $\begin{aligned} & \text { Net } \\ & \text { Wi. } \\ & \text { Fach } \\ & \text { Lbs. } \end{aligned}$ |
| 3721 | \$1.68 | 1 | 3801 | \$2.52 | 2 |  | *30 | 3881 | \$3.78 | 3 | 3961 | \$5.04 | 4 |
| $37.211 / 2$ | 2.39 | 2 | $38011 / 2$ | 3.44 | $31 / 4$ | 30 | $38811 / 2$ | 5.21 | 41/2 | $39611 / 2$ | 6.93 | 8 |
| 3722 | 2.5 | 2 | 3802 | 3.74 | $31 / 4$ | 60 | 3882 | 5.63 | $41 / 2$ | 3962 | 7.48 | 8 |
| 3794 | 4.72 | $23 / 4$ | $3 \times 104$ | 7.10 | 53/4 | 100 | 3884 | 10.67 | 81/2 | 3944 | 14.20 | $121 / 2$ |
| 3726 | 7.31 | $41 / 2$ | 3806 | 10.84 | 101/2 | 200 | 3886 | 16.38 | 151/2 | 3006 | 18.51 | 20 |
| 3728 | 11.21 | 7 | $3 \times 08$ | 16.18 | 13 | 300 | 3888 | 21.36 | 19 | 3! 0 \% | 30.26 | 23 |
| 37.29 | 17.09 | 10 | $3 \times 09$ | 21.72 | 19 | 400 | 3889 | 32.57 | 30 | 3969 | 44.62 | 34 |
| 3731 | 20.54 | 15 | 3811 | 30.79 | 24 | 600 | 3891 | 44.65 | 35 | 3971 | (i8.26 | 48 |
| 3732 | 25.60 | 24 | 3812 | 51.60 | 41 | 800 | 3892 | 77.40 | 58 | 3972 | 100.80 | 76 |
| 3733 | 40.37 | 26 | 3813 | 58.48 | 45 | 1000 | 3893 | 85. 18 | 65 | 3973 | 114.94 | 84 |
| 3734 | 47.52 | 29 | 3814 | 70.52 | 50 | 1200 | 3894 | 103.32 | 75 | 3974 | 137.76 | 96 |
| 3735 | 70.52 | 3.4 | 3815 | 103.73 | 57 | 1500 | 3895 | 154.98 | 86 | 3975 | 206.64 | 110 |
| 3736 | 91.81 | 48 | 3816 | 137.76 | 83 | 2000 | 3896 | 206.64 | 105 | 3976 | 275.52 | 140 |

BACK CONNECTED
250 Volts D.C. and 500 Volts A.C. Polished Finish. No Fuse, Single Throw

| SINGLE POLE |  |  |
| :---: | :---: | :---: |
| List <br> No. | List Price | Net W't. Each Lbs. |
| 3761 $37611 / 2$ 3762 3764 3766 | $\$ 2.01$ 3.02 3.15 5.33 8.18 | $1^{1 / 2}$ $1^{11 / 2}$ $2^{1 / 2}$ |
| 3768 37619 3771 3762 | 12.48 17.80 21.72 58.20 | $31 / 2$ 5 8 10 |
| 377: | 41.62 | 12 |
| 3774 | 49.95 | 15 |
| 3775 | (i6. 29 | 22 |
| 377 | 88.70 | 35 |
| 377 | 178.05 | 64 |
| 3778 | -215.04 | (ix |
| 3779 | 315.8t | 86 |
| 3770\% | :3! (0) | 100 |


| DOUBLE POLE |  |  | Amp. | THREE POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net W't. Each Lbs. |  | List <br> No. | List <br> Price | Net Wt. Each Lbs. |
| $\begin{aligned} & 38+1 \\ & 38411 / 2 \\ & 3842 \\ & 38.44 \\ & 3816 \end{aligned}$ | $\$ 3.65$ 5.42 5.66 9.66 14.91 | $3 / 4$ $11 / 2$ $11 / 2$ 3 5 | $* 30$ 30 60 100 200 | 3921 $39211 / 2$ 3922 3924 3926 | $\$ 5.36$ 8.19 8.53 14.21 18.97 | 1 $21 / 4$ $21 / 4$ $41 / 4$ 8 |
| $\begin{aligned} & 3848 \\ & 38+9 \\ & 3851 \\ & 3852 \end{aligned}$ | 19.22 27.41 39.62 67.08 | 8 13 19 25 | $\begin{aligned} & 300 \\ & 400 \\ & 600 \\ & 800 \end{aligned}$ | 3928 3929 3931 3932 | 28.84 40.12 53.30 98.28 | 19 19 29 36 |
| $\begin{aligned} & 3853 \\ & 3854 \\ & 3855 \\ & 3856 \\ & 385 \\ & 3858 \\ & 3859 \\ & 38591 \end{aligned}$ | $\begin{array}{r} 73.10 \\ 88.70 \\ 117.60 \\ 161.28 \\ 319.20 \\ 358.80 \\ 607.50 \\ 686.40 \end{array}$ | $\begin{array}{r} 28 \\ 36 \\ 43 \\ 67 \\ 105 \\ 115 \\ 142 \\ 198 \end{array}$ | $\begin{aligned} & 1000 \\ & 1200 \\ & 1500 \\ & 2000 \\ & 2500 \\ & 3000 \\ & 4000 \\ & 5000 \end{aligned}$ | 3933 3934 3935 3936 3937 3978 3938 3989 $39391 / 2$ | 107.10 <br> 133.06 <br> 176.40 <br> 241.92 <br> 443.04 <br> $\div 41.00$ <br> 1029.90 | 42 50 63 92 160 180 210 250 |



| FOUR POLE |  |  |
| :---: | :---: | :---: |
| List | List | Net. |
| No. | Price | Fach |
| 4001 | \$7.31 | 1 |
| $40011 / 2$ | 10.92 | 234 |
| 40()$^{2}$ | 11.34 | 23 |
| 4004 | 19.32 | 6 |
| 40)(\%) | 25. 28 | 12 |
| 4003 | 40.87 | 15 |
| 4009 | 52.28 | 26 |
| 4)11 | 81.15 | 38 |
| 4012 | 131.04 | 48 |
| 4013 | $1+2.80$ | 56 |
| 4014 | 175.41 | 19 |
| 401\% | 235. 20 | 84 |
| 4011 | 292006 | 123 |
| . . . . | . |  |
|  |  |  |
|  |  |  |

*For 250 volts only.
Before ordering carefully refer to introductory page.

## TYPE A SWITCHES <br> FRONT CONNECTED

250 Volts D.C. and 500 Volts A.C. Plain Finish. No Fuse, Double Throw.

|  |  |  |  |  |  |  |  |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| SINGLE POLE |  |  | DOUBLE POLE |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Net IIt. Each Lhs. | list No, | List. <br> Price | Net Wit. Each Lhs. | Amp, | List No. | List Price | Net Wit. <br> Each L.bs. | List No. | List <br> Price | $\begin{aligned} & \text { het } \\ & \text { Wach } \\ & \text { Ehs. } \end{aligned}$ |
| 3711 | 82.48 | 11/2 | $3 \times 21$ | \$3.70 | 3 | *30 | 3901 | \$5.54 | 4 | 3981 | \$7.39 | 6 |
| $37111 / 2$ | 3.32 | 21.1 | $3 \times 211 / 2$ | 4.75 | 6 | 30 | $39011 / 2$ | 7.14 | 8 | $39811 / 2$ | 9.66 | 13 |
| 3742 | 3.68 | $21 / 2$ | 382 | 5.46 | 6 | (6) | 3903 | 8.19 | 8 | $3982{ }^{3}$ | 10.92 | 13 |
| 37.4 | 7.01 | $33 / 4$ | 3884 | 10.58 | 91/2 | 100 | 3004 | 15.75 | 13 | 3984 | 17.80 | 19 |
| 3746 | 11.21 | 6 | 3826 | 16.80 | $161 / 2$ | 200 | 39015 | 21.36 | 23 | 3986 | 28.48 | 30 |
| 3748 | 18.23 | 9 | $3 \times 28$ | 23.14 | 19 | 300 | 3908 | 34.71 | 33 | $39 \times 8$ | 44.72 |  |
| 3749 | 22.32 | 13 | 3829 | 33.46 | 26 | 400 | 3909 | 48.50 | 46 | 3049 | 64.67 | 54 |
| 3751 | 30.86 | 22 | 3831 | 44.72 | 35 | 600 | 3911 | 67.08 | 54 | 3901 | 87.36 | 74 |
| 37.52 | 48.113 | 36 | 38:32 | 72.24 | 6.5 | 800 | 3912 | 105.84 | 94 | 3992 | 141.12 | 115 |
| 37.53 | 54.49 | 39 | 38:33 | 81.70 | 72 | 1000 | 3913 | 119.70 | 10.5 | 3993 | 159.60 |  |
| 3704 | 68.80 | 44 | 38:34 | 100.80 | 78 | 1200 | 3914 | 151.20 | 125 | 3994 | 201.60 | 1.50 |
| 3705 | 10.5 .30 | 5 | 38:35 | 1.57 .92 | 9. | 1500 | 3915 | 236.88 | 141 | 3095 |  |  |
| 375 | 134.40 | 72 | 34:36 | 201.60 | 126 | 2000 | 3016 | 302.40 | 170 | 309\% |  | 220 |

BACK CONNECTED
250 Volts D.C. and 500 Volts A.C. Polished Finish. No Fuse, Double Throw

| $\xi^{1} 5$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Jist <br> Irice | Net Wt. Each I.bs. | L.ist No. | List <br> Price | Net <br> Wt, <br> Each <br> Lbs. |  | List No. | List Price | Net Wt. Fach Lhs. | List No. | List Price | Net <br> Wt, <br> Fach <br> L.bs. |
| 3781 | \$2.30 | 1/2 | 3841 | 85. 24 | 1 | *;3) | 3941 | S7. 88 | 1112 |  | \$10.30 |  |
| $37811 / 2$ | 4.04 | 116 | $3 \times 611 / 2$ | 7.26 | $\underline{2}$ | 30 | $39+11 / 2$ | 10.92 | $2^{\frac{2}{3}}$ | $40211 / 2$ | -14.70 | 316 |
| 3782 | 4.28 | $11 / 2$ | 3812 | 7.76 | 2 | 60 | $33+2{ }^{2}$ | 11.68 | $23 / 4$ | $4(0) 22^{1 / 2}$ | 15.\% | 312 |
| 3784 | 7.40 | 2 | 3864 | 13.44 | 4 | 100 | 3044 | 20.16 | $51 / 2$ | 4024 | 1.9.in | $3{ }^{3}$ |
| 3786 | 11.76 | 4 | $3 \times 16$ | 18.16 | $\pm$ | 200 | 3946 | 27.24 | $10^{-2}$ | 4026 | 36.14 | 1.5 |
| 3788 | 18.02 | 5 | 3\$68 | 27.76 | 11 | 300 | 3948 | 41.60 |  |  |  |  |
| 3789 | 22.04 | 7 | 3869 | 38.70 | 17 | 400 | 3! 49 | 58.06 | 21 | 4028 4029 | 53.66 77.40 | 20) |
| 8791 | 30.86 | 10 | 3571 | 54. 18 | 27 | 6;0) | 30.51 | 81.28 | 36 | 4029 | 103.84 | 5 |
| 3792 | 52.98 | 14 | 3872 | 94.08 | 35 | 80 | -3! | 141.12 | 30 50 | 4031 40.32 | $\begin{aligned} & 105.84 \\ & 18 S .16 \end{aligned}$ | $5 \geq$ |
| 3793 | 58.66 | 18 | 3873 | 104.16 | 39 | 1000 | 30.53 | 156.24 | 66 | 4033 | 208.32 |  |
| 3794 | 73.78 | 23 | 3874 | 131.04 | 63 | 1200 | 3954 | 196. $0^{4}$ | 75 | $40: 34$ | 262.08 |  |
| 3795 | 96.10 | 34 | 3875 | 174.72 | 80 | 1200 | 39\%\% | 262.08 | 96 | (1)35 | 324.48 |  |
| :3790 | 133.06 | 53 | 3876 | 241.92 | 110 | 2000 | 3956 | 336.96 | 140 | 4036 | 449.28 | $\begin{aligned} & 1: 20 \\ & 17 \end{aligned}$ |
| 3797 | 26.5 .44 | 90 | 3877 | 436.80 | 170 | 2500 | 39.5 | 661.44 | 240 |  |  |  |
| 3798 | 315.84 | 98 | 3878 | 533 . 52 | 188 | 3000 | 39:8 | 812.76 | 265 |  |  |  |
| :3799 | 411.84 | 120 | 3879 | 748.80 | 216 | 4000 | 39.8 3059 | 1101.36 |  |  |  |  |
| 37091/2 | 57.4 .08 | 50 | $38791 / 2$ | 1026.48 | 280 | 5000 | $30591 / 2$ | 1528.80 |  |  |  |  |

${ }^{*}$ For 250 volts only.
Before ordering carefully refer to introductory page.

# TYPE A SWITCHES 

back Connected
250 Volts D.C. and A.C.-Single Throw-Low Jaw-Polished Finish-
Fusible N.E.C. Standard

| $e^{\frac{3}{2}}$ |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  |  |  |  |  |  |  |  |
| List No. | $\begin{aligned} & \text { list } \\ & \text { Price } \end{aligned}$ | Net Wt. Each Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List l'rice | Net Wt. Each Lbs. |  | list <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net <br> Vt. <br> Each <br> Lbs. | List No. | List <br> Price | $\begin{gathered} \text { Net } \\ \text { Wi. } \\ \text { Fach } \\ \text { Lbs. } \end{gathered}$ |
| 4081 | \$2.40 | $3 / 4$ | 4161 | \$4.34 | 1. | 30 | 4241 | 86.51 | 11/4 | 4321 | \$8.66 | 2 |
| $408 \%$ | 3.82 | $1^{3 / 4}$ | 4162 | 6.93 | $13 / 4$ | 60 | 4242 | 10.42 | $21 / 2$ | 4322 | 13.86 | $31 / 2$ |
| 4084 | 13.06 | 2 | 4164 | 12.80 | $31 / 4$ | 100 | 4244 | 19.24 | 5114 | 4324 | 21.72 | 7 |
| 40815 | 10.64 | 4 | 4166 | 19.32 | 6114 | 200 | 4246 | 24.56 | 9 | 4326 | 22.76 | 13 |
| 4088 | 19.26 | 8 | 4168 | 35.04 | 16 | 400 | 4248 | 50.78 | 22 | 4328 | 71.94 | 31 |
| +090 | 27.66 | 12 | 4170 | 48.58 | 24 | 600 | 4250 | 72.86 | 39 | 43330 | 100.80 | 52 |

## BACK CONNECTED

600 Volts D.C. and A.C.-Single Throw-Low Jaw-Polished Finish-
Fusible N.E.C. Standard
Equipped with Quick Break Attachments

|  |  |  |  <br> DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  |  |  |  |  |  |  |  |
| List <br> No. | $\begin{gathered} \text { list } \\ \text { l'rice } \end{gathered}$ | Net <br> IVt. <br> Each <br> l.bs. | l.ist | List Price | Net <br> Wt. <br> Fach <br> Lbs. |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | $\begin{aligned} & \text { Net } \\ & \text { Wit. } \\ & \text { Each } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | List Price | $\begin{gathered} \text { Net } \\ \text { Wt. } \\ \text { Each } \\ \text { Lbs. } \end{gathered}$ |
| 9160 | \$5.3.1 | 11/4 | 9180 | \$9.70 | 2 | 30 | 9280 | \$15.i4 | 21/2 | 93440 | \$18.34 | 3 |
| 9161 | 5.80 | $11 / 2$ | 9181 | 10.50 | $21 / 2$ | (i0 | 9281 | 16.80 | $311 / 2$ | 9341 | 19.58 | $41 / 2$ |
| 9162 | 9.21 | 3 | 9182 | 16.80 | 4 | 100 | 9282 | 22.78 | 7 | 9342 | 31.32 | 9 |
|  | 13.86 | . | 9183 | 21.36 | $71 / 2$ | 200 | 9283 | 34.18 | 12 | 93.34 | 45.42 | 16 |
| 916 | 24.30 | 9 | 9185 | 44.50 | $18^{1 / 2}$ | 400 | 9285 | 68.80 | 28 | 9345 | 92.40 | 36 |
| 9166 | 33.28 | 14 | 0186 | 58.48 | 28 | 600 | 9286 | 91.40 | 45 | 934t | 126.42 | 60 |

Without Quick Break Attachments

| 9167 | 84.40 | $11 / 4$ | 9187 | 88.02 | 2 | 30 | 9287 | $\$ 12.86$ | $21 / 2$ | 9347 | $\$ 17.72$ | 3 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9168 | 4.96 | $11 / 2$ | 9188 | 9.03 | $21 / 2$ | 60 | 9288 | 14.44 | $31 / 2$ | 9348 | 19.86 | $41 / 2$ |
| 9169 | 8.19 | 3 | 9189 | 14.10 | 4 | 100 | 9289 | 20.22 | 7 | 9349 | 25.28 | 9 |

Before ordering, carefully refer to introductory page.

# TYPE A SWITCHES <br> FRONT CONNECTED 

250 Volts D.C. and A.C.-Single Throw-Plain Finish—High Jaw
Fusible Bottom-N. E. C. Standard

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Jist <br> Price | Net | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Hist } \\ & \text { Irice } \end{aligned}$ | Nit Wit. Each Lhes. |  | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | List <br> Price | Net <br> Wt. <br> Jach <br> Lhs. | List No. | List <br> Price |  |
|  |  | W't. |  |  |  |  |  |  |  |  |  |  |
|  |  | Lach <br> Lhs. |  |  |  |  |  |  |  |  |  |  |
| 4361 | \$2. 48 | 2 | 4381 | S3. 70 | 216 | 30 | 4401 | \$5.54 | 4 | 4421 |  |  |
| 4362 | 3.66 | $33 / 4$ | 4382 | 5.46 | $41 / 2$ | 60 | 4102 | 8.19 | ${ }_{6} 1$ | 4.42 | 10.98 | 1034 |
| 4364 | 7.02 | $51 / 2$ | 4384 | 10.50 | 9 | 100 | 4104 | 15.15 | $11^{1 / 2}$ | 4124 | 10.92 21.00 | $21{ }^{103}$ |
| 4366 | 10.80 | 9 | 4386 | 16.16 | 17 | 200 | 410 fj | 20.58 | 21 | 4426 | 27.00 27.42 | 37 |
| 4368 | 20.72 | 16 | 4388 | 31.08 | 29 | 400 | 4.408 | 45.06 |  |  |  |  |
| 4370 | 29.08 | 22 | 4390 | 43.62 | 44 | 600 | 4110 | ${ }_{63}{ }^{4} .22$ | 45 60 | $4+38$ | 63.82 87.46 | 67 88 |
| 4371 | 45.30 | 36 | 4391 | 67.94 | (i5 | 8010 | 4.111 | 99.52 | 100 | $4+31$ | 87.46 132.72 | 88 130 |
| 4872 | 52.18 | 40 | 4392 | 78.26 | 72 | 100) | 4112 | 114.66 | 110 | 4.431 $4+32$ | 132.72 152.88 | 130 |
| 4373 | 61.36 | 45 | 4393 | 89.85 | 80 | $1 \geq 00$ | 4113 | $1: 31.82$ | 12 | $443: 3$ | 152.88 179.76 | 144 |

## BACK CONNECTED

250 Volts D.C. and A.C.-Single Throw-Polished Finish-High Jaw
Fusible Bottom-N.E.C. Standard

|  |  |  |  |  |  |  | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | LOUBLE POLE |  |  | Amp. |  |  |  |  |  |  |
| $\begin{aligned} & \text { Lisit } \\ & \text { No. } \end{aligned}$ | List I'rice | Net Wi. Each Jibs. | List No. | List I'rice | Net W t . Each Labs. |  | List $\times \sim$. | $\underset{\text { Irist }}{\text { Jise }}$ | Net W't. Fach L.lss. | List No. | $\xrightarrow[\text { List }]{\text { Lrice }}$ | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Lach } \\ & \text { Lbs. } \end{aligned}$ |
| 441 | \$2.60 | $3 / 4$ | 4461 | \$1.70 | 1 | 30 |  |  |  |  |  |  |
| 4442 | 3.94 | $11 / 4$ | 4462 | 7.18 | 13 | 10 | $4{ }^{4}$ | 10.80 | 11, 2 | 4.001 4502 | $\$ 9.40$ $1+36$ | $21 / 2$ |
| 4444 | 7.40 11.18 | $21 / 2$ | 4464 | 13.44 | $31 / 2$ | 100 | 4484 | 20.16 | $51 / 2$ | 4 H | 14.78 | 4 8 |
| 4446 | 11.18 | 5 | 4466 | 20.28 | 6112 | 200 | 4486 | 25.82 | $10^{-2}$ | 4506 | 34.38 | 15 |
| 4448 | 20.28 | 9 | 4468 | 36.50 | 16 | 400 | 4488 | 52.90 |  |  |  |  |
| 4450 | 29.12 | 13 | 4470 | 51.16 | 25 | 600 | 4490 | 76.69 | 41 | 4508 4510 | $7 \pm .93$ 106.18 | 33 55 |
| 4451 | 46.54 | 18 | 4471 | 84.62 | . 10 | 810 | 4491 | 123.98 | 65 | 4510 | 106. 18 | 85 |
| 4452 | 52.60 | 20 | 4472 | 93.40 | 14 | 1000 | +492 | 140.12 | 65 72 | 4.511 4512 | 165.32 186.82 | 88 100 |
| 4453 | 63.40 | 28 | 4473 | 112.54 | (2) | 120 | $4{ }^{4} 9$ | 169.84 | 100 | 4512 4513 | 186.82 | 100 130 |

Before ordering carefully refer to introcuctory puge.

# TYPE A SWITCHES 

FRONT CONNECTED
250 Volts D.C. and A.C.-Single Throw-Plain Finish-High Jaw
Fusible Top-N.E.C. Standard

|  |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | E PO |  |  |  |  |  |  |  |  |  |  |  |
| List <br> No. | List <br> Price | Net II. Farh Lhs. | $\begin{aligned} & \text { I.ist } \\ & \text { \o. } \end{aligned}$ | Jist <br> Price | $\begin{aligned} & \text { Net } \\ & \text { Wtt. } \\ & \text { lach } \\ & \text { lhis. } \end{aligned}$ |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | list Price | Net W't. Fach L.hs. | $\begin{aligned} & \text { Ijst } \\ & \text { No. } \end{aligned}$ | list P'rice | Nut Wht. liarh Lhs. |
| $\begin{aligned} & 4521 \\ & 4522 \\ & 4524 \\ & 4526 \end{aligned}$ | $\begin{array}{r} \$ 2.48 \\ 3.16 \\ 7.02 \\ 10.80 \end{array}$ | 2 $33 / 4$ $51 / 2$ 9 | 4541 4542 4544 4546 | $\$ 3.70$ 5.46 10.50 16.18 | $21 / 2$ $41 / 2$ 9 17 | 30 60 100 200 | 45061 4562 4564 4.566 | 85.54 8.20 15.76 20.58 | $\begin{gathered} 4 \\ 61 / 2 \\ 14 \\ 241 / 2 \end{gathered}$ | 4.581 4582 4584 4586 | 87.40 10.92 21.00 27.44 | $191 / 4$ 103 21 37 |
|  | 20.72 29.08 45.30 52.18 61.36 | 16 22 31 40 4.5 | 4548 4550 45.51 4552 1503 | 31.08 <br> 43.62 <br> 54.10 <br> 78.26 <br> 49 | 30 <br> 44 <br> 185 <br> 78 <br> 80 | 400 1600 800 1000 12000 | 4568 <br> 4570 <br> 4571 <br> 4572 <br> 4573 | 45.06 63.22 99.54 11464 134.83 | $\begin{gathered} 47 \\ 59 \\ 100 \\ 110 \\ 100 \\ 102 \end{gathered}$ | 4588 4590 4590 4592 4.993 | 63.98 87.48 132.72 152.88 179.76 | 67 88 138 1.4 160 |

## BACK CONNECTED

250 Volts D.C. and A.C.-Single Throw-Polished Finish-High Jaw
Fusible Top-N.E.C. Standard

| 6 <br> SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Wit. Each Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Wet. Each Lbs. |  | List <br> No. | List l'rice | Net Wt. Each Lbs. | List <br> No. | Iist Irice | Net $W \mathrm{~W}$. Each Lbs. |
| 4601 4602 4604 4606 | $\$ 2.58$ 3.94 7.40 11.18 | ${ }^{1 / 1 / 4}{ }^{\frac{3}{4} / 2}$ | 4621 4622 4624 4626 | $\$ 4.70$ 7.18 13.44 20.28 | 1 13 $31 \%$ $61 \%$ | 30 60 100 200 | 4641 4642 4644 4646 | $\$ 7.06$ 10.80 21.100 2.82 | $\begin{gathered} 11 / 2 \\ 23 \\ 51 / 2 \\ 10 \end{gathered}$ | 4661 4662 4664 46646 | $\$ 9.40$ 14.36 22.78 34.38 | $21 / 2$ 4 8 15 |
| 4608 4610 4611 4612 4613 | 20.08 29.12 46.54 52.60 62.54 | 9 13 18 20 28 | 4628 4630 4631 4633 4633 | 36.50 51.16 84.62 93.40 112.84 | 16 25 40 44 62 | 400 600 800 1000 1200 | 46.88 46.50 46.51 46.52 4653 | 52.90 76.71 123.98 140.13 168.84 | $\begin{array}{r}24 \\ 41 \\ 63 \\ 72 \\ 100 \\ \hline\end{array}$ | 46168 <br> 4670 <br> 4671 <br> 4672 <br> 4673 | 74.92 106.18 165.38 186.82 225.12 | 33 55 88 100 130 |

Before ordering carefully refer to introductory page.

# Western Electric <br> TYPE A SWITCHES 

FRONT CONNECTED
250 Volts D.C. and A.C.-Double Throw-Plain Finish-Fusible N.E.C. Standard

|  |  |  |  |  |  |  |  |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  |  |  |  |  |  |  |  |
| List <br> No. | List <br> Price | Net Wt. Each Lbs. | List <br> No. | List <br> Price | Net Wit. Each Lbs. | Sinp. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> I'rice | Net IIt. Fach Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List I'rice | Net V't. Sach Lbs. |
| 4031 40062 $403 t$ 40365 | $\$ 4.62$ 6.46 13.02 19.62 | $\begin{array}{r}3 \\ 6 \\ 9 \\ 15 \\ \hline\end{array}$ | 4141 4142 4144 4146 | 87.14 9.66 19.52 24.92 | 5 8 15 25 | 30 60 100 200 | 4221 4222 4224 4226 | $\$ 10.71$ 14.49 24.84 37.38 | 7 13 26 46 | 4301 4302 4304 4306 | $\$ 14.28$ 19.32 32.94 48.16 | 12 <br> 19 <br> 10 <br> 10 <br> 6 |
| 4058 4070 4071 4072 4073 | 33.24 47.60 73.40 8.15 08.58 | 27 35 60 72 80 | 4148 4150 4151 4152 4153 | 48.16 71.38 107.52 127.68 147.84 | 49 74 105 130 150 | 400 600 800 1000 12000 | 4228 4230 4231 4232 4233 | 72.24 104.58 1.11 .28 191.52 221.76 | 88 117 145 160 175 | 4308 4310 4311 4312 4313 | 94.08 139.44 215.04 255.36 295.68 | 117 1680 $200)$ 216 240 |

## BACK CONNECTED

250 Volts D.C. and A.C.-Double Throw-Polished Finish-Fusible N.E.C Standard

|  |  |  | DOUBLE POLE |  |  | Amp. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  | FOUR POLE |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Wt. Each Lhs. | $\begin{aligned} & \text { Iist } \\ & \text { Io. } \end{aligned}$ | List <br> Price | 入et Wt. Each Lhs. |  | $\begin{aligned} & \text { I.ist } \\ & \underset{\sim}{n} \text {. } \end{aligned}$ | I.sist Price | $\begin{aligned} & \text { Net } \\ & \text { W't. } \\ & \text { I'ach } \\ & \text { Lhs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Net V't. lach l.b. |
| 4101 4102 4104 4106 | $\$ 5.54$ 6.46 11.55 18.02 | $11 / 4$ $13 / 4$ $2^{3}$ $51 / 2$ | 4181 4182 4184 4186 | 210.08 11.76 21.00 27.76 | $11 / 2$ 3 $51 / 2$ 11 |  | 30 60 100 200 | 4261 4262 4264 4266 | 815.12 17.64 26.70 41.66 | $21 / 2$ 5 11 19 | 4311 4242 4344 4346 | $\begin{array}{r} \$ 20.16 \\ 19.94 \\ 35.60 \\ 53.66 \end{array}$ | 4 7 14 26 |
| 4108 4110 4111 4112 4113 | 32.82 43.14 73.78 83.72 96.10 | 11 16 25 29 40 | 4188 4190 4191 4192 +193 | 57.62 78.44 131.04 148.68 174.72 | 21 34 62 80 109 | 400 600 800 1000 1200 | 4268 4270 4271 4272 427 | 84.42 114.92 196.56 223.02 2622.08 | 43 73 9.5 105 140 | 4348 43.50 43.51 4352 4353 | 112.56 153.29 263.08 294.36 324.48 | 60 09 130 1.50 190 |

Before ordering carcfully refor to introductory page.

# FRONT CONNECTED 

500 Volts A.C.-Single Throw-Plain Finish-High Jaw Fusible Bottom-N.E.C. Standard



BACK CONNECTED
500 Volts A.C.-Single Throw-Polished Finish-High Jaw Fusible Bottom-N.E.C. Standard

| THREE POLE |  |  | Amp. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | FOUR POLE |  |
| List No. | List <br> Price | Net IVt. Each Lbs. |  | List <br> No. | I.ist <br> 1'rice | Net WI. Fach l.bs. |
| $\begin{aligned} & 53+1 \\ & 5: 342 \\ & 534 \\ & 5346 \end{aligned}$ | $\begin{array}{r} \$ 11.34 \\ 13.02 \\ 18.52 \\ 27.60 \end{array}$ | $1 \frac{1}{3}$ $21 / 2$ $51 / 4$ $91 / 2$ |  | 30 60 100 200 |  | $\begin{array}{r} \$ 15.12 \\ 17.38 \\ 24.70 \\ 33682 \end{array}$ | 21 3 3 7 1.12 |
|  | $\begin{array}{r} 58.15 \\ 79.12 \\ 126.00 \\ 14.48 \\ 176.41 \end{array}$ | $\begin{gathered} 24 \\ 40{ }^{3} \\ 65 \\ 62 \\ 100 \end{gathered}$ | $\begin{gathered} 400 \\ 600 \\ 800 \\ 1000 \\ 12000 \end{gathered}$ | $\begin{aligned} & 5338 \\ & 53890 \\ & 53901 \\ & 5391 \\ & 5392 \\ & 5.393 \end{aligned}$ | $\begin{array}{r} 77.98 \\ 10.30 \\ 168.00 \\ 192.06 \\ 295.20 \end{array}$ | $\begin{gathered} 301 \\ 531 \\ 104 \\ 100 \\ 130 \end{gathered}$ |

Before ordering carefully refer to introductory page.

## TYPE A SWITCHES <br> FRONT CONNECTED

500 Volts A.C.-Single Throw-Plain Finish-High Jaw
Fusible Top-N.E.C. Standard


THREE POLE

| List <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net IV't. Each Lbs. |
| :---: | :---: | :---: |
| 5401 | \$8.40 | $71 / 2$ |
| 5402 | 9.60 | $83 / 4$ |
| 5404 | 17.20 | 17 |
| 5404 | 2:3.32 | 25 |
| 54 () | 49.12 | 51 |
| it 410 | 6s. 80 | 6if |
| 5411 | 104.16 | 108 |
| -412 | 117.60) | 120 |
| 5413 | 141.12 | 130 |



## BACK CONNECTED

500 Volts A.C.-Single Throw-Polished Finish-High Jaw
Fusible Top-N.E.C. Standard

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | THREE POLE |  | Amp. | FOUR POLE |  |  |
| List <br> No. | l'rice | Net ivt. Each Lhs. |  | List No. | List Price | Fach Idbs. |
| 5421 | \$11.34 | 11/2 | 30 | 5461 | \$15.12 | $21 / 4$ |
| 5422 | 13.02 | 21 \% | (i) | $54(6)$ | 17.38 | 33/4 |
| $5124$ | 18.52 | 51 | 100 | 5464 | 24.70 | $73 / 4$ |
| $5+26$ | 27.60 | 91: 2 | 200 | 5466 | 36.80 | 141/2 |
| 5428 | 7 F .18 | 24 | 400 | 5468 | 77.98 | $321 / 2$ |
| 5430 | 79.12 | 403. | 600 | 5470 | 103.06 | $55.1 / 4$ |
| 541 | 136.00 | (6i) | 810 | 3471 | 168.00 | 88 |
| 5432 | 144.45 | 72 | 1000 | 5472 | 192.80 | 100 |
| 5433 | 1\%6.40 | 100 | 1200 | 5473 | $235 \%$. 20 | 130 |

Before ordering carefully refer to introductory page.

# TYPE A SWITCHES 

## FRONT CONNECTED

500 Volts A.C.-Double Throw-Plain Finish Fusible-N.E.C. Standard


## BACK CONNECTED

500 Volts A.C.-Double Throw-Polished Finish-Fusible-N.E.C. Standard


Before ordering carefilly refer to introductory page.

## TYPE A SWITCHES

## FRONT CONNECTED

600 Volts D.C. and A.C.-Plain Finish-No Fuse-Single Throw
The National (ode requires that switehes designed for over $2 \pi \overline{0} 0$ volts D.C. Se provided with quiek break attachments above 100 anperes, and reommends them on 100 amperes and below.

Equipped with Quick Break Attachments

|  | $\Sigma-12$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | List Price | Net W't. <br> Fach Ilos. | List <br> No. | $\underset{\text { Price }}{\text { List }}$ | Net Wt. <br> Each <br> Lbs. |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Nipt Wt. Eich Lbs. | List <br> No. | List Price | $\begin{aligned} & \text { Ne } \\ & \text { Wt } \\ & \text { Jec } \\ & \text { Lbs } \end{aligned}$ |
| 9000 | \$3.15 | 21/4 | 9100 | \$5.72 | $51 / 4$ | 30 | 92300 | 89.20 | 7 | 9240 | 312.64 | 1) |
| (90)1 | 3.36 | 21/2 | 9101 | 6.08 | $53 / 4$ | 10 | 9201 | 9.681 | 8 | 9241 | 13.40 | 11 |
| 9003 | 5.80 | 3112 | 9103 | 10.30 | 9 | 100 | 02303 | 16.80) | 1412 | 9243 | 19. 38 | 90 |
| 0005 | 9.24 | 6 | 9105 | 16.80 | 143/4 | 200 | 9205 | 22.78 | 25 | 924: | 31.32 | 33 |
| 9006 | 14.32 | 9 | 9104 | 22.08 | 18 | 300 | 92006 | 35.32 | 30 | 9246 | 46.82 | 40 |
| 9007 | 19.66 | 10 | 9107 | 30.26 | 26 | 400 | 9207 | 46.78 | 45 | 92.47 | 64. 32 | 60 |
| 9009 | 22.04 | 14 | 9109 | 40.06 | 32 | 600 | 0209 | 61.92 | 54 | (12-49 | 85. 14 | 72 |
| Without Quick Break Attachments |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 m 10 | \$2.48 | $21 / 4$ | 9110 | \$4.46 | 514 | 30 | 9210 | \$7.14 | 7 | 9250 | \$9.87 | 10 |
| 9011 | 2 . 68 | 21/2 | 9111 | 4.83 | 53. | (i0 | 9211 | 7.72 | 8 | 9251 | 10.62 | 11 |
| 9013 | 4.01 | 316 | 0113 | 8.10 | 9 | 100 | 9\%13 | 13.14 | 141/2 | 9253 | 18.48 | 20 |

## BACK CONNECTED

600 Volts D.C. and A.C.-Polished Finish-No Fuse-Single Throw Equipped with Quick Break Attachments

|  |  |  |  |  |  | THREE POLE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  |  |  |  |  |  | UR PO |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Wt. Each Ibs. | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Net <br> W. <br> Jach <br> Lbs. | Amp. | $\begin{aligned} & \text { List } \\ & \text { co } \end{aligned}$ | List Price | Net Wt. Each Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | I.ist Price | Net IIt. Each J.bs. |
| 9040 | \$4.40 | 111 | 90\% 0 | \$8.02 | 2 | 30 | 9)80 | \$12.80 | 3 | 9140 | \$17.72 | 4 |
| 9041 | 4.62 | 11/2 | 9061 | 8.40 | 21. | co | 9081 | 13.44 | 4 | $91+1$ | 18.48 | \% |
| 9042 | 7.52 | 13.4 | 0002 | 13.6.4 | 334 | 100 | 9082 | 18.52 | 6 | $91+2$ | 25.46 | 8 |
| 9043 | 11.08 | 3 | 9063 | 20.16 | 6 | 200 | 9083 | 27.34 | 10) | 9143 | 37.60 | 1.5 |
| 9044 | 15.04 | 4 | 9064 | 23.14 | 10 | 300 | 9084 | 37.02 | 1.5 | 9144 | 49.20 | 20 |
| 9045 | 19.58 | 6 | 9065 | 35.60 | 16 | 400 | 9085 | 55.04 | 25) | 9145 | 92.88 | 32 |
| 90) 41 | 27.42 | 9 | 90\% ${ }^{\text {a }}$ | 48.16 | 23 | coo | 9086 | 77.06 | 35 | 9146 | 105.96 | 50 |

Vithout Cuick Ercak Attachmen:s

| 91) 47 | \$3.86 | $1: 1$ | 9017 | \$v. 68 | 2 | j) | 9, ${ }^{\text {\% }}$ | 11.23 | 3 | 9147 | 1513.42 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9048 | 4.08 | $11 / 2$ | 9168 | 7.36 | 2 16 | (0) | 9088 | 11.76 | 4 | 9148 | 16.18 | 5 |
| 9049 | 6.35 | $1{ }^{3}$ | Onf 9 | 11.56 | $33 \%$ | 100 | $9 \times 89$ | 18.48 | 6 | 9149 | 21.54 | 8 |

Before ordering carefully refer to introductory page.

# TYPE A SWITCHES <br> FRONT CONNECTED 

600 Volts D.C. and A.C.-Plain Finish-No Fuse-Double Throw
The National Code requires that switches designed for over 250 volts D.C. be provided with cuick break attachments above 100 amperes, and recommends them on 100 amperes and helow.

Equipped with Quick Break Attachments

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} \text { List } \\ \text { P'rice } \end{gathered}$ | Net W't. Each Ibs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Wt. Each Ibs. |  | List <br> No. | List l'rice | Net Wit. Each Lbs. | L.ist <br> No. | List <br> I'rice |  |
| 9020 | \$5.54 | 23,4 | $01 \% 0$ | \$5.00 | 10 | 30 | 9290 | \$16.04 | 15 | 9260 | \$18.74 |  |
| (1)2 1 | 5.80 | 3 | 9121 | 10.50 | 11 |  | 9221 | $11 i .80$ | 161/4 | 9261 | 19.58 | $211 / 2$ |
| 0023 | 8.56 | 5 | 0123 | 15.54 | 1.5 | 100 | 9223 | 2108 | 24 | 926i3 | 28.08 | 32 |
| 9025 | 13.86 | 9 | 9125 | 21.36 | 22 | 200 | 9225 | 34. 18 | 38 | 0265 | 45.10 |  |
| 9026 | 20.80 | 1.5 | 9126 | 23.14 | 28 | 300 | 9226 | 49.54 | 45 | 92665 | 68.12 | 60 |
| (1)27 | 24.50 | 17 | 9127 | 44.50 | 38 | 400 | 9227 | 68.80 | 68 | 9267 | 82.40 | 90 |
| $\bigcirc 099$ | 31.32 | 22 | 9129 | 55.04 | 50 | 600 | 9299 | 86.102 | 88 | 9269 | 118.28 | 110 |

Without Quick Break Attachments

| 90:30 | St. 96 | 23 4 | 9130 | 88.94 | 10 | 30 | 9230 | \$14.3i) | 1.) | 9270 | \$10.78 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 90.31 | 5.20 | 3 | 9131 | 9.46 | 11 | 60 | 9231 | 15.12 | 161年 | 9271 | 20.79 | $211 / 2$ |
| 0003:3 | 7.52 | 5 | 9133 | 13.66 | 1.5 | 100 | 923:3 | 18.52 | 219 | 9273 | 25.46 | $2{ }^{2}$ |

## BACK CONNECTED

600 Volts D.C. and A.C.-Polished Finish-No Fuse-Double Throw
Equipped With Quick Break Attachments

| $\frac{5}{5}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| Isist <br> No. | List | Net Wt. Each Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Net IVt. Each Lbs. |  | List No. | I.ist <br> Price | Net <br> Wt. <br> Each <br> L.bs. | $\begin{aligned} & \text { Ijst } \\ & \text { No. } \end{aligned}$ | List <br> Price |  |
| 90.5) | 816.78 | 134 | 0070 | \$12.06 | 3 | 30 | 0090 | \$19.40 | 4 | 9150 | S22.0t | $51 / 2$ |
| $90 \cdot 5$ | 6.92 | 2 | 9071 | 12. 60 | $311 / 2$ | 60 | 9091 | 20.16 | 51 12 | 9151 | 23.50 | $7^{1 / 2}$ |
| 90.52 | 10.40 | 212 | 0072 | 18.90 | 5 | 100 | 9092 | 25.6.4 | 10 | 9152 | 35.21 | 12 |
| 90.5:3 | 15.50 | 41/2 | ${ }^{9073}$ | 23.86 | 9 | 200 | 9093 | 38.16 | 1i) | 9153 | 50.70 | 23 |
| 9054 | 20.58 | 6 | 0074 | 37.38 | 14 | 300 | 9094 | 57.80 | 26 | 9154 | 79.46 | 35) |
| 90.55 | 29.12 | 8 | 9075 | 48.16 | 21 | 400 | 9095 | 73.00 | 38 | 915\% | 103.48 | 50 |
| 9056 | 37.20 | 12 | 9076 | $65^{2} .24$ | 32 | 600 | 0996 | 102.1 t | 50 | 9156 | 1.40.4t | 0.5 |

Without Quick Ereak Attachments

| 9057 | \$5. 58 | 13/4 | 9077 | \$10.20 | 3 | 3 | 0097 | \$16.38 | 4 | 91.7 | 1819.12 | $51 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 00.8 | 5.88 | 2 | 9078 | 10.72 | 31 \% | C0 | 9098 | 17.14 | 5\%\% | 91.58 | 19.98 | 7 |
| 9059 | 8.56 | 21/2 | 9079 | 15.5t | 5 | 100 | 9009 | 20.92 | $10^{-2}$ | 9159 | 28.98 | 12 |

Before ordering carefully refer to introductory page.

663

600 Volts D.C. and A.C.-Single Throw-Plain Finish-High Jaw Fusible Bottom-N.E.C. Standard
The National Code requires that switches designed for over $2 \pi 0$ volts 1). C. We provided with quick hreak attachaments above 100 amperes, and reoommends them on 100 amperes and below.

Equipped with Quick Break Attachments

| x 5ecand |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Irice | Net <br> Wt. <br> Each <br> Lbs. | J.ist No. | Jist l'rice | Net <br> Wt. <br> Each <br> Jbs. |  | List <br> No. | List I'rice | Net Wt. Each Lhs. | List No. | List <br> Price | Net Wt <br> Each <br> Lbs. |
| 9610 | \$4.58 | 3! 2 | $0 \cdot 120$ | \$8.24 | $83 / 4$ | 30 | 9640 | \$13 22 | 15 | 9\%6) | \$18.18 | 20 |
| 9601 | 4.92 | $41 / 2$ | 9621 | 8.94 | 911/2 | (i0 | 9641 | 14.32 | 153/4 | 0961 | 19.70 | 21 |
| 9603 | 8.20 | $81 / 2$ | 9623 | 14.92 | $19^{2}$ | 100 | 9443 | 20.22 | $31^{1}$ | $9 \mathrm{Oti3}$ | 21.80 | 41 |
| (90) 5 | 12.94 | 17 | (1225 | 19.94 | 32 | 200 | 9645 | 31.90 | 48 | O6\% 5 | 42.38 | 64 |
| 96807 | 23.04 | 28 | 9627 | 41.84 | 49 | 400 | 9647 | 64. 68 | 72 | 9667 | 86.86 | 96 |
| 9609 | 30.86 | 36 | 0629 | 54.20 | 62 | 600 | 9649 | 84.68 | 90 | 9669 | 116.42 | 120) |

Without Quick Break Attachments

| 9610 | \$3.86 | 31/2 | 96.30 | \$6.98 | $83 / 4$ | 30 | 9650 | \$11.22 | 1.5 | 9670 | 120.42 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢611 | 4.28 | 41/2 | 90331 | 7.78 | $91 / 2$ | (30 | 9651 | 12.4 | 1533/4 | 9671 | 17.10 | 21 |
| 9613 | 7.30 | $81 / 2$ | 9633 | 13.23 | 19 | 100 | 965 | 17.94 | :31 | 9678 | 24.68 | 11 |

## BACK CONNECTED

> 600 Volts D.C. and A.C.-Single Throw-Polished Finish-High Jaw
> Fusible Bottom-N.E.C. Standard
> Equipped with Quick Break Attachments

|  | $E_{i}^{1}$ |  | DOUBLE POLE |  |  |  | 8 |  |  | \% |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List I'rice | Net IIt. Each J.bs. | Jist No. | List Irice | Net Wt. Each Lbs. |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | list <br> I'rice | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Each } \\ & \text { I.bs. } \end{aligned}$ | List <br> No. | List <br> Price | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Each } \\ & \text { Ihs. } \end{aligned}$ |
| 9330 | \$5.58 | 11\% | 0370 | \$10.12 | $21 / 2$ | 30 | 93300 | \$16.26 | $41 / 2$ | 93:4) | \$18.07 | 6 |
| 9361 | 6. 20 | $13 / 4$ | 9371 | 11.34 | 3 | 60 | 93881 | 18.14 | $511 / 2$ | 0391 | 21.14 | $71 / 2$ |
| 9362 | 9.82 | 312 | 9372 | 17.84 | 5 | 100) | 93882 | 24.20 | 8 | 03302 | 33.24 | 11 |
| 93663 | 14.58 | 6 | 9373 | 23.42 | 9 | 200 | 9383 | 35.88 | 14 | 0393 | 47.68 | 19 |
| 9365 | 25.96 | 10 | 9375 | 45.58 | 20 | 400 | 938.5 | 72.92 | 30 | 0395 | 97.94 | 40 |
| 9366 | 35.74 | 15 | 0376 | (i). 78 | 30 | (i0) | 9356 | 98. 12 | 48 | 9:396 | 134.90 | 64 |

Without Quick Break Attachments

| 9367 | \$4.92 | 116 | 9377 | \$8.86 | $21 / 2$ | 30 | 9387 | \$14.21 | $41 / 2$ | 9397 | 1519.58 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9368 | 5.46 | 13/4 | 9378 | 9.88 | 3 | 60 | 9388 | 15.80 | 51/2 | 9398 | 18.40 | $71 / 2$ |
| 9369 | 8.56 | $31 / 2$ | 9379 | 15.54 | 5 | 100 | 9389 | 21.08 | 8 | 02,99 | 28.98 | 11 |

Before ordering carefully refer to introductory page.

# TYPE A SWITCHES 

## FRONT CONNECTED

600 Volts D.C. and A.C.-Single Throw-Plain Finish-High Jaw
Fusible Top--N.E.C. Standard
The National Coble requires that switehes designed for over 250 volts $\cap$. C. be provided with guick break at tachments above 100 amperes, and recommends them on 100 amperes and below.

Equipped with Quick Break Attachments

|  |  |  | DOUBLE POLE |  |  |  | THREE POLE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { l'rice } \end{aligned}$ | Net W't. Nach Lhis. | Jist <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net Wt. Fach J.bs. |  | $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ | List <br> Price | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Jach } \\ & \text { Ihos. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> P'rice | Net Wt Each Lus |
| 9700 | 54.58 | 312 | 9720 | 88.24 | 83.4 | 30 | 9740 | 513.23 | 1.5 | 976) | \$18.18 | 20 |
| 9701 | 4.92 | 412 | 9721 | 8.94 | $01 \%$ | 6 | 97.11 | 14.32 | 153/4 | 9761 | 19.70 | 21 |
| $970: 3$ | 8:20 | $81 / 2$ | 9723 | 14.92 | 19 | 100 | 97.43 | 20.22 | 31 | 9763 | 21.80 | 41 |
| 9705 | 12.9-4 | 17 | 9725 | 19.94 | 32 | 200 | 974\% | 31.90 | 15 | 0.465 | 42.38 | 64 |
| $9707$ | 23.04 | 28 | 9727 | 41.84 | 4! | 400 | 9747 | 64.6s | 72 | 9467 | 86.86 | 96 |
| $9709$ | 30.86 | 36 | 9729 | 51:20 | 62 | (i)O) | 97.49 | 84.68 | 90 | 9469 | 116.42 | 120 |
| Without Quick Break Attachments |  |  |  |  |  |  |  |  |  |  |  |  |
| 9710 | \$3.86 | 31/2 | 97.30 | 50.98 | $83 / 4$ | 30 | 97.50 | \$11.22 | 1.5 | 9770 | \$15.42 | 20 |
| 9711 | 4.28 | $41 / 2$ | 97:31 | 7.78 | 9334 | 60 | 9751 | 12.41 | 1:33/4 | 9771 | 17.10 | 21 |
| 9713 | 7.30 | $81 / 2$ | 97.33 | 13.23 | 19 | 100) | 975 | 17.91 | 31 | 977:3 | 24.18 | 41 |

## BACK CONNECTED

600 Volts D.C. and A.C.-Single Throw-Polished Finish-High Jaw<br>Fusible Top-N.E.C. Standard

Equipped with Quick Break Attachments

| 5 |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  |  |  |  |  |  |  |  |
| List <br> No. | List <br> Price | Net <br> Wt. <br> Each <br> I,bs. | List No. | Jist Price | Net W't. Each Lbs. |  | List No. | List Irice | Net W't. <br> Fach <br> l.bs. | List No. | List <br> I'rice | Net Wt. Each Lbs. |
| $\begin{aligned} & 94: 40 \\ & 94+1 \\ & 9442 \end{aligned}$ | $\$ 5.58$ 0.20 9.82 | $11 / 2$ $13 / 4$ $31 / 2$ | $9+50$ $9+51$ 0452 | $\begin{aligned} & 810.12 \\ & 11.34 \\ & 17.84 \end{aligned}$ | $21 / 2$ 3 5 | 30 60 100 | $\begin{aligned} & 9.460 \\ & 9461 \\ & 9462 \end{aligned}$ | $\$ 16.26$ 18.14 24.20 | $41 / 2$ $51 / 2$ 8 | 9.479 <br> 0.47 <br> 9.472 | $\begin{array}{r} \$ 18.94 \\ 21.14 \\ 33.24 \end{array}$ | $1^{61 / 4}$ |
| $9+4.3$ 94.4 9445 | 14.58 2.568 35.74 | 6 10 15 | 9453 <br> 9454 <br> 0455 | 23.42 45.58 62.78 | 9 20 30 | 200 400 600 | 9463 9465 9466 | 35.88 79.92 98.12 | 1.4 30 48 | 9473 $9+75$ 9176 | $\begin{array}{r} 47.188 \\ 97.94 \\ 34.90 \\ \hline \end{array}$ | $181 / 2$ $381 / 2$ $121 / 4$ |

Without Quick Break Attachments

| 9446 | 5412 | $11 / 2$ | 9)4.56 | \$8.86 | 21/2 | 30 | 9467 | \$14.28 |  | 9177 | \$19.58 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9447 | 5.46 | $13 / 4$ | 9457 | 9.88 | 3 | (i0 | 9468 | 15.30 | $51 / 2$ | 9478 | 18.40 | 71/2 |
| 44 | 8.30 | $31 / 2$ | 8459 | 15.51 | 5 | 100 | 9169 | 21.08 | 8 | 9179 | 28.98 | 11 |

Before ordering carefully refer to introductory page.

# TYPE A SWITCHES FRONT CONNECTED 

600 Volts D.C. and A.C.-Double Throw-Plain Finish-Fusible N.E.C. Standard

The National Code requires that switches designed for over 250 volts I).('. be provided with quick brak attachments above 100 amperes, and recommends them on 100 amperes and below.

Equipped with Quick Break Attachments


Without Quick Break Attachments

| 9333 | \$17.56 | $91 / 2$ | 9430 | \$11.38 | 15 | 30 | 95330 | \$19.74 | 26 | 9570 | 1822.25 | 35 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9331 | 7.52 | 10 | 9431 | 12.60 | 16 | (i) | $9: 531$ | 1 N .51 | 27 | 9571 | 3.4 .03 | 38 |
| 9333 | 13:32 | 15 | 943:3 | 20.47 | 30 | 100) | 95.33 | 32.75 | 52 | 9573 | 43.52 | 70 |

## BACK CONNECTED

600 Volts D.C. and A.C.-Double Throw-Polished Finish-Fusible N.E.C. Standard
Equipped with Quick Break Attachments

| 15 -riog m ${ }^{5}$ |  |  | 为 |  |  |  | 身 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| Iist No. | I.ist <br> Price | Net W't. lach Jds. | List No. | List Price | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Each } \\ & \text { Lhs. } \end{aligned}$ |  | List <br> No. | List Price | Net W't. <br> Each J.bs. | List No. | Jist Price | Net Wt. lach Lbs. |
| 9170 | \$7.86 | 11/2 | 9190 | 814.44 | 3 | 30 | 9290 | 819.29 | 51/2 | 9350 | S26. 56 | ${ }^{1}$ |
| 9171 | 8.70 | 2 | 9191 | 15.76 | 4 | 60 | 9291 | 21.36 | 7 | 93351 | 29.37 | 8 |
| 9172 | 14.44 | 4 | 9192 | 22.25 | 7 | 100 | 9292 | 25.60 | 14 | 93352 | 47.30 | 15 |
| 9173 | 18.12 | (1)1/2 | 9193 | 32.93 | 13 | 200 | 9293 | 50.92 | 22 | 9:353 | 70.00 | 30 |
| 9175 | 36.24 | 13 | 9195 | (i3. 64 | 25 | 400 | 929.) | 99.46 | 50 | 93305 | 1136.76 | 65 |
| 9176 | 49.20 | 20 | 9196 | 87.36 | 10 | (10) | 9296 | 139.78 | 80 | 93556 | 192.20 | 110 |

Without Quick Break Attachments

| 9177 | \$6.68 | 11/2 | 9197 | \$12.10 | 3 | 30 | 9297 | \$19.40 | 51/2 | 9:357 | \$20.64 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9178 | 7.52 | 2 | 9198 | 13.65) | 4 | (i) | 9298 | 18.51 | 7 | 9:358 | 25.46 | 8 |
| 9179 | 12.73 | 4 | 9199 | 19.50 | 7 | 100 | 9299 | 31.33 | 14 | 9359 | 43.08 | 15 |

Before ordering carefully refer to introluctory page.

# TYPE C SWITCHES 

## Front Connected

250 Volts D. 2 . and 500 Volts A.C.-SP-DP-3P-4P-Single Throw-Plain Finish-No Fuse

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| List <br> No. | List Price | Net <br> Wt. <br> Each <br> Lbs. | List <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net <br> W't. <br> Jach <br> Lbs. |  | List No. | List Price | Net W't. Each Ihs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Irice | Net Wt. Each Lbs. |
| 3001 | \$0.80) | 3/1 | 3041 | \$1.29 | 11/4 | *30 | 3081 | \$1.9t | 21/2 |  |  |  |
| $300{ }^{2}$ | 1.25 | $11 / 2$ | 3012 | 2.00 | $23 / 4$ | 30 | 3082 | 3.04 | $4{ }^{21 / 2}$ | 5901 | 4 | 41 |
| 30003 | 1.41 | $11 / 2$ | 3043 | 2.32 | $3{ }^{3}$ | (0) | 308:3 | 3.50 | $41 / 4$ | 5003 | 4.04 | 71. |
| 30005 | 2.8.3 | $21 / 2$ | 3015 | 4.7. | 5 $101 \%$ | 100 | 3085 | 7.14 | 8 | 590\% | 9.50 |  |
| $300 \%$ | 5.13 | $t$ | 3046 | 8.5\% | 101\% | 200 | :3086 | 12.84 | 151/2 | 5901 | 17.10 | 20 |

U'innounted switches, without Slate Bases, deduct 10 pro cent.

250 Volts D.C. and 500 Volts A.C.-SP-DP-3P-4P-Double Throw-No Fuse

|  |  |  | DOUBLE POLE |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  |  |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
| List No. | List I'rice | Net Wt. Fach Lhs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { L.ist } \\ & \text { No. } \end{aligned}$ | Net Wt. Jach l.bs. |  | $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | I.ist I'rice | Net <br> Wt. <br> Each <br> Ibs. | List <br> No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net IIt. Each Lbs. |
| 3021 | S1.44 | 11/4 | 3091 | \$2.20 | 3 | *30 | 3101 | 3.42 |  | 5921 |  |  |
| 31022 | 2.20 | $21 / 2$ | 3062 | 3.24 | 5 | 30 | 3102 | 5.04 | 714 | 5922 | 7.30 | 12 |
| 3023 | 2.48 | $21 / 2$ | 3013 | 3.80 | $51 /$ | (i0) | 3103 | 5.89 | $71 / 2$ | 5023 | 8.36 | 121/2 |
| 3025 | 5.58 | 4 | 3045 | 8.85 | $81 / 2$ | 100 | 3105 | 13.11 | $12{ }^{2}$ | 5925 | 18.62 | 18. |
| 3026 | 9.28 | 8 | 3066 | 14.25 | $16^{\prime}$ | 200 | 3106 | 19.48 | 23 | 5926 | 26.04 | 28 |

Unmounted switches, without Slate Bases, deduct 10 per cent.
125 volt switches same price as $2: 00$ volt.
Quick break attachnents, see listing elsewhere.
All four pole switches regularly equiphed with spadc handles.
Spade handles, see listing elsewhere.
All type "C" switches are for front comeetions, plain finish only.
*Jor 2\%) volts I).C. only.

# TYPE C SWITCHES 

Front Connected

250 Volts D.C. and A.C.-SP-DP-3P-4P-Single Throw-Plain Finish-High Jaws
Fusible Bottom-N.E.C. Standard

|  | $F_{0}^{0}$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | $A_{30}$ | THREE POLE |  |  | FOUR POLE |  |  |
|  |  | Net |  |  | Net |  |  |  | Net |  |  | Net |
| List | List | W't. | List | List | Wt. |  | List | List | Wt. | Lisit. | List | Wt. |
| No. | Irice | Each | No. | Price | lach |  | No. | Price | Eact | No. | Price | Each |
|  |  | Ihs. |  |  | Lhs. |  |  |  | Lbs. |  |  | Lbs |
| 1120 | \$1.33 | 1 | 1130 | \$2. 01 | $21 / 4$ |  | 1140 | \$3.04 | $31 / 2$ | 1150 | \$4.03 | (61/2 |
| 1121 | 3.24 | 21/2 | 11331 | 3.42 | 4 | 10 | 1141 | 5.13 | 6 | 11.51 | 6.84 | 101/2 |
| 1123 | 4.52 | 5 | 1133 | 6.95 | $83 / 4$ | 100 | 1143 | 10.45 | 131/2 | 11.53 | 13.87 | 20 |
| 1124 | 8.36 | $71 / 2$ | 11:34 | 12.84 | $1{ }^{\text {j }}$ | 200 | 11.44 | 16.93 | 24 | 11.54 | 22.53 | 36 |

Inmounted switehes without Slate lbases, deduct 10 per eent.

> 250 Volts D.C. and A.C.-SP-DP-3P-4P-Single Throw-High Jaws Fusible Top-N.E.C. Standard

|  |  |  |  |  |  |  | THREE POLE |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  |  |  |  |  |  |  |  |
| List <br> No. | $\begin{aligned} & \text { L.st } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Each } \\ & \text { Lhs. } \end{aligned}$ | List No. | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Net W't. Each l.hs. | Amp. | List $N_{0}$ | List Irice | Net Wt. Each Lbs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | $\begin{gathered} \text { Net } \\ \text { Wt. } \\ \text { Each } \\ \text { Lbs. } \end{gathered}$ |
| 11.0 | 81.33 | 1 | 1170 | S2. 01 | $21 / 4$ | 30 | 1180 | 83.04 | $31 / 2$ | 1190 | \$4.03 | 61/2 |
| 1161 | 3.12 | 21白 | 1171 | 3. 12 | 4 | 60 | 1181 | 5.13 | ${ }^{6}$ | 1191 | 6.84 | 101/2 |
| $116: 3$ | 4.72 | 5 | 1173 | (6.95) | 83/4 | 100 | 1183 | 10.45 | 1:31/2 | 119:3 | 13.87 | 20 |
| 116.4 | 8.36 | 716 | 117.4 | 12.85 | 16 | 2016 | 1184 | 16.93 | $\because 1$ | 1194 | 22. 23 | 36 |

Inmounted switches, without slate Bases, deduct 10 per cent.

125 volt switches same price as 250 volt,
Quick break attachments, see listings elsewhere.
All four pole switches regularly equipped with spade handles.
Sparle handles, see listing elsewhere.
All Type 'C"' switches are for front connections, plain finish only.
No fuses included in above prices.

# TYPE C SWITCHES 

## Front Connected

250 Volts D.C. and A.C.-SP-DP-3P-4P-*Double Throw-Plain Finish
Fusible-N.E.C. Standard


Cnmounted Switches, without slate l Bases, deduct 10 per cent.

## TYPE C SWITCHES

500 Volts A.C.-3P-4P-Single Throw-High Jaws-Fusible Bottom-N.E.C. Standard

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| THREE POLE |  |  | Amp. | FOUR POLE |  |  |
| List No. | List Price | Net IT't. lach Ibs. |  | $\begin{aligned} & \text { List } \\ & \text { Xo. } \end{aligned}$ | Jist Price | Net Wr lach lins. |
| 0880 | 85.32 | 71 | 30 | 9900 | \$ 5.003 | 11 |
| 9881 | 6.6.) | 814 | (i) | (1) 1 | 9.12 | 18 |
| 9854 | 13.30) | 1 i | 10) | 990:3 | 9.67 | 27 |
| 9884 | 20.50 | $\because 412$ | 210 | (990) 4 | 27 |  |

Conmounted switches, without Klate Bases, doduct 10 joer eomt.
All fusible ano rolt $\mathrm{A} . \mathrm{C}$, switehes arrangel for bo volt fuspos.
125 volt switches same price as 2,0 volt
Quick break attachments, see listing elsewhere.
All four pole switches regularly equipuod with spade handles.
Spade handles, ser listing elsewhere.
All Type "C" swatches are for front comnections, phain finish only,
No fuses included in above prices.
*. ill domble throw fusible swat ches regularly erpipperl with hag jaw:

## TYPE C SWITCHES

Front Connected

500 Volts A.C.-3P-4P-Single Throw-Plain Finish-High Jaws
Fusible Top-N.E.C. Standard


Unmounted switehes, without Slate Batses, deduct 10 per cent,

500 Volts A.C.-3P-4P-*Double Throw-Fusible-N.E.C. Standard

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| THREE POLE |  |  | Amp. | FOUR POLE |  |  |
| $\begin{aligned} & \text { L/st } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Net IV't. Fach Ibs. |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net Vit. |
| 9850 | \$11.40 | 9 | 30 | (an7) | \$15:20 | 21 |
| 9851 | 14.06 | 14 | (6) | 0s71 | 15.62 | 32 |
|  | 23.52 | 24 | 100 | 0873 | 3125 | 59 |
|  | 36i. 12 | 42 | 200 | 0874 | 48.05 | $7 \cdot$ |

unted switehes, without shate Bases, deduct 10 per cent.

All fusible 500 volt A.C. switches arranged for 600 volt fuses.
Quick break attachments, see listing elsewhere.
All four pole switches regularly equipped with spade handles.
Spade handles, see listing elscwhere.
All Type "C" switches are for front connections, plain finish only.
No fuses included in above prices.
*All double throw fusible switches regularly equipped with high jaws.

# TYPE C SWITCHES 

Front Connected
251-600 Volts D.C. $\mathbf{5 0 1}-600$ Volts A.C.

## SP-DP-3P-4P-Single Throw-Plain Finish-No Fuse

The National Cerle requires that switches designed for over 250 volts D.C. be provided with quick break attachments above 160 amperes, and recommends them on 100 amperes and below.

Equipped with Quick Break Attachments


Without Quick Break Attachments

|  |  | $21 /$ | 3 | \$2.5\% | , | 30 | 3280 | 83.99 | 6 | 33305 | \$5.32 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1.82 | $2 \%$ | 3242 | 3.04 | 51/2 | 60 | 3282 | 4.75 | $71 / 2$ | 3:304j | 6.27 | 10 |
| 3201 | 3.61 | $31 \%$ | 32 44 | 1i. 00 | 8 | 100 | 3284 | 9.31 | 13 | 3:307 | 12.52 | 18 |

Unmounted Switches, without Slate Bases, deduct 10 per cent.

## 251-600 Volts D.C.-501-600 Volts A.C. <br> SP-DP-3P-4P- $\dagger$ Double Throw -No Fuse <br> Without Quick Break Attachments

|  |  |  |  |  |  |  |  |  |  | FOUR POLE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Net <br> Wt. <br> Each <br> Lhs. | List <br> No. | List Price | $\begin{gathered} \text { Nel } \\ \text { Wt. } \\ \text { Each } \\ \text { Lhs. } \end{gathered}$ | Amp. | List No. | List Price | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Jach } \\ & \text { Lhs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Jiach } \\ & \text { Lbs. } \end{aligned}$ |
| 3220 32022 $3 \geq 24$ | $\$ 3.15$ 3.61 7.41 | $23 / 4$ $31 / 2$ | 3260 3262 3264 | 54.18 4.94 9.88 | 9 10 14 | 30 10 100 | $3: 300$ $3: 302$ $3: 304$ | $\begin{array}{r} 87.03 \\ 8.17 \\ 16.34 \end{array}$ | 14 $151 / 2$ 29 | $3: 315$ 3.316 $3: 317$ | 89.80 11.40 20.16 | $\begin{aligned} & 18 \\ & 20 \\ & 30 \end{aligned}$ |

T'umountel Switches, without Slate Bases, deluet 10 per cent.
$\dagger$ Double throw switches, Type "C." with quick break attachments, are NOT made. Use Type" "A." All three and four pole switehes, 600 volt, regularly equipped with spate handes.
Spate handles, see listing elsewhere.
Nlate harriers, see listing elsewhere.
All 'Yye "C" switches are for front connections, plain fuish only.

# TYPE C SWITCHES 

Front Connected
251-600 Volts D.C.-501-600 Volts A.C.
SP-DP-3P-4P-Single Throw-Plain Finish-High Jaws
Fusible Bottom-N.E.C. Standard
"The National ('onde requires that switehes designed for over 2:0 wolts 1 ). (. be provithe with quick break attachments above 100 amperes, and recomments them on 100 amperes amb bolow.

| Equipped with Quick Break Attachments |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
|  |  | Net |  |  |  |  |  |  |  |  |  |  |
|  |  | Wt. Each |  |  | Wt. |  |  | I. | Net Wt. |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Prist | Each Lls. | List No. | $\underset{\text { List }}{\text { Price }}$ | Each Lhs. |  | ${ }_{\text {List }}$ | List | Each | List | List | Each |
|  |  |  |  |  |  |  |  |  | Los. | No. | l'rice | Lbs. |
| 6720 6721 | \$3.23 | $31 / 4$ 41 |  | 54.94 |  | 30 | 6740 | 87.90 | 13 | (i5.5 | 510.83 | 18 |
| 6721 6723 | 3.92 | 8 | 6731 6733 | 5.70 10.45 | $18^{91 / 4}$ | 6 | 6741 | 9.12 | 14 | (674) | 912.8. | 19 |
| 6724 | 1235 | 119 | 6\%\% 6 | 10.45 16.80 | 18 | 100 | 6743 | 16.72 | 28 | 6747 | 20.16 | 38 |
|  |  |  |  |  | 30 | 200 | 6844 | 26.88 | 43 | 6748 | 36.96 | ( 1 |
| Without Quick Break Attachments |  |  |  |  |  |  |  |  |  |  |  |  |
| 3640 | \$2. ${ }^{2} 6$ | $31 / 1$ | 3650 |  |  |  |  |  |  |  |  |  |
| 3641 | 3.23 | $8^{11 / 4}$ | 310.51 | 4.94 | $91 / 4$ | ${ }_{60}$ | ${ }_{3661}$ | $\$ 6.63$ 7.90 |  |  |  |  |
| 3643 | 4.46 |  | 3665 | 9.50 |  | 100 | 3661 3665 | 15.90 | 14 28 | 36864 | 10.833 18.48 | 19 <br> 3 |
| (̌amounted Switches, without Nate lases, deduct 10 per cent. |  |  |  |  |  |  |  |  |  |  |  |  |
| 251-600 Volts D.C.-501-600 Volts A.C. <br> SP-DP-3P-4P-Single Throw-High Jaws-Fusible Top-N.E.C. Standard |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Equipped with Quick Break Attachments

| pxacy? |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  | FOUR POLE |  |  |
|  |  | Net |  |  |  |  |  |  |  |  |  |  |
|  |  | Wt. |  |  | W't. |  |  |  |  |  |  | Net |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List Price | Each Lbs. | List No. | Liot | Each |  | List | List | Each | List |  | Wt. |
|  | Price | Lbs. | No. | Price | Lbs. |  | No. | lrice | Lhs. | No. | $\underset{\text { Price }}{\text { List }}$ | Each Lbs. |
| 6750 | 83.23 | 3114 |  | 84.94 |  | 30 |  |  |  |  |  |  |
| 6751 6753 | 3.92 6.81 | $41 / 4$ | $6{ }^{6} 61$ | 5.70 | $91 / 4$ | (3) | 6771 | 8.12 | 14 | 6750 6760 | 810.83 | 18 |
| (17\%) | 6.84 12.35 | ${ }_{16}^{8}$ | $6{ }^{6} 96$ | 10.45 | 18 | 100 | 6773 | 16.72 | 28 | 6\% 67 | 12.54 20.16 | 19 |
|  | 12.35 | 16 | 6761 | 16.80 | 30 | 200 |  |  | 4.3 | 6778 | 20.16 36.916 | 38 68 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Without Quick Break Attachments |  |  |  |  |  |  |  |  |  |  |  |  |
| 3681 | 3.23 | $41 / 4$ | 36591 | 4.94 | $91 / 4$ | 6 | 3800 3701 |  |  | 3705 | 89.20 | 18 |
| $368: 3$ | 4.46 | 8 | 36993 | 0.50 | $18^{4}$ | 100 | $3 \% 01$ 3703 | (\%) | 14 | 3706 3707 | 10.83 | 19 |
|  |  |  |  | ....) |  |  | 3603 | 15.20 | 28 | 3707 | 18.18 | 38 |

L'mmounted Switches, without Slate Bases, deduet 10 per eent,
All three and four pole switches, 600 volt, regularly equipped with spade hambles.
Spade handles, see list ing clsewhere.
slate harriors, see listing epowhere.
Noll Trye "c"s switches are for front comections, plain finis" only.
No fuses included in above prices.

# TYPE C KNIFE SWITCHES 

600 Volts D.C. and A.C.-Double Throw-Plain Finish<br>Fusible-N.E.C. Standard<br>Without Quick Break Attachments

| SINGLE POLE |  |  | DOUBLE POLE |  |  | Amp. | THREE POLE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | UR POL |  |  |  |  |  |
| $\begin{gathered} \text { List } \\ . \end{gathered}$ | $\underset{\substack{\text { P.ist } \\ \text { Price }}}{ }$ | $\begin{aligned} & \text { Net } \\ & \text { irt. } \\ & \text { Each } \\ & \text { Ihs. } \end{aligned}$ |  |  |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List | $\begin{aligned} & \text { Net } \\ & \text { Nit. } \\ & \text { Each } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { So. } \end{aligned}$ | List | $\begin{aligned} & \text { Net } \\ & \text { iVt. } \\ & \text { Each } \\ & \text { Lhis. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No } \end{aligned}$ | $\underset{\text { Price }}{\substack{\text { List }}}$ |  |
| 3330 | $\$ 6.27$ 7.12 14.25 | 8 9 14 | 3350 $3: 301$ 3350 335 | 88.36 9.50 16.80 | 14 15 28 |  | 30 60 100 | $\begin{aligned} & 3: 370 \\ & 3371 \\ & 33773 \end{aligned}$ | $\$ 13.79$ 15.67 27.92 | 24 25 48 | 33345 <br> 3386 <br> 3387 | $\begin{array}{r}16.80 \\ 19.32 \\ 38.64 \\ \hline\end{array}$ | 32 <br> 34 <br> 66 |


Regular Length and Longer Than Regular

| Regular Length and Longer Than Regular |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 250 Volts | $\left\|\begin{array}{c} 30 \\ \text { Amperes } \end{array}\right\|$ | $\left\|\begin{array}{c} 60 \\ \text { Amperes } \end{array}\right\|$ | $\left\lvert\, \begin{gathered} 100 \\ \text { Amperes } \end{gathered}\right.$ | 200 Amperes | $\begin{gathered} 300 \\ \text { Amperes } \end{gathered}$ | $\begin{gathered} 400 \\ \text { Amperes } \end{gathered}$ | $\begin{gathered} 600 \\ \text { Amperes } \end{gathered}$ | $\begin{gathered} 800 \\ \text { Amperes } \\ \hline \end{gathered}$ | $\begin{gathered} 1000 \\ \text { Amperes } \end{gathered}$ | $\begin{gathered} 1200 \\ \text { Amperes } \end{gathered}$ |
|  | Inches | Inches | Inches | Inches | Inches | Inches | Inches | Inches | Inches | Inches |
| Length of regular studs below posts. | $2{ }^{\text {\% }}$ | $33 / 8$ | $3 \frac{5}{16}$ | $37 / 8$ | $4_{16}^{16}$ | $41 / 4$ | 41/2 | 51/8 | 51/8 | $5 \frac{7}{16}$ |
| List of regular studs (no nuts). | \$0.08 | 80.17 | 80.25 | 80.48 | 80.80 | \$1.09 | \$1.81 | \$3.15 | 83.15 | \$4.03 |

No charge less than list for 3 inches of extra stud length

| Add per inch list for extrat lengt h of each stud. | S0.0) | S0.0t | \$0.08 | 80.13 | \$0.19 | S0. 29 | \$0.48 | \$0.55 | \$0.55 | \$0.74 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

QUICK BREAK ATTACHMENTS
FOR TYPE "A" SWITCHES
For 250-500 Volts A.C. Switches Only

| For 250-500 Voits A.C. Switches Only |  |  |  |  |  |  |  | Only |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| gle Throw | $\left\|\begin{array}{c} 30 \\ \text { A mperes } \end{array}\right\|$ | Amperes | $\left\lvert\, \begin{gathered} 100 \\ \text { Amperes } \end{gathered}\right.$ | $\begin{gathered} 200 \\ \text { Amperes } \end{gathered}$ | $\left\lvert\, \begin{gathered} 3(4) \\ \text { Amperes } \end{gathered}\right.$ | $\left\lvert\, \begin{gathered} 4(0) \\ \text { Amperes } \end{gathered}\right.$ | $\left\|\begin{array}{c} 600 \\ \text { Imperes } \end{array}\right\|$ | $\begin{gathered} 30 \\ A \text { mperes } \end{gathered}$ | $\begin{gathered} 60 \\ \text { Amperes } \end{gathered}$ | $\left\lvert\, \begin{gathered} 100 \\ \text { Amperes } \end{gathered}\right.$ | $\begin{gathered} 200 \\ \text { Amperes } \end{gathered}$ |
|  |  |  |  | \$0.97 | \$1.34 | \$1.68 | \$1.93 | \$0. | \$0.87 | \$0.95 | \$1.06 |
| Polish fin | 80.70 1.01 | 80.85 | 3.84 1.18 | $\begin{array}{r}1 .+3 \\ \hline\end{array}$ | 1.85 | 2.35 | 2.68 |  |  |  |  | Doubic Throw


| Plain finish. | $\$ 1.01$ | $\$ 1.60$ | 51.72 | $\$ 1.97$ | $\$ 2.69$ | $\$ 3.36$ | 83.86 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Polish finish. | 2.00 | 2.10 | 2.31 | 2.86 | 3.70 | 4.70 | 0.38 |

For Double Throw use Type " A " switches. 125 volt switches cannot be equipped with quick | Polish finish. | 2.00 | 2.10 | 2.31 | 2.86 | 3.70 | 4.70 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |

Note: Prices listed above are for individual at tachments. A double pole switch requires two attachments, a three pole requires three and a four pole four attachments.

SPADE HANDLES

| Straight |  | Angle |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Capacity | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Price | Capacity | List, No. | Lhist |
| 30 amperes | 10.41 | 810.7 | 30 amperes | 106il | 80.73 |
| 130 amperes | 1012 | 1.101 | (6) amperes | 10ic | 1.01 |
| 100-200 amperes | 10.13 | 1.69 | 100-200 amperes | 1003 | 1.59 2.53 |
| $300-600$ amperes | 10.42 | 2.53 | 300- 800 amperes | 106) |  |
| $800-1200$ amperes 1500-2010 amperes 2:0)(5)(\%) amperes | 10.45 | 81.20 | 800-1200 amperes | 1065 | \$4.20 |
|  | 104i | 5.85 | 1500)-2000 amperes | 1006 | 5.25 |
|  | 1017 | (i.30 | 2500-5000 amperes | 10957 | 6.30 |

SLATE BARRIERS FOR 600 Volt D.C. and A.C. Switches

| Amp. | Fuse <br> Fuse | Fuse <br> Bottom | Fuse <br> Top |
| :---: | ---: | ---: | ---: |
| 30 | 80.71 | $\$ 1.13$ | $\$ 1.13$ |
| 60 | .76 | 1.13 | 1.26 |
| 100 | .76 | 1.13 | 1.40 |
| 200 | .76 | 1.13 | 1.40 |
| 300 | .76 | $\ldots .$. | $\ldots$. |

Add list of barriers needed to list of regular switch, either Type " $A$ " or " C " front connections.
Double pole switch requires one barrier; three pole switeh two barriers, ete.

## A. C. MOTOR STARTING SWITCHES

For N.E.C Standard Fuses-One End Only TYPES "A" AND "C"


Type "C"'Showind Straps on Back


Straps on Back. No, 1326.
Type " $A$ " Front Connections


No. 1408. Type " $A$ " Back Connections

The motor is startod on unfused contact, the bhates are to be held against spring pressure for a few seconds until speed is up, when switch is thrown into fused end whieh carries nomal luad.

Marked "START" and "la'N" to assist in avoiding error by throwing into wrong contact.
The two outgoing ends of front commection switehes (both Types " $A$ " and "C") are eommeted on back by eopper straps, placed in growere in slate, so that load can be taken from either end of switch. Thus only six wires (three incoming and three ont going) are neded on a three pule switeh, eight wires on a four pole, etc.

Back connections are on shate hase, momed on conmer feet of iron. Wires on back.
TYPE "A"
Front and Back Connections
Front Connections- 250 Volts D.C. and A.C.

| Amp. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { I. P. } \\ & \text { 1. T. } \end{aligned}$ | Net Wt. Fach Lbs. | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} 3 \mathrm{P} . \\ 1) . \\ \hline \mathrm{T} . \end{gathered}$ | Net IVt. Each Lbs. | $\begin{aligned} & \text { list } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & 4 \mathrm{P} \\ & \mathrm{D} . \mathrm{T} . \end{aligned}$ | Net Wt. <br> Each Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3() | 1300 | St. 65 | 8 | 13305 | \$11.5\% | 10 | 1:310 | 815.53 | 131/2 |
| (i) | 13301 | 11.50 | $81 / 4$ | 1306 | 15.33 | 111/2 | 1311 | 20.47 | 17 |
| 100 | 1300:3 | 18.69 | 14 | 1:308 | 24.92 | $211 / 2$ | 1313 | 33.21 | 33 |

Front Connections 500 Volts A.C.

| 30 | 1320 | $\$ 11.02$ | $81 / 2$ | 1325 | $\$ 14.70$ | 12 | 1330 | $\$ 19.53$ | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | 13221 | 13.65 | 9 | 1326 | 18.06 | $131 / 2$ | 1331 | 20.47 | 20 |
| 100 | 13223 | 20.68 | 16 | 1328 | 27.39 | 27 | 1333 | 36.85 | 365 |

Back Connections-250 Volts D.C. and A.C.

| 30 | $14(0)$ | $\$ 15.22$ | 16 | 1405 | 819.95 | 20 | 1410 | 520.91 | 27 |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | 1401 | 17.20 | 161,2 | 1406 | 18.69 | 23 | 1411 | 24.27 | 34 |
| 100 | 1403 | 27.14 | $2 x$ | 1408 | 36.04 | 43 | 1413 | 48.06 | 66 |

Back Connections- 500 Volts A.C.

| 30 | 1420 | 815.75 | 17 | 1425 | 817.80 | 24 | 1430 | $\$ 23.58$ | 32 |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | 1421 | 17.85 | 18 | 1426 | 20.19 | 27 | 1431 | 27.14 | 40 |
| 100 | 1423 | 28.48 | 32 | 1.228 | 26.82 | 48 | 1433 | 49.45 | 72 |

TYPE "C"
Front Connections Only
Front Connections- 250 Volts D.C. and A.C.

| Amp. | List No. | $\begin{aligned} & \text { D, } \mathrm{P} \text {. } \\ & \text { D, } \end{aligned}$ | Not W.t. Each Lhs. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & 3 \mathrm{I}^{\prime} . \\ & \mathrm{D} . \mathrm{T} . \end{aligned}$ | Net Wt. F.ach Lhes. | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & 4 \mathrm{I} \\ & \mathrm{D} \\ & \mathrm{D} \\ & \hline \end{aligned}$ | Net Wt. Each Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30 | 1355) | 87.12 | 8 | 13505 | \$9.50 | 10 | 1360 | \$12. 69 | 13122 |
| (5) | 1:351 | 9.02 | 81/4 | 1350 | 11.97 | 1116 | 1301 | 1.5.96 | 17 |
| 100 | 1355 | 18.81 | 1.4 | 1358 | 29.18 | $211 / 2$ | 13663 | 29.57 | 333 |

Front Connections- 500 Volts A.C.

| 30 | 1370 | 85 | 81/2 | 1375 | \$11.40 | ! 2 | 1380 | 815.20 | 16 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (i) | 1:371 | 10. 64 | 9 | 1376 | 14.25 | 1:31/2 | 1381 | 16.80 | 20 |
| 100 | 13373 | 20.77 | 16 | 1378 | 18.32 | 24 | 13833 | 32.42 | 36 |

# MISCELLANEOUS SWITCHES <br> ＂STAR DELTA＂MOTOR STARTING SWITCHES 

Types＂$A$＂and＂$C$＂


Type＂ $\mathrm{A}^{\prime \prime}$ Fusible One End


I＇sed for starting 3 phase motors，where the deviee connected does not require at starfing more tham 60 per cont．of nomal full lowl torque．

Nostartor is required，but motor must have both ends of phase windings brought out to the terminal block．

Line switch is ako required as one em of the windings must be eonnected to the line before pasing through the starting switch．

Starting current is approximately one and onc－half times normat．
NO FUSE
FUSIBLE ONE END ONLY

| Type＂A＂ |  |  |  | Type＂C＂ |  |  | Type＂A＂ |  |  | Type＂ C ＂ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amp． | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} 3 \mathrm{l} \\ \text { I). } \\ \hline 1 \text {. } \end{gathered}$ | Net <br> Wt． <br> Fach <br> Iが． | $\begin{aligned} & \text { List } \\ & \text { No, } \end{aligned}$ | $\begin{aligned} & 3 \mathrm{l} \text { ', } \\ & \text { [). 'j'. } \end{aligned}$ | Net W＇t． Fiach L．bs． | List No． | $\begin{aligned} & 3 \mathrm{l}^{\prime} \\ & \text { I). } \mathrm{T} . \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Wt. } \\ & \text { Fach } \\ & \text { I.bs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \underset{\sim}{0} . \end{aligned}$ | $\begin{gathered} 3 I^{\prime} . \\ 11 . \\ \hline 1 . \end{gathered}$ | $\begin{aligned} & \text { Net } \\ & \text { W't. } \\ & \text { Each } \\ & \text { I.bs. } \end{aligned}$ |
| 30 <br> 60 <br> 100 | 1385 13881 $1: 387$ | 89.40 11.98 19.58 | 6 10 14 | 13395 1394 1396 | 8.98 9.90 17.64 | 10 10 14 | 1336 13636 133164 | \＄10．80 | 8 15 29 | 1390 1396 1392 | Sr 10.74 20.16 20.16 | $\begin{array}{r}8 \\ 15 \\ 29 \\ \hline\end{array}$ |

THE＂KAPPA＂SWITCH
30 Amperes， 250 Volts－Front Connections－Plain Finish Only－Single Throw Only
No Fuse


No． 22


No． 30


No． 33

| list <br> No． | 30 Amperes， 250 Volts | J．ist Price | Net W＇t． Fach l．Js． |
| :---: | :---: | :---: | :---: |
| 20 | N．${ }^{\prime}$ | 80.72 | 3.4 |
| 2.2 | I）．${ }^{\text {P }}$ | 1．11 | 1 |
| 23 | 3 I ． | 1.71 | 2 |

Fusible Bottom－N．E．C．Standard－High Jaws

| 31 | I），P． | sist | $1{ }^{3}$ |
| :---: | :---: | :---: | :---: |
| 31 | 31. | 1 ：38 | $3^{3} \cdot 1$ |

Fusible Top－N．E．C．Standard－High Jaws

| 3.3 | 1），1＇． | 51.81 | 13 |
| :---: | :---: | :---: | :---: |
| 31 | 31 | 1．3心 | 33. |


So fusers inchudert in abore prices．
This switeh is resigned for comparatively light work．Made in wne size only， 30 amperes， 250 bolts，front connertions，jlain tinish．


BRYANT BABY KNIFE SWITCHES


No. 1636


No. 1638


No. 1640

| SLATE BASE-250 Volts |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | $\begin{aligned} & \text { Carton } \\ & \text { Quantity } \end{aligned}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | $\begin{aligned} & \text { Mirs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} \text { W. E. } \\ \text { List Price } \\ \text { per Cart. } \end{gathered}$ |
| 1636 | 1.5 Ampere, S . P , $\mathrm{S}^{\text {S. T }}$ | 10 | 100 | 45 | \$0.40 | \$8.80 |
| $1637^{\text {a }}$ | 30 Ampere, S. P., S. T | 10 | 100 | 50 | . 50 | 11.00 |
| 1654 | 15 Ampere, S. P., D. T | 5 | 50 | 35 | . 68 | 7.48 |
| 16554 ${ }^{\text {4 }}$ | 30 Ampere, S. P., D. T. | 5 | 50 | 37 | 84 |  |


| Single Pole-Unmounted |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1642 | 15 Ampere, S. P., S. T T | , | 100 |  | \$0.40 | \$0.88 |
| $1643{ }^{\text {4 }}$ | 30 Ampere, S. P., S. T | 1 | 100 |  | . 50 | 1.10 |
| 1648 | 15 Ampere, S. P', S. TT., Fusible*. | 1 | 50 |  | 46 | 1.01 |
| $1649{ }^{\text {4 }}$ | 30 Ampere, S. P., S. T., Fusible*. | 1 | 50 |  | . 57 | 1.25 |
| 1660 | 15 Ampere, S. P., D. T. | 1 | 50 |  | . 68 | 1.50 |
| 1661* | 30 Ampere, S. P., D. T. | 1 | 50 |  | . 84 | 1.85 |
| 1666 | 15 Ampere, S. P., D. T., Fusible* | 1 | 25 |  | . 80 | 1.76 |
| $1667{ }^{4}$ | 30 Ampere, S. P., D. T., Fusible* | 1 | 2.5 |  | . 98 | 2.16 |



| Double Pole-Unmounted |  |  |  | Schedule "H" |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1644 | 15 Anıpere, D. P., S. 'T | 1 | 100 |  | \$0.50 | \$1.10 |
| $1645{ }^{\text { }}$ | 30 Ampere, D. P., S. T | 1 | 100 |  | . 60 | 1.32 |
| 1650 | 15 Ampere, D. P., S. T., Fusible*. | 1 | 50 |  | . 62 | 1.36 |
| $1651{ }^{\text {4 }}$ | 30 Ampere, D. P., S. T., Fusible*. | 1 | 50 |  | . 74 | 1.63 |
| 1662 | 15 Ampere, D. P., D. T. | 1 | 50 |  | . 86 | 1.89 |
| $1663^{4}$ | 30 Ampere, D. P., D. T. | 1 | 50 |  | 1.04 | 2.29 |
| 1668 | 15 Ampere, D. P., I. T., Fusible* | 1 | 25 |  | 1.10 | 2.42 |
| $1669^{4}$ | 30 Ampere, D. P., D. T., Fusible* | 1 | 25 | $\ldots$ | 1.32 | 2.90 |



## Triple Pole-Unmounted

Schedule "H"

| 1646 | 15 Ampere, T. P., S. T | 1 | 25 |  | \$1.04 | \$2.29 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1647^{\text { }}$ | 30 Ampere, T. P., S. T | 1 | 25 |  | 1.30 | 2.86 |
| 1652 | 15 Ampere, T. P., S. T., Fusible* | 1 | 25 |  | 1.22 | 2.68 |
| $1653{ }^{4}$ | 30 Ampere, T. P., S. T., Fusible*. | 1 | 25 |  | 1.51 | 3.32 |
| 1664 | 15 Ampere, T. P., D. T. | 1 | 10 |  | 1.40 | 3.08 |
| $1665^{\text {4 }}$ | 30 Ampere, T. P., D. T | 1 | 10 |  | 1.64 | 3.61 |
| 1670 | 15 Ampere, T. P., D. T., Fusible* | , | 10 |  | 1.76 | 3.87 |
| 1671 ${ }^{\text {4 }}$ | 30 Ampere, T. P., D. T., Fusible* | 1 | 10 |  | 2.06 | 4.53 |

Mounted switches are plain finished, but will be furnished polished on special order at 20 per cent. advance.

Unmounted switches are furnished in polished finish and with back connections suitable for switchboard $11 / 2$ inches thick, unless ordered otherwise. Plain finish switches will be furnished on special order at the same price.
$\triangle$ National Electrical Code Standard. *To open length fuses.

## BRYANT BABY KNIFE SWITCHES





Mfr. Nu. 1440

PORCELAIN BASE-125 VOLTS
Single Pole Mounted
Schedule "H"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. <br> Pikg. | $\begin{aligned} & \text { Phs. } \\ & \text { Wt. } \\ & \text { I.hs. } \end{aligned}$ | Mifrs. List Fach | W. E. List Price per Cart. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1436 | 15 Ampere, s. P', s. T | 10 | 100 | 40 | \$0.34 | 58.50 |
| $1437{ }^{\text { }}$ | 30 Ampere, S. P', S. 'T | 10 | 100 | 45 | . 44 | 9.70 |
| 145.4 | 15 Ampere, S. P', D. 'T | 10 | 50 | 25 | . 60 | 11.04 |
| $1455^{\text { }}$ | 30 Ampere, S. P., D. T | 10 | 50 | 27 | .74 | 13.68 |


| Single Pole-Unmounted |  |  |  |  | Schedule " H " |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1442 | 15 Ampere, S. P', S. T | 1 | 100 |  | \$0.34 | \$.75 |
| $1443{ }^{\text {® }}$ | 30 Ampere, S. P., S. T | 1 | 100 |  | . 44 | . 97 |
| 1448 | 15 Ampere, S. P., S. T., Fusithle. | 1 | 50 |  | . 40 | 88 |
| $1449{ }^{\text {a }}$ | 30 Ampere, S. P., S. 'T., Fusible. | 1 | 50 |  | .51 | 1.12 |
| 1460 | 15 Ampere, S. P., IS. T'. | 1 | 50 |  | .60 | 1.32 |
| $1461{ }^{\text {® }}$ | 30 Ampere, S. P', I). T. | 1 | 50 |  | .74 | 1.68 |
| ${ }_{1466}$ | 15 Ampere, S. P., I). T., Fusible | 1 | 25 |  | . 72 | 1.58 |
| $1467{ }^{\text {4 }}$ | 30 Ampere, S. P., I). T., Fusible | 1 | 25 |  | S8 | 1.9 .4 |

Double Pole-Mounted
Schedule "H"


| Double Pole--Unmounted |  |  |  |  | Schedule "H" |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1444 | 15 Ampere, D. P'., S. T |  | 100 |  | \$0. 42 | \$0.92 |
| $1445{ }^{\text {® }}$ | 30 Ampere, D. P., S. T | 1 | 1(0) |  | . 50 | 1.10 |
| 1450 | 15 Ampere, D. P., S. T., Fusible. | 1 | 50 |  | . 54 | 1.19 |
| $1451{ }^{\text {® }}$ | 30 Ampere, D. P., S. T., Fusible. | 1 | 50 |  | . 64 | 1.41 |
| 1462 | 15 Ampere, I. P., D. T. . | 1 | 50 |  | . 74 | 1.63 |
| $1463{ }^{\text {® }}$ | 30 Ampere, D. P., D. T. | 1 | 50 |  | . 90 | 1.98 |
| 1468 | 15 Ampere, D. P., D. T., Fusible. | 1 | 25 |  | .98 | 2.16 |
| $1469{ }^{\text {a }}$ | 30 Ampere, I). I'., I). T., Fusible . | 1 | 25 |  | 1.18 | 2.50 |



Mounted Switches are plain finish, but will be furnished polished on special order at 20 per cent. advance.
Unmounted Switches are furnished in polished finish and with back connections suitable for switchboard $11 / 2$ inches thick, unless ordered otherwise. Plain Finish Switches will be furnished on special order at the same price.

- National Electrical Code Standard.


Mfr．No． 1001


Mfr．No． 974


Mifr．No． 1102

|  | PORCELAIN BASE－TYPE＂A＂SINGLE POLE |  |  |  | Schedule＂H＂ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No． | Description | Carton Quantity | Std． <br> Pkg． | Pkg． Wt． Lhs． | Nifs． <br> List <br> Each | W．E List per Carton |
| 1001 | 15 Ampere，心．${ }^{\text {S．，心．}}$ ， | 10 | 100 | 25 | \＄0．34 | \＄7．48 |
| 977 | 30 Ampere，S．I＇，S．＇I． | 10 | 10） | 27 | ． 44 | 9.68 |
| 103！ | 1\％Ampere，S．I＇，D．＇T | 10 | 50 | 18 | ． 60 | 11.04 |
| 1040） | 30 Ampere，S．I＇．1）．＇J | 10） | 50 | 20 | ． 74 | 13.62 |
| PORCELAIN BASE－TYPE＂A＂DOUBLE POLE Schedule＂H＂ |  |  |  |  |  |  |
| 974 | 15 Anpere，D．『．，心．＇J． | 10 | 100 | 40 | \＄0．42 | \＄9．24 |
| 10.41 | 15 Ampere，D．P．，D．＇T | 5 | 50 | 33 | ． 74 | 6.81 |
| 1012 | 30 Ampere，D．P．，D．T | 1 | 50 | 35 | ． 90 | 1.98 |
| SLATE BASE－TYPE＂A＂TRIPLE POLE Schedule＂H＂＊ |  |  |  |  |  |  |
| 1158 | 15）Ampere，＇I．P．，D．＇T | 1 | 10 | 15 | \＄1．20 | \＄2．64 |
| 1159 | 30 Ampere，＇T．P．，D．T．．．．．．．．．．．．．．．．．．．．．． | 1 | 10 | 17 | 1.40 | 3.08 |
| TYPE＂A＂UNMOUNTED |  |  |  |  | Schedule＂H＂ |  |
| 10．48 | 15 Anpere，S．P＇．，S．＇I ． | 1 | 100 | － | \＄0．34 | \＄0．75 |
| 1054 | 30 Ampere，S．＇，S．T | 1 | 100 | ． | ． 44 | .97 |
| 1050 | 15 Ampere，S．I＇，D．T | 1 | 50 | ． | ． 60 | 1.32 |
| 1056 | 30 Ampere，S．I＇，D．＇T | 1 | 50 | ． | 74 | 1.63 |
| 1049 | 15 Ampere，D．P＇，S．＇T | 1 | 100 | ． | ． 12 | ． 92 |
| 1055 | 30 Ampere，D．P．，S．T． | 1 | 100 | $\cdots$ | ． 50 | 1.14 |
| 1051 | 15 Ampere，D．P．，D．T | 1 | 50 | ．． | ． 74 | 1.63 |
| 1057 | 30 Ampere，D．1＇．，D．＇T | 1 | 50 |  | ． 90 | 1.98 |
| 1053 | 15 Ampuere，T．P．，S．＇I． | 1 | 25 |  | ．90） | 1.98 |
| 1058 | 30 Ampere，T．I＇，S．T． | 1 | 25 |  | 1．10） | 2.42 |
| 1150 | 15 Ampere，I＇P．，I）．T．．．．．．．．．．．．．．．．．．．． | 1 | 10 | ． | 1.30 | 2.64 |
| 1151 | 30 Ampere，T．P＇，1）．I＇．．．．．．．．．． | 1 | 10 |  | 1．40） | 3.08 |
| PORCELAIN BASE－TYPE＂B＂ |  |  |  |  | Schedule＂H＂ |  |
| 1245 | 15 Ampere，s．is．is．T． | 10 | 100 | $\stackrel{9}{5}$ | \＄0．20 | \＄4．40 |
| 1246 | 30 Ampere，S．P．，S．T． | 10 | 100 | 27 | ． 30 | 6.60 |
| 1102 | 15 Ampere，D．P．，S．T．．．．．．．．．．．．．．．．．．．． | 10 | 100 | 60 | ． 35 | 7.70 |
| 1074 | 30）Ampere，I）．P．．S．T ．．．．．．．．．．．．．．．．．．．．． | 10 | 100 | 65 | ． 44 | 9.68 |

Mounted Swit ches are plain finish，but will be furnished polished on special order at 20 per cent．adrance． Unmounted Switches are furnished in polished finish and with back connections suitable for switch－ board $11 / 4$ inches thick，unless ordered otherwise．Plain Finish Switches will he furnished on special order at the same price．

## THE TYPE BF MATTHEWS FUSWITCH

The Type BF Mat thews Fuswitch is enclosed in a wooden box made of


Type BF Matthews Fuswitch carefully seasoned clear cypress which is fastened with brass screws and coated with a high quadity black paint．The roof is of asbestos board， moisture proof and of high insulation value．The don opens vertically with hinges at the top，and so designed that it stops at an angle to the box and holds thore．It is equipped with an automatie catch，insulated hook and stop．＇The combination expulsion fuse and switeh blades instantly expels molten fuse and gases through bottom of box and kills the line affected． Fuse renewal is less than 3 cents each．The base is of blue Vermont marble． The＇l＇ype Bl＇Fuswiteh has an automatic indicator，removable asbestos board hottom and special porcelain insulator bushings which will with stand ＂flashover＂tost of 19,000 volts－ 12,400 volts more than the highest voltage for which they are recommended．The wrought iron eross－arm hangers are made to fit all sizes of cross armis．Specify width of arm when ordering． Sizes from top to bottom 14 inches．Depth at top $5 \frac{5}{8}$ inches；depth at bottom $6 \frac{3}{4}$ inches；widih $71 / 2$ inches．
Iist No．
＊List Price
Each
3F Matthews Fuswitch， 6600 volts and less， 100 amperes and less $\$ 28.00$ ＊Delivery F．O．B．Factory，St．Louis，Mo．For warehouse delivery write nearest house．

# MISCELLANEOUS SWITCHES 



No. 2
"Junior" Battery Switches
ON COMPOSITION BASE


| 25 Amperes |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { Nio. } \end{aligned}$ | Style | Carton | Stil. I'kg. | $\begin{aligned} & \text { Wt. } \\ & \text { E P } \\ & \text { Box } \end{aligned}$ | Nize Base Long, Wide inches | Mifs. List | $\mathrm{w}_{\text {List }}^{\text {E }}$ |
| 1 | SPST | 10 | 200 | 32 lbs . | $1{ }_{16}^{16} \times 2 \frac{1}{16}$ | \$0.20 | 80.10 |
| 2 | S $\mathrm{P}^{\prime} \mathrm{I}^{\prime} \mathrm{T}$ | 10 | 100 | 20 lbs | 11.15 | . 30 | .6i) |
| $\overline{5}$ | (see Cut) | 5 | 100) | 25 lbs . | $184 \times 214$ | . 10 | . 80 |

Sprine holds lever in neutral position and in cach rontact. Blades

## Telephone or Battery Switches

FOR SWITCHBOARD WORK OR IN CONNECTION WITH FIRE AND BURGLARY ALARM SYSTEM FOR BACK CONNECTIONS (UNMOUNTED)
PLAIN OR POLISHED COPPER OR NICKEL PLATED
25 Ampercs Back Connections


Projections on Posts prevent turning

| List No. | Style | Stil. <br> P'kg. | $\begin{aligned} & \text { wt. } \\ & \text { s. } \\ & \text { Boxed. } \end{aligned}$ | Mfrs. List |  |  | W. E. Jist |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Plain | Polishers | Nickel Plate | I'lain | Polished | Nickel Plate |
| 777 | 心INT | 150 | $2+13 \mathrm{~s}$. | \$0.34 | 80.45 | \$0.52 | S0. 6 k | 80.96 | \$1.04 |
| 778 | 心1) ${ }^{\text {d }}$ | 100 | $\underline{2}+$ libs. | . 50 | . 72 | . 78 | 1.00 | 1.44 | 1.56 |
| 779 | 1) PST | 100 | 33.3 lbs | . 56 | . 81 | .st; | 1.12 | 1.610 | 1.72 |
| $7 \times 0$ | I) I $\mathrm{I}^{\text {T }}$ | 50 | 26 lbs | .s0 | $1.11 i$ | 1.25 | 1. 60 | 2.332 | 2.54 |
| 781 | 3 PNT | 50 | 15 lbs | st | 1.20 | 1.30 | 1. 6 s | 2.40 | 2. (t) |
| 783 | 311) 1 | 31 | 2:3 1hs. | 1.25 | 1.71 | 1.92 | $2.50)$ | 3.48 | 3.81 |

l $_{4}$ in. l3reak
I nless otherwise sperified polished finish will be sent

## Gas Engine Switches

FOR CHANGING FROM ONE SET OF BATTERIES TO ANOTHER OR FROM BATTERY TO. MAGNETO


25 Amperes

| IVst No. | Style | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Std. <br> l'kg. | Wt. S. P. Buxer! | Size Base Long, Wide Inches | Mfrs. <br> List | W list |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 080 | S P | S | 50 | $42 \mathrm{lhs}$. | $2 \times 4$ | \$0.70 | 81.10 |
| 981 | D I' | - | 25 | 35 lbs . | $4 \times 4$ | 1.40 | 2.80 |

No. 980

Field Discharge Switches
WITH QUICK BREAK ATTACHMENTS
Fur Potentials not exceeding 250 volts Polished Finish-Back Connections ON WOOD TEMPLETS

## Cut Around Switches FOR TESTINC METER

Plain Finish


No. 8231
For 2 and 3 Phase 220 V.
Power Installation I). C. and A. C.

| $\begin{aligned} & \text { INst } \\ & \text { No. } \end{aligned}$ | Smperes | $\begin{aligned} & \text { Nut } \\ & \text { Bath } \\ & \text { lisw. } \end{aligned}$ | M1fr's. Jist Ponble Pole Single Throw Sin | $\begin{aligned} & \text { W. V. } \\ & \text { List } \end{aligned}$ | $\begin{aligned} & \text { I,ist } \\ & \frac{N o}{\text { No } 2 .} \end{aligned}$ | $\frac{\text { Anperes }}{} \frac{30}{}$ | $\begin{gathered} \text { Net W't. } \\ \text { Siachit } \\ \text { l.hs. } \\ \hline \end{gathered}$ |  | W. Mist B. $\$ 3.90$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 873.4 | 131 | 2 | \$11). (x) | 817.810 | 8243 | (i) | 3 | 2.25 | 4.28 |
| 8738 | 1019 | b | 12.50) | 22. 25 | 8231 | 101 | 41 \% | 4.40 | 8.36 |
| 8739 | 200 | 8 | 17.50 | 31.15 | 82:32 | 200 | 7 | (i.(M) | 11.40 |
| 876 | 800 | 12 | 23.30 | +1.63 | 8223 | 316 | 11 | 9.00 | 10.7.1 |
| Dedinet de for fordin fitish. |  |  |  |  | $\begin{array}{r}\text { 2 } \\ \times 2.3 \\ \times 2.35 \\ \hline\end{array}$ | 400 600 | 15 23 | 14.00 17.00 | 54.93 |

## LUGS





| TYPE M |  |  | DESCRIPTION |  |  | ANGLE |  |  | SINGLE HOLE |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amp. | List No. | Iist <br> Plain | Capacity of Wire Hole | $\begin{array}{\|c\|} \hline \text { Size } \\ \text { W. II. } \\ \text { Inches } \end{array}$ | Stud Hole | Amp. | List No. | List <br> Plain | Amp. | Stud. Hole | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | List <br> Plain |
| $(6)$ | 1232 | \$0.13 | No. 5 | 1/4 | $\frac{21}{64}$ | 60 | 8700 | \$0.21 | 1500 | / | 8720 | \$8.40 |
| 100 | 1234 | . 29 | No. 1 | 38 | $\begin{array}{r}24 \\ 64 \\ \hline 68\end{array}$ | 100 | 8702 | . 44 | 2000 | ${ }_{3}^{25}$ | 8721 | 8.82 |
| 200 | 1235 | . 50 | No. 0000 | $\frac{9}{16}$ | $\frac{94}{16}$ | 200 | 8703 | .76 | 2500 | $23{ }_{3}^{3 / 5}$ | 8722 | 9.44 |
| 300 | 1230 | . 88 | C. M. Cable 475,000 | 17 | $\frac{11}{16}$ | 300 | 8704 | 1.43 | 300 | $23^{\frac{5}{2}}$ | 8723 | 10.08 |
| 400 | 1237 | 1.60 | C. M. Cable 750,000 | 78 | 13 | 400 | 8705 | 2.60 | 4000 | ${ }^{2}{ }^{7}$ | 8724 | 11.34 |
| 600 | 1238 | 2.22 | C. M. Cable 1,000,000) | $1 \frac{3}{32}$ | 1 | 600 | 8706 | 3.62 | 5000 | 25/8 | 8725 | 12.60 |
| 800 | 1239 | 4. 40 | C. M. Cable $1,400,000$ | $11 / 4$ | $1{ }_{16}{ }^{3}$ | 800 | 8707 | 7.14 | Capacity of wire hole 1,000 - |  |  |  |
| 1000 | 12391/2 | 5.04 | C. M. Cable 1,800,000 | 1/2 | $1{ }_{16}{ }^{3}$ | 1000 | 8708 | 8.18 | $\begin{array}{ll} 000 & (. \\ \text { hole } & 11 \end{array}$ | $\begin{aligned} & \text { Cab } \\ & \text { inche } \end{aligned}$ | Size | wire above. |
| 1200 | 1240 | 6.30 | C. M. Cahle | $13 / 4$ | $1 \frac{5}{16}$ |  |  |  |  | $2000$ | $250$ | mpere |
| 1500 | 1241 | 12.60 | Two 1,000.000 |  |  |  |  |  | switche | requi | 2 lug | 3000 |
| 150 | 124 | 12.00 | Two 1, 400,000 |  |  |  |  |  | ampere | 3 lu | 4000 | am- |
| 2000 | 1242 | 17.84 | C. M. Cables | 116 | $17 / 8$ |  |  |  |  |  |  | re, 5 |



No. 960
No. 970
WIRE HOLES EXTEND HALF WAY THROUGH CONNECTORS


## WIRE CONNECTORS

FOR SOLID AND STRANDED CABLE


No. 2200
No. 2208

## WIRE HOLES EXTEND ALL WAY THROUGH CONNECTORS

 Two Screw| List | Length | Outside I) iam. Inches | Diam. of Hole Inches | Largest Wire |  | Std. Pkg. | Net Weight |  | W, E. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Std. Pkg. Lbs. | Mfrs. List |  |
| No. |  |  |  | Solid | Stranded |  |  |  |  |
| 2200 | $11 / 2$ | $\frac{5}{16}$ | .106 | 12 |  | 100 | $31 / 4$ | \$0.05 | \$0.11 |
| 2201 | 11/2 | $\frac{5}{16}$ | . 147 | 8 |  | 100 | 3 | . 015 | . 13 |
| 2202 | $13 / 4$ | $3 / 8$ | . 185 | 6 | 8 | 100 | 5 | . 07 | . 15 |
| 2203 | 17/8 | $\frac{7}{16}$ | . 228 | 4 | 5 | 100 | 13/7 | . 08 | . 18 |
| 2204 | 17\% | 1/2 | $\frac{9}{32}$ | $\stackrel{2}{2}$ | 3 | 100 | $71 / 2$ | . 10 | 22 |
| 2205 | $17 / 8$ | $\frac{9}{16}$ | $\frac{11}{32}$ | 0 | 2 | 50 | 43/4 | . 12 | . 26 |
| 2206 | 17/8 | 5/8 | 3/8 | 00 | 1 | 50 | $53 / 4$ | . 14 | . 31 |
|  | Four Screw |  |  |  |  |  |  |  |  |
| 2207 | 17/8 | $\frac{7}{16}$ | . 228 | 4 | 5 | 100 | $71 / 2$ | \$0.09 | \$0.20 |
| 2208 | 17/8 | $1 / 2$ | ${ }^{\frac{9}{32}}$ | 2 | 3 | 100 | $83 / 1$ | . 11 | . 24 |
| 2209 | 17/8 | ${ }_{16}^{9}$ | $\frac{11}{32}$ | 0 | $\stackrel{2}{1}$ | 50 | 5 | . 13 | . 29 |
| 2210 | 17\% | 5/8 | $3 / 8$ | 00 | 1 | 50 | 6 | . 1.5 | . 33 |
| 2211 | 2 | $\frac{11}{16}$ | $\frac{7}{16}$ | 000 | 00 | 50 | $71 / 4$ | . 22 | . 48 |
| 2212 | 2 | $3 / 4$ | $1 / 2$ | 0000 | 000 | 50 | $81 / 4$ | . 28 | . 62 |
| 2213 | $2{ }^{\frac{3}{6}}$ | 38 | $\frac{9}{16}$ | . . | 0000 | 25 | 61/4 | . 38 | . 84 |



No. 6114

List
No.
6114
6116
6117
6118


## DOSSERT SOLDERLESS WIRE CONNECTORS

These devices are used to connect conductors and make neat and strong joints without the use of solder.

## 2-Way Connectors

## TYPE A-STANDARD CONNECTOR

Type A connectors are for use on cables, stranded or solid wires, rorls and tubing. They should not be used on a conductor that is subjected to heavy tensile strain. In ordering Type A connectors for solid wires, rods and tubing, give diameter of rod, wire or tubing or circular millage of roft.

## TYPE B-STRAIN CONNECTOR

Type B connectors are for use on stranded wires or cables and are designed to make a joint which will withstand heavy tensile strains. They are not made for wires smaller tham 0 .

## TYPE C-HIGH VOLTAGE CONNECTOR

Type C connectors are nade with round nuts and nipples for use on high tension cirenits.

## ELBOW

This cthow makes an armirable right angle connection, specially where a right bend is to be nade with a solid conductor going into panels and in connection with oil switches.
$\dagger 2$-WAY CONNECTORS AND ELBOWS

|  |  | $\dagger 2-W A Y$ CONNECTORS AND ELBOWS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size of Cable | Mfrs. <br> List | W. F. List Price Each | Size of Cable | Mfrs. List | W. E. List Price Each |
|  | *14 to 4 | \$0. 40 | \$0.80 | 750000 | \$3.92 | \$7.84 |
|  | *3 tor 1 | . 50 | 1.00 | 800000 | 4.16 | 8.32 |
|  | 0 | . 60 | 1.20 | 850000 | 4.40 | 8.80 |
|  | 00 | . 74 | 1.48 | 900000 | 4.64 | 9.28 |
|  | 000 | . 90 | 1.80 | 1000000 | 5.00 | 10.00 |
| Type C 2-Way | 0000 | 1. 10 | 2.20 | 1100000 | 5.50 | 11.00 |
|  | 250000 | 1.30 | 2.60 | 1200000 | 6.00 | 12.00 |
|  | 300000 | 1.52 | 3.04 | 1300000 | 6.50 | 13.00 |
|  | 350000 | 1.74 | 3.48 | 1400000 | 3.00 | 14.00 |
|  | 400000 | 2.00 | 4.00 | 15000000 | 7.50 | 15.00 |
|  | 450000 | 2.30 | 4.60 | 1600000 | 8.00 | 16.00 |
|  | 500000 | 2.60 | 5.20 | 1700000 | 8.50 | 17.00 |
|  | 550000 | 2.90 | 5.80 | 18000000 | 9.00 | 18.00 |
|  | (60)000) | 3.18 | 6.36 | 1900000 | 9.50 | 19.00 |
|  | 6500000 | 3.44 | 6.88 | 2000000 | 10.00 | 20.00 |
|  | 700000 | 3.68 | 7.36 | 2500000 | 12.40 | 25.20 |

$\dagger$ Prices for Type $\lambda, \mathrm{B}, \mathrm{C}$ two-way connectors and elbows are the same. In ordering spenify exact size and type required.
*Prices of 14 to 4 inclusive and 3 to 1 inelusive, respectively, are the same, but in ordering state exact size wanted, as inner bore of sleeve must be drilled to fit wire to be connected up.


Type Z Equalizer

## TYPE Z EQUALIZER

Type $Z$ equalizer, which is a combination of two eable taps, is used to equalize the load, between two power eables than run paraliel, or at right angles, to cach other. The conncctions are made in the same manner that a cable tap is secured to the main cable.

They can be furnished for equalizing the load on any two sizes of feeder. When ordering, give the distance between centers of cables, circular-nillage of cable, and state whether cables are concentric or rope laid, and whether they are parallel or at right angles to each other.
List No.
W. E. List Price Fach

Type Z Equalizer. . . . . . . . . . . Prices on application


Insulated Cover

## INSULATED COVERS FOR CAT LE TAPS

Insulating eovers can be supplied fo: Dossert cable taps of any size up to 500000 CLI . These covers can be installed after the tals joint has been completed, and in case any changes in the wiring become necessary the covers may be taken off and put on at will.

| es | Mfrs. List |  |
| :---: | :---: | :---: |
| 500000 | CMI main and branch |  |
| 500000 | CM main, No. 00 branch 1.70 | 3. |
| 300800 | CM main and branch. . 1.30 | 3.60 |
| 250000 | CMI main and branch. . 1.10 | 0 |
| No. 0000 | main and braneh . . . . . . . 1.00 | 00 |
| No. 00 | main and branch. . . . . . . . . 1.80 | 1.60 |
| No. 1 | main and branch. . . . . . . . . 60 | 1.20 |

## DOSSERT SOLDERLESS WIRE CONNECTORS



Cable Tap

"Y" Connector


Type F Stud Connector


Type M Stud Cionnector

## $\dagger$ Cable Taps 3-Way and "Y" Connectors

 CABLE TAPSThe cable tap is used to connect a braneh wire, rod or bleoder to a main wire, rod or feeder. It does not spliee the main, but simply clamps on to it.

The cathle dape can be furnished to coment any size hranch wive to any size main wire.

## 3-WAY CONNECTOR

The 3 way comector is used to make a man line splice and to comect a branch wire at the joint.

## "Y" CONNECTOR

The "Y" ronnector is usod to make a 3 way spliee when the eables are not at right angles to earh other. It can be furnished to emmert any throe sizes or combinations of wire cable or rod.

When whlering for sizes from No. 14 to No. (0)OO, always suecify whether stranded or sulid.

|  |  | IV. E. List |  |  | IV. Fi, List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Size of | Mifr's. | Price | Size of | Ifr's. | Price |
| Cable | List | Each | Cable | List | Each |
| *1t to 4 | \$0.1in | \$1.20 | 750000 | \$5.88 | \$11.76 |
| *3 tor 1 | . 75 | 1.50 | 800000 | 6. 22 | 12.44 |
| () | (1) | 1.80 | $8: 000$ | 6, 60) | 13.20 |
| 00 | 1.11 | 2.2 | ¢ою)0 | 6.96 | 13.92 |
| (1)0) | 1.35 | 2.70 | 1000000 | 7.50) | 15.00 |
| 0000 | 1.6.) | 3.30) | 1100000 | 8.25 | 16.50 |
| 2 50000 | 1.95 | 3.90 | 1200000 | 9.00 | 18.0) |
| 30 OHO | 2.28 | 4.51 | 1300000 | 9.75 | 19.50 |
| : 3 BOOO | 2.61 | 5. 22 | 140 ()() | 10.:0) | 21.00 |
| [00\%OO) | 3.00 | (i.)0) | 150 (\%) | 11.25 | 22.50 |
| 450\%O) | 3.45 | 6.90 |  | 12.00 | 24.00 |
| 500\%O) | 3.9) | 7.80 | 170)(以)0 | 12.75 | 25.50 |
| 5,50000 | 4.35 | 8.70 | 1800000 | 13.50 | 27.00 |
| (i)0000 | 4.77 | 9. 54 | 1900\%) | 14.25 | 28.80 |
| (\%)00\% | 5.16 | 10.32 | сяюю¢ | 15.00 | 30.00 |
| 700000 | 5.52 | 11.04 | 2500000 | 18.90 | 37.80 |

trriees for cable taps-3 way and "Y" connectors are the same; in ordoring suedify exact size and typer required.
*Priers of 1 to 4 indusive, and 3 to 1 indusive respectively, are the same, but in ordering state exare size wanted, as the inner bore of sleeve must be drilled exactly to fit wire to be commected up.

## REDUCERS

Reducers are made in 2 ways and 3 ways. The accompanying cul shows at way reducer.

Any combination ean be effected by means of these recureers, and they are used to a great extent in connecting solid round busees on switehboards to feeder cables.
list $\times$ o.
List lrice
Reducers
(On application

## STUD CONNECTORS

## Type F

Stud comector 'Type F' is used to connect a wire or eable to a stud or threanded rod.

When ordering 'lype fitud connertors, give diameter and momber of threads per inch of stad or rod that the commertor is serewed on to, the circular millage of cable or gauge number of wire and state whether wire is solid or stranded.

## Type M

Trpe M is userl to connert wires or cable to flat strips or blocks.
When ordering 'Type M shad commectors, give dianeter and length of stud and momber of threads per inch, the circular millage of cable or gange number of wire, and state whether wire is solid or stranded.
Jist No.
Jist Price
Type J".
Type M
On application
()n alpplication


Front Connected Lug


Back Connected I,ug


Angle Lus


Swivel Lug

## Dossert Cast Lugs

All lugs are regularly furnished with contact surfaces, undrilled, hat if desired bolt holes will he drilled acoording to sjecifications withont extrat charge.

When orderingdy dist Nos. for sizes from No. 14 to No. 0000 always sperify whether strambed ar solid.
†ANGLE, FRONT恳AND BACK CONNECTED LUGS

*Prices of 14 to 4 , inchusive, and 3 to 1 , inclusive, respectively, are the same, but in ortering state exact size wanted, as inner hore of sleeve must be drilled exactiy to fit wire to be connected up.
thor list priees of swivel lugs, double list priees of amgles front amd back connected lugs.


Size

## DOSSERT INSULATING COVERS

The material used in the manufacture of this cover is heatresisting, non-hygroscopie, of good dielectic strength, and mechanically very strong. "lhe arrangement is in two parts, with a threaded coupling ent shoulders which lork against the ends of the connectors, thus holding firmly in position. A wide range of combactor openings is provided to alecommotate various thicknesses of insulation. This eover ean he furnished for a number of types and sizes of Dossert C'onnectors.

Mfr's. List IV. E. List $250,000 \mathrm{CM}$ cover for use on No .0000 and No. 0 co connectors. . . . . . . . . . . . . . . . . $\$ 0.60$. $\$ 1.20$
No. 00 eover for use on the No. 0 eonnectors.

No. 1 cover for use on Ňo. 1, No. 2 and No. 3 connectors

No. 4 for use on No. 4 connector and takes all sizes from No. 4 to No. 14 connectors. ...................... 20 . 20 . 40

Front Connections



TYPE "F" 3 to 60 Amp. 60 Amp. with Lugs

Fuse Holders are Furnished with Serets for Bases $1 / 2 \mathrm{in}$. thick, unless otherwise specified.


Plain Finish Will Be Sent When Finish Is Not Stated

| List <br> No. | Volts | List per IIolder |  | Capacity | Type |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Plain | Polished |  |  |
| 1048 | 250) | 80.42 | \$0.5.5 | 3 to 30 amperes, no lug. |  |
| 10481/2 | 600 | . 48 | . 61 | 3 to 30 amperes, no ${ }^{\text {ang }}$ | $\stackrel{1}{\prime \prime}$ |
| 1049 | 250 | .67 | . 8.4 | 31 to 60 amperes, With hugs. | F |
| 104916 | (0) | . 73 | . 9.4 | 31 to 60 amperes, with hugs | K |
| 10.51 | 250 | 1.05 1.188 | 1.34 2.10 | 61 to 100 amperes, with hugs. 101 to $2(0)$ amperes, with lugs. | K |
| 1058 | 250 | 1.68 | 2.10 | 101 to $2(0)$ amperes, with lugs. 201 to $4(0)$ amperes, with lugs | K |
| 10.33 | 250 2.50 | 3.99 | 4.72 | 201 to $f(0)$ amperes, with lugs 401 to fin0 ampores, with lugs | K |
| 10.54 | 2.50 | 5.24 | (6.)N | 401 to follo ampores, with lugs 601 to 800 amperes, with lugs | K |
| 1055 | 250 | 8.60 | 10.08 | (601 to 800 amperes, with lugs. 801 to $1^{\cdot 2} 00$ amperes, with lugs. | Ki |
| 10:3 | 200 | 11.02 | 13.12 | 801 to 1200 amperes, with lugs |  |

## BACK CONNECTIONS



List of Type "K" fuse holders apply to either square or extended posts.
Unless speeified, square posts, Type " $K$ " fuse holter will be furnished.

Fuse holders for back connection are furnished with lugs, lug nuts and studs for bases 1 inch thick, unless otherwise sperified.

Polished Finish Will Be Sent When Finish Is Not Stated

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Volts | List per IIolder |  | Capacity | Length Stud Inches | 7чpe |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Polished | Plain |  |  |  |
| 1070 | 250 | \$0.52 | 80.43 | 3 to 30 amperes, no lug | $2{ }_{2} \frac{7}{16}$ | $\stackrel{\mathrm{F}}{1}$ |
| 10701/2 | H00 | . 63 | . 4 | 3 to 30 amperes, no lug. | 2 $3 \frac{1}{16}$ | F |
| 1071 | 250 | . 84 | . 71 | 31 to (6) anperes, with lugs | 3338 | N |
| $10711 / 2$ | ${ }^{600}$ | . 9.84 | .78 | 31 to 60 amperes, with hugs 61 to 100 amperes, with has. | $33 \frac{5}{16}$ | 15 |
| 1073 | 250 | 1.84 | -68 | 61 to 101 to 200 amperes, with lugs. | 37/8 | 15 |
| 1074 1075 | 2.50 250 | 1.84 6.72 | 5.88 | 201 to 400 amperes, with lugs. | $41 / 4$ | 1 |
| 1075 1076 | 2.50 250 | 6.72 9.44 | 8.40 | 401 to (0) amperes, with lugs. | $41 / 2$ | K |
| 1076 1077 | 2.50 250 | 9.44 17.22 | 8.40 | 601 to $8(0)$ amperes, with lugs. | $51 / 8$ | K |
| 1077 | 250 600 | 17.22 | 15.74 15.74 | 601 to $8(0)$ amperes, with hugs. | $51 / 8$ | K |
| $10771 / 2$ | 600 250 | 17.22 | 15.74 21.00 | 801 to 1200) annperes, with lugs. | $5 \frac{7}{16}$ | K |
| 1078 1079 | 250 600 | 19.58 | 21.00 21.00 | 801 to 1200 amperes, with lugs. | -) $\frac{1}{16}$ | に |

## PERKINS PANEL SWITCHES



No. 2700


No. 2599


No. 2300

## Perkins Panel Switches

Each branch is fitted with a 10 ampere double pore switch, whith may be removed without disturbing either main or in any standard cabinet having a mininuer main or branch connections. These switches may be installed in any standard cabinet having a mininum depth of 3 inches.

WITH CONNECTIONS FOR PLUG FUSES-10 AMPERES, 125 VOLTS



Perkins Panel Switches
WITH CONNECTIONS FOR CARTRIDGE FUSES-10 AMPERES, 250 VOLTS
*With Dead Fronts and Push Button Switches
List
No.
2684
2685
$2686^{4}$


## MECHANISMS

| 25954 | Rotary, without handle. | 10 | 100 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2523{ }^{\text {4 }}$ | Push button | 10 | 50 |  | . 80 |  |

*The covers of these switches are steel, lined with insulating material. Each cover has an overhanging edge which engages with the cover of the adjoining switch, thereby effectively preventing accidental contact with any live parts. Covers are the same length as the bases. Orders will regularly be filled with switches having dull black covers. White enamel covers will be supplied when specified without extra charge. All other finishes on covers, add to list price $\$ 1.10$. To Mfrs. List $\$ 0.50$
${ }^{\wedge}$ National Electrical Code Standard.

## BRYANT ENTRANCE AND PANEL SWITCHES



Mfr. No. 1695


Mfr. No. 1692

Bryant Entrance Switches
DOUBLE POLE, 30 AMPERES, 125 VOLTS
Schedule "I"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { l'kg. } \\ & \text { Wt. } \\ & \text { Lbs. } \end{aligned}$ | Mlfs. List Fach | W. I. List per (arton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1695{ }^{\text {a }}$ | Fuses at the top. | 1 | 100) | 170 | \$0.90 | \$1. $6{ }^{2}$ |
| $1981 \times$ | Fuses at the bottom. | 1 | 100 | 170 | . 90 | 1.62 |

TRIPLE POLE, 30 AMPERES, 125 VOLTS
Schedule "I"

| $1693^{\star}$ | Fuses at the top, same style handle as No. 1695 | 1 | 50 | 150 | $\$ 1.40$ | $\$ 2.52$ |
| :--- | :--- | :--- | :--- | :--- | ---: | ---: |
| $1986^{\star}$ | Fusesat the botom. same style handle as No. 1695 | 1 | 50 | 150 | 1.40 | 2.52 |

DOUBLE POLE, 30 AMPERES, 125 VOLTS
Schedule "I"'

| ${ }^{*} 1692{ }^{4}$ | Fiuses at the top. . . . . . . . . . . . . . . . . . . . . . . . . . | , | 100 | ${ }^{2} 40$ | \$1.00 | \$1.80 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{*} 1985{ }^{4}$ | Fuses at the bottom. . . . . . . . . . . . . . . . . . . . . . | 1 | 100 | 240 | 1.00 | 1.80 |



No. 1851


No. 1984


No. 1987

Bryant Panel Switches
30 AMPERE, DOUBLE POLE, SINGLE RRANCH
Schedule "I"

| List <br> No. | Description | Carton Quantity | Std. <br> Pkg. | Pkg. Wt. Lbs. | Mfrs. Jist Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1851 ${ }^{\text {4 }}$ | Fuses at the ton. | 1 | 100 | 210 | \$1.00 | \$1.80 |
| $1982^{4}$ | Fuses at the bottom. | 1 | 100 | 210 | 1.00 | 1.80 |

30 AMPERE, DOUBLE POLE, DOUBLE BRANCH Schedule "I"

| 18524 | For Vertical Mains. . . . . . . . . . . . . . . . . . . . . . . . | 1 | 50 | 180 | \$2.00 | \$3.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1983 ${ }^{\text {4 }}$ | For Horizontal Mains . . . . . . . . . . . . . . . . . . . . . . | 1 | 50 | 180 | 2.00 | 3.60 |

30 AMPERE, T. P. TO D. P., DOUBLE BRANCH Schedule "I'"

| $1947{ }^{\text { }}$ | For Vertical Mains. | 1 | 50 | 220 | \$2.10 | \$3.78 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1984^{4}$ | For Horizontal Mains | 1 | 50 | 220 | 2.10 | 3.78 |

30 AMPERE, DOUBLE POLE, SINGLE BRANCH
Schedule "I"

| ${ }^{*} 1694{ }^{\text {a }}$ | Fuses at the top. |  | 50 | 130 | \$1.10 | \$1.98 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{*} 1987{ }^{\text { }}$ | Fuses at the bottom. . . . . . . . . . . . . . . . . . . . . . . . . | 1 | 50 | 130 | 1.10 | 1.98 |

* These Switches were approved for use on 250 -Volt circuits prior to the change of rules adopted by the Underwriters' National Electrical Association at their meeting of March, 1909. We continue to list them as they have greater spacings than the 125 -Volt switches of the same description listed above, and may, on that account, be preferred by some, although it will be understood that they will only be approved when installed on circuits of 125 volts and under.
- National Electrical Code Standard.


## "D \& W" ENTRANCE CUT-OUTS AND SWITCH BOXES

NATIONAT. ELECTRICAT. CODE STANDARD



Mfr. No. 25030


Mfr. No. 25031

## 30 Amperes, 125 Volts

For Plug Fuses

| List No. | Ampere Capacity | Volts | Description | Carton | Std. Pkg. | $\begin{gathered} \text { Pkg. } \\ \text { Net } \end{gathered}$ Wt. | Mifrs. Jist Fach | *W. E List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *25030 | 30 | 125 | Double l'ole. | 1 |  |  |  |  |
| 25031 | $30)$ | 125 | 'Triple Pole. | 1 | 100 50 | 200 175 | $\$ 1.00$ 1.40 | $\$ 2.00$ 2.80 |

* These Cut-outs are spaced and were formerly approved for 250 Volts.


Mfr. No. 25022
For Conduit Connection


Mfr. No. 25033 For Open Wiring

## Switch Boxes with Cut-outs

With Cover Hinged on End

| List <br> No. | Typo | Ampere Capacity | Volts | Description | Std. <br> Pkg. | Pkg. Net Wt. | Mfrs. List Each | *W. E <br> List <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25022 | J-6 | 30 | 125 | Double Pole. |  | 160 | \$3.00 |  |
| 25023 | J-7 | 30 | 125 | Double Pole. | 25 | 225 | 3.50 | 76.00 |
| 25024 | J-8 | 30 | 125 | Triple Pole. | 25 | 340 | 4.00 | 8.00 |

With Cover Hinged on Side

| 25032 | J | 30 | 125 | Double Pole |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25033 | J-2 | 30 | 125 | Double Pole | 25 | 160 | $\$ 3.00$ 3.50 4.00 | $\$ 6.00$ 700 |
| 25034 | J-3 | 30 | 125 | Triple Pole. | 25 | 225 340 | 3.50 4.00 | $7.00$ |

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house,

## "D \& W" ENTRANCE CUT-OUTS <br> NATIONAT, ELECTRICAL CODE STANDARD



Mfr. No. 25050


60 Amperes, 250 Volts
For Cartridge Fuses

| List <br> No. | Ampere Capacity | Volts | Description | Carton | std. Pkg. | Pkg. <br> Net <br> Wt. | Mfrs. List Fach | *W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 31-60 | 125 | Double Pole | I | 10 | 42 lbs . | \$1.95 | \$3.90 |
| 25051 | 31-60 | 12 j | Triple P'ole. | 1 | 5 | 30 lls | ¢.80 | 5.60 |



Mfr. No. 25029

## 30 Amperes, 125 Volts

For Plug Fuses

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Volts | Description | Carton | Std. <br> Pkg. | Pkg. <br> Net <br> Wt. | Mirs. List Each | *W. E. List Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25028 | 30 | 125 | Double Pole . | 1 | 100 | 150 | \$0.90 | \$1.62 |
| 25029 | 30 | 125 | Double Pole, Single Branch | 1 | 100 | 190 | 1.00 | 1.80 |

*Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house.

## FUSE RIBBON AND LINK FUSES



Fuse Ribbon


Standard package 10 lbs assorted.


3 A Terminal. Slot ${ }^{7}$ In Inch
5 A Terminal. Slot $3 / 8$ Inch
4 A Terminal. Slot $1 / 4$ Inch


6 A Terminal. Slot $1 / 2$ Inch 8 A Terminal, Slot $3 / 6$ Inch 1 B Terminal. Slot $1 / 8$ Inch


## Open Link Fuses

"A" terminals have one slot parallel and one slot perpendicular to the center line of the link, "B" terminals have both slots parallel and " C " terminals, both perpendicular to center line. Made in all styles except where specially noted.

List Price per 100

| List |  | No. | $11 / 2$ Inch $31 / 2$ Inch |  | 5 Inch |
| :---: | :---: | :---: | ---: | ---: | ---: |
| No. | Amperes | Terminal | Centers | Centers | Centers |
| 541474 | $1-5$ | 1 | 1 | $\$ 4.00$ | $\$ 6.00$ |
| 541475 | $5-30$ | $21 / 2 \mathrm{~B}$ | 6.00 | 8.00 | 10.00 |
| 541476 | $35-100$ | 3 | 6.00 | 10.00 | 12.00 |
| 541477 | $35-100$ | 4 | 8.00 | 12.00 | 16.00 |

Standard package: 100 of one size.
List Price per 100

| List | Amperes | $\stackrel{\text { No. }}{\text { Terminal }}$ | List Price per 100 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 5 Inch | 8 Inch |
| No. |  |  | Centers | rs |
| 541482 | 100-400 | 8 | \$50.00 | \$80.00 |
| 541483 | 410-600 | 8 | 80.00 | 120.00 |
| 541484 | 610-800 | 8 | 110.00 | 160.00 |
| 541485 | 810-1000 | 8 | 150.00 | 200.00 |

Standard package: 25 assorte

List Price per 100

| List |  | No. | $21 / 2$ Inch | 5 Inch | 8 Inch |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Amperes | Terminal | Centers | Centers | Centers |
| 511478 | 25-100 | 5 | $\$ 20.00$ | \$30.00 | \$40.00 |
| 541479 | 110-200 | 5 or 6 | 24.00 | 36.00 | 48.00 |
| 541480 | 210-400 | , | 30.00 | 45.00 | 60.00 |
| 541481 | 410-600 | 6 | 45.00 | 60.00 | 80.00 | Standard package: 50 of assorted sizes.

List Price per 100

| List |  | No. | 4 Inch | 8 Inch |
| :---: | :---: | :---: | ---: | ---: |
| No. | Amperes | Terminal | Centers | Centers |
| 541486 | $100-200$ | 10 C | $\$ 80.00$ | $\$ 120.00$ |
| 541487 | $210-400$ | 10 C | 90.00 | 140.00 |
| 541488 | $410-600$ | 10 C | 100.00 | 160.00 |
| 541489 | $610-800$ | 10 C | 120.00 | 180.00 |
| 541490 | $\mathrm{~S} 10-1000$ | 10 C | 150.00 | 200.00 |

Standard package: 25 assorted.
Prices on larger sizes on application.


Standard Car Fuses
These fuses are made with copper terminals and flat fuse strips. Length, center to center of slots, $21 / 4$ inches. Standard package contains 100 fuses.

| List <br> No. | Ampere |  | List Price | List |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { No. } \\ 541411 \end{gathered}$ | ${ }_{\text {Capacity }}$ | Style | per 100 | No. | Style | Ampere <br> Capacity | List Price <br> per 100 |
| 541412 | 50 | Rownd | 58.00 | 541.415 | Flat | 150 | \$8.40 |
| 541413 | 100 | rat | 7.00 | 511-16 | Flat, | 200 | 10.00 |
| 541414 | 125 | Fat | 7.00 | 511417 | l'lat | 225 | 12.00 |
| 541414 | 125 | rat | 8.40 | 511118 | Flat | 250 | 12.00 |



Round Fuse Wire
1' to 200 Amperes

| List <br> No. | Safe Carrying Capacity Amperes | Best Tengths for Ise. and Fusing ('urrents for such Lengths. |  | Lgth. per Lb. |  | Mils. <br> 1)iam. | One Package Contains | List Price per Lh. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Inches | Amperes | Ft. | In. |  |  |  |
| 3500 | 1/8 |  |  |  |  |  |  |  |
| 3501 | 1/1 | $11 / 2$ | $1{ }^{\frac{1}{1}}$ | $\begin{array}{r}10800 \\ 27010 \\ \hline 80\end{array}$ |  | 10 | 2 oz 2 oz 2 |  |
| 3502 | $1 / 2$ | $11 / 2$ | $311 / 2$ | -950 |  | 17 | 2 oz \%. | \$5 5 |
| 3503 3504 | 1/4/4 | $11 / 2$ | 3 | 810 |  | 181/2 | 8 oz . | \$. 5.50 |
| -3504 | 11 | $11 / 2$ | $4{ }^{3}$ | (17) |  | $20^{-2}$ | 8 oz. | 2.20 |
| 3506 | 2 | $11 \%$ | $5_{6}{ }^{1 / 1}$ | 310 |  | $\cdots 3$ | 8 oz . | 2.10 |
| 3507 | 3 | $11 / 2$ | ${ }_{6}$ | 430 |  | 25 | 8 oz . | 2.10 |
| 3508 | 4 | $11 / 2$ | ${ }_{8}{ }^{\text {¢ }}$ | 370 |  | 27 | 8 oz . | 2.00 |
| 3509 | 5 | $2^{1 / 2}$ | 8 | 300 |  | 30 | 1 lb . | 2.00 |
| 3510 | 6 | 2 | $\stackrel{9}{10}$ | 220 |  | 35 | 1 lb . | 2.00 |
| 3511 | 7 | 2 | 10.10 | 185 |  | 38 | 1 lb . | 1.70 |
| 3512 | 8 | 2 | 13 | 140 |  | 44 | 1 lb . | 1.70 |
| 3513 | 9 | 2 | $17{ }^{13}$ | 120 |  | 47 | 1 lb . | 1.60 |
| 3514 | 10 | 2 | 17. | 93 |  | 54 | 1 lb . | 1.60 |
| 3515 | 12 | 3 | $199^{10}$ | 80 |  | 58 | 1 lb . | 1.40 |
| 3516 | 14 | 3 | 21 | 70 |  | 6 | 1 ll . | 1.60 |
| 3517 | 15 | 3 | 2216 | ${ }^{69}$ |  | 68 | 1 lb . | 1.60 |
| 3518 | 16 | 3 | 24 | 53 |  | 70 | 1 lb . | 1.50 |
| 3519 | 18 | 3 | 27 | 49 |  | 75 | 1 lb . | 1.50 |
| 300 | 20 | 4 | 27 | 43 31 |  | 80 8.5 | 1 lb , | 1.50 |
| 3521 3592 | 25 | 4 | 30 | 36 |  | 8.5) | 1 lb . | 1.50 |
| 3592 3523 352 | 30 | 4 | 35 | 32 |  | 100) | 1 lb . | 1.50 |
| 3523 3524 | 35 | 4 | 40 | 23 |  | 100 110 | 1 lb . | 1.50 |
| 3524 3525 | 40 | 4 | 46 | 18 |  | 110 |  | 1.50 |
| 3525 3526 3 | 45 | 4 | 49 | 17 |  | 125 | $\underset{2}{2} \mathrm{lbs}$. | 1.50 1.50 |
| 3526 359 358 | 50 | 4 | 63 | 12 | 6 | 145 | 2 lls . | 1.50 |
| 3527 3598 | 60 70 | 5 | 70 | 10 | 3 | 160 | $2 \mathrm{llns}$. | 1.40 |
| 3528 3529 | 70 75 | 5 | 78 | 9 |  | 175 | 2 lbs . | 1.40 |
| 3530 | 80 | 5 | 83 | 8 | 3 | 180 | 2 lbs . | 1.40 |
| 3:31 1 | 90 | 5 | ${ }_{9} 9$ | 8 | 8 | 1190 | $\bigcirc \mathrm{lbs}$. | 1.40 |
| 3532 | 100 | 5 | 110 | 5 | 8 | 200 | $\stackrel{2}{2} \mathrm{lbs}$. | 1.40 |
| 35554 | 125 | 5 | 1135 | 4 | 6 | 220 | 2 lbs . | 1.40 |
| 33.55 | 150 | 5 | 165 | 4 | $\stackrel{2}{2}$ | 25\% | 5 lbs . | 1.40 |
| 3556 | 175 | 5 | 200 | ${ }_{2}$ | $\stackrel{2}{5}$ | 290 | 5 lbs . | 1.40 |
| 3557 | 200 | 5 | 240 | I | 11 | 380 | 5 lhs . | 1.40 |

fusible metal from abrasion or wother oned spols haviny heavy lianges, which effectually protect the soft labeled and sealed so that fuse wir mechanical injury; these are then phacer in small cans that are properly ciation in quality or appearance. For the stored away for an indefinte time without the slightest deprelength to obtain best results at rated capacity, see above.


Western Electric

BRYANT CUT-OUTS
30 Amperes, 125 Volts



Mfr. No. 62199


Mfr. No. 8020
Schedule "I"

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | 1)escription | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 62569 ${ }^{\text {4 }}$ | Single I'ole, Main | 10 | 150 | 70 | \$0.18 | \$3.24 |
| $62965{ }^{\text {4 }}$ | Double Pole, Main | 10 | 150 | 100 | . 30 | 5.40 |
| $61935{ }^{\text { }}$ | Double Pole, Single Branch | 5 | 100 | 95 | . 32 | 2.88 |
| 8020* | Double Pole, Single or Double Cross-over Branch. | 5 | 150 | 165 | . 36 | 3.24 |

Plug Cut-outs

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Carton Quantity | Std. <br> Pko. | Pkg. Wt. <br> Lbs. | Mfrs. List Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $62587^{\text { }}$ | Double Pole, Double Branch | 5 | 100 | 160 | \$0.62 | \$5.58 |
| $62199{ }^{\text { }}$ | 'Triple to Double Pole, Double Branch . | 5 | 100 | 170 | . 64 | 5.76 |
| $62165^{\text { }}$ | Triple Pole, Main. | 5 | 100 | 102 | . 44 | 3.96 |



Mfr. No. 8042


Mfr. No. 62135


No. 559 ( $\frac{1}{6}$ Actual Size) Illustrating Method of Using Plug No. 559

Schedule "I"
Plug Cut-outs

| List No. | Description | Carton Quantity | Std. Pkg. | Pkg. Wt. Lbs. | Mfrs. List Each | W. E. <br> List per <br> Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8042 ${ }^{\text {A }}$ | Triple Pole, Single Branch. | 1 | 75 | 195 | \$0.54 | \$0.97 |
| $62135^{\text { }}$ | Triple Pole, Double Branch | 1 | 50 | 150 | . 90 | 1.62 |
| Schedule " H " |  |  |  |  |  |  |
| $559^{4}$ | Short circuiting plug for servi switches. | $\begin{aligned} & \text { raluce } \\ & \ldots . . \end{aligned}$ | 75 | 300 | \$0.05 | \$6.90 |

[^61]

Paiste No. 203 Fusette


Paiste No, 200 Holder


Cross Section View
"Paiste Fusetre"

## Bryant "Pyrotite" Fuse Plugs

Schedule "I"

| List | Capacity | Carton | Std. | Pkg. Wt. | Mfrs. List | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Amperes | Quantity | l kg . | Lbs. | Each | per Carton |
| $66327{ }^{4}$ | 3 | 100 | 500 | 45 | \$0.07 | \$11.90 |
| $66329{ }^{\text {4 }}$ | is | 100 | 500 | 45 | . 07 | 11.90 |
| $66331{ }^{\text {® }}$ | 10 | 100 | 500 | 45 | . 07 | 11.90 |
| $66333{ }^{\text {4 }}$ | 12 | 100 | 500 | 45 | . 07 | 11.90 |
| $66335^{\text {® }}$ | 15 | 100 | 500 | 45 | . 07 | 11.90 |
| $66337^{\wedge}$ | 20 | 100 | 500 | 45 | . 07 | 11.90 |
| $66339^{4}$ | 25 | 100 | 500 | 45 | . 07 | 11.90 |
| $66341{ }^{\text {4 }}$ | 30 | 100 | 500 | 45 | . 07 | 11.90 |

Carton quantity for fuse plugs is 100 .
The above fuses can also be furnislied with solid brass caps on special order. Add to List Price, $\$ 0.009$.
For Plug Fuses with Special Finish Caps, add to List Price $\$ 0.05$.

- National Electrical Code Standard.


## Paiste "Fusette" Fuse Plugs

This fuse plug consists of two parts; the interchangeable holder, into which will fit all the fusettes from 3 amperes to 30 amperes, and the fusette or fuse carrying part.

## Fuse Plug Complete

| List | Capacity | Carton | Std. | Mrrs. List | List Price |
| :--- | :---: | :---: | :---: | ---: | ---: |
| No. | Amperes | Quantity | Pach | per Carton |  |
| 2203 | 3 | 50 | 500 | $\$ 0.07$ | $\$ 7.00$ |
| 2206 | 6 | 50 | 500 | .07 | 7.00 |
| 2210 | 10 | 50 | 500 | .07 | 7.00 |
| 2212 | 12 | 50 | 500 | .07 | 7.00 |
| 2215 | 15 | 50 | 500 | .07 | 7.00 |
| 2220 | 20 | 50 | 500 | .07 | 7.00 |
| 2225 | 25 | 50 | 500 | .07 | 7.00 |
| 2230 | 30 | 50 | 500 | .07 | 7.00 |

## Fusette Only

50
50
50
50
50
50
50
50

| 500 | $\$ 0.05$ |
| :--- | ---: |
| 500 | .05 |
| 500 | .05 |
| 500 | .05 |
| 500 | .05 |
| 500 | .05 |
| 500 | .05 |
| 500 | .05 |

$\$ 5.00$
5.00
5.00
5.00
5.00
5.00
5.00
5.00

Holder Only



List No. 190

# "D \& W" PLUG FUSE CASES AND FUSES Plug Fuse Cases 

National electrical code standard
0-60 Amperes, 125 Volts
These fuse cases are made in two tyres, No. 190, 0-30 amperes, being designed for standard cartridge fuses within its range, and No. 191, 31 to 60 amperes, designed for staudard cartridge fuses within that range.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amp. Cap. | For Fuses | Carton Quantity | Std. Pkg. | Pkg. Wt. Jhs. | Mfrs. List Each | 1. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ()-30 | N. H. C. Std | 25 | 100 | 17 | \$0.18 | \$7.20) |
| 191 | 31-60 | N. L. ©. Std | 25 | 100 | 50 | . 31 | 34.00 |



Before Blowing


List ${ }^{\text {'No. }} 410$


After Blowing

## Type "C" Indicating Plug Fuses

3-30 Amperes, 125 Volts
These plug fuses are designed for standard Edison plug cut-outs, and afford a positive indication when the fuse has blown. "These fuses may be reloaded.

| List <br> No. | Amp. <br> Capac it: | $\begin{aligned} & \text { Carton } \\ & \text { Quan- } \\ & \text { tity } \end{aligned}$ | Std. Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Ihs. } \end{aligned}$ | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | W. E. List per Carton | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amp. Сарас ity | Quas | Std. Pkg. | Pkg. Wt. <br> Lhs. | Mirs. List <br> Each | W. E. List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 403 | $\ddot{3}$ | 25 | 100 | - 9 | \$0.43 | S12.64 | 412 | 12 | 25 | 100 | 9 | 80.43 | \$12.69 |
| 40.4 | 4 | 25 | 10) | 9 | . 43 | 12.69 | 415 | 15 | 25 | 100 | 9 | . 43 | 12.69 |
| 405 | 5 | 25 | 100 | $!$ | 43 | 12.69 | 418 | 18 | 25 | 100 | 9 | . 43 | 12.69 |
| 406 | $t$ | 25 | () | , | . 43 | 12.69 | 420 | 20 | 25 | 100 | 9 | . 43 | 12.69 |
| 408 | 8 | 25 | 100 | $!$ | 43 | 12.69 | 425 | 25 | 2. | 100 | 9 | 43 | 12.69 |
| 410 | 10 | 25 | 100 | 9 | 43 | 12.69 | 430 | 30 | 25 | 100 | 9 | 43 | 12.69 |

Abore can be reloaded for W. E. List each $\$ 0.35$, at Mirs. List for $\$ 0.25$.


3-30 Amp.


35-75 Amp.

## Type "B" Plug Fuses 3-75 Amperes, 250 Volts Old Code

These fuse cartridges are for use in connection with Old Code 'Type B plug fuse eases, and are made in ranges of from 3 to 30 amperes, designed for 30 ampere, and from 35 to 75 amperes, designed for 75 ampere cases

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amp. Capac ity | Carton Quantity | Std. 1'kg. | $\begin{aligned} & \text { 1 pkg. } \\ & \text { Wt. } \\ & \text { Lbbs. } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Mfrs. } \\ \text { List } \\ \text { Each } \end{gathered}$ | $\begin{aligned} & \text { W. li. } \\ & \text { List } \\ & \text { Carton } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Amp. Capacity | Carton Quantity | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Wt. } \\ & \text { Lhs. } \end{aligned}$ | Mirs. List <br> Fach | W. li, List per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 103 | 3 | 50 | 100 | 3 | \$0.18 | \$12.06i | 130 | 30 | 50 | 100 | 3 | \$0.18 | \$12.06 |
| 104 | 4 | 50 | 100) | 3 | . 18 | 12.06 | 135 | 35 | 25 | 100 | 12 | . 35 | 11.73 |
| 105 | 5 | 50 | 100 | 3 | 18 | 12.06 | 140 | 40 | 25 | 100 | 12 | . 35 | 11.73 |
| 106 | 6 | 50 | 100 | 3 | 18 | 12.06 | 145 | 45 | 25 | 100 | 12 | . 35 | 11.73 |
| 108 | 8 | 50 | 100 | 3 | . 18 | 19.06 | 150 | 50 | 25 | 100 | 12 | . 35 | 11.73 |
| 110 | 10 | 50 | 100 | 3 | . 18 | 12.06 | 155 | 55 | 25 | 100 | 12 | . 35 | 11.73 |
| 112 | 12 | 50 | 100 | 3 | . 18 | 12.04 | 160 | 60 | 25 | 100 | 12 | . 35 | 11.73 |
| 115 | 15 | 50 | 100 | 3 | 18 | 12. 04 | 165 | 65 | 25 | 50 | - | . 90 | 30.15 |
| 118 | 18 | 50 | 100 | 3 | 18 | 12.06 | 170 | 70 | 25 | 50 | 6 | . 90 | 30.15 |
| 120 | 20 | 50 | 100 |  | 18 | 12.06 | 175 | 75 | 25 | 50 | 6 | . 90 | 30.15 |
| 125 | 25 | 50 | 100 | 3 | 18 | $12.0 \%$ |  |  |  |  |  |  |  |

## ＂D \＆W＂INDICATING ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD

The mechanical design of＂I）d W＂fuses has been rendered as nearly correct in all particulars as possible to conform to the requirements of the National Flectrical Code．Exceptionally heavy fibre tubes with extra long caps are used throughout．Where extreme rigidness is required，as in large fuses，the tubes are fitted inside with steel reinforcing rings which are so placed as to receive the ends of all the screws which hold on the fuse eaps．The strength and rigidity obtained by passing these machine screvs into the stoel bands within the fibre tubes enable the fuse to withstand great mechanieal abuse and the severest elertric：il conditions．

A special feature of＂$D \& W$＂fuses is，that whever possible，the copper terminal wires in the fusible links are fastened together so as to be both mechanically and electrically continuous，even before the application of solder．

An important and distinetive feature of＂D \＆W＂fuses is the so－called＂Bull＇s－eye Indicator，＂ The location of the indication is absolutely defined and the indication itself is extremely distinct，not re－ quiring close inspection as is the case with other types．


Construction of Fuses from 3 to 60 Amperes 3 to 60 Amperes， 250 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere <br> Capacity | Length Inches | Carton Quantity | $\begin{gathered} \text { Std, } \\ \text { Pkg. } \\ \text { Quantity } \end{gathered}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Net } \\ & \text { Wt. } \end{aligned}$ | $\begin{aligned} & \text { Mifs. } \\ & \text { List } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} \text { W. E. List } \\ \text { per } \\ \text { Cirton } \end{gathered}$ | Reload Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| For 30 Ampere Cut－Outs |  |  |  |  |  |  |  |  |
| 91125 | 3 | 2 | 10 | 100 | 4 lbs ． | 80.25 | \＄3．50 |  |
| 91126 | 4 | 2 | 10 | 100 | 4 lbs ． | ．25 | 3.50 | 1 |
| 91127 | 5 | 2 | 10 | 100 | 4 lbs ． | .25 | 3.50 | 9 |
| 91128 | 6 | 2 | 10 | 100 | 4 lbs ． | 25 | 3.50 | 0 |
| 91130 | 7 | 2 | 10 | 100 | 4 lbs ． | 25 | 3.50 | 今 |
| 91131 | 8 | 2 | 10 | 100 | 4 lbs ． | .25 | 3.50 | － |
| 91132 | 9 | 2 | 10 | 100 | 4 lbs ． | .25 | 3.50 | － |
| 91133 | 10 | 2 | 10 | 100 | 4 lbs ． | ． 25 | 3.80 | 0 |
| 91134 | 12 | 2 | 10 | 100 | 4 lbs ． | ． 25 | 3.50 | $\sim$ |
| 91135 | 15 | 2 | 10 | 100 | 4 lbs． | 2.5 | 3.50 | H |
| 91136 | 20 | 2 | 10 | 100 | 4 lbs ． | 25 | 3.50 | ¢ |
| 91137 | 25 | 2 | 10 | 100 | 4 lbs ． | ． 25 | 3.50 | 2 |
| 91138 | 30 | 2 | 10 | 100 | 4 lbs ． | 25 | 3.50 |  |
| For 60 Ampere Cut－Outs |  |  |  |  |  |  |  |  |
| 91139 | 35 | 3 | 10 | 100 | 10 lbs ． | 811.35 | \＄4．90 |  |
| 91140 | 40 | 3 | 10 | 100 | 10 lbs ． | ． 35 | 4.90 | 以 |
| 91141 | 45 | 3 | 10 | 100 | 10 lbs． | ．35 | 4.90 |  |
| 91143 | 50 | 3 | 10 | 100 | 10 lbs ． | ． 35 | 4.90 |  |
| 91146 | 55 | 3 | 110 | 100 | 10 lbs ． | ． 35 | 4.90 | 元 |
| 91147 | 60 | 3 | 10 | 100 | 10 lbs ． | ．35 | 4.90 |  |



65 to 100 Amperes， 250 Volts

| List <br> No． | Ampere Capacity | Length Inches | Carton Quantity | Std． <br> Pkg． Quantity | 1＇kg． <br> Net <br> W＇t． | Mifrs． List Each | $\begin{aligned} & \text { W. E. List } \\ & \text { per } \\ & \text { Carton } \\ & \hline \end{aligned}$ |  | W．F： licload Pricelat． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| For 100 Ampere Cut－Outs |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 41149 | 65 | $57 / 8$ | 5 | 50 | $14 \mathrm{lbs}$. | \＄1）．90） | S6．30） | \＄0．60 | 88.84 |
| 91150 | 70 | 57／8 | 5 | 50 | 14 lbs ． | ． 90 | 6．30） | ．60） | ． 84 |
| 91151 | 75 | 57／8 | 5 | 50 | 14 lbs ． | ． 90 | 6.30 | ． $0^{0}$ | ． 8 |
| 91152 | 80 | $57 / 8$ | 5 | 50 | 14 lbs ． | .90 | 6.30 | ．60） | ． 84 |
| 91153 | 85 | 5\％／8 | 5 | 50 | 14 lbs ． | ． 90 | （i． 30 | ． 10 | ． 84 |
| 91154 | 90 | 57／8 | 5 | 50 | 14 Ibs． | .90 | 6． 30 | ．6） | ． 84 |
| 91155 | 95 | 57／8 | 5 | 50 | 14 lbs. | ． 90 | 6.30 | ． 60 | ． 84 |
| 91156 | 100 | ［ $5 / 8$ | 5 | 50 | 14 lbs ． | ． 90 | 6． 30 | ．6） | ． 84 |

## Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Inderwriters．Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same atten－ tion and care as new fuses．

# "D \& W" INDICATING ENCLOSED FUSES <br> National Eirctirical Code standard 



Construction of Fuses from 110 to 1000 Amperes

## 110 to 1000 Amperes, 250 Volts

| List No. | Ampere Capacity | Length Inches | Carton Quantity | $\begin{gathered} \text { std. } \\ \text { Plkg. } \\ \text { Quantity } \end{gathered}$ | $\begin{aligned} & \text { lkg, } \\ & \text { Net } \\ & \text { W't, } \end{aligned}$ | $\begin{aligned} & \text { Mifrs. } \\ & \text { Tist } \\ & \text { Fach } \end{aligned}$ |  | Mfrs. Reload Price | W. E. Reload <br> Price La. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

For 200 Ampere Cut-Outs

| 91157 | 110 | $71 / 8$ | 5 | 25 | 18 lbs. | 8.0 .00 | $\$ 11.80$ | 80.90 | 81.26 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 91158 | 120 | $71 / 8$ | 5 | 25 | 18 lbs. | 2.00 | 11.80 | .90 | 1.26 |
| 91161 | 125 | $71 / 8$ | 5 | 25 | 18 lbs | 2.00 | 11.80 | .90 | 1.26 |
| 91162 | 150 | $71 / 8$ | 5 | 25 | 18 lbs | 2.00 | 11.80 | .90 | 1.26 |
| 91163 | 175 | $71 / 8$ | 5 | 25 | 18 lbs. | 2.00 | 11.80 | .90 | 1.26 |
| 91164 | 200 | $71 / 8$ | 5 | 25 | 18 lbs. | 2.00 | 11.80 | .90 | 1.26 |

For 400 Ampere Cut-Outs

| 91165 | 225 | 85/8 | 5 | 25 | 40 lbs. | \$3. 60 | 821.24 | \$1.50 | \$2. 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 91166 | 250 | $85 / 8$ | 5 | 25 | 40 lbs. | 3.60 | 21.24 | 1.50 | 2.10 |
| 91167 | 275 | 85/8 | 5 | 25 | 40 lbs . | 3.60 | 21.24 | 1.50 | 2.10 |
| 91168 | 300 | $85 / 8$ | 5 | 25 | 40 lbs . | 3.60 | 21.24 | 1.50 | 2.10 |
| 91169 | 325 | 85\% | 5 | 25 | 40 lbs. | 3.60 | 21.24 | 1.50 | 2.10 |
| 91170 | 350 | 85/8 | 5 | 25 | 40) ibs. | 3.60 | 21.24 | 1.50 | 2.10 |
| 91171 | 375 | $85 / 8$ | 5 | 25 | 40) lbs. | 3.10 | 21.24 | 1.50 | 2.10 |
| 91172 | $40)$ | 85\% | 5 | 25 | 40 lbs . | 3.60 | 21.24 | 1.50 | 2.10 |

For 600 Ampere Cut-Outs

| 91173 | 450 | 103,8 | 1 | 10 | 28 lbs, | $\$ 5.50$ | $\$ 7.70$ | $\$ 2.00$ | $\$ 2.80$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 91174 | 500 | 1038 | 1 | 10 | 28 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 91175 | 550 | 1038 | 1 | 10 | 28 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 91176 | 600 | 1038 | 1 | 10 | 28 lbs | 5.50 | 7.70 | 2.00 | 2.80 |

*For 800 Ampere Cut-Outs

| 91177 | 0.50 | $111 / 2$ | 1 | 10 | 45 lbs, | $\$ 12.00$ | $\$ 18.72$ | $\$ 4.00$ | $\$ 6.24$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 91178 | 700 | $111 / 2$ | 1 | 10 | 45 lbs, | 12.00 | 18.72 | 4.00 | 6.24 |
| 91179 | 750 | $111 / 2$ | 1 | 10 | 45 lbs. | 12.00 | 18.72 | 4.00 | 6.24 |
| 91180 | 800 | $111 / 2$ | 1 | 10 | 45 lbs, | 12.00 | 18.72 | 4.00 | 6.24 |

*For 1000 Ampere Cut-Outs

| 91181 | 850 | 125/8 | , | 10 | $f(0) \mathrm{lbs}$. | 815.00 | S23. 10 | 85.00 | \$7.8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 91182 | 900 | 125/8 | 1 | 10 | 60 lbs . | 15.00 | 23.411 | 5.00 | 7.80 |
| 91183 | 950 | 125/8 | 1 | 10 | to lbs. | 1500 | 23.40 | 5.00 | 7.80 |
| 91184 | 1000 | 125/8 | 1 | 10 | tio lbs. | 15.00 | 23.40 | 5. 00 | 7.80 |

*Underwriters' published approval only includes up to 600 amperes.

## Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.

# ＂D \＆W＂INDICATING ENCLOSED FUSES <br> SATIONAL ELECTRICAL CODE STANDARD 



Construcrion of Fuses from 3 to 60 Amperes
3 to 60 Amperes， 600 Volts

| List <br> No． | Ampere Capacity | Length Inches | Carton Quantity | Std． <br> l＇kg． <br> Quautity | Pkg． <br> Net <br> Wt． | Mirs Fach | W．E．List －per Carton | Reload Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

For 30 Ampere Cut－Outs

| 28084 | 3 | 5 | 10 | 100 | 14 lbs． | 80.10 | \＄5． 60 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28085 | 4 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 |  |
| 28086 | 5 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | 回 |
| 28087 | 6 | 5 | 10 | 100 | 14 lbs． | 40 | 5.60 | 同 |
| 28088 | 7 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | 」 |
| 28089 | 8 | 5 | 10 | 100 | 14 lbs． | 40 | 5.60 | $\stackrel{-1}{1}$ |
| 28090 | 9 | 5 | 10 | 100 | 14 lbs． | 40 | 5.60 | 星 |
| 28091 | 10 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | 年 |
| 28092 | 12 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | $\approx$ |
| 28093 | 15 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | E |
| 28094 | 20 | 5 | 10 | 100 | 14 lbs． | ． 40 | 5.60 | $\bigcirc$ |
| 28095 | 25 | 5 | 10 | 100 | 14 lbs ． | ． 40 | 5.60 | z |
| 28096 | 30 | 5 | 10 | 100 | 14 lbs ． | .40 | 5.60 |  |

For 60 Ampere Cut－Outs

| 28097 | 35 | 512 | 10 | 100 | 22 lbs ． | \＄0．60 | \＄8．40 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28098 | 40 | 51／2 | 10 | 100 | 22 lbs ． | ．60 | 8.40 | － |
| 28099 | 45 | $51 / 2$ | 10 | 100 | 22 lbs ． | ． 60 | 8.40 | －13） |
| 28100 | 50 | $51 / 2$ | 10 | 100 | 22 lbs ． | ． 60 | 8.40 | ช禺 |
| 28101 | 55 | $51 / 2$ | 10 | 100 | 22 lbs． | ． 60 | 8.40 | 可 |
| 28102 | 60 | 51. | 10 | 100 | 22 lbs． | ． 60 | 8.40 | $\sim$ |



Construction of Finses from 65 to 100 Amperes
65 to 100 Amperes， 600 Volts

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Length Inches | Carton Quantity |  | Pkg． <br> Net <br> Wt． | Mifs． 1．ist <br> Each | W．F．List per （arton | Mirs． <br> Reload <br> Price Ea |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

For 100 Ampere Cut－Outs

| 28103 | 65 | 778 | 5 | 50 | 23 lbs ． | \＄1． 50 | \＄10．50 | \＄0．80 | \＄1．12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28104 | 70 | 7788 | 5 | 50 | 23 lbs ． | 1．3） | 10．50） | ． 80 | 1.12 |
| 28105 | 75 | 778 | 5 | 50 | 23 lbs ． | 1.50 | 10.50 | s0 | 1.12 |
| 28106 | 80 | 778 | 5 | 50 | 23 lbs ． | 1.50 | 10.50 | S0 | 1.12 |
| 28107 | 85 | 77／8 | 5 | 50 | 23 lbs ． | 1.50 | 10.30 | ． 80 | 1.12 |
| 28108 | 90 | 778 | 5 | 50 | 23 lbs ． | 1.50 | 10.50 | ． 80 | 1.12 |
| 28109 | 95 | 778 | 5 | 50 | 23 lbs ． | 1.50 | 10.50 | ． 80 | 1.12 |
| 28110 | 100 | 77／8 | 5 | 50 | 23 lbs ． | 1.50 | 10.50 | ． 80 | 1.12 |

## Refilled Fuses

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters．Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same at－ tention and care as new fuses．

# "D \& W" INDICATING ENCLOSED FUSES <br> national electrical code standard 



Construction of Fuses from!110 to 1000 Amperes
110 to 1000 Amperes, 600 Volts

| List No. | Ampere Capacity | Length <br> Inches | Carton Quantity | $\begin{gathered} \text { Std. } \\ \text { Pkg. } \\ \text { Quantity } \end{gathered}$ | Pkg. <br> Net <br> W't. | Mirs. <br> List <br> Fach | $\left\|\begin{array}{c} \text { W. E. I ist } \\ \text { per } \\ \text { Carton } \end{array}\right\|$ | Mfrs. <br> Reload Price Each | W.E. Reload Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

For 200 Ampere Cut-Outs

| 28111 | 110 | $95 / 8$ | 5 | 25 | 34 lbs | $\$ 2.50$ | $\$ 14.75$ | $\$ 1.20$ | $\$ 1.68$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 28112 | 120 | $95 / 8$ | 5 | 25 | 34 lbs | 2.50 | 14.75 | 1.20 | 1.68 |
| 28113 | 125 | $95 / 8$ | 5 | 25 | 34 lbs | 2.50 | 14.75 | 1.20 | 1.68 |
| 28114 | 150 | $95 / 8$ | 5 | 25 | 34 lbs | 2.50 | 14.75 | 1.20 | 1.68 |
| 28115 | 175 | $95 / 8$ | 5 | 25 | 34 lbs | 2.50 | 14.75 | 1.20 | 1.68 |
| 28116 | 200 | $95 / 8$ | 5 | 25 | 34 lbs | 2.50 | 14.75 | 1.20 | 1.68 |

For 400 Ampere Cut-Outs

| 28117 | 225 | $115 / 8$ | 1 | 25 | 77 lbs | $\$ 5.50$ | 87.70 | $\$ 2.00$ | $\$ 2.80$ |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: | ---: | ---: | ---: |
| 28118 | 250 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 28119 | 275 | $115 / 8$ | 1 | 25 | 77 lbs. | 5.50 | 7.70 | 2.00 | 2.80 |
| 28120 | 300 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 28121 | 325 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 28122 | 350 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 28123 | 375 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |
| 28124 | 400 | $115 / 8$ | 1 | 25 | 77 lbs | 5.50 | 7.70 | 2.00 | 2.80 |

*For 600 Ampere Cut-Outs

| 28125 | 450 | $133 / 8$ | 1 | 10 | 49 lbs | $\$ 8.00$ | $\$ 11.20$ | $\$ 3.00$ | $\$ 4.20$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 28126 | 500 | $133 / 8$ | 1 | 10 | 49 lbs | 8.00 | 11.20 | 3.00 | 4.20 |
| 28127 | 550 | $133 / 8$ | 1 | 10 | 49 lbs | 8.00 | 11.20 | 3.00 | 4.20 |
| 28128 | 600 | $133 / 8$ | 1 | 10 | 49 lbs. | 8.00 | 11.20 | 3.00 | 4.20 |

*For 800 Ampere Cut-Outs

| 28129 | 650 | 141/2 | 1 | 10 | , 60 lbs . | \$15.00 | \$23.40 | \$5.00 | \$7.80 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28130 | 700 | $141 / 2$ | 1 | 10 | 60 lbs . | 15.00) | 23. 40 | 5.00 | 7.80 |
| 28131 | 750 | 141/2 | 1 | 10 | 60 lbs . | 15.00 | $\underline{23.40}$ | 5.00 | 7.80 |
| 28132 | 800 | 141/2 | 1 | 10 | 60 lbs . | 15.00 | 23.40 | 5. 00 | 7.80 |

*For 1000 Ampere Cut-Outs

| 28133 | 850 | $155 / 8$ | 1 | 10 | 75 lhs | $\$ 18.00$ | $\$ 2 \mathrm{~s} .08$ | $\$ 0.00$ | $\$ 9.36$ |
| :--- | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28134 | 900 | $155 / 8$ | 1 | 10 | 75 lbs | 18.00 | 28.08 | 8.0 .00 | 9.30 |
| 28135 | 950 | 1558 | 1 | 10 | 75 lbs | 18.00 | 28.08 | 6.00 | 9.36 |
| 28136 | 1000 | $155 / 8$ | 1 | 10 | 75 lbs | 18.00 | 28.08 | 6.00 | 9.36 |

*Underwriters' published approval only includes up to 400 Amperes.

## Refilled Fuges

It should be noted that fuses refilled by others than the original or approved manufacturers are not approved by the National Board of Fire Underwriters. Fuses returned to their original manufacturers for refilling come under the approval of the National Board of Fire Underwriters and require the same attention and care as new fuses.

## "D AND W" RENEWABLE FUSES



## 'I) and W' Renewable Fuses <br> "D and W" Renewable Fuses

The object of the renewable fuse is to afford less expensive protection. The mechanieal construction of the D \& W renewable fuse is simple and offective. The ferrule type consists of a fiber thbe having a steed sleeve held in eath end by two pins. The inside of cach sleere is threaled to recove a metal phag, which is serurely attached inside of the brass ferrule. 'The sleeve has as sat beyond the threaded portion, on wheh a slotted washer rests. The link is clamped betwern this metal washer and the end of the metal phag, both of which are held in position by the themed sleeve. By this means permanent eleetrical contan between the link and terminal structure is insured. This elmanates the trouble experieneed with that type of renewable fuse in which the pressure meessary to maintain link contant is transmitted through a part of the fiber tube. The threaded metal phags which screw into the sleme are long enough in proportion to their diameter to be readily started into the thread, which receives them. The steel parts of the 1 ) \& W renewahle fuses are oxidized to prevent the molten or vaporizel link metal from attaching itself to these parts. To refuse a D\& W renewable fuse simply remove the caps, insert a new link through the washer, bend one end, and replace the caps.

| List | Ampere |
| ---: | :---: |
| No. | Capacity |
| 7001 | 0130 |
| 3002 | $31-700$ |
|  |  |
| 8001 | $0-30$ |
| 8002 | $31-60$ |

"D AND W" RENEWABLE FUSE CASES
Cartridge Type

|  | 0-60 | Amperes | 250 | Volts |
| :---: | :---: | :---: | :---: | :---: |
| J.ength |  | Carton |  | Std, |
| Overall |  | (quantity |  | ] kg g. |
| 2 ins. |  | 10 |  | 100 |
| 3 ins. |  | 10 |  | 100) |
|  | 0-60 | Amperes |  | Volts |
| 5 ins . |  | 10 |  | 100 |
| $5!8 \mathrm{~m}$ |  | 10 |  | 100 |


|  | W. F. List |
| :---: | ---: |
| Mirs. Jist | Price Pror |
| Price | Carton |
| 80.50 | $\$ 6.00$ |
| .50 | 9.00 |
| $\$ 0.85$ | $\$ 10.20$ |
| 1.25 | 15.00 |

"D AND W"' RENEWABLE LINKS
For Cartridge Fuse Cases
3-60 Amperes 250 Volts



# "D \& W" ENCLOSED FUSE CUT-OUTS 

nationat electricat code standard


List No. 91102


List No. 91104


List No. 91103


List No. 91117
0 to 100 Amperes, 250 Volts
Porcelain

| List <br> No. | Ampere Capacity | Description | Contact | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Std. <br> Pkg. | $\begin{aligned} & \text { Pkg. } \\ & \text { Net } \end{aligned}$ Wt. | Mfrs. List Each | $\begin{aligned} & \text { W. E. } \\ & \text { List per } \\ & \text { farton } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 91101 | 0-30 | Single Pole, Main Line, pore | Ferrule | \% | 50 | 13 | \$0.40 | \$3.60 |
| 91107 | 31-60 | Single I'ole, Main Line, porc | F'errule | 5 | 50 | 30 | 80.45 | 58 |
| 91114 | 61-100 | Single l'ole, Main Line, pore | İnife Blade | 2 | 50 | 79 | 1.40 | 8.04 |
| 91102 | 0-30 | Double I'ole, Main Line, pore | J'errule | 1 | 50 | 37 | 1.40 | 1.00 |
| 91108 | $31-60$ $61-100$ | Double I'ole, Main Linc, porc | Ferrule | 1 | 50 | 81 | 1.40 | $\because$ |
| 91119 | $61-100$ $0-30$ | Double lole, Main Line, porc. . | Knife Blacle | 1 | 50 | 156 | 2.80 | -. 04 |
| 91110 | 31- 60 | Double Pole, Single liranch, porc. | Ferrule | 1 | 50 | 60 121 | .70 1.75 | 1.26 |
| 91106 | - 0 - 30 | Double Pole, Double ISranch, porc. | Perrule | 1 | 50 | 121 50 | 1.75 1.30 | 3.16 |
| 91113 | 31-60 | Double Pole, Iouble Iranch, pore | F'rrute | 1 | 25 | 50 134 | 1.30 3.50 | $\frac{2.34}{6.30}$ |
| 91103 | 0-30 | Triple Pole, Main Line, porc. . . . | Ferrule | 1 | 50 | - | .80 .80 | 1.30 1.44 |
| 91109 | 31-60 | Triple l'ole, Main Line, pore | Ferrule | 1 | 50 | 117 | 2.00 | 3.60 |
| 91120 | 61-100 | Triple l'ole, Main Line, porc. | Kínife Blade | 1 | 25 | 117 | 4.00 | 7.20 |
| 91105 | 1)- 30 | Triple Pole, Single Branch, porc. | Ferrule | 1 | 50 | 90 | 1.35 | 2.44 |
| 91111 | 31-60 | Triple Pole, Single Branch, pore. | Ferrule | 1 | 50 | 250 | 3.00 | 5.40 |
| 91100 | 0-30 | Triple Pole, Double l3ranch, porc | Ferrule | 1 | 25 | 91 | 2.25 | 4.06 |
| 91123 | 31-60 | Triple Pole, I ouble l3raneh, pore | Ferrule | 1 | 10 | 95 | 6.00 | 10.80 |
| 91121 | 2-30 | 3 to 2 Wire, Double 13ranch, porc. | Ferride | 1 | 25 | 65 | 1.50 | 2.70 |
| 91124 | 31-60 | 3 to 2 Wire, Double l3ranch, pore. | Ferrule |  | 25 | 158 | 4.20 | 7.50 |
| 91122 | 0-30 | 12 Wire Cross-over Branch, pore... | Forrile | 1 | 50 | 53 | . 6.5 | 4.98 |

## 101 to 1000 Amperes, 250 Volts

## Slate Base



* ITnderwriters' published approval only includes up to 600 amperes.


Oil Fuse Cut-out

## Oil Fuse Cut-outs

For High Tension Work

| List <br> No. | 1)escriptio. | $\left\|\begin{array}{c} \text { Gil } \\ \text { Retruired } \end{array}\right\| .$ | Volts | $\begin{aligned} & \text { Mir.s. List } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} \text { W. F. List } \\ \text { lach } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1)-10 | 50 amp., subuat typ | $3 \mathrm{pts}$. | 2.810 | \$30.00 | 83.300 |
| [)-11 | 100 amp, subway typ | 5 pts | 2500 | 40.00 | 44.00 |
| (1)-12 | 200 amp., subway tyle. | i) gis. | 2.300 | 50.00 | 5\% 00 |
|  | 25 amp., oil fuse cut-out pole type. | 3 pts . | 2500 | 16.00 | 17.60 |
| 1)-1 | 50) amje, oil fuse cut-out | 3 pts. | 2500 | 20.00 | 22.00 |
| (1)-3 | 100) ampr, oil fuse cut-0ut 200) ampe, oil fuse cut-out | \%pts. | 2.500 | 30.00 | 33.00 |
| - | - 2.5 ample, (at fucity fuse. . | 5 q ¢ s . | 2500 | 40.00 .30 .30 | 44.00 60 |
| 512199 | 50 ample (apmerila fuse |  |  | . 30 | 0 |
| 512900 | 100 amp., crparity fuse |  |  | 50 | 1.00 |
| 512091 | 200 amp., capacity fuas. |  |  | 1.20 | 2.40 |

Delivery F. O. B. Factory, Providence, R. I. For warchouse deliveries write nearest house.

## "D \& W" CUT-OUTS

nationial electrical code standard

i.ist No. 28076


List No. 28078

## 0 to 100 Amperes, 600 Volts

Ferrule Contact-Single Pole Porcelain

| List <br> No. | Ampere <br> Capacity | (arton | Standard Package | Package Net Weight | Mifs. I.ist Each | $\begin{array}{\|c} \text { W.E. List } \\ \text { per } \\ \text { ('artom } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28076 Without barricr | 0-30 | $\stackrel{2}{ }$ | 50 | 48 lbs . | \$0.60 | \$2.16 |
| 28077 Without barrier | 31-60 | 2 | 50 | 54 lbs . | . 90 | 3.24 |
| 28074 With barrier... | 0-30 | 2 | 50 | 48 lbs . | . 60 | 2.16 |
| 28075 With barrier... | 31-6i0 | 2 | 50 | 54 lbs . | . 9 | 3.24 |

Knife-Blade Contact-Single Pole Porcelain

| 28078 | $61-100$ | 2 | 50 | 102 lbs | $\$ 1.75$ | $8(6.65$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## 101 to 1000 Amperes, 600 Volts

Knife-Blade Contact-Single Pole Slate

| List No. | Ampere Capacity | ('arton | Standard <br> Package | Package Net Weight | Mfrs. 1.ist Each | W. 1\%, List <br> (arton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 28079 | 101-200 | 1 | 25 | 106 lbs. | S3. 001 | 85.70 |
| 28080 | 201-400 | 1 | 25 | 181 lbs . | 8.00 | 15.20 |
| 28081 | *401-600 | 1 | 10 | 108 lbs | 12.00 | 22.80 |
| 28140 | *601-800 | 1 | 10 | 250 lbs | 21.00 | 39.90 |
| 28141 | * $801-1000$ | 1 | 10 | 275 lbs | 23.00 | -19.40) |

*Underwriters' published approval only includes up to 400 amperes.


List No. 60100


List No, 60123

0 to 100 Amperes, 2500 Volts
Knife-Blade Contact

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Description | Carton | Std. Mkg. | $\begin{aligned} & \text { lkg. } \\ & \text { Net } \\ & \text { Nt. } \end{aligned}$ | Mirs. I.ist Each | $\begin{array}{r} \text { W. L. List } \\ \text { per } \\ \text { ('arton } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (0)030 | 0-30 | Single l'ole Slate | $\because$ | 25 | Sl lbs. | \$2.25 | \$8.55 |
| 60060 | 31-60 | Single l'ole Slate | $\cdots$ | 25 | $80^{3} \mathrm{lbs}$. | 2.80 | 9.50 |
| 60100 | 60-100 | Single Pole Slate. | 2 | $\because 5$ | 41 lbs . | 2.75 | 10. 15 |

## 4400-22000 Volt Cut-Outs <br> Knife-Blade Contact

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Std. <br> Pkg. | Pkg. Net Wt. | Mfrs. List Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Hach } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 60120 | 0-20 Amperes, 4400 Volts Marble Base | 10 | . . | \$15. 00 | \$22.50 |
| 60121 | 0-15 Amperes, 6600 Volts Marble Base. | 10 | . | 15.00 | 22.50 |
| 60122 | 0-10 Amperes, 13200 Volts Marble Base. | 10 | $\ldots$ | 16.00 | 24.00 |
| 60123 | 0-5 Amperes, 22000 Volts Marble Base. | 10 |  | 16.00 | 24.00 |

# "D \& W" HIGH TENSION FUSES <br> Knife-Blade Contact 



List No. ${ }^{-6030}$


List No. 60113

## 3-100 Amperes, 2500 Volts <br> For 30 Ampere Cut-Outs

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Inches Length | Carton | $\begin{aligned} & \text { Std. } \\ & \text { Phg. } \end{aligned}$ | Net Pkg. | Mifs. List Each | $\left\lvert\, \begin{gathered} \text { W. L. } \\ \text { List } \\ \text { per ('arton } \end{gathered}\right.$ | Mifrs. Reload Each | W. F Reload Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (i003 | 3 | 10 | 10 | 50 | 28 Ithe. | \$1.5) | S20.10 | \$1.10 | \$1.72 |
| 6004 | 4 | 10 | 10 | 50 | 28 lls . | 1.50 | 20. 10 | 1.10 | 1.72 |
| 6005 | 5 | 10 | 10 | 50 | 28 lhes. | 1.50 | 20. 10 | 1.10 | 1.72 |
| 6006 | 6 | 10 | 10 | 50 | 28 lbs . | 1.50 | 20.10 | 1.10 | 1.72 |
| 6007 | 7 | 10 | 10 | 50 | 28 lbs. | 1.50 | 20.10 | 1.10 | 1.72 |
| 6008 | 8 | 10 | 10 | 50 | 28 ll s . | 1.50 | 20.10 | 1.10 | 1.73 |
| 6009 | 9 | 10 | 10 | 50 | 28 lts. | 1.50 | $\underline{30.10}$ | 1.10 | 1.72 |
| 6010 | 10 | 10 | 10 | 50 | 28 lhes. | 1.50 | 20.10 | 1.10 | 1.72 |
| 6012 | 12 | 10 | 10 | 50 | 28 lhs. | 1.50 | 20.10 | 1.10 | 1.72 |
| 6015 | 15 | 10 | 10 | 50 | 28 lbs. | 1.50 | 20.10 | 1.10 | 1.73 |
| 6020 | 20 | 10 | 10 | 50 | 28 lbs. | 1.50 | 20. 10 | 1.10 | 1.72 |
| 6025 | 25 | 10 | 10 | 50 | 28 lise. | 1.50 | 20.10 | 1.10 | 1.72 |
| 6030 | 30 | 10 | 10 | 50 | 28 lhs. | 1.50 | 20.10 | 1.10 | 1.72 |

For 60 Ampere Cut-Outs

| 6035 | 35 | $101 / 2$ | 5 | 25 | 30 lbs | $\$ 2.00$ | $\$ 13.40$ | $\$ 1.30$ | $\$ 2.02$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 6040 | 40 | $101 / 2$ | 5 | 25 | 30 lbs. | 2.00 | 13.40 | 1.30 | 2.02 |
| 6045 | 45 | $101 / 2$ | 5 | 25 | 30 lbs | 2.00 | 13.40 | 1.30 | 2.02 |
| 6050 | 50 | $101 / 2$ | 5 | 25 | 30 lbs | 2.00 | 1.3 .40 | 1.30 | 2.02 |
| 6055 | 55 | $101 / 2$ | 5 | 25 | 30 lbs. | 2.00 | 13.40 | 1.30 | 2.02 |
| 6060 | 60 | $101 / 2$ | 5 | 25 | 30 lbs | 2.00 | 13.40 | 1.30 | 2.02 |

For 100 Ampere Cut-Outs

| 6065 | 65 | 11 | 5 | 25 | 42 lbs. | $\$ 3.04$ | $\$ 20.10$ | $\$ 1.60$ | 82.50 |
| ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| 6070 | 70 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6075 | 75 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6080 | 80 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6085 | 85 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6090 | 90 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6095 | 95 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |
| 6100 | 100 | 11 | 5 | 25 | 42 lbs. | 3.00 | 20.10 | 1.60 | 2.50 |

Fuses 4400-22000 Volts
Knife-Blade Contact

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Volts | $\underset{\text { Cut-Outs }}{\text { For }}$ | Length <br> Inches | Std. <br> Pkg. | Mfrs. List <br> Each | $\begin{aligned} & \text { H. E. } \\ & \text { List } \\ & \text { Fach } \end{aligned}$ | Mirs. Reload Fach | $\begin{aligned} & \text { W. E. } \\ & \text { Reload } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60110 | 0-20 | 4400 | (i0120 | 14 | 25 | \$3.50 | \$5.26 | \$2.50 | \$3.76 |
| 60111 | 0-15 | 6600 | 60121 | 17 | 25 | 4.00 | 6.00 | 2.75 | 4.12 |
| 60112 | 0-10 | 13200 | 60122 | 20 | 10 | 4.50 | 6. 76 | 3.00 | 4.50 |
| 60113 | 0-5 | 22000 | (60123 | 23 | 10 | 5.00 | 7.50 | 3.50 | 5.26 |



Standard Dimensions

| Volts | Amps. | A | B | C | D | E | F | G | H |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4400 | $1-20$ | 14 | $13 / 4$ | $3 / 4$ | $3 / 8$ | $17 / 8$ | 13 | 1 | 12 |
| 6600 | $1-15$ | 17 | $13 / 4$ | $3 / 4$ | $1 / 8$ | $17 / 8$ | 16 | 1 | 15 |
| 13200 | $1-10$ | 20 | $13 / 4$ | $3 / 4$ | $1 / 8$ | $17 / 8$ | 19 | 1 | 18 |
| 22000 | $1-5$ | 23 | $11 / 2$ | $3 / 4$ | $1 / 8$ | $13 / 8$ | 22 | 1 | 21 |

## "D \& W" PROTECTORS



Mfr. No. 3100


Mfr. No. 3104


Mfr. No. 3105

Fire Alarm Protectors
Combination ('ut-outo furnishom complete with fuses and sneak coils.

| List <br> No. | Description | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | $\begin{aligned} & \text { Std. } \\ & \text { 1 } \mathrm{kg} . \end{aligned}$ | Pkg. Wt. Lhs. | Mfrs. List Each | *W W.List Price per ('arton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3100 | Fingle l'ole C'ut-()ut | $\because$ | 50 | 42 | 80.50 | \$1.50 |
| 3102 | Singlo l'ole Combination Cut-int | 2 | 51 | 54 | 1.10 | 3.30 |
| 3104 | Double lole Combination Cut-()ut. | 1 | 50 | 101 | 1.75 | 2.62 |
| 3105 | [. I'Comb. Cut-()ut with Arrester without Sneak ('oils) | 1 | 50 | 100 | 1.40 | 2.10 |

FIRE ALARM FUSES- 2000 VOLTS
Type A-Screw Clamp Contact

| Type A-Screw |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Ampere Capacity | Centres lnches | $\begin{aligned} & \text { Car- } \\ & \text { ton } \end{aligned}$ | Std. Pkg. | $\begin{aligned} & \text { pkg. } \\ & \text { Wt. } \\ & \text { Lhs. } \end{aligned}$ | $\begin{gathered} \text { Mfrs. } \\ \text { List } \end{gathered}$ Fach | *W.E.List Price per ('arton |
| 3001. | 1 Ampere | 5 $5 \frac{5}{32}$ | $\because 5$ | 100 | $11 / 2 \mathrm{lbs}$ | \$0.20 | 87.50 |
| 3002 | 2 Ampere | $5 \frac{5}{38}$ | 25 | 100 | $11 / 2 \mathrm{lbs}$. | . 20 | 7.50 |
| 3003 | 3 Ampere | $5 \frac{5}{35}$ | 25 | 100 | $11 / 2 \mathrm{lbs}$. | . 20 | 7.50 |
| 3004 | 4 Ampere | $5 \frac{5}{32}$ | 25 | 10) | $11 / 2 \mathrm{lbs}$. | . 20 | 7.50 |
|  | SNEAK COILS <br> For Combination Cut-Out |  |  |  |  | Mirs. | W. E |
|  |  |  |  |  |  | Jach | Fach |
| 3110 | ${ }_{10}^{10}$ Ampere | 17/8 |  | 100 | $1 / 2 \mathrm{lb}$. | 80.18 | 80.28 |
| 3210 | ${ }^{2}$ | 17/8 |  | 100 | $1 / 2 \mathrm{lb}$. | .18 | . 28 |
| 3310 | ${ }^{3} 8$ | $17 / 8$ |  | 100 | $1 / 2 \mathrm{lb}$. | . 18 | . 28 |
| 3410 | ${ }_{10}{ }^{\text {to }}$ Ampere | 17/8 |  | 100 | $1 / 2 \mathrm{lh}$. | . 18 | 28 |
| 3510 | in Ampere | 17/8 |  | 100 | $1 / 2 \mathrm{lb}$. | .18 | 28 |

 sneak coil.


Mfr. No. 2753


Mfr. No. 2757

## Telegraph Protectors Without Fuses

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Type | Car- ton | Std. Pkg. | Pkg. Wt. L.bs. | Mfrs. List <br> Fach | *W. E.List lrice per ('illton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2750 | Western linions. P. without lightning Arıester | $\because$ | 50 | $\underline{2}+\mathrm{lbs}$. | 80.30 | 80.90 |
| 2751 | Western Union 1). P. without Lightning Arrester | 1 | 50 | 48 llms . | . 50 | 76 |
| 2752 | Western Union S. P. with Lightning Arrester. . | 2 | 50 | 25 lbs . | . 60 | . 90 |
| 2753 | Western Ćnion D. P. with Lightning Arrester | 1 | 50 | 50 lbs . | 1.00 | 1.50 |
| 2754 | Postal Type A, S. P. without Lightning Arrester. | 1 | 50 | 43 lbs . | 40 | ${ }^{10}$ |
| 2755 | Postal Type C, S, P' without Iightning Arrester . | 1 | 50 | 43 lbs . | . 40 | . ${ }^{10}$ |
| 2756 | Postal Type A, S. P. with Lightning Arrester. | , | 50 | 52 lbs . | . 75 | 1.12 |
| 2757 | Postal Type C. S. P. with Lightning Arrester | 1 | 50 | 52 lbs . | 5) | 1.12 |

TELEGRAPH FUSES
For Telegraph Protectors

| List <br> No. | Ampere Capacity | $\begin{gathered} \text { For } \\ \text { Cut-Outs } \end{gathered}$ | Length Inches | Centres <br> Inches | $\begin{aligned} & \text { Car- } \\ & \text { ton } \\ & \hline \end{aligned}$ | Std. Pkg. | Pkg. Wit Lbs. | Mirs. List Fach | *W.E.List Price per Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2760 | 0-5 | West. Un, | $45 / 8$ |  | 50 | 100 | 3 lbs . | \$0.20 | \$15.00 |
| 2761. | 0-10 | Postal | 45/8 |  | 25 | 100 | 7 lbs . | . 20 | 7.50 |
| 2762 | 0-10 | Postal |  | $5 \frac{3}{32}$ | 25 | 100 | 7 lbs . | 20 | 7.50 |

${ }^{\text {e }}$ Delivery F. O. B. Factory, Providence, R. I. For warehouse deliveries write nearest house.

# "D \& W" FUSED SWITCH BOXES 

FOR NATIONAL CODE FUSES
Waterproof


Type J-28 Closed


Type J-28 Open

Waterproof Fused Switch Boxes
250 Volts

| List <br> No. | Type | Description | S'tI. Plkg. | Net Wt. <br> Fach | Mirs. List <br> Price | $\underset{\substack{\text { W.E.List } \\ \text { Price } \\ \text { Each }}}{ }$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25075 | J-25 | ()-30 Amperes, Double Pole | 20 | 18 lbs. | \$11.00 | 816.50 |
| 25076 | J-26 | 31-60) Amperes, Double Pole. | 20 | 26 libs. | $\because 3.00$ | 34.50 |
| 25077 | J-27 | 61-100 Amperes, Double Pole | 10 | 55 lbs. | 30.00 | 46.50 |
| 25078 | J-28 | 0-30 Amperes, 'Triple Pole. | 20 | 20 lbs . | 15.00 | 22.50 |
| 25079 | J-29 | 31-60 Amperes, Triple Pole | 20 | 30 liss. | 26.00 | 39.00 |
| 2.5080 | J-30 | 61-100 Amperes, Triple Pole | 10 | 40 lbs . | 40.00 | (i). 00 |

The above prices do not inclute fuse or padlock.


Mfr. No. 60128


Mfr. No. $6+12^{\prime \prime}$

## 'D \& W'" Railway Cut-Outs

## Car Type- 600 Volts

These Cut-outs consist of an asbestos-lined iron case with hinged cover, held in place by a spring eatch.

| List No. | Type | Description | Length of Fuse | $\begin{gathered} \text { Pkg. } \\ \text { Quantity } \end{gathered}$ | $\begin{aligned} & \text { Pkg. } \\ & \text { Net } \\ & \text { Wt. } \end{aligned}$ | Mifrs. List Price Each | $\begin{aligned} & \text { W.E. Iist } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60128 60129 | R-5 $\mathrm{R}-6$ | Car Motor Cut-out for N. E. Code Std. fuses 61 to 100 amperes, 8 , 0 erolts. <br> Car Motor Cut-out for N. F. ('orle Std. fuses bolted, 101 to 200 amperes, 600 rolts | 7 T/sins. <br> 95 ins. | 25 25 | 225 lbs. <br> 369 lbs. | $\begin{gathered} \$ 0.75 \\ 0.25 \end{gathered}$ | $\$ 10.12$ |

[^62]"D \& W" BRANCH BOXES AND OUTLET HOODS
FOR NATIONAL CODE FUSES-250 VOITS


List No. 1950


List No. 1952

## Triple Pole Single Branch

In the use of the brauch boxes we would call particular attention to the split bushings mounted in the covers and boxes, which permit of the necessary connections without any break in the wiring, thereby greatly reducing the cost of insuallation. These boxes are not ordinarily gasketted, hut can be so furnished if desired.

| List No. | Type | Description | Std. Pkg. | Pkg. Net $W$ W. | Mirs. <br> List <br> Jach | *W.E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1950 | JB-1 | 3-30) Amperes, 'T. P. S. 13 | 25 | 183 lbs. | \$13.00 | \$9.00 |
| 1951 | J13-2 | 31- (i) Amperes, T. P. S. 13 | 25 | 380 lbs. | 8.00 | 12.00 |
| 1952 | JB3 | (61-19) Amperes, T. P. S. l3. | 25 | $541)$ lbs. | 13.00 | 19.50 |

## "D \& W" Outlet Hoods

For Above Branch Boxes

| List. No. | Type | Description | Std. Pkg. | Pkg. Net Wt. | Mirs. <br> List <br> Each | *W. E. List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1970. . | JB-1 | End Connection | 25 | 81 lbs . | \$1.00 | \$1.50 |
| 1971., | JP-1 | Side Connection | 50 | $162 \mathrm{lbs}$. | 1.00 | 1.50 |
| 1972.. | J1-2 | Find Connection. | 25 | 113 l s. | 1.20 | 1.80 |
| 1973. . | JB-2 | Side Comeetion. | 50 | 225 bs. | 1.20 | 1.80 |
| 1974. | JB-3 | Fnd Connection. | 25 | 163 lbs . | 1.65 | 2.48 |
| 1975. . | J13-3 | Side Connection | 50 | 325 los. | 1.65 | 2.48 |

[^63]
# "D \& W" SERVICE SWITCHES AND FUSE BOXES <br> FOR NATIONAL CODE FITSES 

Waterproof


The service switch is constructed for use both as a cul-out and a switch. It consicts of a set of enelosed fuses monfted in an iron hox so that they ean be made to swing with the cover and open the circuit or to remain in the frase clip, while the cover is open. The fuse bos is a device similar to the serviee switch except that the cover is not provided with any mechanism for withinwing the fuses from the eireuit. They are so designed as to be used on the ontside of huidings or in cellars where the wires enter from the subway In the covers of the serviceswitehes are monted the fuse guides to positively align the fuses in order that the boxes may be readily relosed with the fuses properly engaging in the cut-ouis. Withdrawal hooks ar also momted in the eover. Those grasp the fuses when the ieverts oltsitle the boxes are given a one-quarter turn. Thus the fuses man be withdrawn from the circuit if desired when the boxes are opened.
"D \& W" Service Switches, 250 Volts

| List <br> No. | Type | Ampere Capacity | Poles | Std. <br> 1kg. | $\begin{aligned} & \text { Pky. } \\ & \text { Net } \\ & \text { Wt. } \end{aligned}$ | $\begin{aligned} & \text { Mfrs. } \\ & \text { List } \\ & \text { Bach } \end{aligned}$ | *W.E. List lri e Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1910 | 1-15 | 0-30 | 2 | 25 | 175 lls . | 87.25 | \$10.sis |
| 1900. | 1-7 | 31- $\mathrm{i}^{(0)}$ | 2 | 25 | 22 c 12s. | 8.25 | 12.38 |
| 1901. | 1-8 | 61-100 | 2 | 2.5 | 450 lls | 12.50 | 18.76 |
| 1902. | 1-9) | 101-200 | 2 | 20 | 5 tiolls. | 120.6) | 80. 76 |
| 1903 | 1-10 | 201-400 | 2 | 20) | 020 lbs | 42. 00 | (i3). 06 |
| 1904. | 1-11 | 401-600) | 2 | 10 | cis0 lis. | 70.00 | 10.5.0\% |
| 1911. | 1-0) | 0-30 | 3 | 25 | 218 lms | !1.00 | 13.50 |
| 1005 | 1 | 31-60 | 3 | 25 | 275 lls | 10.00 | 15.00 |
| 1906. | 1-2 | (i1-100 | 3 | 25 | $5: 01 \mathrm{los}$ | 15.00 | $\because 2.50$ |
| 1007 | 1-3 | 101-200 | 3 | 20 | (i80 lhs. | 26.00 | 39.00 |
| 1908 | 1-1 | 201-400 | 3 | 20 | 11.40 lhas. | Fini.00 | 84.00 |
| 1909. | 1-5) | 401-600 | 3 | 10 | Scolbs. | 196.00 | 144.00 |

Note: For 1). C. Three-Wire Circuits these hoxes are equipued with two hooks on wated be individual levers, and for Multiple (ircuits with three hooks operated simmataneously by one lever. Conless otherwise specified, boxes for D. C. circuits will be shipped.
'D \& W" Fuse Boxes, 250 Volts

| List No. | Type | Ampere <br> Capacity | Poles | Std. Pkg. | $\begin{aligned} & \text { Fkg. } \\ & \text { Net } \\ & \text { Wt. } \end{aligned}$ | Mfrs. <br> List <br> Jach |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2210. | K-19 | 0-30 | 2 | 25 | $150 \mathrm{ll} \times$. | \$5.00 | \$7.00 |
| 2200. | K-20 | 31-60 | 2 | 25 | $1961 \mathrm{hs}$. | 6. 60 | 9.60 |
| 2201. | K-21 | (i1-100) | 2 | 25 | 389 ibs. | 8.10 | 12.60 |
| 2902. | K-2: | 101-20) | 2 | 20 | $4 \pi \mathrm{slos}$. | 17, \% | 21.26 |
| 2203. | K-23 | 201-400 | 2 | 20 | 780 lls. | 35.00 | 52.50 |
| 2204. | K-24 | 401-600) | 2 | 10 | 580 lis. | 22.50 | 78.76 |
| 2211. | K-25 | 0-30 | 3 | 25 | 100 lbs. | 6.50 | 9.76 |
| 2205. | K-26 | 31-60 | 3 | 25 | 235 lbs . | 8.00 | 12.10 |
| 2206. | K-27 | 61-100 | 3 | 25 | 470 lls. | 11.00 | 16.50 |
| 2207. | K-28 | 101-200 | 3 | 20 | 580 lhs . | 24.00 | 36.00 |
| 2208. | K-29 | 201-400) | 3 | 20 | 970 lls . | 47.50 | 71.26 |
| 2209. | K-30 | 401-600 | 3 | 10 | 748 lhs . | 187.00 | 115.50 |

[^64]
## "D \& W" SERVICE SWITCHES AND FUSE BOXES

for National code fuses
Waterproof


No. 1811
Service Switch


No. 1819
Service Switch


No. 1831
Fuse Bos


No. 1839
Fuse Box

The service switch is eonstructed for use both as a cut-out and a switeh. It consists of a set of enclosed fuses mounted in an iron box so that they ean be made to swing with the eover and opnome the circuit or to remain in the fuse clip while the cover is open. The fuse box is a device similar to the service switeh except that the cover is not provided with any mechanism for withdrawing the fuses from the eircuit. They are so designed as to be used on the outside of buildings or in eellars where the wires enter from the subway. In the covers of the service switehes are momnted the fuse guidns to positively align the fuses in order that the boxes may be readily closed with the fuses properly engaging in the cut-outs. Withdrawal hooks are also mounted in the cover. These grasp, the fuses when the levers outside the boxes are given a one-quarter turn. Thus the fuses can be withdrawn from the circuit if desired when the boxes are opened.
"D \& W" Service Switches, 600 Volts

| List No. | Type | Ampere <br> Capacity | I'ol s | Std. <br> 1'k. | Pkg. <br> Net <br> Wt. | Mfrs. list lach | *iist <br> Price <br> Eath |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1811 | () | 0-30 | 2 | 25 | 3010 lbs . | 83,25 | \$12.3is |
| 1812 | ()-2 | 31-10 | $\because$ | 95) | $33^{2} \mathrm{lbs}$. | 10.00 | 1500 |
| 1813 | O-3 | 61-100 | 2 | 25 | 500 ils . | 17, 51 | 26.26 |
| 1814 | O-4 | 101-20) | $\because$ | 20 | Gif) ils. | 35.00 | -i. 50 |
| 1815 | O-5 | $201-400$ | 2 | 30 | 1000 ltse. | (1). (h) | $1 \because 000$ |
| 1816 | O-6 | 401-100) | 2 | 10 | 818 ll s S. | 1330.00 | 11950 |
| 1817 | O-7 | 0-30 | 3 | 2.5 | 400 lbs. | 10.00 | i.) 00 |
| 1818 | 0)-8 | 31-60 | 3 | 25 | 432 ll \% | 12.00 | is.00 |
| 1819 | ()-9 | 61-100 | 3 | 25 | $732 \mathrm{lts}$. | 23.00 | 34.50 |
| 1820 | (1-10 | 101-200 | 3 | 20 | (128 ms. | 42.00 | 13.300 |
| 1821 | ()-11 | 201-409 | 3 | 20 | 1840 lhes. | 102.00 | 1.33 .00 |
| 1822 | O-12 | 401-100) | 3 | 10) | 1168 lbs . | 17.5.00 | 2102 30 |

## "D \& W" Fuse Boxes, 600 Volts

| List No. | 'Ype | Ampere Capacity | Poles | Sta. l kg . | lkg. <br> Net <br> Wt. | Mfrs. <br> List <br> Fach | $\begin{aligned} & \text { *List } \\ & \text { Price } \\ & \text { Fach } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1831 | 1. | (1-30 | 2 | 25 | $26^{2} \mathrm{lbs}$ | \$1.00 | \$9.00) |
| 1:332 | 1.-2 | 31-60 | 2 | 25 | 325 lbs . | 7.50 | 11.26 |
| 1833 | L-3 ${ }^{\text {a }}$ | (i1-100) | 2 | 25 | 450 lhs . | 16.00 | 24.00 |
| 1834 | 1.4 | 101-300 | 2 | 20 | 560 lbs . | 28.00 | $\because 6$ |
| 1835 | 1-5 | 201-400 | 2 | 20 | 9.50 lbs . | 13.3 .00 | 64.50 |
| 1836 | 1 -1i | 401-600 | 2 | 10 | 785 lbs . | (00) 60 | 150.00 |
| 1837 | 1,-7 | 0-30 | 3 | 25 | 344 hs . | \&.00 | 12.00 |
| 1838 | L.-8 | 31-60 | 3 | 25 | 3 Ss lms . | 9.50 | 14.20 |
| 1839 | $1,-9$ | 61-100 | 3 | 25 | (\%)2lbs. | 20.00 | 30.19 |
| 1840 | L-10 | 101-900 | 3 | 20 | 870 lbs. | 42.00 | (i3. (\%) |
| 1841 | L-11 | 201-400 | 3 | 20 | 1760 lbs . | 83.00 | 126.00 |
| 1842 | L-12 | 401-b00 | 3 | 10 | 1112 lbs . | 133.00 | 205. 0 |

[^65]

For Type SA Stock Panels


## Description and Specifications

Standard Unit Panels: Stock panels are made in standard mits of $4,6,8$ and 10 eireuits only; in $2-2$ and $3-2$ wire.

Bases: The bases are molded of strong high-grade, fireproof composition which has high dielectric strength, and is unaffected ly heat, moisture, oil or acids.

Bus Bars: The bus bars are formed from hard drawn copper and are concealed in the base. Brancin lus bars are double riveted to the mains, which insures a safe and permanent connection under all conditions, both mechanically and electrically.

Circuit Switches: Type SA stock panels are arranged for three styles of 10-ampere enclosed switches in branches: Rotary snap switches with polished copper covers, rotary snap switches with composition covers, and push switches with composition covers; also for 30 -ampere knife switches in branches.

Barriers: Barriers illustrated on this page and listed with stock panels are $3 / 8$ inch thick, slotted to receive branch circuit and main wires, and arranged to telescope the panel. They are held rigidly in position by slotted corner irons so constructed that by loosening two wing nuts any side of the frame may be adjusted readily, or removed completely, without interfering with the other sides.

Weight and Size: Stock panels weigh less than 50 per cent. of any corresponding size and type of shate panel board. In square inches of space occupied they are, circuit for circuit, the smallest panel boards made.

Packing: Stock panels are put up in individual boxes, so labeled that each panel may be identified on the shelf in stock. 4-circuit '「ype RA stock panels are packed in standard packages of twelve. 6, 8 and 10 -circuit Type IRA pancls are packed in standard packages of six. Types $S A$ and $S B$ are packed in individual cartons only. Barriers are packed in individual labeled boxes, with necessary corner irons and wing nuts, complete for each size of pancl.

Stock panels are divided into several types as described below:
Type RA stcek panels have Edison plug fuse receptacles only in branches. Panels only and barriers only are shown on the following pages. These panels with eabinets, but without barriers, are shown and listed under Type RC, on another page.

Type SA stock panels have fuse receptacles as above, together with snap, knife or push switehes in branches, and are listed with barriers. These panels with cabinets, but without barriers are shown and listed under Type SC, on another page.

Type SB dead front stock panels and barriers are listed on the following page.

# BENJAMIN-STARRETT STOCK PANEL BOARDS 

National Electrical Code Standard



No. 75006


No. 75056

TYPE RA
4, 6, 8 and 10 Circuit Panels Only-Without Cabinets Mains- 2 or 3 Wire, 125 Volts, With Lugs Only Branches-With Edison Plug Fuse Receptacles Only

Bases: Strong, fireproof composition,
Bus Bars: Ifard drawn eopper, concealed in base.
Finish: Bases, deallhack; terminals, bright copper, lacquered.

| 2 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Mo. } \\ & \text { (ir } \end{aligned}$ | -Panel Only- |  | -Barrier Only - |  | Depth of Size of Panel- Cabinet |  |  |
|  |  | 1. E. |  | W. E. |  |  |  |
|  | Jist | Prico | List | Price |  | hes | Required |
|  | No. | Each | No. | Each | Width | Height | Inches |
| 4 | 7.0004 | \$8.26 | 80044 | 84.80 | 51\% | 85\% | $31 / 2$ |
| ( | 7.0006 | 11.02 | 800.413 | 5.83 | $51 / 8$ | 115/8 | $31 / 2$ |
| 8 | 76008 | 13.61 | 80048 | 6.18 | $51 / 8$ | 145\% | 31 |
| 10 | 78010 | 16.20 | 810050 | 6.80 | $51 / 8$ | 175/8 | 31 |

3 Wire Mains, 125 Volts

| $\begin{aligned} & \text { No. } \\ & \text { (iir. } \end{aligned}$ | Panei Onl. |  | -Barrier Only- |  |  |  | Depth of Cabinet |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | W. E |  | W, E. |  |  |  |
|  | IList | Prico | List | Price |  | Pes | Required |
|  | No. | Each | No. | Each | Width | Height | Inches |
| 4 | 750:4 | 88.59 | 8007.1 | \$5. 67 | \%1\% | 85\% | 31.2 |
| 16 | 7.00:0 | 11.3 t | (1)076 | 5.94 | 518 | 115/8 | 31 |
| 8 | 750:8 | 14.09 | 801078 | 6.64 | 51's | 145/8 | 31 |
| 10 | 750) 6 | 16.N5 | 8(M)80 | 6.97 | 51/8 | 175/8 | $31 / 2$ |

TYPE SB—DEAD FRONT
4, 6, 8 and 10 Circuit Panels Only-Without Cabinets
Mains 2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and 10 Ampere Double-pole Push Switches with Dead Front Composition Covers

Bases: Strong, fireprof composition.
Bus Bars: Hard drawn copper, conccaled in base.
Terminals: Main and branch teminals have composition covers.

Finish: Dead black.
These dead front pancls are supplied in the same sizes as the regular stock panels, but with push switches in the branches only. lach unit is packed in a labeded box suitable for carrying on the shelf. In this type of dead front standand unit panel the main terminals are completely enclosed by fireproof, compusition covers. Branch has bars and branch terminals are protected by composition covers, which also enclose the switch mechanisms.

2 Wire Mains, 125 Volts


No. 75556

| No. | -Panel Only- |  | -Barrier Only- |  |  |  | Depth of |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | W. E. |  | W. E. | Siz | Paut |  |
|  | List | Price | List | Price |  | S | Reguired |
| Cir. | No. | Each | No. | Each | Width | Height | Inches |
| 4 | 75.504 | \$22.52 | 85044 | \$5.99 | $10^{5} 8$ | $85 / 8$ |  |
| 1 | 735006 | 31.10 | $8.70 \cdot 46$ | 6.32 | $105 \%$ | 115/8 |  |
| 8 | 75508 | 39.85 | 85048 | 6.97 | 105\% | 145/8 |  |
| 10 | 75510 | 48.11 | 55050 | 7.29 | 10,8 | $175 / 8$ |  |

3 Wire Mains, 125 Volts


# BENJAMIN-STARRETT STOCK PANEL BOARDS 

National Electrical Code Standard


No. 75104


No. 75254


No. 75304

4, 6, 8 and 10 Circuit Panels Only-Without Cabinets Mains-2 or 3 Wire, 125 Volts, With Lugs Only
Branches-With Edison Plug Fuse Receptacles and Switches
Bases: Strong, fircproof composition.
Bus Bars: Ilard drawn eopper, concealed in base.
Finish: l3ases, dead blark; terminals, polished copper, lacquered.

SNAP SWITCHES WITH POLISHED COPPER COVERS
2 Wire Mains, 125 Volts

| $\stackrel{\text { No. }}{\text { Cir. }}$ | -Panel Only-- |  | - Barrier Only- |  | Depth of |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Wi.E. |  | W. E. |  |  |  |
|  | List | Price | List | Price |  | Ses | Reruired |
|  | No. | Each | No. | Each | Width | Ileight | Inches |
| 4 | 75101 | \$18.9f | $8.504 t$ | \$6.00 | 105/8 | $85 / 3$ | $31 / 2$ |
| 6 | 75106 | 26.56 | $8: 046$ | 6.32 | $10^{5 \%}$ | 115/8 | $31 \%$ |
| 8 | 75108 | 34.34 | $8: 048$ | 6.96 | $10)^{5}$ | $145 / 8$ | $31 \%$ |
| 10 | 75110 | 41.64 | 85050 | 7.30 | 10.5 ${ }^{5}$ | $175 / 8$ | $31 \frac{1}{2}$ |

3 Wire Mains, 125 Volts

| 4 | 75154 | $\$ 20.26$ | 85074 | $\$ 6.32$ | 1058 | $85 / 8$ | $31 / 2$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 75151 | 27.54 | 85076 | 6.64 | $105 / 8$ | $115 / 8$ | $31 / 2$ |
| 8 | 75158 | 35.80 | 85078 | 7.30 | 1058 | 1458 | $31 / 2$ |
| 10 | $751(60$ | 43.74 | 85080 | 7.62 | 1058 | 1758 | $31 / 2$ |

SNAP SWITCHES WITH COMPOSITION COVERS
2 Wire Mains, 125 Volts

| 4 | 75204 | $\$ 18.96$ | 85044 | $\$ 0.00$ | $10^{5} 8$ | $85 / 8$ | $31 / 2$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 75206 | 26.56 | 8.046 | 6.32 | $100^{5} / 8$ | $115 / 8$ | $31 / 2$ |
| 8 | 5.5208 | 34.34 | 85048 | 6.96 | 1058 | $145 / 8$ | $31 / 2$ |
| 10 | 75210 | 41.64 | 85050 | 7.30 | $105 / 8$ | 1758 | $31 / 2$ |

3 Wire Mains, 125 Volts


No. 75454

PUSH SWITCHES WITH COMPOSITION COVERS

| 4 | 75.30 .4 | \$20. 26 | 85044 | \$0.00 | 105/8 | 85/8 | $31 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 75304 | 28.52 | 85046 | 6.32 | 105/8 | 115/8 | $31 / 2$ |
| 8 | 75.308 | 36.91 | 85048 | 6.56 | 105/8 | 145\% | $31 / 2$ |
| 10 | 75310 | 4.1.88 | 85050 | 7.30 | 105\% | 175\%8 | $31 / 2$ |
| 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| 4 | 7545.4 | \$21.54 | 85074 | \$0.32 | 105/8 | 85/8 | 31/2 |
| 6 | 75456 | 29.46 | 85076 | 6.64 | 105\% | 115\% | $31 / 2$ |
| 8 | 75458 | 38.40 | 85078 | 7.30 | 105\% | 14,\% | $31 / 2$ |
| 10 | 75460 | 46.98 | 85080 | 7.62 | 105/8 | 175/8 | $31 / 2$ |

## BENJAMIN-STARRETT STOCK PANEL BOARDS IN CABINETS

## National Electrical Code Standard



No. 76006
Panel with Surface Cabinet 2-wire Main


No. 77056
Panel with Flush Cabinet 3-wire M:!in


No. 77106
Panel with Flush Cabinet 2-wire Main


No. 76156
Panel with Surface Cabinet 3-wire Main

With $11 / 2$ Inch Wiring Space All Sides of Panel
Bases: Strong, fireproof composition.
Bus Bars: Hard drawn copper, concealed in base.
Boxes: No. 14 gauge sted, with $11 / 2$ inch wiring space all sides of panel; 1'́ inch knockouts all around, arranged for wires to leave cabinet directly opposite their terminal connections.

Doors: For surface installation, No. 14 gauge steel flanged door hinged to side of box.

Fronts: For flush installation, No. 14 gauge steel. Door is hinged to matt and closes against $1 / 4$ inch rabbet. Matt extends beyond box on all sides. All doors have combined latch and knob.

Locks: Cylinder lock and key furnished at $\$ 1.72$ advance in list price.

## TYPE RC

4, 6, 8 and 10 Circuits Only-With Cabinets-No Barriers Mains-2 or 3 Wire, 125 Volts, With Lugs Only Branches-With Edison Plug Fuse Receptacles Only 2 Wire Mains, 125 Volts
Combination List Prico Panel with Cabinet
-Surfare Cabinet---Flush Cabinet--
Flanged loor Plain Front

| $\stackrel{\text { No. }}{\text { Cir. }}$ | Flanged loor |  | Plain Front |  | -Dimensions of Cabinet- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | W. E. |  | IV. F. |  |  |  |
|  | List | Price | List | Price | Sizo in | Inches, |  |
|  | No. | Each | No. | Fach | Wirdth | Height | Depth |
| 4 | 76004 | \$14.7t | 77004 | \$21.23 | $81 / 4$ | 113/4 | $33 / 4$ |
| 6 | 76006 | 17.is) | 77006 | 23.98 | 81/4 | $143 / 4$ | $33 / 4$ |
| 8 | 76008 | 20.74 | 77008 | 27.54 | $81 / 4$ | $173 / 4$ | $33 / 4$ |
| 10 | 76010 | 23.98 | 77010 | 31.10 | $81 / 4$ | 203/4 | 33/4 |

3 Wire Mains, 125 Volts
Combination Iist Price Panel with C'ahinet
-Surfare Cabinet---Flush Cabinet -
Flanged loor Pain Front

| $\mathrm{N}^{\text {No. }}$ | W. F. |  |  | II. F. | -Dimensions of Cahinet- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | Price | List | Price | Size i | Inches, | tside |
| Cir. | No. | Each | No. | Each | Width | Height | Depth |
| 4 | 760:34 | 815.0 | 7305 | \$21.it | 81/4 | $113 / 4$ | \% |
| 6 | 76050 | 17.82 | 780.56 | 24.30 | 81/4 | $143 / 4$ |  |
| 8 | 76058 | 21.22 | 7.058 | 2s.02 | 81/8 | $17^{3} 4$ | 3 |
| 0 | 760t0 | 24.62 | 770150 | 31.76 | 81/4 | 203/4 | 3 |

## TYPE SC

## 4, 6, 8 and 10 Circuits Only-With Cabinets-No Barriers <br> Mains- 2 or 3 Wire, 125 Volts, With Lugs Only

Branches-With Edison Plug Fuse Receptacles and Snap
Switches With Polished Copper Covers
2 Wire Mains, 125 Volts
Combination I.ist Price
Panel with Cabinet
-Surface Cabinet--Flush Cabinet-
Flanged Door Plain Front


3 Wire Mains, 125 Volts
Combination List Price
Panel with Cabinet
-Surface Cabinet--Flush Cabinet-5 Flanged Door Plain Front
No.
Cir.
4
6
8
8
10
List
No.
77154
77150
7158
76160

# BENJAMIN-STARRETT STOCK PANEL BOARDS IN CABINETS 

National Electrical Code Standard

Schedule 8

## With $11 / 2$ Inch Wiring Space All Sides of Panel



No. 77206
Panel with Flush Cabinet
2-wire Main


No, 77356
Panel with Flush Cabinet 3-wire Main


No, 76406
Panel with Surface Cabiect 2-wire Main


No, 77456
Parel with Flush Cabinet 3-wire Main

Bases: Strong, fireproof composition
Bus Bars: Hard drawn copper, concealed in base
Boxes: No. 14 gauge steel, with $11 / 2$ inch wiring space all sides of panel; $1 / 2$ inch knockouts all around, arranged for wires to leave cabinet directly opposite their terminal connections

Doors: For surface installation, No. 14 gauge steel flanged door, hinged to side of box.

Fronts: For flush installation, No. 14 gauge steel. Door is hinged to matt and closes against $1 / 4$ inch rabbet. Matt extends beyond box on all sides.

All doors have combined lateh and knob.
Locks: Cylinder lock and key furnished at $\$ 1.78$ advance in list price.

TYPE SC
4, 6, 8 and 10 Circuits Only-With Cabinets-No Barriers Mains- 2 or 3 Wire, 125 Volts, With Lugs Only Branches-With Edison Plug Fuse Receptacles and Snap Switches with Composition Covers 2 Wire Mains, 125 Volts
Combination Iist Price
Panel with ('abinet
-Surface Cabinet-...-Flush Calinet-.
Flanged Door llain Front

| $\begin{aligned} & \text { No. } \\ & \text { Cir, } \end{aligned}$ |  |  |  |  | -Dimensions of Cabinet- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | W. E. Price | List | W. F. |  |  |  |
|  | No. | Each | No. | Price | Size i | Inches | de |
| 4 | 76204 | \$25. 76 | 77204 | \$3:3•39 |  |  |  |
| ${ }^{6}$ | 76206 | 34.02 | 77201 | 41.80 | 133 |  |  |
| 8 | 76208 | 42.44 | 77208 | 50.38 | $133 / 4$ | $173 / 4$ | 33 |
| 10 | 76210 | 50.38 | 77210 | 58.48 | $133 / 4$ | $203 / 4$ | $33 / 4$ |


| 4 | 76254 | $\$ 27.05$ | 77254 | $\$ 34.67$ | $133 / 4$ | $113 / 4$ | $33 / 4$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 76256 | 34.99 | 77250 | 42.77 | $133 / 4$ | $143 / 4$ | $33 / 4$ |
| 8 | 76258 | 43.90 | 77258 | 51.84 | 13334 | $173 / 4$ | $33 / 4$ |
| 10 | 76260 | 32.49 | 77200 | 60.59 | $133 / 4$ | $203 / 4$ | $33 / 4$ |

TYPE SC
4, 6, 8 and 10 Circuits Only-With Cabinets-No Barriers
Mains- 2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and 30 Ampere Knife Switches
2 Wire Mains, 125 Volts

| 4 | 76304 | $\$ 20.57$ | 77304 | $\$ 28.19$ | $133 / 4$ | $113 / 4$ | $33 / 4$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | $76304 j$ | 26.24 | 77306 | 34.02 | $133 / 4$ | $143 / 4$ | $33 / 4$ |
| 8 | 76308 | 32.08 | 77308 | 40.01 | $133 / 4$ | $173 / 4$ | 33 |
| 10 | 76310 | 37.42 | 77310 | 45.52 | $133 / 4$ | $203 / 4$ | $33 / 4$ |

3 Wire Mains, 125 Volts

| 4 | 76354 | $\$ 21.87$ | 77354 | $\$ 29.48$ | $133 / 4$ | $113 / 4$ | $33 / 4$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 76356 | 27.22 | 77356 | 34.99 | $133 / 4$ | $143 / 4$ | $33 / 4$ |
| 8 | 763.58 | 33.53 | 77358 | 41.47 | $133 / 4$ | $173 / 4$ | $33 / 4$ |
| 10 | 76360 | 39.52 | 77360 | 47.63 | $133 / 4$ | $203 / 4$ | $33 / 4$ |

TYPE SC
4, 6, 8 and 10 Circuits Only-With Cabinets-No Barriers
Mains- 2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and Push Switches with Composition Covers 2 Wire Mains, 125 Volts

| 4 | 76404 | $\$ 27.05$ | 77404 | $\$ 34.67$ | $133 / 4$ | $113 / 4$ | $33 / 4$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 76406 | 35.90 | 77406 | 43.74 | $133 / 4$ | $143 / 4$ | $33 / 4$ |
| 8 | 76408 | 45.04 | 77408 | 52.97 | $133 / 4$ | $173 / 4$ | $33 / 4$ |
| 10 | 76410 | 53.62 | 77410 | 61.72 | $133 / 4$ | $203 / 4$ | $33 / 4$ |
| 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| 4 | 76454 | $\$ 28.35$ | 77454 | $\$ 35.96$ | $133 / 4$ | $113 / 4$ | $33 / 4$ |
| 6 | 76456 | 36.94 | 77456 | 44.71 | $133 / 4$ | $143 / 4$ | $33 / 4$ |
| 8 | 76458 | 46.49 | 77458 | 54.43 | $133 / 4$ | $173 / 4$ | $33 / 4$ |
| 10 | 76460 | 55.73 | 77460 | 63.83 | $133 / 4$ | $203 / 4$ | $33 / 4$ |

## BENJAMIN-STARRETT STOCK PANEL BOARDS IN CABINETS

National Electrical Code Standard



No. 76506
Panel with Surface Cabinet 2-wire Main


No. 775.56
Panel with Flush Cabinet 3-wire Main


No. 766\#6
Panel with Surface Cabinet 2-wire Main


No. 77756
Panel with Flush Cabinet 3 -wire Maid

## With 3 Inch Wiring Gutter All Sides of Panel

Bases: Strong, fireproof composition.
Bus Bars: llard drawn copper, concealed in base.
Barriers: $3 / 8$ inch composition and adjustable.
Boxes: No. 14 gauge steel, with 3 inch wiring gutter on all sides of panel; $1 / 2$ inch knockouis all around.

Fronts: No. 14 gauge steel. Door is hinged to matt and closes against $1 / 4$ inch rabbet. Natt extends beyond box on all sites.

Locks: All doors have cylinter lock and key.

## TYPE RC

4, 6, 8 and 10 Circuits Only-With Cabinets and Barriers
Mains-2 or 3 Wire, 125 Volts, with Lugs Only Branches-With Edison Plug Fuse Receptacles Only

2 Wire Mains, 125 Volts
Combination List Price
Panel with Jarrier and C'abinet
-Surface Cabinet-~-Flush Cabinet-
Plain Front Plain Front

| $\begin{aligned} & \text { No. } \\ & \text { Cir. } \end{aligned}$ |  | W. E. |  | W. E. | -Dimensions of Cabinet- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | Price | List | Price | Size | Inches, | stside |
|  | No. | Each | No. | Each | Width | Height | Depth |
| 4 | 76.504 | \$28.36 | 77504 | \$28.36 | 121/4 | $153 / 4$ | 33/4 |
| 6 | 76.504 | 32.40 | 77506 | 32.40 | 121/4 | 183/4 | 334 |
| 8 | 76.508 | 316.62 | 77.508 | 36.62 | 1214 | 213/4 | $33 / 4$ |
| 10 | 76510 | 40.50 | 75510 | 40.50 | 121/4 | $243 / 4$ | $33 / 4$ |
| 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| 4 | 7(3).54 | \$28.84 | 775.54 | \$28.84 | 121/4 | 153/4 | $33 / 4$ |
| 6 | $7{ }^{\text {a }}$ | 32.88 | 77.506 | 32.88 | $121 / 4$ | $183 / 4$ | $33 / 4$ |
| 8 | 713508 | 37.26 | 775.58 | 37.26 | 121/4 | 213/4 | $33 / 4$ |
| 10 | 765100 | 41.32 | 77560 | 41.32 | 121/4 | $243 / 4$ | $33 / 4$ |

TYPE SC
4, 6, 8 and 10 Circuits Only-With Cabinets and Barriers
Mains -2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and Snap Switches with Polished Copper Covers

2 Wire Mains, 125 Volts

| 4 | 76604 | \$42.94 | 77604 | \$42.94 | 173/4 | $1: 534$ | 33/4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 7660 | 51.84 | 77606 | 51.84 | $173 / 4$ | 183/4 | $33 / 4$ |
| 8 | 76008 | 61.24 | 77608 | 61.24 | $173 / 4$ | $213 / 4$ | $33 / 4$ |
| 10 | 76610 | 69.82 | 77610 | 69.82 | $173 / 4$ | 243/4 | $33 / 4$ |
| 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| 4 | 766:4 | \$44.55 | 776.54 | \$44.56 | 173/4 | 153/4 | 4 |
| 6 | 76950 | 53.14 | 77654 | 53.14 | $173 / 4$ | 183/4 | $33 / 4$ |
| 8 | 766158 | 63.02 | 77658 | 63.02 | $173 / 4$ | $213 / 4$ | 33 |
| 10 | 76660 | 72.26 | 77660 | 72.26 | $173 / 4$ | $243 / 4$ | 3 |

## TYPE SC

4, 6, 8 and 10 Circuits Only-With Cabinets and Barriers
Mains 2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and Snap: Switches with Composition Covers

2 Wire Mains, 125 Volts

| 4 | 76704 | $\$ 42.94$ | 77704 | $\$ 12.94$ | $173 / 4$ | $153 / 4$ | $33 / 4$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 76706 | 51.84 | $77706 ;$ | 51.84 | $173 / 4$ | $183 / 4$ | $33 / 4$ |
| 8 | 76708 | 61.24 | 77708 | 61.24 | $173 / 4$ | $213 / 4$ | $33 / 4$ |
| 10 | $7(5710$ | 69.82 | 77710 | 69.82 | $173 / 4$ | $243 / 4$ | $33 / 4$ |
| 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
| 4 | 76754 | $\$ 44.56$ | 77754 | $\$ 44.56$ | $173 / 4$ | $153 / 4$ | $33 / 4$ |
| 6 | 76756 | 53.14 | $777.5 ;$ | 53.14 | $173 / 4$ | $183 / 4$ | $33 / 4$ |
| 8 | 76758 | 63.02 | 77758 | 63.02 | $173 / 4$ | $213 / 4$ | $33 / 4$ |
| 10 | 76760 | 72.26 | 77760 | 72.26 | $173 / 4$ | $243 / 4$ | $33 / 4$ |

## BENJAMIN-STARRETT STOCK PANEL BOARDS IN CABINETS

National Electrical Code Standard

Schedule 8


No. 76806
Panel with Surface Cabinet 2-wire Main


No. 77956
Panel with Flush Cabinet 3-wire Main


No. 76936
Panel with Surface Cabinet 2-wire Main

With 3 Inch Wiring Gutter All Sides of Panel
Bases: Strone, firoprof eomposition.
Bus Bars: Maril drawn erpper, comecaled in base.
Barriers: 3 is inch composition and adjustable.
Boxes: No. If gange stech, with 3 inch wiring gutter on all sides of panel; $\frac{1}{2}$ inch knockouts all around.

Fronts: No. 14 gituge steel. Joor is hinged to matt and clonss against $1 / 4$ inch rabbet. Matt extemls beyond box on all sides.

Locks: .Ill doors have cylinder lock tum key.
TYPE SC
4, 6, 8 and 10 Circuits Only-With Cabinets and Barriers
Mains-2 or 3 Wire, 125 Volts, With Lugs Only Branches-With Edison Plug Fuse Receptacles and 30 ampere Knife Switches
2 Wire Mains, 125 Volts
Comhination Jist Irice
Panel with Barrier and Cabinet
-Surface Cabinet-- Mush Cabinet-

| (if. | Surface Cabinet-- Mash Cabinet- |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List | W. E. |  | II. F.. | - Dimensions of Cahinet- |  |  |
|  |  | Price | I.ist | Price | Size | lnches, | side |
|  | No. | Each | Ni. | Larh | Widtt | Iteight | Hepth |
| 1 | $7680 \cdot 4$ | \$37.75 | 77804 | \$37.75 | 173 | $10^{-3} 4$ | $3^{3}{ }^{3}$ |
| 6 | 718015 | 44.06 | 77806 | 4.4.0i | 173 | 183/4 | 8 |
| 8 | 7 fis08 | 50.87 | 75808 | 50.87 | 173 | 213.4 | $33 / 1$ |
| 10) | 76810 | 56.81 | 75810 | 5ti. Ni | 173 | 2.4314 | 33 |

3 Wire Mains, 125 Volts

| 4 | 768.54 | \$39.37 | 77 Sit | \$39.37 | $17^{3}$ | $10^{3} 4$ | 33.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | $768: 5$ | 45.36 | 7\%Rit | 4.).36 | 1734 | $18^{3}$ | $33 / 4$ |
| 8 | 76858 | 52.10 | 77808 | 52.6 | $173 / 4$ | 213/4 | 3/4 |
| 10 | 76810 | 5! . 29 | 77860 | 59.29 | 173 | $243 / 4$ | 33/4 |

## TYPE SC

4, 6, 8 and 10 Circuits Only-With Cabinets and Barriers Mains-2 or 3 Wire, 125 Volts, with Lugs Only
Branches-With Edison Plug Fuse Receptacles and Push Switches with Composition Covers

2 Wire Mains, 125 Volts

| 4 | 76904 | \$44.23 | 7790.1 | $S+1.23$ | $17^{3}$ | $15^{3}$ | 334 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 7ical) | $5 \% .78$ | \%70nt | 53.78 | $173 /$ | 183, | 334 |
| 8 | 7 7i90) | (i3. 8.3 | -700) | (33.8:3 | 173 | $213 / 1$ | $3{ }^{3} 4$ |
| 10 | 76910 | 73.065 | 75910 | $7: 06$ | 173 ' | 2.43 | 33 |


| 4 | 70934 | \$43. Si | 77!.) 1 | \$45.85 | 17.' | $15^{3}$. | 33 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ij | 7 79, ${ }^{\text {a }}$ | 5.0 .0x | 769\%t | 5\%).08 | $17^{3} 4$ | 183/4 | 331 |
| 8 |  | 6.).131 | 77 7. ${ }^{8}$ | 6.i. 61 | $17^{3}{ }^{3}$ | $213 / 4$ | 33 |
| 10 | 71060 | 75.49 | 7790 | 75.19 | 173/ | 243/4 | 334 |

## TYPE SC-DEAD FRONT



No. 77986
Panel with Flush Cabinet 3-wire Main


Tyne RAlanel with Mounting Plate


Showing Back View of Plate with Offset for Air Space


Type SA Panel
with Mounting plate


Diagram for Types RA and RG Panels


## For Types RA, SA, SB, RG and SG Panels

Standard unit panels of the above types are provided with sperial mounting plates. Front and back views of these plates, as they appear when attached to pancls, aro illustrater above.

Datatuldiagrams giving the necessary information for drilling cathinds are given bolow.

Gabinets should bedrilled and taperel for four : $x$ inch No. 14-20 machine screvs, which are furnished with the panels.

The Underwriters rofuire an air space bohind mand when mounted in cabinet. This is provided for by an uffer in the mounting phate, as shown.

The four mounting holes in phates are ? 负inch in dianof (er so that adjustments can be made where necessary on aceount of inaceuracy in locating tapped holes in cabined.

Where barriors are used, the cormor irons sumporting themare fastened to thesemounting plates by four serews, furnished with the barriers.
lanel eomplete with barrier may be lifted from eabinet as one unit aftor the removal of four monnting plate sorews or the barrier only may he taken out as a mat after the removal of four screws fastening harrier comer irons to mounting plates.

Fipecial mounting plates, together with the neeessary serews and washers for attaching to panol, are packed, unassemblerl, with the panels.

## Locations of Mounting Holes

Fixed dimensions are sum by figures in diagrams. Iatters indicate variable dimensions, which are explained in tablos.

For Types RA and RG Panels

| No. of (ireuits |  | Dimen. |
| :---: | :---: | :---: |
|  | Mains | Ins, A |
| 4 | 2 and 3 wire | 53,4 |
| 1 | 2 and 3 wire. | $83 / 4$ |
| 8 | 2 and 3 wire. | 113/4 |
| 10) | 2 and 3 wire. | 143/4 |
| For Types SA, SB and SG Panels |  |  |
| No. of (ircuits |  | Dimen. |
|  | Mains | Ins. 13 |
| 4 | 2 and 3 wire | $53 / 4$ |
| 1, | 2 andi 3 wire. | $83 / 4$ |
| 8 | 2 and 3 wire. | $113 / 4$ |
| 10 | 2 and 3 wire. | 143/4 |

## BENJAMIN-STARRETT CABINETS

National Electrical Code Standard

## For Panels Numbered 75004 to 75410 Inclusive

## CABINETS FOR TYPE "RA" STOCK PANELS



Styie "C' Cabinet


| List <br> No.of <br> Рauel | Size of l'anel Inches |  | Strle ". 1" surfaca("ab). |  | Stule "13" f"lish ("ah. |  | $\begin{gathered} \text { Stule "C"' } \\ \text { Surface ("ab. } \end{gathered}$ |  | Style "I'" <br> Flush (:ab. |  | Dimension of (ab). Nize Inchos, Inside |  |  | Dimension of ('ab Nize Inches. Inside |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Width | Height | $\begin{aligned} & \text { Tist } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} \text { W: Li } \\ \text { Jist } \\ \text { T'rice } \end{gathered}$ | $\begin{aligned} & \text { List } \\ & \text { Niso, } \end{aligned}$ | $\begin{aligned} & \text { W.it } \\ & \text { I.ist } \\ & \text { I'rice } \end{aligned}$ | $\begin{aligned} & \text { I.ist } \\ & \mathbf{N}_{\mathbf{o}} . \end{aligned}$ | $\begin{array}{\|l} \text { W. } \mathrm{li} \\ \text { List } \\ \text { Price } \end{array}$ | $\begin{aligned} & \text { I.ist } \\ & \text { Noo. } \end{aligned}$ | $\begin{aligned} & \text { W. E. } \\ & \text { I.ist } \\ & \text { I'rice } \end{aligned}$ | Styles "A" and "I3" |  |  | Styles " $\mathrm{C}^{\prime \prime}$ and "ID" |  |  |
|  |  |  |  |  |  |  |  |  |  |  | Tid | Hem |  | Width | Heimit | $1)$ |
| 75 |  |  | 57004 | 37.70 | 57104 | \$13.08 | 57204 | \$15.39 | 57304 | \$15.39 |  |  |  |  | 1 |  |
| 75 |  | $115 / 8$ | $57(4) 9$ 57008 | 8.04 8.39 | 57106 $\overline{57108}$ | 14.23 | 57208 57208 | 16.42 | 57306 | 16.42 <br> 17 <br> 18 | 8 | $1{ }^{14^{5}}$ |  |  | 18 |  |
| 75010 | * | 175\% | 57008 57010 | 8.39 9.07 | ${ }^{\text {a }}$ | 15.71 15 | [ 57 | 18.47 | [137308 | 17.44 | 818 | $20^{5}$ | $3^{3}$ | 121\% | 21 |  |
| 750.). | 5 | 85\% | 57004 | 7.70 | $5710 \pm$ | 1368 | 57204 | 15.39 | 57304 | 15. 39 | $81 / 8$ | $11^{5 \%}$ | 334 | 121* | 1.5. |  |
| 75056 |  | 115/8 | 57006 | 8.04 | 57104 | 14.20 | 57206 | 16.42 | 57300 | 16.42 | $81 / 8$ | $14{ }^{\text {1 }}$ | 33 | 121/w | 18: |  |
| 750.58 |  | $145 \%$ | 57008 | 8.39 | 57108 | 14.71 | 57208 | 17.4 | 57308 | 17.44 | $81 / 8$ | 175 | 33 | 121 | $21^{5}$ |  |
| 75060 | 5 | 17.48 | 57010 | 9.07 | 57110 | 15.73 | 57210\| | 18.47 | 57310 | 18.47 | $81 / 8$ | 205 |  |  |  |  |

## CABINETS FOR TYPE "SA" STOCK PANELS



Style '"C' Cabinet

| $\begin{aligned} & \text { Tist } \\ & \text { Corof } \\ & \text { f'anel } \end{aligned}$ | Size of Panel Inches |  | Style "A" |  | $\begin{aligned} & \text { Nrle "13" } \\ & \text { Flush ("ab } \end{aligned}$ |  | $\begin{gathered} \text { Strle "(". } \\ \text { Surface ('ato. } \end{gathered}$ |  | $\begin{aligned} & \text { Novle "jp" } \\ & \text { Flush Cab. } \end{aligned}$ |  | Dimension of (at). Size Inthos, Inside |  |  | Dimension of Cab. Size Inches, Inside |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Width | Ieigut |  | E. | st | W | List | H. Is. list | ist | $\mathbf{W}: \mathbb{E}$ |  | "A" an |  |  | "C") all | ' |
|  |  |  |  | Irice | N | Iric | N0 | Price | Fo. | Price | -id |  | h | Width |  | h |
|  |  |  |  | \$8.89 | 4 | \$15.23 | 512.31 | , 12 | 57354 | 18.99 |  |  |  |  |  |  |
| 75 |  |  | 57 | 9.58 | 57156 | 110.07 | 57250 | 20.02 | 57356 | 20.02 |  |  |  |  |  |  |
| 75108 | 10 |  | 57058 | 10.26 | 57158 | 16.94 | 57208 | 21.011 | 57358 | 21.04 | 133/8 |  |  |  | 2158 |  |
| 75110 | 111 |  | 57060 | 11.94 | 57160 | 17.78 | 572i0 | 22.07 | 57360 | 2.207 |  | 20 |  |  | 24; 8 |  |
| 751: | 11 |  | 57054 | 8.89 | 57154 | 15.23 | $572 \overline{3}$ | 18.99 | 57354 | 18.09 |  | 11 | 3 |  |  | $33 / 4$ |
| 751 | 10 | 11 | 57054 | 9.58 | 57154 | 16.07 | 57.55 | 20.02 | 5.7350 | 20.02 |  |  |  |  | 15 | \% |
| 75 | 10 |  | 5705* | $10.26 i$ | 571.58 | 16.111 | 57258 | 21. 14 | 57358 | 21.04 |  |  |  |  |  |  |
| 75 | 11 |  | 570\% | 10.94 | 57160 | 17.78 | 57:10 | 22.167 | : 7360 | 22.07 |  | 20 |  |  |  | 33 |
| 75:20! | 10 |  | 57051 | 8.83 | 57151 | 15.23 | 53254 | 18.94 | :7354 | 18.9!) |  |  |  |  |  |  |
|  | 10 |  | 570512 | 9.78 | 571.50 | 16.117 | 57256 | 20.02 | $\because 7351$ | 20.02 |  |  | 3 |  | 185 |  |
| 75208 | 10 |  | 57058 | 1). 26 | 57158 | 16.911 | 57:55 | 21.04 | 57358 | 21.04 |  |  |  |  |  | $3 / 4$ |
| 75210 |  |  | 57000 | 10.94 | 57180 | 17.7N | 57:30 | 22.07 | $\because 7360$ | 22.07 |  |  |  |  |  | $\frac{1}{1}$ |
| 75251 |  |  | 5703! | 人. 89 | 57154 | 15.23 | 57251 | 18.94 | P7354 | 18.94) |  |  |  |  | 15 | $3{ }^{3}$ |
| 75254 | 10 |  | 57056 | 9.58 | 57160 | 16.07 | 57.35 | 20.013 | $\therefore 7350$ | 20.02 |  |  | , |  | 185 |  |
| 75:58 | 10 |  | 570.5 x | 10.26 | 57158 | $11^{17.01}$ | 57.258 | 21.04 | 57358 | 21.04 |  |  | 3 |  |  |  |
| 75: 50 | 10 |  | 57060 | 10.94 | 57160 | 17.78 | 5726 | 23.07 | 57360 | 22.07 |  |  |  |  |  |  |
| 75,304 | 10 |  | 57051 | 8.89 | 57154 | 15. 23 | 57254 | 18.99 | 57351 | 18.94 |  |  |  |  |  |  |
| $75 ; 30$ ( | 10 | 11 | 570.515 | 1. 5.8 | 571.5f | 16.07 | 57:5015 | 20.02 | \$7356 | 20.02 |  |  |  |  |  | $3{ }^{4}$ |
| 75.308 |  |  | 570.5 | 10.26 | 57158 | 118.94 | 57.258 | 21. 01 | 57358 | 21.04 |  |  |  |  | $215 / 8$ |  |
| 75.310 | 10 |  | 57060 | 10.94 | 57160 | 17.78 | 57260 | 22.07 | 27360 | $2 \div 2.07$ |  | 20 | $3^{3} 4$ | 175 | 215 | 33 |
| 75.354 | 10 |  | 5705 | 8.89 | 57151 | 1.5. $2: 3$ | 57254 | 18.99 | ¢735! | 18.99 |  | 11 | $33^{3}$ |  |  |  |
| 75350 |  |  | 57054 | 9. 5 5 8 | 57156 | 14.07 | 572.74 | 20.02 | 57350 | 20.02 | 13"\% | 11 | $3^{3} 3^{6}$ |  | 18 | 334 |
| 75358 | 10 | 14 | 570̇ | 10.26 | 57158 | 16.91 | 57258 | 21.04 | 27358 | 21.014 |  |  |  |  |  | $33 / 4$ |
| $75 ; 36$ | 10 | 17 | \%70 | 10.94 | 57160 | 17.58 | 57:6 | 22.07 | 57360 | 24.07 |  | 21 |  |  | $24^{5}$ | 4 |
| 7540 t |  | 8 | 57034 | 8.89 | 57151 | 15. 23 | 5725! | 18.99 | -37354 | 18.99 |  |  |  |  | 15.8 | 3 |
| 75406 |  |  | 570518 | 9.58 | 57156 | 16.07 | 57256 | 20.02 | . 3735 | 20.02 |  |  |  |  |  | , |
| 75408 |  |  | 570.58 | 10.26 | 57108 | 16. 94 | 572.08 | 21.04 | . 733 B | 21.04 | 1. |  | $33^{3}$ |  |  | 33 |
| 75410 | 105/8 | 175/8 | 157060 | 10.94 | 57160 | 17. | 5720 | 22.07 | . 57360 | 22.0 | 135/8 | 205/8 | $3{ }^{3}$ | 175/8 | $245 / 8$ | 33/4 |

## BENJAMIN-STARRETT CABINETS

National Electrical Code Standard
For Panels Numbered 75454
CABINETS FOR TYPE "SA" STOCK PANELS (Cont'd)


Style "A" Cabinet


Style "13' (Cabinet


Style "C:' Cabinet


Style "I'" Cabinet

| Jist No. of Panel | Nize of I'ancl Inches |  | $\left\lvert\, \begin{gathered} \text { Stule "A" } \\ \text { Surface C'al. } \end{gathered}\right.$ |  | Style "B"$\text { Flush }(\text { rab }$ |  | Style "("" Surface ('ab) |  | $\begin{aligned} & \text { Style "1" } \\ & \text { Flush ("at, } \end{aligned}$ |  | Dimension of ('ab. Niza Inches. Inside |  |  | Dimension of ( ${ }^{\circ}$ ab). Nize Inches, Inside |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Widtl | Height |  |  |  |  |  |  | ist |  |  | " ${ }^{\text {] }}$ " | [1] ${ }^{\text {a }}$ |  |  |  |
|  | - |  | No. | Iri | No. | Pr |  | Irice | No. | Price | $\overline{\text { W }}$ | gh | et | Width | Ilcight | 1)0pt |
| 75154 |  |  |  | \$8.89 | 57154 | \$15.23 | 57254 | \$19.00 | 57351 | \$19.00 |  | 115 |  |  |  |  |
| 75-5iti |  | 11: | 570516 | 9.5n | 57156 | 16.0\% | 57250 | 20.10 | 57.358 | 20.102 | $13^{5}$ ¢ | $11^{\prime \prime}$ | $3{ }^{3}$ | 17 | 18 | $3 / 4$ |
| 75158 | 105/8 | 115\% | 57058 | 10. 26 | 57158 | 16.0 .4 | 77258 | $\underline{21.04}$ | 57.358 | 21.04 | 135 | 1 |  | 17 | $21^{15}$ | 18 |
| 75:460 | $105 / 8$ | 17.5 | 57060 | 10.91 | 57160 | 17.7K | 57260 | 22.07 | 57360) | 22.07 | 13\% $3^{\circ}$ | (1) | , | 17 | 1 | 3 |

CABINETS FOR TYPE "SB" DEAD FRONT STOCK PANELS


Style "A" (Gabinet


Style "B'' Cabinet


Style "C'" Cabinet


Style "ID" Cabinet

| Jist No. of Panel | Size of Panel Inches |  | $\left\lvert\, \begin{aligned} & \text { Sty.fr"A" } \\ & \text { Surface Cab. } \end{aligned}\right.$ |  | Stole "13" Flush Cab. |  | $\left\lvert\, \begin{gathered} \text { Style "C" } \\ \text { Surfare Cab. } \end{gathered}\right.$ |  | $\begin{aligned} & \text { Style "1)"' } \\ & \text { Flush Cab. } \end{aligned}$ |  | Dimension of Cab . Size Inchers, Insiale |  |  | 1)imension of (ab. Nize Inehes, Insile |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Width | Heig |  | W. Fict | List | W.E. | bist |  |  |  |  | " 1 " and | $1{ }^{\text {" }} 13$ " | Stylus | "C" ${ }^{\text {a }}$ | (1) 15 |
|  |  | Ueig | No. | Price | No. | Price | No. | I'rice | No. | Jrice | Wi | Ictul | cp | Widtl | If cisht | 1 tent |
| 75.504 | 105\% | 8 | 5705.4 | 88.8! | 57154 | \$15.23 | 57254 | \$19.00) | 57351 | \$19.00 |  |  |  |  | 155/8 |  |
| 75.506 | 105\% | 1158 | 570519 | 9.54 | 57156 | 16.07 | 57256 | 20.02 | 57354 | 20.102 | 13:3\% | 115's | 33.4 | 17588 | 185/6 | $3^{3}{ }_{4}^{4}$ |
| 75.508 | 105988 | 14\% | 57058 | 10.26 | 57158 | 16.94 | 57258 | 21.04 | 57358 | 21.04 | $13^{5} 8$ | $17^{5}$ | 334 | 175/8 | 215 | $3{ }^{3}$ |
| 75.510 | 105\% | 175\% | 57060 | 10.91 | 57160 | 17.78 | 57260 | 22.07 | 57360 | 22.117 | $13^{5} 5$ | 20.s' | 331 | 175\% | $245 / 8$ | 33 |
| 75.55 | $1115{ }^{5 \prime x}$ | 85\% | 57051 | 8.89 | 57154 | 15.23 | 57254 | 19.00 | 57354 | 19.019 | 135/6 | 115 | [334 | 175\% | 155 | 3 |
| 75.535 | 10": ${ }^{\text {a }}$ | 115\% | 57050 | 9.56 | 57154 | 16.07 | 57256 | 210.02 | 57354 | 20.112 | $1: 35$ | 1.4 | $3{ }_{1}$ | 175. | 185 | 334 |
| 75 Sas | $10^{\circ}$ | 145\% | 570n\% | 10. 26 | 5715x | 16. 9.4 | 5725x | 21.14 | 5738 S | 21.14 | 133" ${ }^{\text {c }}$ |  | $3{ }^{3}$ | 1750 | 21 | 33 |
| 75550 | 105\% | $17^{5}$ | [57060) | 10.94 | 57160 | 17 Fs | 55 2001 | 22.07 | 57:3131 | 22.118 |  |  | 33, | 17 | 245/8 | $33 / 4$ |

## Benjamin-Starrett

## STANDARD UNIT PANELS

Used in phanning your wirine on dectric lighting installations will save time, material and labor: unavoidable when other designs of panel boards are specified.

# BENJAMIN-STARRETT RESIDENCE PANEL BOARDS 

National Electrical Code Standard



Typical Benjumin-Starrett Residence Panel Installation

Type $R$ D residence panels are standurd unit pands for residenwe lighting. They are of high quality and, at the same time, moderate in prios. The electrical apparatus which is visille in dwellings is an index to the character of the whole imstallation. Therefore, foun the siandmint of buyer, seller or renter, the appearance of the pancl board and its mountings shond indicate goality and good workmanship. The deniand of the present is for that timb of eleetrical instailation which is safe for the ocempants to handle when renewing fuses, which reduces the fire siak to a minimum, sind which with all these advantages, is still economical to install.

These residence panels confonn to the peculiar requirements of electrial installations in residences. They make a fireproof and permanent installation which will add value to any buikding. They also present structural advantages in the way of small saze, minimusu weight, unit mounting and ease of installation which recommend them to contraciors ind arehitento.

Residence Panels Units: Type RI) panels aro furnished in combination units only, that is, panels with cabinets. These pancls have fused knife switehes in mains, seaded meter loop connections, and are listed and supplied only in the followine sizes:

2-2 wire, in 3, 4 and 5 circuits. $3-2$ wire, in $4, f, 8$ and 10 circuits.
Bases: Bases are mate of strong. fireproof composition. Panel base is so constructed that when mounted in cabinet it covers the kack wiring space.

Bus Bars: Bus bars are o hard drawn eopper, concealed in the hase. Branch bus burs are double riveted to the mains, insuring a safe and permanent connection under all conditions, both mechanically and electrically.

Back Wiring Space: The residence panel is mounted on steel brackets in such a manner as to provide a wiring space between back of panel and cahinet. This space permits service and braneh circuit wires, as well as meter ioop connections, to be brought in from ary or all sifles of cabinet, and easily and quickly connected to proper ternizals. This feature enables the meter or meters to be set in any position relative to the panel in the cabinet. All of the elactrician's work can be done without bending conduit or using conduit fittings of any kind. This lessens lathor and decreases cost of installation materially.

Meter Seal: Meter loop connection is enclosed by a composition cover, and has provision for seal, to prevent tampering with connections.

Cabinets: Boxes for these panels are formed from one riece of No. 14 gauge steel, overlapping at the corners. They are provide! with $\frac{1}{2}$ inch knockouts on all four si des.

Doors: All doors are of No. 14 guge steel, and are equipped with combined lateh and knob. Door for surface mounting box is flanged all around, overtaping the bis. $1 / 2$ inch. It is hinged directly to the upper side of box and arranged io clase by gravity. Door for flush mounting cabinet is also hinged at top and arranged to close against a $1 / 4$ inch rabbet formed un box.

Matts: Made from No. 14 gauge steel. They extend beyond the box on all sides.
Finish: Cabinets are finished black. Bases of panels are dead black finish. Terminals are bright copper, lacquered.

# BENJAMIN-STARRETT RESIDENCE PANEL BOARDS 

National Electrical Code Standard Schedule 8



No. 76034


No. 77534

TYPE RD

## Mains-2 or 3 Wire, 125 Volts, with Fused Knife Switches

 Branches-With Edison Plug Fuse Receptacles OnlyBases: Strong, fireproof composition.
Bus Bars: IIard drawn copprer, concealed in hase.
Meter Loop: Neter loop comection covered and arranged for seal.
Conduits: Back wiring space makes it unnecessary for eonduits to enter cabinet direetly opposite terminals.

Boxes: No. It gauge steel, 1́2 inch knockouts all around.
Doors: For surface installation, No. 14 gauge sted flanged doots with combined latch and lock.
Fronts: For flush installation, No. 14 gauge steel. Door has eombined kateh and knob, is hinged to matt, and closes against a $1 / 4$ inch rabbet formed on the box.

## 3, 4 and 5 Circuits Only-With Cabinets <br> 2 Wire Mains, 125 Volts

| No. Cir. | $\sim$Combination List Price-Panel With <br> Surface Cabinet <br> Flanged Door <br> Flush Cabinet <br> Plain Front |  |  |  | -Dimensions of Cahinet-Size in Inches Outside |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | List No. | W. E. Price, Each | List No. | W. E. Price, Each | Width | Height | Depth |
|  | 76033 | \$13.94 | 77033 | \$19.12 | 15 | $6^{3} 8$ | 41/4 |
| 4 | 76034 | 16.04 | 77034 | 21.70 | 15 | $63 / 8$ | 41 |
| 5 | 76035 | 18.14 | 77035 | 24.30 | 18 | $63 / 8$ | 41/4 |
| 4, 6, 8 and 10 Circuits Only-With Cabinets 3 Wire Mains, 125 Volts |  |  |  |  |  |  |  |
|  | Combination List Price-Panel With Cabinet-  <br> Surface Cabinet <br> Flanged Door Plain Front |  |  |  | $\qquad$ |  |  |
| No. Cir, | List No. | W. E. Price, Each | List No. | W. E. Pr'ce, Each | Width | Height | Depth |
| 4 | 76534 | \$18.64 | 77534 | \$25.13 | 15 | 81/8 | $41 / 1$ |
| 6 | 76.36 | 21.38 | 77536 | 27.85 | 18 | $81 / 8$ | $41 / 4$ |
| 8 | 76538 | 24.78 | 77538 | 31.60 | 21 | 81/8 | $41 / 4$ |
| 10 | 76540 | 28.18 | 77510 | 35.32 | 24 | 81/8 | 41/4 |

## "SQUARE D" STEEL ENCLOSED SWITCHES



Fic. 3. No. 56342,3 Pole, 60 Amp., 500 Volts. A.C. Showing Detachible End Plates. The Ouickbreak Mechanism in These Switches Insures All Blades Opening at the Same Time.

## Description

"Square 1)" Stcel Fnclosed Switches are designed for use in connection with installations whenever it is desirable to completely enchose all serminal wires and live parts for the advancement of "Safery llir.it" principins, standardization of equipment, the prevention of tampering with circuits and the elimination of accident biszards.

## SAFETY

The switeh and entout unit are enmplotely; enclosed in a sheet ateel box provided with a hingel cover which is helet elosed with a simple spring catch. 'l'he switeh is operated hy a erank handle located outaicte the box. The switeh may be lucked in the "off" fosition to prevent aceidents while repairs are made on apparatus controlled lne the swit $\cdot h$, or may be locked in the "off" position permanently, it it is desired that the apparatus be not used.

Means are also provided to scal the cover shut to prevent unanthorized bersons over-fusing the switch or tampering with live conncetions.

All"Squart- J"'Stec! Thelosed Fused Switehes of over 30 ampere capacity for cireuits of more than 2jo volts are of the quick break type, and are cesigned for the use of enclosed fuses- Wdison IPlug type for 125 volt 3 witches and National Electrical Code Standard Cartridge Fuses for 250 volts A. C: or I). C., 500 volts A.C, and 600 volts A.C. or D.C. Spacings for live metal parts are as given in the National

## CONVENIENCE

Removable and interchangeable erd plates are jrovided.
These plates are furnishon! hank, with knoekthts, or with porcelain wutht eovers, abording to installation requirements, Convenient knochouts are furnished in sides of boxes.

All boxes are designse so that ample wirng sfare is provided irside to mate the mocessary nommetions.
"Square D" Cabirete are constructed of shect =toel.
Corners are electricully welded.
The crossbar attached to switch blulesis of sterl, heavily insulated, and will mot warb or bemd.
Switeh and entout unit is monnted complete wibhin the box, ready for inmediate installation.


With I-14 G. E. Meter


No. 56211. Closed


No. 56211. Open


No. 56211 With i'ype O.A. Westinghouse Meter


No. 56343

## "Square D" Steel Enclosed and Service Switches

## BEAR UNDERWRITERS' FIRE AND ACCIDENT LABEL

The Linderwriters' Laboratories, Inc, have inangurated a new label service called the Casualty Iabel Service.
The most prominent casualty insurance companios who insure under employers' liability and workmen's compensation Acts, are subscribers to the merit classification ecrvice and accident prevention inspection of the Workmea's Compensation Serviee lureau.

Devices labeled with the U'nderwrieers' Fire and Accident lahel are not subject to charge under the analytic sehedule of the Workmen's Compensation Service Burwau, but devires without this label may be responsible for a much higher rate.

The factory has been manufacturing eccosed electrical switchea and motor starters for several years. It has always alvocated the complete housing of sll live migal, parts in electrical installations, rabizing the danger of exposed live parts, both from fire and accident standpants. Whenit learned that the Underwriters' Laboratories, working together with the Workmen's Compensntion Service Burgau, were to inaugurate this new label service, it at once subuitted its devices for examination and approval.

After scveral months sovere examination and tests, it was given permission, in May, 1915, to use the new fire and accident label on its snclosed electrical switehes. Its switches were the first to be given this "safety" label privilege.

The lubels are serially numbered. No. 1 was issued to that company. Their produets now bearing the Underwriters' Fire and Aceident label are "Square D" Steel Enelosed Service Switches, Ironclad Induction Motor Starters and Ironclad Switches.
'This significant action on the part of the Undervriters' Laboratories shows to what extent they regard the importance of

## "SQUARE D" STEEL ENCLOSED SWITCHES

Boxes are made with openings at each end in which end plates are to be inserted to meet any desired wiring requirements and it is necessary to order end plates with each box to have the box complete. End plates are clasified under the class of the box for which they are ordered.

*With single Franch connections at top of cutout base. $\dagger 200$ ampere capacity and over listed under 3 pole, $60 \%$ volt switches. $\$ 200$ ampere capacity and over listed under 4 pole, 600 volt switches.

Delivery F. (). 13. Factory, Detroit. For warehouse deliveries write nearest house.

# "SQUARE D" STEEL ENCLOSED SWITCHES 

Single Throw-Not Fusible
250 Volts D.C. and 500 Volts A.C
All switches quick break exeept Nos. 51251, 51351 and 51451.

| List <br> No. |  | Amperes | Depth of bux in. | End Plates to Fit | Weight Lbs. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51251 | Double pole | 30 | 3 | Class A | 10 | \$5.66 |
| 51242 | Double pole | 30 and 60 | 4 | Class 13 | 11 | 14.76 |
| 51243 | Double pole | 100 | 4 | Class I3 | 1.3 | 19.68 |
| 51244 | Double pole | 200 | 4 | Cluss 13 | 23 | 39.26 |
| 51245 | Double pole | 400 | 5 | Class C | 39 | 62.32 |
| 51246 | Double pole | 600 | 6 | *Solid ends | 60 | 127.92 |
| 51247 | Double pole | 800 | 6 | *Solid enels | 80 | 206.64 |
| 51248 | Double pole | 1200 | 6 | *Solid ends | 110 | 295.20 |
| 51351 | Triple pole | 30 | 3 | Class A | 14 | 9.84 |
| 51342 | Triple pole | 30 and 60 | 4 | Class 13 | 15 | 22.14 |
| 51343 | Triple pole | 100 | 4 | Class 13 | 17 | 32.80 |
| 51344 | Triple pole | 200 | 5 | Class ${ }^{\circ}$ | 3.1 | 52.48 |
| 51345 | Triple pole | 400 | 5 | Class ${ }^{\text {C }}$ | 70 | 98.40 |
| 51346 | Triple pole | 600 | 6 | *Solid ends | 90 | 196.80 |
| 51347 | Triple pole | 800 | 6 | *Solid ends | 120 | 291.88 |
| 51348 | Triple pole | 1200 | 6 | *Solid ends | 160 | 439.52 |
| 51451 | Four pole | 30 | 3 | Class A | 15 | 12.30 |
| 51442 | Four pole | 30 and 60 | 4 | Class 13 | 17 | 28.30 |
| 51443 | Four pole | 100 | 4 | (Class I3 | 20 | 41.00 |
| 514.4 | Four pole | 200 | 4 | C Cass I3 | 43 | 72.16 |
| 51445 | l'our pole | 400 | 5 | Class C | 90 | 131.20 |
| 51446 | Four pole | 600 | 6 | *Solid cuels | 110 | 262.40 |
| 51447 | Four pole | 800 | 6 | *Solid ends | 145 | 426.40 |
| 51448 | Four pole | 1200 | 6 | *Solid ends | 255 | 590.40 |

## 600 Volts

| 51262 | Double pole | 30 and 60 | 4 | Class B | 13 | $\$ 22.14$ |
| :--- | :---: | :---: | :---: | :--- | ---: | ---: |
| 51263 | Double pole | 100 | 5 | Class C | 20 | 39.36 |
| 51264 | Double pole | 200 | 5 | Class C | 3.3 | 59.04 |
| 51265 | Double pole | 400 | 6 | *Solid ends | 62 | 150.85 |
| 51266 | Double pole | 600 | 7 | *Solid ends | 85 | 270.60 |
| 51267 | Double pole | 800 | 6 | *Solid ends | 86 | 387.04 |
| 51268 | Double pole | 1200 | 7 | *Solid ends | 125 | 511.68 |
| 51362 | Triple pole | 30 and 60 | 5 | Class C | 23 | 29.52 |
| 51363 | Triple pole | 100 | 5 | Class C | 26 | 49.20 |
| 51364 | Triple pole | 200 | 5 | Class C | 56 | 77.08 |
| 51365 | Triple pole | 400 | 6 | *Solid ends | 90 | 205.00 |
| 51366 | Triple pole | 600 | 7 | *Solid ends | 130 | 377.20 |
| 51367 | Triple pole | 800 | 6 | *Solid cnds | 130 | 565.80 |
| 51368 | Triple pole | 1200 | 7 | *Solid cnds | 250 | 738.00 |
| 51462 | Four pole | 30 and 60 | 5 | Class C | 25 | 41.00 |
| 51463 | Four pole | 100 | 5 | Class C | 44 | 62.32 |
| 51464 | Four pole | 200 | 5 | Class C | 65 | $164 . C 0$ |
| 51465 | Four pole | 400 | 6 | *Solid ends | 125 | 262.40 |
| 51466 | Four pole | 600 | 7 | *Solid ends | 230 | 492.00 |
| 51467 | Four pole | 800 | 6 | *Solid ends | 260 | 738.00 |
| 51468 | Four pole | 1200 | 7 | *Solid ends | 300 | 1139.80 |

*Ends of six-inch boxes can be drilled to order at 45 cents list per hole.
Prices do not include fuses.
Delivery F. O. B. Factory, Detroit, Mieh. For warehouse deliveries write nearest house.

# "SQUARE D" STEEL ENCLOSED SWITCHES 

| ListNo. | Double Throw-Not Fusible-125 Volt |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Amperes | 1)epth of Box In. | Find Plates to Fit | Weight Lbs. | List Price Each |
| 52311 | Three pole | 30 | 3 | ( lass A | 53/4 | \$11.32 |
| 250 Volts D. C. and 500 Volts A.C. |  |  |  |  |  |  |
| 52251 | Double pole | 30 | 3 | ( ${ }^{\text {lasse }}$ A | 11 | \$13.12 |
| 5242 | Double pole | 30 and 60 | 4 | ( 'lass B | 14 | 19.08 |
| $52 \cdot 13$ | Double pole | 10) | 4 | Class 13 | 16 | 32.80 |
| 22:14 | Double pole | 200 | 4 | Class 13 | 30 | 52.18 |
| 522.45 | Double pule | 400 | 5 | (lass () | 52 | 80.92 |
| 52246 | Double pole | 600 | 6 | *Solid emes | 90 | 172.20 |
| 52217 | Double pole | S00) | 6 | *Solid ends | 110 | 262.10 |
| 522.18 | Double pole | 1200 | 6 | *Solid ends | 260 | 354.24 |
| 52351 | Triple pole | 30 | 3 | Class A | 16 | 19.68 |
| 52342 | Triple pole | 30 and 60 | 4 | Class 13 | 18 | 29.52 |
| 523-13 | Triple pole | 100 | 4 | Class 13 | 23 | 49.20 |
| 523-4 | Triple pole | 200 | 4 | Class 13 | 43 | 78.72 |
| 52345 | Triple pole | 400 | 5 | Class ( | 90 | 131.20 |
| 523-16 | Triple pole | 600 | 6 | *Solid ends | 145 | 262.40 |
| 52347 | Triple pole | 800 | 6 | *Solid ends | 155 | 393.60 |
| 52.348 | Triple pole | 1200 | 6 | *solid ends | 400 | 557.60 |
| 52451 | Four pole | 30) | 3 | Class A | 17 | 20.24 |
| 52.442 | Four pole | 30 and 60 | 4 | Class 13 | 21 | 39.30 |
| 52443 | Four pole | 100 | 4 | Class 13 | 27 | 59.04 |
| 52444 | Four pole | 200 | 4 | Class B | 65 | 106.60 |
| 524.45 | Four pole | 400 | 5 | Class C | 110 | 183.68 |
| 524.46 | Four pole | 600 | 6 | *Solid ends | 175 | 360.80 |
| 52.1.7 7 | Four pole | 800 | 6 | *Solid ends | 260 | 537.92 |
| 52448 | Four pole | 1200 | 6 | *Solid ends | 500 | 734.72 |

## 600 Volts

| 52262 | Double pole |
| :--- | :--- |
| 52263 | Double pole |
| 52264 | Double pole |
| 52265 | Double pole |
| 52206 | Double pole |
| 52267 | Double pole |
| 52208 | Double pole |
| 52362 | Triple pole |
| 52363 | Triple pole |
| 52364 | Triple pole |
| 52365 | Triple pole |
| 52366 | Triple pole |
| 52367 | Triple pole |
| 52368 | Triple pole |
| 52462 | Four pole |
| 52463 | Four pole |
| 52464 | Four pole |
| 52465 | Four pole |
| 52466 | Four pole |
| 52467 | Four pole |
| 52468 | Four pole |


| 30 and 60 | 4 | Class B | 19 | \$42.64 |
| :---: | :---: | :---: | :---: | :---: |
| 100 | 5 | ('lass C) | 26 | 65.60 |
| 200 | 5 | (lass (: | 52 | 114.80 |
| $40 \%$ | 6 | *Solid ends | 90 | 190.21 |
| 60) | 7 | *Solid ends | 1.40 | 373.92 |
| 800 | 6 | *solid ends | 14: | 557.60 |
| 1200 | 7 | * colidends | 315 | 754.40 |
| 30 and 60 | 5 | Class C | 27 | 65.60 |
| 100 | 5 | ('lass C | 41 | 98.40 |
| 200 | 5 | *Solid ends | S0 | 177.12 |
| 400 | 6 | *solid ends | 130 | 303.40 |
| 600 | 7 | *Solid ends | 200 | 527.92 |
| 800 | 6 | *solid ends | 270 | 774.08 |
| 1200 | 7 | *siolid ends | 490 | 1029.92 |
| 30 and 60 | 5 | ('lass C) | 38 | 91.84 |
| 10) | 5 | ( 1 ans C | 55 | 131.20 |
| 200 | 5 | ('ans C, | 100 | 229.60 |
| 400 | 6 | *Solid conds | 180 | 367.36 |
| (60) | 7 | * Solid ends | 350 | 708.48 |
| 800 | (; | *Solid conds | 380 | 1016. 50 |
| 1200 | 7 | *Solid conds | 600 | 1344.80 |

*W"e will drill to order ends of 6 inch boxes at 45 cents list each por hole.
Delivery F. O. B. Factory, Detroit, Mich. For warchouse deliveries write nearest house.

## SQUARE "D" MOTOR STARTING AND COMPENSATOR SWITCHES



Nos. 66351 and 65351


No. 66341


No. 58.342 installed with Starting Compensator (Open)


No. 56342 installed with Starting Compensator (Closed)

## Steel Enclosed Double Throw Motor Starting Switches

Square " $D$ " strel enclosed motorstarting switches are designed for starting 3 phase motors. The switch ivi of the duable throw knife blade type with the ruming side arranged for fures.
 ing position. This latchalso makes newessary a fuick whage fron, :tarting toruming josition

The ewitch is equipped withalophoff deverby means of which carthes closing of theswiteh can le averbed while someone is working on the line or apparatus controbled by the switch.

The Square "1)" motorstarting switrh can be farnishad with Star-l) elta starting connertions - Nee List Nos. phown helowand when so used a separate main line switeh must he installed aloed of the starting switch in aceordance with the National Electrical Code.

| Straight | Star |
| :---: | :---: |
| Ind. | 1) Clta |
| 663 s 1 | 655351 |
| 66352 | 0.6832 |
| 66553 | 653.5\% |
| 66341 | 6 S 3.41 |
| 66342 | 65342 |


| STRAIGHT INDUCTION TYPE-3 PHASE AND STAR-DELTA TYPE--3 PHASE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aimperes | I Mopth of Box | End Plates to Fit | Weright | List Pric" Each |
| 250 volts, triple joule | 31) | 3 ins. | Cluss A |  | \$18.144 |
| 250 volts, triple prole | (3) | 4 ins. | Class B | 27 lbs. | 37.72 |
| 250 volts triple pole | 10) | 4 ins. | Class 13 | 30 lbs. | 57.40 |
| 500 volts, triple pole | (3) | 4 ins. | Class 13 | 27 lbs. | 29.53 |
| 500 volts, triple pole | 60 | 4 ins. | Class 13 | 271 -2 | 46.74 |

## Steel Enclosed Compensator Switches

| List |  |  | Inerith | End Plates | Weight |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | A nuperes | of 130. $x$ | to F-it |  |  | Farh |
| 58351 | 250 volts, triple pole | 30 | 4 ims. |  | 20 | !bs. | \$24.60 |
| 58.352 | 250 volts, triple pole | $(6)$ | 4 ins. | ("Liss 13 | 21 | 1 bs. | 25.52 |
| 58353 | 250) volts, triple pole | 100 | 4 ins. | Class 13 | 32 | birs. | 40.36 |
| 5835.4 | 250 volts, triple pole | 200 | 5 \%is. | Cluss C | 61 | Ih.s. | 69.70 |
| 58355 | 250 volts, triple poir | 400 | 5 irse. | Class C | 95 | ${ }^{1} 3$. | 1337.76 |
| 58356 | $2 \mathrm{O})$ volts, triple pole | 600 | 6 ins. | *solid ends | 145 | lbs. | 236i. 16 |
| 58357 | 250 volts, triple poie | 800 | ti ins. | *Solid ends | 170 | ins. | 352 . 60 |
| 58358 | 250 volts, triple pole | 1200 | 6 ins. | *Solic! ends | 375 | 113:3. | 475.60 |
| 58451 | 250 volts, four pole | 30 | 4 ins. | Class 13 | 24 | ! ${ }^{\text {a }}$ | 29.62 |
| 58452 | 2.00 volts, four pole | (i) | 4 ins . | Class 3 | 25 | the. | 34.44 |
| 58453 | 250 volts, four pole | 100 | 5 ins. | Chss C | 51 | ${ }^{\text {h. }}$ S. | 65. 60 |
| 58454 | 250 volts, four pole | 200 | 5 ins. | Clase ${ }^{\text {C }}$ | 77 | Sbs. | 101.68 |
| 58455 | 250 volts, four pole | 400 | $5 \mathrm{ins}$. | Class C | 120 | lbs. | 147.60 |
| 58456 | 250 volts, four pole | (10) | 6 ine. | *Solid ends | 170 | 1).s. | 295.20 |
| 58457 | 250 volts, four pole | S(M) | 6 itus. | *Solid ends | 310 | lbas. | 446.08 |
| 58458 | 250 volts, four pole | 1200 | 6 ins. | *Solid ends | 430 | bos. | 603.50 |
| 58341 | 500 voits, triple pole | 30 | 4 irs . | Class B | 23 | 'bs. | 25.76 |
| 58342 | 500 volts, triple pole | 60 | 4 ins. | Class B | 24 | St. | 30.102 |
| 58343 | 500 volts, triple polr. | 100 | 4 ins. | Class B | 34 | lbs. | 44.62 |
|  | capacity and over lis | ader 3 jole | ) l Swi |  |  |  |  |
| 58361 | (i(x) volts, triple pole | 30 | 4 ins. | Class 1 | 30 | 'hs. | 32.80 |
| 58362 | 600 volts, triple pole | 60 | 5 ins. | Class C | 30 | ibs. | 34.44 |
| 58363 | 600 volts, triple pole | 100 | 5 ins. | Class C | 67 | th. 3. | 6.5 .60 |
| 58364 | 600 volts, triple pole | 20 | 5 ins . | Class C | 95 | $\bigcirc \mathrm{b}_{3}$ | 96. 96 |
| 58365 | 600) volts, triple pole | 400 | $G$ ins. | *Solid ends | 160 | ! bs. | 229.60 |
| 58366 | 600 volts, triple pole | 600 | 7 ins. | *Solid ends | 315 | $1 b_{3}$ | 4.46 .08 |
| 58367 | 600 volts, triple pule | $8(10)$ | 6 ins. | *Solid ends | 370 | the. | 6339.60 |
| 58368 | 600 volts, triple pole | $12(10)$ | $7 \mathrm{ins}$. | *Solid ends | 430 | the. | 8.39 .36 |
| 58461 | 600 volts, four pole | 30 | 4 ins, | Class B | 37 | ths. | 49.20 |
| 58462 | 600 volts, four pole | 60 | 5 ins. | Class C | 40 | thes. | 59.04 |
| 58463 | 600 volts, four pole | 100 | 5 ins. | Class C | 83 | Its;i. | 85.28 |
| 58464 | 600 volts, four jole | $2(1)$ | 5 12. | Chas C | 120 | lbs. | 180.40 |
| 59465 | 600 volts, four pole | 400 | 6 ins. | *S.0lid ends | 180 | 1bas. | - 208.48 |
| 5446 | 600 volts, four pole | 600 | 7 ins. | *Golid ends | 325 | lbs. | 537.92 |
| 58467 | 610 volts, four pole | 800 | 6 ine. | *Solid ends | 400 | 1bas, | 787.20 |
| $5846{ }^{\circ}$ | 600 volts, four pole | 1200 | 7 ius. | *Solid ends | 525 | lbio. | 1036.48 |

Always specify List Nos. of end plates wanted.
Dimensions same as for standard i) steel enclosed switehes of like capacities.
Dimensions same as for standard 1) steel enclosed switehes of
Delivery F. O. B. Factory, Detroit, Mich. For warehouse deliveries write nearest house.


Two Wire Switch (Open)


Test Plugs


Three Wire Switch (Open)

## ENTRANCE SERVICE SWITCHES

| List Nos.. | 76211 | 76311 | 77311 |
| :---: | :---: | :---: | :---: |
| Type. | 2 wire | 3 wire | 3 wire |
| Voltage | 12\% | 125-250 | 12\%-250 |
| Amperes. | 30 | 30) | :3) |
| Test Feature. | 1 cuil | Coils tested separately with resistance or phantom losed or tested in serios arross 2:3 volts with resistance loarl. | (i,ils losted side wir rosistanc series wi |
| Fuses. | Sil. Plug | Eal. Plug | EL. Plug |
| Fused. | 130ttom | Buttom | lustom |
| Find I'lates. | Class : | Class 1 | Class 1 |
| Depth. | 3 ins. | 3 ins. | 3 ins. |
| Weight. . . . . . . . . . . . . . . | $5!$ | $7!2$ | 76 |
| Price without end-plate and meter protective trim... . | Sition | \$11.48 | 813.14 |
| Price with conduit end-plate but without meter protective trim.. | \$9.72 | \$11.80 | \$12.30 |
| Price with open-wiring endplate but without meter protective trim. | \$0.88 | \$11.98 | \$12.46 |

## FOR PRICES ON METER PROTECTIVE TRIMS SEE LISTING ELSEWHERE

| 70111 | Large plug | \$1.80 | \$1.80 | \$1.80 |
| :---: | :---: | :---: | :---: | :---: |
| 70121 | Small plug. | . 98 | . 98 | . 98 |
| 70131 | Small plug | . 98 | . 98 | . 98 |
| Type |  | List No. 76211 | List No. 7 7j311 | $\begin{array}{r} \text { Jist No. } \\ 77311 \end{array}$ |
| A |  | 1016 | $10 \frac{11}{16}$ | $10 \frac{11}{16}$ |
| B |  | $31 / 3$ | 31\% | $31 / 8$ |
| C |  | 2 | 25/3 | 25/8 |
| D |  | - 3/4 | 3.1 | $3 / 4$ |
| E |  | . 878 | 91白 | 91/2 |
| F |  | $31 / 2$ | 5) $5^{5}$ | 578 |
| G |  | $5 \frac{7}{16}$ | 71/3 | 71/8 |
| II |  | 1.1 | 1/1 | 1/2 |
| J. |  | $43 / 3$ | $43 \%$ | $43 / 8$ |
| I. |  | 78 | 1 | 1 |

## SQUARE "D" IRONCLAD SWITCHES, MOTOR STARTERS AND END PLATES



No. 7251


No. 6351 Motor Starter


No. 6361 Motor starter

## Square "D" Ironclad Switches and Motor Starters

Both Ironelad switches and motor starters are provided with openings at the top and hottom of the thoxps. The swith mestanis:a las a quirk make and a quirk break antion. The starters are designed for usw with motors up to and ineluding
 SQUARE "D" IRONCLAD'SWITCHES


Standard End Plates


## METER PROTECTIVE TRIMS AND ADAPTER END PLATE



List Nos, 11501 and 11511
Top of lsox'rimind for liottom Connected Meter


List No. 11512
Bottoni limin


List No. 11506
Reversible lop or Botton Trim Also 111. Gen. Const. of No. $15510-11513$


List No. 11514 Bottom of Box 'l'rimy for Top Connected Meter

18583


List Nc. 11503 Trim for Bottom Connected Meter


List No. 15508 Top of l3ox Irim for Bottom Connected Meter


List No. 11502
Bottom of Box Trimf for
'lop Connected Meter

## Meter Protective Trims

Interchangeable with End Plates
Schedule "A"

 List N.. 1858.3 , with the meter 1 rim.
"Top" trims are used at top of squaro D boxes; "botom" trims at bottom of boxes.

leversible trims may be asert at dither top or hostam of box.

 speeial requiremeruts.

All meter trims are math of shoct sted exemt fist Xos. 11515 and 11516 which are of non-mametir mutal. Iist Nos.


If trims are required for wow of maters aot mentioncd velow, quatation will be furbished on redurst


Delivery R.O.B. Factory, Detroit, Mich. For warehouse deliveries write nearest house.

## STANDARD END PLATES

Detachable and Interchangeable
End plates listed are divided into three classes, A, 13 and C, aecording to depth of "Square D" boxes, for which they are designed.

Class A end plates are for use with Class A boxes (3 inches rleep).
Class 13 end plates are for use with ('lass is box's ( 4 inches cleep).
Class $C$ end plates are for use with ('lass ( looxes (i) inelres leep).
End plates for use in end openings of thr" "'quare l)" sterlenclosel switeh boxes are furnished as listed below; blank, or with knockouts for use with rigid eonduit, or with multiple hole porcelgin outlet covers for open wiring installations.


Slotted End Plate List No. 19484


List No. 18331
SLOTTED FIBRE BUSHED END PLATES
Schedule " $A$ "
List No
19382
19484
19586
Class
Class A
Class 13
Class C
CONDUIT END PLATES


List No. 19321

List No. 14433

List No. 19341

OPEN WIRING END PLATES WITH PORCELAIN COVERS

| T.ist | 110 | orectian |  | Carton | Weipht Carton | Std. | İist |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. | Diameter | Class | Quantity | Quantity | Pkg. | Wach |
| 19321 | 2 | ${ }^{\frac{5}{16}} \mathrm{in}$. | Clans A | ${ }_{10}$ | 3 lbs . | 100 | s0.3\% |
| 19322 | 2 | $3 / 8 \mathrm{in}$. | ('lass A | (1) | 3 lbs . | 100 | \$0.35 |
| 19331 | 3 | $\mathrm{id}^{\frac{5}{6}} \mathrm{in}$. | ( 'lass A | 10 | 3 lbs . | 100 | . 32 |
| 19332 | 3 | $3 / \mathrm{in}$. | ( ${ }^{\text {dase }}$ A | . 0 | $3 \mathrm{lhs}$. | 100 | 32 |
| 19341 | 4 |  | ( lase A | $!0$ | 3 llos . | 100 | . 32 |
| 19342 | 4 | 36 in . | ( ${ }^{\text {lass }}$ A | 10 | $3 \mathrm{lls}$. | 100 | . 32 |
| 19351 | 5 | ${ }^{5} \mathrm{~s}$ in. | ( 'lass A | 0 | 3 llss . | 100 | . 32 |
| 19352 | 5 | 3 x in. | ('lass A | 10 | 3 lbs . | 100 | . 32 |
| 19422 | 2 | $3 / 8 \mathrm{in}$. | ( 'lass B | 5 | 4 lbs . | 50 | \$0.87 |
| 19423 | 2 | is in. | ('lass I3 | 5 | 4 lbs. | 50 | . 87 |
| 19424 | 2 | $3 / 1 \mathrm{in}$. | ( 'lass 13 | 5 | 4 lbs . | 50 | .87 |
| 19432 | 3 | 9/8 in. | ('lass 13 | 5 | 4 lbs . | 50 | .87 |
| 19433 | 3 | ${ }_{10}{ }^{16} \mathrm{in}$. | Class 13 | 5 | 4 lbs. | 50 | .87 |
| 19434 | 3 | $8 / 4 \mathrm{in}$. | Class 13 | 5 | 4 lbs . | 50 | .87 |
| 19442 | 4 | $8 / 8 \mathrm{in}$. | Class 13 | 5 | 4 lbs . | 50 | ..87 |
| 19443 | 4 | $\frac{1}{26} \mathrm{in}$. | Class 13 | 5 | 4 lbs . | 50 | .87 |
| 19444 | 4 | $3 / 4 \mathrm{in}$. | Class 13 | 5 | 4 lbs . | 50 | .87 |
| 19452 |  | $3 / 8 \mathrm{in}$. | Clans 13 | 5 | 4 libs. | 50 | .87 |
| 19493 | $\left\{{ }^{1}\right.$ | $8 / 8 \mathrm{in}$. | C'ass 13 | 5 | 4 lhs. | 50 | .87 |
|  |  | 176 in . | Class 13 | 5 | 4 lbs . | 50 | . 87 |
| 19494 | , 1 | 3 x in. | Class 13 | 5 | 4 lls . | 50 | .87 |
| 19494 | 4 | $3 / 4$ in. | Class B | 5 | 4 lbs . | 50 | . 87 |
| 19524 19525 | 2 | $3 / 1 \mathrm{in}$. | Class C | 5 | $51 / 2 \mathrm{lbs}$. | 25 | 81.18 |
| 19525 19534 | 2 3 | 1 in . | Class C | 5 | 7 lbs. | 25 | 1.61 |
| 19535 | 3 | $1 \mathrm{in}$. | Class C | 5 | $51 / 2 \mathrm{lbs}$. | 25 | 1.18 |
| 19544 | 4 | $3 / 4 \mathrm{in}$. | Class ${ }^{\text {C }}$ | 5 | 7 lbs. | 25 | 1.61 |
| 19594 | $\{1$ | $8 / 8 \mathrm{in}$. | Class C | 5 | $51 / 2 \mathrm{lbs}$. | 25 | 1.18 |
| 19594 | 4 | $8 / 4 \mathrm{in}$. | Class C | 5 | $51 / 2 \mathrm{lbs}$. | 25 | 1.18 1.18 |

## PLUGS AND RECEPTACLE



No. 5001 Plus Inserted


No. 5001 Cover Open Plug Inserted

## Square "D" Fused Plug Receptacle and Attachment Plug

Sruare "D" fused plug receptarles are designed primarily to incrense the field of artivity and efficiency of portable electrical units in industrial plants and wherever it is more economical to move the units than the material.


Wiring Diagrams for Motor Starting and Compensator Switches


Delivery F. O. B. Factory, Detroit, Mich. For warehouse deliveries write nearest house.

## "NATIONAL" METAL MOLDING

## (Sherardized)

## METAL MOLDING AND CAPPING

No. 222 Metal Molding is designed for two No. 14 Single Braid R. C. Wire, but ample space is provided to accommodate two No. 14 Double Braid or two No. 12 Single Hraid R. C. Wires.

No. 333 Metal Molding is designed for four No. 14 Single Braid R. C. or for three No. 14 or three No. 12 Single or Double Braid R. C. Wire.


No. 333


No. 223


No. 244


No. 255


No. 234
List
No.
222
333

| Unit | Std. |
| :---: | :---: |
| Pkg. | Pkg. |
| $100 \mathrm{ft}$. | 1000 ft. |
| 100 ft. | 1000 ft. |

Std. Pkg.
Wt. Lbs.
250
400

| Mfrs. List |  |
| :---: | ---: |
| lrice | W.E. List |
| per 100 Ft. | Per 100 Ft. |
| $\$ 6.50$ | $\$ 13.00$ |
| 8.00 | 12.80 |

FITTINGS FOR No. 222 MOLDING ONLY
No. 223 Spring Clip
For securing capping of No. 222 molding to base. Should be used every 18 inches.

No. 244 Base Coupling
For use in connecting two lengtis of No. 222 Molding. Simply snap the hase of the molding into the base of the coupling and apply a spring clip over the joint.

## No. 255 Ground Clamp

A necessary fitting for grounding a No. 222 System.

## No. 234 Cross

Consists of a base and cap, ample space is provided for making splices. No screws are required to connect the molding, base of which is simply snapped into the base of the fitting.

## No. 235 Tee

Design is similar to the above, with one prong climinated. Connections are made in the same way. Ample room for splices.

## No. $23690^{\circ}$ Flat Blbow

For making right angle turns of lines in No. 292 System.

## No. $23745^{\circ}$ Flat Elbow

Similar to above but used where it is desired to make a turn at an angle of 45 elegrees.

## No. 238 Internal Elbows

Used to continue a line inside corners or from wall to ceiling.

## No. 239 External Elbows

Used for carrying a line around corners, beams or girders.

## No. 277 Bushing

Must be used in making entry of No. 222 Molding into fittings and devices having twistouts designed primarily for this molding. Base is


No. 236


No. 238 provided with a flanged tongue, which fits into slots in the fittings.

Schedule " $R$ "

| List |  | Unit | Std. | Std. Pkg. | Mfrs. List Price | $\begin{aligned} & \text { W.E. List } \\ & \text { Irice } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Pkg. | Pkg. | Wt. Lbs. | per 100 | per 100 |
| 223 | Spring Clip. | 100 | 1000 | 10 | $\$ 0.80$ | \$1.60 |
| 244 | Base Coupling. | 20 | 100 | 7 | 2.50 | 5.100 |
| 255 | Ground Clamp.. | $11)$ | 100 | 7 | 4.00 | 8.00 |
| 234 | Cross. . . . . . . . . | 10 | 100 | 45 | 20.00 | 33.60 |
| 235 | Tee. | 20 | 100 | 31 | 14.00 | 23.52 |
| 236 | $90^{\circ}$ Elbow. | 20 | 100 | 11 | 8.00 | 16.00 |
| 237 | $45^{\circ}$ Elbow. | 10 | 100 | 10 | 8.00 | 16.00 |
| 238 | Internal Elbow.. | 10 | 100 | 11 | S. 00 | 16.00 |
| 239 | External elhow.. | 10 | 100 | 11 | 8.00 | 16.06 |
| 274 | Bushing. . . | 20 | 100 | 9 | 3.00 | 6.00 |

# "NATIONAL" METAL MOLDING 

(Sherardized)

## FITTINGS FOR NO. 222 MOLDING ONLY (Continued)

No. 278 reducing bushing, for connecting No. 222 Molding to fittings designed primarily for use with No. 333 Molding.

Nos. 290 and 291 Spanner Strips are used for attaching canopy type deviess at conduit box outlets, either directly to conduit box lugs or where open covers are used.

No. 301 Box Connector is used to connect No. 222 Molding to panel or junction boxes having $1 / 2$ inch knockouts. This connector in combination with a $1 / 2$ inch conduit coupling is also used in connecting No. 222 Molding to rigid conduit.

## Schedule " $R$ "

| $\begin{aligned} & \text { I.ist } \\ & \text { No. } \end{aligned}$ |  | Unit Pkg. | Std. Pkg. | Std. Pkg. Wt. Lbs. | Mifs. List Price per 100 | W.E. List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| 278 | Reducing bushing | 10 | 100 | 9 | \$3.00 | \$0.00 |
| 290 | Spanner for 3 in . hox outlets | 10 | 100 | 19 | (i. 00 | 12.00 |
| 291 | Spanner for 4 in. box outlets. | 10 | 100 | 19 | 6.00 | 12.00 |
| 301 | Box conneetor. . | 20 | 100 | 1:3 | 12.00 | 20.16 |

## FiTTINGS FOR NO. 333 MOLDING ONLY

No. 279 Reducing Bushing for connecting No. 333 Molding to fittings and devices designed primarily for use with No. 222 Molding. Base is provided with flanged tongue which fits into slots in the fittings.

No. 334 Cross eonsists of cap and base. Ample space is proviled for making splices. Serews for making connection to molding are upset to prevent falling out.

No. 335 Tee. Design is similar to above with one prong eliminated. Recessed cover provides ample space for splices.

No. $33690^{\circ}$ Degree Flat Flbow, for making right angle turns. ('onnecting serews are upset to prevent falling out.

No. $43745^{\circ}$ Degree Flat Elbow for making a turn at an angle of 45 degrees. Connecting screws are upset to prevent falling out.

No. 337 External Elbow, used for carrying a line of No. $3: 33$ Moiding around corners, beams or girders.

No. 338 Internal Elbows, used for carrying a line of .No. $33: 3$ Molding from wall to ceiling, or inside corners.

No. 344 Base Coupling used for connecting two lengths of No. 333 Molding. C'onnecting screws are upset to prevent falling out.

No. $43 i$ Fitting Connector, used for making close connedtion of two fittings or devices. Provided with two key hole slots to cngage serews in base of fittings or devices.

No. 355 Ground Clamp is a fitting for grounding No. 333 System.


No. 337
No. 377 Clamp Bushing, used for connecting No. 333 Molding to fittings and devices having twistouts designed primarily therefor. It must be used in making entry into such fittings.

No. 433 Double Clamp Bushing used for connecting two lines of No. 333 Molding to fittings and devices having twistouts designed primarily for this molding.

No. 377


|  |  | Schedule "R'" |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Mfrs. List Price | W.E.List Price |
| List |  | Unit | Std. | Std. Pkg. | Price | Price |
| No. |  | Pkg. | I'kg. | Wt. Isbs. | per 100 | per 100 |
| 279 | Reducing bushing. | 10 | 100 | 9 | \$3.00 | \$6.00 |
| 3:34 | Cross. | 30 | 120 | 26 | 17.00 | 28.56 |
| 335 | Tee. | 30 | 120 | 23 | 14.00 | 23.52 |
| 336 | 9) Degree Flat Jlbow. | 30 | 240 | 30 | 11.00 | 18.48 |
| 437 | 45 Degree Flat Elbow. | 20 | 100 | 7 | 11.00 | 18.48 |
| 337 | External Elbow. | 30 | 60 | 8 | 11.00 | 18.48 |
| 338 | lnternal Elbow. | 30 | 120 | 12 | 11.00 | 18.48 |
| 314 | IBase Coupling. | 50 | 500 | 15 | 2.50 | 5.00 |
| 436 | Fitting Connector | 50 | 250 | 4 | 1.50 | 3.00 |
| 355 | Cround Clamp. | 20 | 40 | 2 | 6.00 | 12.00 |
| 377 | Clamp Burshing. | 50 | 200 | 8 | 3.50 | 7.00 |
| 433 | Double Clainp l3ushing | 10 | 100 | 10 | 12.00 | 20.16 |

# "NATIONAL" METAL MOLDING <br> (SHERARDIZED) 

## FITTINGS FOR NO. 333 MOLDING ONLY(Continued)

No. 3.45 Single Plain Clamp for fastening molding to uneven surfaces.

No. 354 Ibouble Plain Clamp for fastening two lioes of molling to all surfaces, especially recommended for uneven surfaces
No. 354
No. 434 Single Base Plate Clamp is recommended for use on uneven plastered surfaces as it is necnsary to use but one supporting serew, the hole for which is hidelen loy the molding.

No. 435 Double Base Plate Clatap is designed for supporting two lines of molding to uneven plastered surfaces.

No. 425 Plain Strap Clamp used on jobs where the surfaces over which the molding is run is so nneven that the eapping cannot be mate to stay snapped to base.

No. 428 Base Strap Clamp is used in the same manner as No. 425 , except that it is designed to also support the molding, as it is punched and contersunk far No. 8 wool screw or toggle bolt of the same size.

No. 369 Wood Molding Coupling used for connecting No. 333 Molding to existing installations of wood molding, either in a straight line or at right angles.

No. 404 Open Wood Couplings fror two wire work, use with No. 367 Covers and for three wire work with No. 308 Covers.

No. 307 Open Work Compling C.svers for 2 wire instullations.
No. 368 Open Work Coupling Covers for 3 wire installations.
Nos. 401 and 401 A Box Connectors are used for conmerting to panel cabinet or other hoxes having ronduit knockouts. Furnished complete with locknuts.

Nos. 417 and 417.1 Angle Box Connertors similar to above, but used when it is clesirel to run molding at right angle from kuockout.

Nos. 402 and 402 A Conduit Couplings are used for connecting No. 333 molding to rigid conduit, especially when passing through floors.

Nos 403 and 403 A Angle Conduit Couplings, similar to above, but used when it is desired to change direction of the line.

Nos. 405 and tond Conduit Complings are used for rumning a line of molding at right angle from a line of conduit.

No. 415 light Hand Conduit (oupling for connecting to $1 / 2$ ineh rigid conduit and changing direction to the right.

No. 416 left lland Conduit C'oupling, same as above, exeept for changing direction of conduit to the left.

SCHEDULE "R"


Nos. 402 and 402A


Nos. 405 and 405A


No. 415

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | P | Unit Package | Std. Pkg. | Std. Pkg. Wt. Lbs. | $\begin{gathered} \text { Mfrs. } \\ \text { List } \\ \text { Price } \\ \text { per } 100 \end{gathered}$ | W. E. <br> list <br> Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 345 | Single Plain Clamp. | 100 | 1000 | 10 | 80.75 | 81.50 |
| 354 | Double Plain Clamp | 50 | 100 | 3 | 1.50 | 3.100 |
| 434 | Single Base Plate Clamp. | 100 | 1000 | 22 | 3.60 | 7.20 |
| 435 | Double Iase I'late C'lamp. | 50 | 200 | * | 4.50 | 9.00 |
| 425 | Plain Strap Clamp. . . . . | 100 | 1000 | 10 | . 75 | 1.50 |
| 428 | Rase Strap Clamp. | 100 | 1000 | 8 | 1.50 | 3.00 |
| 369 | Wood Molding Coupling. | 10 | 20 | 4 | 15.00 | 25.20 |
| 404 | Open Work Coupling. | 10 | 20 | 7 | 18.00 | 30.24 |
| 367 | Open Work Coupling Covers, 2 Wire | 10 | 20 | 4 | 10.00 | 16.80 |
| 368 | Open Work Coupling Covers 3 Vire. | 10 | 20 | 4 | 10.00 | 16.80 |
| 401 | Box Connectors $1 / 2$ ineh.. . . . . . . . | 30 | 60 | 8 | 15.00 | 25.20 |
| 401 A | Box Connectors $8 / 8$ ineh. | 10 | 20 | 3 | 20.00 | 33.60 |
| 417 | Angle Box Connectors $1 / 2$ inch . . . | 20 | 40 | 8 | 18.00 | 30.24 |
| 417 A | Angle Iox Connectors $3 / 4$ inch. . . | 10 | 20 |  | 22.00 | 36.96 |
| 402 | Conduit Couplings $1 / 2$ inch. | 30 | 60 | 10 | 15.00 | 25.20 |
| 402A | Conduit ('ouplines $3 / 4$ ineh. | 10 | 20 | 3 | 20.00 | 33.60 |
| 403 | Angle Conduit Couplings 1/3 irreh. . | 20 | 40 | 8 | 18.00 | 30.24 |
| 403. | Angle Conduit Couplings $3 / 4$ inch. . | 10 | 20 | 4 | 22.00 | 36.96 |
| 405 | Conduit Couplings $1 / 2$ inch . . . . . . | 10 | 20 | 15 | 35.00 | 58.80 |
| 405.1 | Conduit Couplings $8 / 4$ inch | 5 | 10 | 10 | 40.00 | 67.20 |
| 415 | Hight Hand Conduit Coupling. | 10 | 50 | 9 | 18.00 | 30.24 |
| 416 | Left Hand Conduit Coupling. . . . | 10 | 50 | 9 | 18.00 | 30.24 |



Nos. 429 and 429A

## "NATIONAL" METAL MOLDING (SHERARDIZED)

## FITTINGS FOR NO. 333 MOLDING ONLY (Continued)

Nos. 411 and 411A Conduit Couplings are used for tapping from the back of a line of molding to rigid conduit as from a ceiling to the floor above.

No. 414 Conduit Coupling for connecting armored conductors to Nn. 333 molding system. Must be used in conjunction with No. 341 Box or similar fitting having twistouts.

No. 397 Key Receptacle. Base Plate permits of its use for etther continuous or "dead end" work. When for "dead end" work it is necessary to twist off the blanking end.

No. 356 Keyless Receptacle, similar to No. 397.
No. 395 I'ull Chain Receptacle, similar to No. 397.
Nos. 360 and 360 A Attachment Plugs are fitted with base plate for use in either "dead end" or continuous work. Furnished with either porcelain or composition cap.

No. 348 I'orcelain Rosette Base Plate permits of its use for either continuous or "dead end" work. When for "lead end" work twist off the blanking end.

No. 431 similar to above, but with an Extension for drop cord.
Nos. 430 and 430A Fixture Rosette, similar to No. 431 , with metal bushing tapped for either $1 / 8$ or $3 / 8$ inch gas pipe.

Nos. $4^{\circ} 29$ and 429A Fixture Rosette, provided with special tapperl bushings. Used for installing fixtures at intersecting lines of No. $33: 3$ molding it conjunction with Nos. 423 or 424 sub-bases.

No. 3925 Ampere Indicating Snap Switch. Has standarl base plate for either continuous of "dead end" work. When for "dead end" work twist off the blanking ear.

No. 3915 Ampere Non-indicating Snap Switch similar to above.


Schedule " $R$ "

| Schedule "R" |  |  |  |  | Mirs. List | W.E.List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Unit | Std. | Std. Pkg. | Price | Prico |
| No. |  | Pkg. | l'kg. | Wt. Lbs. | per 100 | per 100 |
| 411 | Conduit coupling $1 / 2$ inch | 10 | 20 | 6 | 525.00 | \$42.00 |
| 4111 | Conduit coupling $3 / 4$ inch | 10 | 10 | 4 | 30.00 | 50.40 |
| 414 | Conduit coupling. | 10 | 20 | 3 | 20.00 | 33.60 |
| Schedule "X' |  |  |  |  |  |  |
| 397 | Kicy receptacle. | 10 | 100 | 51 | 44.00 | 76.56 |
| 356 | lieyless recepeacle | 10 | 100 | 39 | 38.00 | 66. 12 |
| 395 | l'ull chain receptacle. | 10 | 100 | 50 | 70.00 | 121.80 |
| 360 | Attachment plug poreclain cap | 10 | 100 | 55 | 38.00 | 66.12 |
| 360.1 | Attachment plug composition cap | 10 | 100 | 52 | 41.00 | 71.34 |
| 348 | l'orcelain rosette. . | 20 | 120 | 35 | 10.00 | 17.40 |
| 431 | lorcelain rosette. | 10 | 120 | 52 | 28.00 | 48.72 |
| 430 | Fixture rosette $1 / 8$ inch cap. | 10 | 80 | 30 | 40.00 | 69.60 |
| 430 A | Fixture rosette 38 inch cap. | 10 | 80 | 30 | 40.00 | 69.60 |
| 429 | Fixture rosette $1 / 8$ inch cap. | 10 | 100 | 35 | 3.5 .00 | 60.90 |
| 429 A | Fixture rosette $3 / 8$ inch cap. | 10 | 100 | 35 | 35.00 | (0.90 |
| 392 | Snap switch, indicating.. | 10 | 100 | 49 | 45.00 | 78.30 |
| 391 | Snap switch, non-indicating. | 10 | 100 | 49 | 41.00 | 71.34 |



No. 241


No. 269

## FITTINGS FOR EITHER NO. 222 OR No. 333 MOLDING

No. 241 Junction Box. Four molding twistouts on sides and $1 / 2$ inch conduit knockout in bottom, cap is secured to base without screws, Use cither Nos. 277 or 279 Bushings.

No. 276 Corner and Trist Box, six molding twistouts on sules and $1 / 2$ inch conduit knockout in back. Designed as a distribution hox or for changing plane of molding lines. Use either Nos. 277 or 279 bushings.

No. 269 Combination coupling. For use in connecting either Nos. 2e\% or 333 two-wire molding system to wood molding or open work systems. Easily applied.

No. 376 Corner Box. Provided with $1 / 2$ inch conduit Knockout in back and four molding twistouts in sides. Use either Nos. 377 or ${ }^{7} 8$ bushings.


No. 276


Mfrs. List W.E.List

List
No.
241
276
269
376

Schedule "R

| Schedule "R |  |  |  | No. 376 |  |
| :---: | :---: | :---: | :---: | ---: | :---: |
|  |  |  | Mfrs. List | W.E.List |  |
| Unit | Std. | Std. Ikg. | Price | Price |  |
| Pkg. | Pkg. | Wt. Lbs. | per 100 | per 100 |  |
| 10 | 100 | 26 | $\$ 15.00$ | $\$ 25.20$ |  |
| 10 | 100 | 34 | 18.00 | 30.24 |  |
| 10 | 100 | 20 | 17.00 | 28.56 |  |
| 10 | 20 | 8 | 25.00 | 42.00 |  |

## "NATIONAL" METAL MOLDING

## (SHERARDIZED)

FITTINGS FOR EITHER NO. 222 OR NO. 333 MOLDING (Continued)
No. 426 Two Line Suspension Strip for use in supporting two parallel runs of molding on concrete or brick surfaces, as the mamber of holes is reduced one-half.

No. 427 Three-line Suspension Strip for use in sup-
 porting thrce lines of molding. Center line of molding must be secured at the same time as the strips.

No. 423 Sub-base for installing deviees at intersecting lines of molding. Has one opening and three molding twistoffs. Use No. 278 Bushing with No. 222 System and no bushing with No. 333 System.

No. 424 Angle Sub-base used in same manner as No. 423.

No. $3: 39$ Corrl Drop Box Cover has hushing for reinforeed cord. Four molding twistouts in sides and $1 / 2$ inch conduit knockout in bottom. Use either No. $2 \overline{2} 8$ or No. 377 Bushing.

No. 341 Junction Box is similar in all respects to No. 339, except that it is for use as a junetion box only. Use either No. 278 or No. 377 Bushing.

Nos. 342 and 342 R Switch Bases have the general design of No. 341 . For mounting any standard snap switch, also sub-base type of molding devices. Furnished with screws. U'se either No. 278 or No. 377 Bushing.

Nos. 410 and 410 A Fixture Box Covers are provided with special tapped hard fibre bushings, making these complete outlets for lighting fixtures. Tapped for $1 / 8$ or $3 / 8$ inch pipe. Use either No. 278 or No. 377 Bushing.

No. 375 Junction Box used in connection with special covers Nos. $378,379,380,381$ and $38: 3$. Provided with four molding twistouts. Use either No. 278 or No. 377 Bushing.

No. 383 Junction Box Cover is a plain hlank eover for use in connection with No. 375 Junetion Box.

Nos. 378. 379, 380 and 381 Porcelain Box Covers, similar to above, hut arranged (rop) corl 1,2,3 and 4 holes.

Nos, 365 and 366 Canopy Bases have four molding twistouts. Used for installing fixtures on straight metal molding systems. Bases are provided with one $1 / 2$ inch conduit knockout and two "Flextube". knockouts. Any standard fixture stud may be used. Ilushings Nos, 278 and 377 are emploved.
No. 363 Adapter I'lateisfor use with No. 363 B Cover in picking up and extending circuits from fixture outlets without removing the fixture. Plate is arranged with slots and holes, for fastening to any 3 or 4 inch outlet box. It can be fastened to open covers.


List
No.
426
427
423
424
339
341
342
342 R
410
410A
375
383
378
379
380
381
365
366
363
363A
363B

|  | Unit | Std. |
| :---: | :---: | :---: |
| Two Line Suspension Strip | Pkg. | Pkg. |
| Three İine Suspension Strip. | 20 | 1.0 50 |
| Sub-base. | 10 | 100 |
| Angle Sub-loase. | 10 | 100 |
| Cord Drop Box. | 20 | 60 |
| Junction Box. | 20 | 120 |
| Switch 13ase, 10 Ampere. | 20 | 120 |
| Switch Base, 5 Ampere. | 20 | 120 |
| Fixture Box $1 / 8$ Inch I'ipe. | 10 | 100 |
| Fixture Box $3 / 8$ Inch Pipe. | 10 | 100 |
| Junction Box. | 20 | 120 |
| Junction lbox Cover | 20 | 40 |
| Box Cover 1 Hole. | 10 | 40 |
| Box Cover 2 Hole. | 10 | 40 |
| Box Cover 3 Hole. | 10 | 40 |
| Box Cover 4 Hole | 10 | 40 |
| Canopy Bases $41 / 2$ Inch. | 10 | 40 |
| Canopy Bases 6 Inch.. | 10 | 40 |
| Adapter Plate. | 10 | 20 |
| Blank Cover | 10 | 20 |
| Split Cover. | 10 | 40 |

## "NATIONAL" METAL MOLDING <br> (SHERARDIZED)

FITTINGS FOR EITHER NO. 222 OR NO. 333 MOLDING (Continued)
No. 399 Keyless Receptacle used in conjunction with No. 423 or No. 424 Sub-base, where a receptacle
is desired at a cross tee ur elbow.

No. 398 Key Receptacle, same characteristics as above.
No. 396 Pull Chain Receptacle, same as above.


No. 398 B


Nos. 474 and 475


No. 575B
 Wsod at intersecting lines of molding. Must be mounted on sub-bases No. 423 or No. 424.

No. 309 B Keyless Receptacle. Hase is provided witl four twistouts for molding. Use cither No. 277 or No. 279 I3ushing.

No. 398B Kiey Receptacle. Same characteristics as above.

No. 396 B Pull Chain Receptacle, same as above.
Nos. 474 and 475 Keyless Receptacles, $31 / 2$ inch brush brass finish. Has four openings for molding. I3ase of No. 474 has four "Flextube" knockouts in bottom and No. 475 has necessary openings for wires for installation at outlets with spanner strips. Tse wilh No. 278 IBushing for No. 222 Molding and no bushing for No. 333 Molding.
Nos. 476 and 477 Keyless Porcelain Receptacle, $31 \frac{2}{2}$ inch. Llas same general characteristics as Nos. 474 and 475 , but is made entirely of porcelain.

Nos. 470 and 471 Keyless Receptacle, $41 / 2$ inch. Brush hrass finish. Same as Nos. 474 and 475, except in size.

Nos. 472 and 473 Keyless Porcclain Receptacle, $4^{1}$, inch. Same as Nos. 476 and 477, except ins size.
No. $575 B$ Keyless Receptacle, $31 / 2$ inch. Brush mass finish. Four molding twistouts in sides, four "Filextule" knockouts, and large knockout (to he removed when installing at conduit box outlets) in bottom. Use either Nos. 277 or 279 Bushing.
No. 57 〒B Keyless Porcelain Receptacle, $31 \frac{1}{2}$ inch. Sume as No . 57513 , except made entircly of porcelain.

No. 57113 Kicyless Receptacle, $41 / 2$ inch. Brush trass finish. Same as No. 575 B , except for size.
No. 57313 Keyless Porcelain Receptacle, $41 / 2$ inch. Same as No. 577B, excent for size.
Nos. 486 and 487 Pull Chain Recentaele, $41 / 2$ inch. Brush brass finish. Has four openings for molding, No. 486 is for use on straight molding johs. No. 487 is for use on conduit box sutlets. For No. 222 molding use No. 278 Bushing. No Bushing required for No. 333 Molding.

No. 587 B Pull Chain Receptacle, $41 / 2$ inch. Irrush brass finish. Four molding twistouts in sides and four "Flextube" knockouts in bottom, also a large knockout for mounting on conduit box outlets. Use either Nos. 277 or 279 Bushing.


No. 398


Nos. 470 and 471


No. 577 B


No. 587B
Schedule "X"
Mfrs. List W.E.List

| List |  |
| :---: | :---: |
| No. |  |
| 399 | Keyless receptacle |
| 398 | Fey Receptacle. |
| 396 | Pull chain receptitelo. |
| 399 B | Keyless recepticle. |
| 39813 | Key receptacle. |
| 39613 | I'ull chain receptacle. |
| 474 | Keyless receptacle, molding work |
| 475 | Seyless receptacle, concluit hox ou |
| 476 | Key"less recoptacle, mokling work. |
| 477 | Keyless receptarle, conduit box ou |
| 470 | Keyless receptacle, molding work |
| 471 | Keyloss receptacle, conduit lox outlets. |
| 472 | Keyless receptacle, molding work. |
| 473 | Keylens reeptacle, conduit box ontlets. |
| 57513 | Keyless receptacle. |
| 57713 | Ǩcyless receptacle |
| 57113 | Feyless reeeptacle. |
| 573 B | Keyless reveptacle |
| 486 | Pull chain receptacle, molding work. |
| 487 | Pull chain receptacle, conduit box outl |
| 587 B | Pull chain receptacle. |


| Unit | Std. | Std. Pkg. | Price | Price |
| :---: | :---: | :---: | :---: | ---: |
| Pkg. | Pkg. | Wt. Lbs. | per 100 | per 100 |
| 10 | 100 | 40 | $\$ 27.00$ | $\$ 46.98$ |
| 10 | 100 | 45 | 39.00 | 67.86 |
| 10 | 100 | 44 | 62.00 | 107.88 |
| 10 | 100 | 38 | 38.00 | 66.12 |
| 10 | 100 | 46 | 44.00 | 76.56 |
| 10 | 100 | 46 | 70.00 | 121.80 |
| 1 | 100 | 97 | 60.00 | 104.40 |
| 1 | 100 | 97 | 62.00 | 107.88 |
| 1 | 100 | 100 | 50.00 | 87.00 |
| 1 | 100 | 100 | 52.00 | 90.48 |
| 1 | 100 | 145 | 90.00 | 156.60 |
| 1 | 100 | 145 | 92.00 | 160.08 |
| 1 | 100 | 133 | 60.00 | 104.40 |
| 1 | 100 | 133 | 62.00 | 107.88 |
| 1 | 100 | $9 C$ | 60.00 | 104.40 |
| 1 | 100 | 94 | 50.00 | 87.00 |
| 1 | 100 | 127 | 90.00 | 156.60 |
| 1 | 100 | 128 | 60.00 | 104.40 |
| 1 | 50 | 97 | 128.00 | 222.72 |
| 1 | 50 | 97 | 130.00 | 226.20 |
| 1 | 50 | 90 | 128.00 | 222.72 |

## "NATIONAL" METAL MOLDING

## (Sherardized)

FITTINGS FOR EITHER NO. 222 OR NO. 333 MOLDING


No. 390


Nos. 480 and 481


Nos. 484 and 485


No. 429B

Nos. 390 and 390 A Attachment Plugs are of the subb-base type and are used at a cross, tee or elbow. They inust be mounted on cither No. 423 or No. 424 sub-base.
Nos. 390B and 390C Attachment Plugs have base with four molding twistouts. L'se either Nos. 277 or 279 bushing
Nos. 480 and 481 Drop Cord Rosette, $31 / 2$ inches. Brush brass finish. Has four openings for nolding. No. 480 is used on straight molding work and No. 481 has necessary openings for wires. For mounting at conduit box outlets with No. 222 molding No. 278 bushing is used, and no bushing with No. 333 molding.
Nos. 478 and 479 Drop Cord Rosette, $41 / 2$ inches. Brush brass finish. Name as Nos. 480 and 481 , except in size.
No. 581 B 1)rop ("ord Rosette, $31 / 2$ inehes. Brush brass finish. Has four inolding twistouts in sides, four "Flectube" and one large knockout in bottom for mounting at conduit box outlets. U'se either Nos. 277 or 279 bushings.
No. 579 B I)rop C'ori Rosette, $41 / 2$ inches. Brush brass finish. Same as No. 581 B, exeept in size
No. 432 1)rop Cord Rosette, sub-base type, for use where a drop cord is desired at intersecting lines of molding. Must be mounted on sub-base.
No. 432B Drop Cord Rosette. Base has four molding twistouts. (se either Nos. 277 or 279 bushing.

No. 348B Porerlain Rosette. Has four molding twistouts in sides of base. Use either Nos. 277 or 279 bushing.

Nos. 484 and 485 Fixture Rosctte, $31 / 2$ irches. Brush brass finish. Has four openings for molding and four "Flextube" knorkouts. No. $48 \overline{0}$ has necessary openings for wires for mounting at conduit box outlets. Use No. 278 bushing with No. 222 molding, and no bushing with No. 333 molding. Tapped for $3 / 8$ inch gas pipe only.

Nos. 482 and 483 Fixture Rosette, $41 / 2$ inches. Brush brass finish. Same as Nos. 484 and 485 , except in size.
No. 585 B Fixture Rosctte, $31 / 2$ inches. Brush brass finish. Base is provided with four molding twistouts in sides, four "'Flextube" knockouts, and large knockout in bottom for mounting on conduit box outlets. Tapped for $3 / 8$ inch gas pipe only. Use either Nos. 277 or 279 bushing.

No. 583 B Fixture Rosette, $41 / 2$ inches. Brush brass finish. Same as No. 58513 , except in size.

Nos. 429 P and 429 C lixture Kosettes for $1 / 8$ inch and $8 / 8$ inch gas pipe. Has standard base with four molding twistouts. Use either Nos. 277 or 279 bushing.

No. 393B 5 Ampere Snap Switch, Non-indicating. Base is provided with four molding twistouts. Lise either No.. 277 or 279 bushing.

No. 39413 : Ampere Snap Switch. Name as No. 393 B , except indicating type.


# "NATIONAL" METAL MOLDING <br> (Sherardized) <br> FITTINGS FOR EITHER NO. 222 OR NO. 333 MOLDING 



No. 438 Switch Box is a complete flush switch outlet consisting of a special shallow type flush switch hox on which is mounted a molding atapter. All standard flush plates will fit. Provided with four molding twistouts. Use either Nos. 278 or 377 bushing.

Schedule "R"
Mfrs. List W.E.List


No. 441 Flush Switch Adapter used for extending circuits from any standard flush switch outlet. It may he mounted on any standard flush switch box, provided with four molding twistouts. Will take any standard switch plate.
441 Flush switchadaptor . . . . . . . . . . . . . . . Sherardized $\begin{array}{lllllllll} & 10 & 100 & 34 & \$ 27.00 & \$ 45.36\end{array}$


## SWITCH ADAPTER SPACERS

No. 442 Flush Switch Adapter, rlouble split type. For use in the same manner as No. 441, except that it is designed for gang work. By using spacers as many gangs as may be desired can be built up. All standard flush plates will fit these combinations. Use either Nos. 278 or 377 bushings.



Wirmold, like rigid conduit, is furnished with one Base Coupling Fig. Fig. 1, but extra couplings nust be used where short lengths are installed.

To install Wiremold, push the coupling forward until serew hole is clear and then fasten to wall with a No. 8 flat head wood screw as shown in lig. 2. Slip the next length over edges of coupling, as shown in Fig. 3, and close up as in Fig. 4.

Base plates of all Wiremold fittings of cross, tee and elbow types are provided with ribbed tongues, as in lig. 5. In coupling, the tongues are slipped into the grooved edges of the molding, as in Fig. 6 , either before or after the fitting has been screwed to the wall. Ribhed tongues are also cut in the base plate of fittings of the outlet box type, as in lig. 7. Wiremold is compled to such plates by slipping tongues into the grooved edges of the moiding, as is illustrated by ligg 8 , either before or after the plate has been screwed to the wall.

No. 502 Molding Bushing should be used wherever Wiromold enters fittings. It is slipped into the end of Wiremold in manner illustrated by Figs. 9 and 10 and should be installed in all cases before molding is assembled with fittings. It is locked tightly in place by the base plates of fittings.

No. 503 Supporting (lip is designed to support Wiremold in the niddle of lengths of where tongues of fittings do not serve the purpose. It is secured to the waH with a No. 8 flat head food screw and Wiremold snapped into it, as shown in Fig. 11. The screw hole is slotted to allow clip to be adjusted to the line of the molding.

No. 504 Supporting Strap is designed for use where exceptionally rigid support is required.
No. 509 Ground Clannp is a standard, screwless ground coupling, and to install, the ground wire is first soldered into its lug. The coupling is then laid against the nolding base in the position shown in Fig. 12 , given a quarter turn to position shown by lig. 13, and the lug bent down as in Fig. 14, which locks it firmly into the grooved edges of the molding capping.

Note that conpling must be in place before Wiremold is installed.
No. 519 Corner box has been designed to provide in a single fitting for most of the corner combinations necessary where a run of Wiremold rises on the sidewall and must be turned and run close up in the corner on the ceiling or vice versa.
lig. 15, for cxanıple, shows the box used as a twisted elbow, Fig. 16 as a twisted tee, fig. 17 as another form of twisted tee and Fig. 18 as a twisted cross-these being only a few of the many combinations which ean be secured with it.


No. 581 is a $1 / 2$ inch box connector provided at one end with a tongue for coupling Wiremold and at the opposite end with a male hub having standard $1 / 2$ inch conduit thread.

No. 582 is a $1 / 2$ inch conduit coupling lapped at one end for standard $1 / 2$ inch conduit and provided at the opposite end with a tongue for coupling Wiremold.

One-half inch elbow box connector No. 383 is equipped with a removable steel cover and has coupling tongue for Wiremold spaced far enough back from the threaded hub to allow ample fish roon around the elbow.

No. $5851 / 2$ inch elbow conduit coupling differs from No. 583 in no particular save that its hub is tapped for standard $1 / 2$ inch conduit instead of being furnished with male thread.

No. 583 is for use where an elbow coupling between Wiremold and some fitting having knockout for $1 / 2$ inch conduit is necessary, as with outlet box shown in Fig. 49.

No. 584 is for use where a direct ellow coupling must be made between Wiremold and $1 / 2$ inch conduit, as in Fig. 50, where molding is coupled with conduit to pass through ceiling to floor above.


Fig. 19


Fig. 20


Fig. 21

Fig. 19 illustrates the use of Nos. 521 and 522 as standard drop cord rosettes.
Fig. 20 illustrates the use of No. 523 for hanging any small fixture having $1 / 8$ inch stem.
Fig. 21 is an exploded view of No. 525 installed, showing circuit wires passing across the contact block and tap wires passing to the terminal lugs of a standard socket body.

These contact blocks are furnished complete with two tap wires and make installation of socket bodies on No. 525 extremely simple.

No. 521 is a one piece metal shell rosette equipped with standard porcelain bushing for drop cords.
lt is $21 / 2$ inches in diameter and has four twistouts for Wiremold entrance.
No. 522 is a two picee rosette identical with No. 521 save that it is equipped with contact block having terminals for circuit and tap wires similar to block shown in Fig. © 1 .

No. 523 Fixture liosette differs from No. 522 only in its bushing which is of insulating material and threaded for $1 / 8$ inch fisture stems. It can be furnished with $1 / 8$ inch bushing only.

- No. 525 Receptacle Base is an insulated type steel receptacle base equipped with standard fluted ring to permit sockets, ceiling switches and all similar fittings of fluted type to be mounted upon it.

It is $2 \frac{1}{2}$ inches in dianeter, has four twistouts for Wiremold entrance and is provided with special easy-to-wire contact block.


Fig. 22


Fig. 26

No. 531 is a $21 / 4$ inch blank cover designerl for use with boxes $\mathcal{N} 0$. 532 and 533 where they are used for junction purposes only, as illustrated in lig. 22 above.

No. 532 is a $21 / 2$ inch outlet box designed primarily as a base for 5 ampere snap switehes, but may also be used as an outlet box with 'lype G or II condulet and similar style eovers.

No. 5.33 is a 3 inch outlet box designed primarily as a base for 10 ampere snap switches, but like No. 532, may also be used with many Type (i or II condulet covers or those of similar design.

No. 536 is a 4 inch blank cover for use with boxes Nos. 537 and 538 where they are used for junction work only, as in Fig. 32.

No. 537 is a 4 inch extension hox for use in extending with Wiremold from existing conduit outlets in the manner shown in Figs. 26,27 and 28 , its hase plate being arranged with special slots for the purpose.

Fig. 26 is a scetional view of $31 / 4$ inch conduit box and lig. 27 of a 4 inch conduit box-both flushed into the wall-showing method of hanging base plate of No. 537 on their cover screws, in making extensions from such outlets with this fitting.

Fig. 28 illustrates the method of hanging base plate of No. 537 on standard open covers with the speci-l clamps furnished for the purpose with No. 533 .


Fig. 29


Fig. 30


Fig. 31

No. 538 is a 4 inch fixture box primarily designed for use in hanging fixtures, but is also arranged for a number of other purposes, as shown by ligs. 29 to 34.

Where fixtures having round or square canopies larger than 4 inch are hung on No. 538, canopy rings Nos. 541, 542, $54: 3$ or 544 must be used.

Note that in addition to four twistouts for molding entrance, No. 538 has five knockouts for $1 / 2$ inch conduit in its base arranged as in standard 4 inch conduit boxes.

Fig. 29 shows a conduit "pancake" box mounted on the surface and Fig. 3 ) shows "pancakn" bex removed and base plate of No. 538 substituted for it, thus indicating the ease with which Wir mold extensions may be made from "pancake" type outlets if the original box has been mounted on the surface.

Fig. 31 shows base plate of No. 537 installed at old knob and tube outlet preparatory to extension with Wiremold.

## WIREMOLD



Fig. 32


Fig. 33


Fig. 34

Most fittings which can be mounted on $31 / 4$ inch or 4 inch conduit boxes can also be mounted on Nos. 537 and 538. Fig. 32, for example, shows $31 / 4$ inch blank cover on one of these fittings, lig. 33 a 4 inch drop cord cover and Fig. 34 a large base surface receptacle of the size used for $31 / 4$ inch concealed conduit outlets.


Fig. 35 illustrates the No. 5.38 Box installed complete with fixture sturl rearly to hang fixture.
Fig. 3 sillustrates the method of assembling round canopy rings Nos. 541 and 512 with the No. 538 Box, which is done by simply bending back the four small ears of these rings to engage over the flange of the No. 538 Box.

The Nos. 543 and 544 square canopy rings are assembled with the No. 538 Box in the same way as the round canopy ring.

To install the No. 550, first cut a hold in the wall 2 inches wide, 3 inches long and $11 / 4$ inches deep and mount the base of the No. 550 in it.

Then mount any standard push button switch on this base with the serews and spacer pieees furnished with each No. 550 for the purpose.

Next mount the No. 550 cover on the switch in the same manner ordinary flush switch plates are mounted, using cover screws furnished for the purpose with each No. 550.


Fig. 41 is a sectional view showing a standard flush switch box installed in a wall in the usual manner.
Fig. 42 shows the No. 551 Plate and any standard push switch mounted over the box shown in 1 ig .41 .
lig. 43 shows the assembly of push switch outlet complete with a No. 561 Cover.
Nos. 551,552 and 553 are for use in coupling Wiremold with standard flush switch boxes in the manner shown in lig. 42.

Nos. 561,562 and 563 are special push switch covers of standard type for use with the Nos. 551,552 and 553 plates. These covers furnished in enamel finish only.

Nos. 571,572 and 573 are not complete in themsel ves, but are designed to be covered with any standard style of plate desired, as illustrated by ligs. 44,45 and 46.

None of the above items are complete in themselves. An equal number of plates must be included in all cover orders.

The 560 series covers provide for installation of push switches with Wiremold, but where rotary switches or flush plug receptacles, as shown in l'igs. 44,45 and 46 , are required the 570 series must be used together
with the usual cover required for various types of attachment plugs or switches.


## Rigid Conduit

Black Enameled and Galvanized Rigid Conduit
Mfr's. List price in effect August 1st, 1913. Weights and dimensions are nominal.

| CONDUIT |  |  |  |  |  |  |  | COUPLINGS |  |  | ELBOWS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size | Diamaters |  | $\begin{array}{\|c} \text { Thick- } \\ \text { nes: } \end{array}$ | ut. Per Foot | Threads Per luch | Strl. l'kg. | Mifrs.Std.JistI'ricePrer Font | W't. <br> Per <br> 100 <br> l.bs. | Std. <br> 1'kg. | Mfrs. Sid. list Price Fiuch | $\begin{aligned} & \text { W't. } \\ & \text { jer } \\ & \text { 1000 } \\ & \text { l.hs. } \end{aligned}$ | Radius Inches | Offset <br> Inches | Stt. l'kg. | MfrsStd.ListPriceWarh |
|  | Extermal | Intern:a] |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/4 | . 540 | 3414 | 088 | 425 | 18 | 100 | \$0.081/2 | 6.4 | 500 | \$0.05 | 42 | 4.250 | 7.500 | 200 | \$0.19 |
| , | . 675 | . 403 | . 091 | . 568 | 18 | 100 | . $081 / 2$ | 9.6 | 500 | . 06 | 53 | 4.250 | 7.500 | 150 | . 19 |
| 1/2 | . 840 | . 622 | . 109 | .852 | 14 | 100 | $081 \%$ | 11. N | 500 | . 07 | 75 | 4.250 | 7.375 | 125 | . 19 |
| \% | 1.050 | .824 | . 113 | 1.134 | 14 | 50 | 111/2 | 20.9 | 400 | . 10 | 120 | 5.375 | 8.375 | 100 | . 25 |
| 1 | 1.315 | 1. 049 | .133 | 1. 684 | $11^{12}$ | 50 | 17 | 34.3 | 250 | . 13 | 201 | 5.750 | 9.500 | 50 | . 37 |
| $11 / 4$ | 1.640 | 1.380) | . 140 | 2.281 | 111\% | 30 | 23 | 53. 3 | 150 | . 17 | 300 | 7.250 | 10.875 | 25 | .45 |
| 11/2 | 1.900 | 1. 610 | . 145 | ${ }^{2} .731$ | 1111 | 10 | .271/2 | 74.:3 | 100 | .21 | 427 | 8.250 | 12.625 | 20 | . 10 |
| $2{ }^{2}$ | 2.375 | 2.04 .7 | . 154 | 3678 | 111. | 10 | . 37 | 120. 3 | 50 | . 28 | 700 | 9.500 | 15.250 | 15 | 1.10 |
| $21 / 2$ | 2.875 | 2.469 | . 203 | 5.819 | 8 | 10 | . $381 / 2$ | 172.9 | 40 | . 40 | 13300 | 10.500 | 17.375 | 10 | 1.80 |
| 3 | 3.500 | 3.048 | . 216 | 7.616 | 8 | 10 | . 7612 | 249.8 | 25 | . 60 | 1700 | 13.000 | 19.500 | 8 | 4.80 |
| $31 / 2$ | 4.000 | 3.548 | . 296 | 9.202 | 8 | 10 | . 92 | 42.4 | 15 | . 80 | 23600 | 15.000 | 21.250 | 6 | 10.60 |
|  | 4.500 | 4.026 | . 237 | 10.889 | 8 | 10 | 1.09 | 474.! | 10 | 1.00 | 2700 | 16.000 | 22.500 | , | 12.25 |
| $41 / 2$ | 5.000 | 4.501 | . 247 | 12.642 | * | 10 | 1.27 | 850.0 | . . | 1.50 | 3100 | 18.000 | 24.375 | . . | 18.55 |
| 5 | 5.563 | 5.047 | . 258 | 14.810 | 8 | 10 | 1.48 | 700.19 | . . | 1.65 | 5500 | 24.000 | 32.1000 | $\cdots$ | 25.75 |
| ( | 6.625 | 6.0) 5 5 | 280) | 119. 18.5 | k | 10 | 192 | 750.01 | . . | 2.40 | 9000 | $30.000)$ | 39.750 | $\ldots$ | 32.00 |

Tubes in 10 foot lengths, threaded both ends, with one coupling.
Discounts and prices on special sizes, bends and lengths on application.
The above list prices are not subjeet to a discount of $50 \%$.

## Conduit Sizes for Different Size Wires

| $\begin{aligned} & \text { No. } \\ & \text { N.NS. } \end{aligned}$ | $\begin{aligned} & \text { Circular } \\ & \text { Mils } \end{aligned}$ | Amperes Rubber | Size of Conduit |  |  | $\begin{aligned} & \text { No. } \\ & \text { R.NS. } \end{aligned}$ | CireularMils | Amperes Rubber | Size of Conduit |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 Wur | 2 Wre | 3 Wire |  |  |  | 1 Wire | 2 Wire | 13 Wire |
| 18 | 1020 | 3 | 1/2 | 1/2 |  |  | 500000 | 390 | 2 | 3 | 3162 |
| 16 | 2583 | 6 | 1/2 | $1{ }^{1}$ | 3/2 |  | 550000 | 420 | 2 | $31 / 2$ | 4 |
| 1.4 | 4107 | 12 | $1 / 2$ | 12 | 3 |  | 600000 | 450 | 2 | $31 / 1$ | 4 |
| 12 | (6.530 | 17 | $1 / 3$ | 8 | $3 / 4$ |  | 650000 | 475 | 2 | $31 / 2$ | 4 |
| 10 | 10.380 | 24 | , | 8 | 1 |  | 700000 | 500 | 2 | $31 / 2$ | 4 |
| 8 | 16.510 | 33 | 12 | 1 | 1 |  | 750000 | 525 | 3 | $31 / 2$ | 4 |
| 6 | $2 ¢ 2$ ¢ั) | 46 | 8 | 1 | 11/4 |  | 800000 | 550 | 2 | 31/2 | 4 |
| 5 | 33100 | 54 | 8 | 1314 | $11 / 4$ |  | 8500000 | 575 | 21. | 4 | 4 |
| 4 | 41740 | $6{ }^{6}$ | $3 /$ | $11 /$ | $11 / 2$ |  | 900000 | 600 | $21 / 2$ | 4 | 415 |
| 3 | 52630 | 76 | \% | $11 / 1$ | $11 / 2$ |  | 9500000 | 625 | $21 / 2$ | 4 | 415 |
| 2 | (ibi370 | 90 | $3 / 8$ | 112 | 2 |  | 1000000 | 650 | $21 / 3$ | 4 | $41 / 2$ |
| 1 | 83690 | 107 | $1{ }^{1}$ | $11^{12}$ | 2 |  | 1100000 | 690 | 21 | 4 | 5 |
| 0 | 105500 | 127 | 1 | 2 | $\stackrel{2}{2}$ |  | 1200000 | 730 | $21 / 2$ |  | 5 |
| 00 | 133100 | 150 | 1 | $\cdots$ | 2 |  | 1300000 | 770 | 21/2 | $41 / 1$ | 5 |
| 000 | 167800 | 177 | 11/4 | 2 | $21 / 2$ |  | 1400000 | 810 | 3 | $41 / 2$ | 6 |
| 0000 | 211600 | 210 | $11 /$ | 2 | 2312 |  | 1500000 | 850 | 3 | 5 | 6 |
|  | 200000 | 200 | $11 / 4$ | 2 | $21 / 2$ |  | 1600000 | 890 | 3 | 5 | 6 |
|  | 250000 | 235 | 11 | $21 /$ | $21 / 2$ |  | 1700000 | 930 | 3 | 5 | 6 |
|  | 300000 | 270 | $11 / 2$ | 21. | 3 |  | 1800000 | 970 | 3 | 6 | 7 |
|  | 350000 | 300 | $11 / 1$ | 2! ${ }^{\text {2 }}$ | 3 |  | 1900000 | 1010 | 3 | 6 | 7 |
|  | 400000 4.50000 | 330 380 | $2^{11 / 2}$ | 3 <br> 3 | 3318 |  | 2000000 | 1050 | 3 | f | 7 |

[^66]
## Non-metallic Flexible Conduit

W. E. Llst Per 1000 Feet in Coil Lots

$\$ 0.051 / 2$
.06
.09
.
.12
.18
.25
.33
.40
.47
.55
.65
Discounts on application

## FLEXIBLE STEEL CONDUIT



Single Strip Conduit


Double Strip Conduit

## Single Strip Type

This conduit is designed particularly for fireproof construetion, but is equally adaptable to new nonlireproof work, or for the wiring of finished buildings.

It differs from the Double Strip Type in that it is formed with a single strip of galvanized steel, interlocked and gasketed in such a manner as to be highly suitable for concrete construction.

In ordering Single Strip Type always specify S. S. Type.
Data and List Prices

| List | Nominal Inside <br> Diameter <br> in Inches | Approximate <br> Outside Diameter <br> in Inches | Weight <br> per 100 Feet <br> in Lbs. | Approximate <br> Feet in <br> No. | $\frac{5}{18}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |

Where it is desired to make use of a conduit in existing buildings, we strongly recommend this Double Strip Type on account of its extreme flexibility.

In ordering Double Strip 'Type of conduit always specify D. S. Type.


Armored Lamp Cord
Reinforced Armored Lamp Cord

# Flexible Armored Lamp Cord <br> Twin Conductors FSL 

| List |  | Approximate | Weight | list Price per | List Price per |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Size | Feet per Coil | per 1000 Feet | 100 Feet | 1000 Feet |
| 580349 | No. 18 B. \& S. | 150-250 | 200 lbs. | \$13.00 | \$117.00 |
| 580350 | No. 16 B. \& S. | 150-250 | 210 lbs. | 16.00 | 144.00 |
| 580351 | No 14 B. \& S. | 150-250 | 250 lbs. | 23.00 | 207.00 |

## Flexible Reinforced Armored Lamp Cord Twirr Conductors FSRLC

| 580352 | No. 18 B. \& S. | $150-250$ | 245 lbs. | $\$ 22.20$ | $\$ 199.80$ |
| :--- | :--- | :--- | :--- | ---: | ---: |
| 580353 | No. 16 B. \& S. | $150-250$ | 255 lbs. | 25.00 | 225.00 |
| 580354 | No. 14 B. \& S. | $150-250$ | 450 lbs. | 35.00 | 315.00 |

## ARMORED CONDUCTORS


$r$ Armored Conductors

## Armored Conductors

Armored conductors are designed for severe service and are built electrically and mechanically to meet these dernands. The flexible lead covered armored conductors are moisture proof and will give satisfactory results when installed in moist places, such as packing plants, cold storage buildings, breweries, etc., and are also adaptable for underground work.

| Single Conductor, Type S |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Size | Approximate Feet per Coil | Weight per 1000 Feet | List Price per 100 F | List Price per 1000 Fea |
| 580309 | No. 14, B. \& S. Solid | 250 | 190 lbs. | \$12.20 | 109.80 |
| 580310 | No. 12, B. \& S. Solid | 250 | 200 lbs. | 14.20 | 127.80 |
| $5 \times 0311$ | No. 10, B. \& S. Solid | 250 | 220 lbs . | 18.00 | 162.00 |
| 280312 | No. 8, B. \& S. Solid | 250 | 270 lbs. | 21.20 | 190.80 |
| $5 \times 0313$ | No. 6, B. \& S. Solid | 250 | 500 lbs . | 29.00 | 261.00 |
| 580:314 | No. 10, 13. \&S. Stranded | 250 | 220 lbs. | 19.00 | 171.00 |
| $5 \times 0315$ | No. 8, B. \& S. Stranded | 250 | 270 lbs. | 23.00 | 207.00 |
| 580316 | No. 6, B. \& S. Stranded | 250 | 500 lbs . | 32.00 | 288.00 |
| 580317 | No. 4, B. \& S Stranded | 250 | 570 lbs . | 41.00 | 369.00 |
| $1 \times 0318$ | No. 2, B. \& S. Stranded | 200 | 690 lbs. | 53.20 | 478.80 |
| 580319 | No. 1, B. \& S. Stranded | 100 | 960 lbs . | 59.22 | 567.00 |

580320
580321
$5 \times 0322$
$5 \times 0323$
$5 \times 0324$
580325

580326
580327
5×0328
580329
580320

Twin Conductors, Type FS

| No. 14, B. \& S. Solid | 250 | 400 lbs | $\$ 20.80$ | $\$ 187.20$ |
| :--- | ---: | ---: | ---: | ---: |
| No. 12, B. \& S. Solid | 250 | 452 lbs. | 27.00 | 243.00 |
| No 10, B. \& S. Solid | 200 | 510 lbs. | 37.00 | 3.33 .00 |
| No. 8, B. \& S. Stranded | 150 | 780 lbs. | 47.00 | 423.00 |
| No. 6, B. \&S. Stranded | 100 | 940 lbs. | 69.56 | 666.00 |
| No. 4, B. \&S.Stranded | 100 | 1210 lbs. | 108.10 | 1035.00 |

Three Conductors, Type FS3

| No. 14, B. \& S. Solid | 250 | 458 lbs | $\$ 27.60$ | $\$ 248.40$ |
| :--- | ---: | ---: | ---: | ---: |
| No. 12, B. \& S.Solid | 250 | 505 lbs | 34.00 | 306.00 |
| No. 10, B. \& S. Solid | 200 | 600 lbs | 47.00 | 423.00 |
| No. 8, B. \& S. Stranded | 150 | 862 lbs | 65.00 | 585.00 |
| No. 6, B. \& S. Stranded | 100 | 1160 lbs. | 88.54 | 849.60 |

## Lead Covered Armored Conductors

Single Conductors, Type SL

580331
580332
$5 \times 0333$
580334
580335
580336

No. 10, B. \& S. Stranded No. 8, B. \&S. Stranded No. 6, B. \& S. Stranded No. 4, B. \& S. Stranded No. 2, B. \& S. Stranded No. 1, B. \& S. Stranded
$250 \quad 460 \mathrm{lbs}$

| $\$ 27.60$ | $\$ 247.20$ |
| ---: | ---: |
| 33.25 | 298.70 |
| 43.08 | 403.76 |
| 57.27 | 512.94 |
| 69.23 | 657.14 |
| 83.03 | 799.28 |

Twin Conductors, Type FSL

580337
580338
580339
580340
580341

580342
580343
580344
580345
No. 14, B. \&S. Solid
No. 12, B. \&S. Solid
No. 10. B. \&S. Solid
No. 8, B. \&S. Stranded
No. 6, B. \& S. Stranded

| $100-200$ | 647 lbs. |
| ---: | ---: |
| $100-200$ | 693 lbs |
| $100-150$ | 900 lbs |
| $100-150$ | 1210 lbs. |

$\$ 37.72$
48.53
58.65
$\$ 337.84$
434.66
525.30
710.70
1287.50

## Three Conductors, FSL3

No. 14, B. \& S. Solid<br>No. 12, B. \& S. Solid<br>No. 10, B. \& S. Solid<br>No. 8, B. \& S. Stranded

| $100-150$ | 740 lbs. |
| ---: | ---: |
| $100-150$ | 906 lbs. |
| $100-150$ | 1040 lbs. |
| $100-150$ | 1040 lbs. |

$\$ 51.06$
66.70
74.75
103.50
$\$ 457.34$

|  | FLEXIBLE CONDUIT FITT | JC |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Stamped Steel Connectors |  |  | eable Iron Connector |  |  |
|  | Sprague Box Conn | to |  |  |  |  |
|  |  |  |  | Weight | List | List |
| List | Description | Unit | Std. | Std.Pkg. | Price | Price |
| No. |  | Pkg. | Pkg. | in Lbs. | Each | per 100 |
| 7118 | 10, 12, 14D, 16 and 18E Cord ( $1 / 2$ inch knockout : | 50 | 100 | 17 | \$0.30 | \$15. 00 |
| 7119 | $\frac{5}{16}$ inch D.S. Conduit; 8D, 16 and 18 LII Cord ( $1 / 2$ inch |  |  |  |  |  |
|  | knockout) - . . . . . . . 1 . . . . . . . . . . . . . . . . | 50 | 100 | 16 | 20 | 15.00 |
| $71191 / 2$ |  | 50 | 100 | 16 | 20 | 15.00 |
| 7120 | $3 / 8$ inchs's. and D.S. Conduit ; 14BX, 12B1X, 4 BX 3 and 6 D (hhle; 14E and 14EM Cord ( $1 / 2$ inch knockotut) | 50 | 100 | 12 | 20 | 15.00 |
| $(1) 21$ | For Nos. 1213 X and 1013X, $1413 \mathrm{X} 3,1213 \mathrm{X} 3,1413 \mathrm{XL}$, $143 \mathrm{NL} 3,14$ and $1213 \mathrm{M}, 4 \mathrm{D}$ and 6 DL Cable ( $1 / 2$ inch knockout) | 50 | 100 | $1: 3$ | 20 | 15.00 |
| 6122 | For Nos. 10BM, 1213XL, 123XL3, 2D, 4DL and 2DL and 1013X3 Cable ( $1 / 2$ inch knockout) | 50 | 100) | 15 | 20 | 15.00 |
| *7123 | For Nos. 813X, SBN3, 10 and 813XL, 1013XL3, 1 D Cable, and $1 / 2$ inch S. S. and D.S. (onduit ( $1 / 2$ inch knockout) | 50 | 100 | 17 | 20 | 15.00 |
| *6124 | lor Nos. $613 \mathrm{X}, 813 \mathrm{X}$ L3 Cable and $3 / 4$ inch $s .5$. Corduit ( $3 / 4$ inch knockout) | 25 | 100) | 33 | 23 | 19.00 |
| * $61241 / 2$ | For Nos. $413 \mathrm{X}, 613 \times 3$ and GBXL Cable ( 1 inch knockout) | 20 | 100 | 43 | 35 | 28.00 |
| * 6125 | For 1 inchs s. (onduit (1 inch knockout). | 20 | 100 | 39 | 35 | 28.00 |
| * 6126 | For $11 / 4$ inch S.s. (onduit (11/4 inch knockout) | 20 | 100 | 49 | 50 | 40.00 |
| *6127 | For $11 / 2$ inch S. S. Conduit ( $11 / 2$ inch knockout) | 20 | 100 | 65 | 75 | 60.00 |
| * 6128 | For 2 inch s. s. Conduit ( 2 inch knockout). | 10 | 50 | 48 | 1.00 | 8000 |
| * 6129 | For $21 / 2$ inch s. S. (onduit ( $21 / 2$ inch knockout) | 5 | 25 | 43 | 2.25 | 180.00 |
| * 6131 | For $3 / 4$ inch D. S. (conduit ( $3 / 4$ inch knorkout). | 25 | 100 | 31 | 23 | 19.00 |
| *(1)32 | For 1 inch D.s. Conduit ( 1 inch knockout). | 20 | 100 | 48 | 35 | 28.00 |
| ${ }^{*}(1) 133$ | For $11 / 4$ inch 1). S. Conduit ( $11 / 4$ inch knorkout). | 90 | 100 | 53 | 50 | 40.00 |
| * 61.33112 | For $11 / 2$ inch 1). S. Conduit ( $11 / 2$ inch knorkout). | 10 | 50 | 48 | 75 | (0). 00 |
| * 61334 | For 2 inch 1). S. Conduit ( 2 inch knorkout). | 10 | 50 | (if) | 1.00 | 810.00 |
| $\begin{gathered} * \mathrm{Tl} \\ \text { type and } \end{gathered}$ | ese commectors are not of the stamped steel tyne, but are furnished in hot galvanized finish. <br> ve prices include locknuts. | are | e of | alleab | n of | clamp |



Above prices are for the Adapter only, and do not include connectors. List Nos. 6119, 7120 and 6121
Box Connectors, shown above, are illustrated only for the purpose of showing their use.

## FLEXIBLE CONDUIT FITTINGS



## Sprague Panel Box Connectors

For Greenfield Flexible Steel Conduit and Armored Cables-Galvanized Finish

| List No. | Description | Unit Pkg. | Std. | Weight Std. Pkg. in Lbs. | List <br> Price <br> Each | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6135 | For $1 / 2$ inch 1), S. Conduit and Nos. 8BX 3,10 and |  |  |  |  | per 100 |
|  | 3XL, 1013XL 3 and 1D (able ( $1 / 2$ inch knockout). | 25 | 100 | 27 | \$0.37 | \$30.00 |
| *6136 | For $3 / 4$ inch I).S. Conduit ( $3 / 4$ inch knockout). | 10 | 100 | 44 | . 40 | 32.00 |
| *6137 | For 1 inch I).S. Conduit ( 1 inch knockout). | 10 | 100 | 61 | 47 | 38.00 |
| *6138 | For 11/4 inch 1).S. Conduit (11/4 inch knockout) | 10 | 100 | 78 | 62 | 50.00 |
| *61381/2 | For 11/2 ineh I). S. Conduit ( $11 / 2$ inch knockout). | 10 | 50 | 58 | . 92 | 74.00 |
| *6139 | For 2 inch D.s. Conduit (2 inch knoekout). | 10 | 50 | 75 | 1.42 | 114.00 |
| 6140 | For Nos. 14BX, 12BX, 1413X3 and 6D Cable. 14E Lamp Cord and ${ }^{3}$ \& inch S. S. and D). S. Conduit ( $1 / 2$ inch knockout) | 50 | 100 | 19 | .42 .32 | 14.00 26.00 |
| 6141 | For Nos. $1013 \mathrm{X}, 14$ and $12 B X 3,12 B X 1,1413 X L$, 14BX13, 1413M, 12BM, 4D and 6DL Cable (1/2 inch knockout) | 50 | 100) | 23 | . 32 | 26.00 |
| 6142 | For Nos. 10RX3, $12 \mathrm{BXL}, 2 \mathrm{D}, 4 \mathrm{DL}$ and 2DL and 1013.1 Cable ( $1 / 2$ inch knockout) | 50 | 100 | 28 27 | . 32 | 26.00 |
| 6143 | For $1 / 2$ inch $\mathcal{S}$. S. Conduit and Nos. 8BX, SBX 3,10 andSBXI, 1013XI.3 and 1 I) Cable ( $1 / 2$ inch knockout). | 25 | 100 | 30 | . 32 | 26.00 |
| 6144 | for $3 / 4$ inch S. S. Conduit and Nos. 6BX and 8BXI. 3 Cable ( $3 / 4$ inch knockout) | 20 | 100 | 41 | 45 | 36.00 |
| *61441/2 | For Nos. 413X, 6BX3 and 6BXL Cable (1 inch knoekout) | 10 | 100 | 53 | 45 | 36.00 |
| *6145 | For 1 inch S. S. Conduit (1 inch knockout) | 10 | 100 | 49 | . 52 | 42.00 |
| * 6146 | For $11 / 4$ inch S. S. Conduit (11/4 inch knockout). | 10 | 100 | 67 | 75 | 60.00 |
| *6147 | For $11 / 2$ inch S. S. Conduit ( $11 / 2$ inch knockout) | 10 | 50 | 48 | 1.00 | 80.00 |
| *(1148 | For 2 inch S.s. Conduit (2 inch knockout). | 10 | 50 | 50 | 1.38 | 108.00 |
| * 6149 | For $21 / 2$ inch S. S. Conduit ( $21 / 2$ inch knockout) | 5 | 25 | 45 | 2.50 | 200.00 |

* These connectors are not of the Stamped Steel Type, but are made of malleable iron of the Clamp Type and are furnished in a hot galvanized finish. Panel box connectors with an extra locknut may be used with cast-iron boxes having a wall thickness too great for the box connectors. Above prices include locknuts.


## Angle Box Connectors

| Finish Weight List List |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Unit | Std. | Std. Pkg. | Price | Prist |
| No. | Description | Pkg. | Pkg. | in Lbs. | Each | per 100 |
| 6190 | For Nos. $14 \mathrm{BX}, 12 \mathrm{BX}$ and 14 BX 3 Cable, 14 E and 14WM Lamp, Cord ( $1 / 2$ inch knockout) 45 degree connector | 20 | 100 | 28 | \$0.30 | \$24.00 |
| 6191 | For $1 / 2$ inch S.S. and D. S. Conduit ( $1 / 2$ inch knockout) 45 degree connector | 20 | 100 | 31 | 8.30 .30 | 824.00 |
| 6192 | For Nos 1413X, 1213X, 1413X3 Cable, 14E and 14EM |  |  |  |  |  |
|  | Lamp Cord ( $1 / 2$ inch knockout) 90 degree connector. | 20 | 100 | 38 | 30 | 24.00 |
| 6193 | For $1 / 2$ inch S.S. and D. S. Conduit ( $1 / 2$ inch knockout) 90 degrees | 20 | 100 | 44 | . 30 | 24.0 |

## List

No.
*6194 $3 / 4$ inch S. S. or D.S. Conduit ( $3 / 4$ inch knockout) 45 degrees
*6194A $3 / 4$ inch S. S. or D. S. Conduit ( $3 / 4$ inch knockout) 90 degrecs.
Std. Wt. Std. List Price List Price
*195 1 inch S. S. or D. S. Conduit (1 inch knockout) 90 degrees...
*6196 11/4 inch S. S. or D. S. Conduit ( $11 / 2$ inch knockout) 90 degrees
*6197 11/2 inch S. S. or D.S. Conduit ( $11 / 2$ inch knockout) 90 degrees

| Pkg. | Pkg. | Each | per 100 |
| ---: | ---: | ---: | ---: |
| 10 | 5 | $\$ 0.75$ | $\$ 60.00$ |
| 10 | 8 | .75 | 60.00 |
| 10 | 9 | 1.50 | $\mathbf{1 2 0 . 0 0}$ |
| 10 | 14 | 1.87 | $\mathbf{1 5 0 . 0 0}$ |
| 10 | 19 | 2.50 | $\mathbf{2 0 0 . 0 0}$ |

*Specify whether connector is wanted for S. S. or D. S. Conduit. This information is absolutely essential.

## FLEXIBLE CONDUIT FITTINGS

Sprague Galvanized Couplings


Nos. 6072 to 6077 Combination Coupling Usedito join Rigid Pipe to D. S. Flexible Steel Conduit or vice versa

| List <br> No. | Size of |  |  |  | Weight Std. Pkg. | List |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Unit | Std. |  | Price | Price |
|  | Conduit | Description | Pkg. | Pkg. | in Libs. | Each | per 100 |
| $\dagger 6160$ | For $\frac{5}{18}$ inc | S. S. Conduit. | 10 | 100 | 18 | \$0.20 | \$16.00 |
| 6162 | For $1 / 2$ inc | S. S. Conduit. | 10 | 100 | 52 | . 23 | 18.50 |

## *Couplings for D. S. Conduit Larger than $1 / 2$ Inch

| $\dagger 6062$ | For $3 / 8$ inch D. S. Conduit. | 10 | 100 | 24 | \$0.22 | \$17.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6063 | For $3 / 4$ inch D. S. Conduit. | 10 | 100 | 72 | . 30 | 24.00 |
| 6064 | For 1 inch D. S. Conduit. | 10 | 100 | 121 | . 40 | 32.00 |
| 6065 | For $11 / 4$ inch D. S. Conduit | 10 | 50 | 61 | . 55 | 44.00 |
| 6066 | For $11 / 2$ inch D. S. Conduit | 10 | 50 | 78 | 75 | 60.00 |
| 6067 | For 2 inch D. S. Conduit. | 10 | 50 | 102 | 1.07 | 86.00 |

6072
Combination Coupling for D. S. or S. S. with Rigid Conduit for $1 / 2$ Inch only
For $1 / 2$ inch D. S. or S. S. with Rigid Conduit.... $\quad 10 \quad 100 \quad 15 \quad \$ 0.31$
$\$ 25.00$

Combination Couplings for D. S. and Rigid Conduit

| 6073 | For $3 / 4$ inch D. S. and Rigid Conduit. | 10 | 100 | 74 | \$0.40 | \$32.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6074 | For 1 inch D. S. and Rigid Conduit. | 10 | 100 | 111 | . 52 | 42.00 |
| 6075 | For $11 / 4$ inch D. S. and Rigid Conduit. | 10 | 50 | 54 | 75 | 60.00 |
| 6076 | For $11 / 2$ inch D. S. and Rigid Conduit. | 10 | 50 | 82 | 1.00 | 80.00 |
| 6077 | For 2 inch D. S. and Rigid Conduit. | 10 | 50 | 104 | 1.50 | 120.00 |



Nos. 6163 to 6168 Couplings


Nos. 6173 to 6177 Combination Coupling
*Couplings for S. S. Conduit

|  |  |  |  | Weight | List | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Size of | Unit | Std. | Std. Pkg. | Price | Price |
| No. | Conduit Description | Pkg. | Pkg. | in Lbs. | Each | per 100 |
| $\dagger 6161$ | For $3 / 8$ inch S. S. Conduit. | 10 | 100 | 24 | \$0.22 | \$17.00 |
| 6163 | For $3 / 4$ inch S. S. Conduit. | 10 | 100 | 73 | . 30 | 24.00 |
| 6164 | For 1 inch S. S. Conduit. | 10 | 100 | 98 | . 40 | 32.00 |
| 6165 | For $11 / 4$ inch S. S. Conduit. | 10 | 50 | 57 | . 55 | 44.00 |
| 6166 | For $11 / 2$ inch S. S. Conduit. | 10 | 50 | 67 | . 75 | 60.00 |
| 6167 | For 2 inch S. S. Conduit. | 10 | 50 | 111 | 1.07 | 86.00 |
| 6168 | For $21 / 2$ inch S. S. Conduit. | 5 | 10 | 39 | 1.87 | 150.00 |

## Combination Couplings for S. S. and Rigid Conduit

| 6173 | For $3 / 4$ inch S. S. and Rigid Conduit | 10 | 100 | 66 | \$0.40 | \$32.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6174 | For 1 inch S. S. and Rigid Conduit | 10 | 100 | 97 | . 52 | 42.00 |
| 6175 | For $11 / 4$ inch S. S. and Rigid Conduit | 10 | 50 | 71 | 75 | 60.00 |
| 6176 | For $11 / 2$ inch S. S. and Rigid Conduit | 10 | 50 | 81 | 1.00 | 80.00 |
| 6177 | For 2 inch S. S. and Rigid Conduit | 10 | 50 | 101 | 1.50 | 120.00 |

* In ordering couplings it is advisable to order one coupling to every coil of Greenfield Flexible Steel Conduit.
$\dagger$ These couplings are furnished with only two ears and two securance bolts.


## FLEXIBLE CONDUIT FITTINGS




Fish Plug


Fish Plugs


No. 6115


No. 6118


No. 6115 Dis-assembled

These fish plugs, which are made for $3 / 8$ inch, $1 / 2$ inch and $3 / 4$ inch Greenfield Conduit, will be furnished free on application, and will he found very useful in drawing in either D.S. or S.S. Type of conduit in finished buildings where it is desired to fish it under floors or in partitions.

After the conduit has been cut squarely off in the special vise, the fish plug may be screwed into the tube and the fish wire or drawing-in line should then be attached to the eyclet on the end of the plug.

## Watertight Stuffing Bushings

These bushings are marle in two parts consisting of a male nipple having one end drilled out in a cup shape, and a hexagonal female clamping nipple having a clamp on one end which when serewel together securely holds the cable. The cable is inserted into the clamping nipple and the steam packing is then wrapped around the lead covering of the conductors. The male nipple is then screwed into the female clamping nipple which fores the steam packing into the cup-shaped space, also against the shoulder in the bottom of female clamping nipple making an absolutely watertight joint in the bushing.

| Li |  | Carton | Std. | Wgt. | List | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | D | uantity | Pkg. | Libs. | Each |  |
| 6106 | Bushing for 14 BXL and 1213XL Cable. | 20 | 110 | 36 | \$0.80 | \$154.00 |
| 6107 | l3ushing for 1413X133 and liv3XI3 Cable | 20 | 100 | 36 | . 80 | 14.00 |
| 6108 | l 3 ushing for 1013XL and 1013XL3 Cable. | 2) | 100 | 59 | 1.05 | 84.00 |

## Insulated Brass Connectors

For Steel Armored Flexible Cord Type "E"
These connectors are for use with Steel-Armored Flexible Cord as they thoroughly insulate the armor of the cord from the boxes and covers, also from the shell of the socket. They may be used in connection with box covers, sockets, rosettes, plug receptacles and attachment plugs.

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Carton | Std. | Wgt. Pkg. | List Price | List Price |
| No. | Description Q | Quantity | Pkg. | Lbs. | Each | per 100 |
| 6111 | Brass nipple for $\mathrm{H}_{\text {ubbell attachment plugs Nos. } 5815 \text { and }}$ 6116 when used with No. 6115 bushing. | d 50 | 200 | 5 | \$0.20 | \$16.00) |
| 6113 | For Nos. 16 and 18 E Cord with $7 / 8$ inch nipple loeknut and cap | . 50 | 200 | 13 | 43 | 35.00 |
| 6115 | For Nos. 16 and 18 Type E Cord | 50 | 200 | 10 | 25 | 2000 |
| 6118 | Brass Cap for No. 6115. | 50 | 200 | 1 | . 05 | 4.00 |

# Mfrs. List No. Comparative Index on Metallic Conduit Fittings 

| Thomas | National |  |
| :---: | :---: | :---: |
| \& | Metal |  |
| Betts | Molding | Pratt Chuck |
| . 80 | 2092 |  |
| 2.53 | 2163 | 6120-6121 |
| 201 | 216.4 | ( 122 |
| 254 | 2166 | (112:3-61:30 |
| 255 | 2167 | 6124 |
| 256 | 2160 | 6125 |
| 257 | 2170 | 6126 |
| 258 | 2171 | 6127 |
| 259 | 2172 | 6128 |
|  | 2182 | 6160 |
|  | 218:3 | 6161 |
| 45 | 2184 | 6162 |
|  | 2185 | 6063-6163 |
| . . . | 2186 | 6064-6164 |


| Thomas | National |  |
| :---: | :---: | :---: |
| $\&$ | Metal |  |
| Betts | Molding | Pratt Chuck |
| $\cdots$ | 2187 | $60655-6165$ |
| $\cdots$ | 2188 | $6(066-6166$ |
| $\cdots$ | 2189 | $6067-6167$ |
| 230 | 2190 | 607() |
| 231 | 2191 | $6073-6173$ |
| 232 | 2192 | $6074-6174$ |
| 233 | 2193 | $6075-6175$ |
| 234 | 2194 | $6076-6176$ |
| 235 | 2195 | $6077-6177$ |
| 220 | 2200 | $6140-6141$ |
| 221 | 2201 | 6142 |
| 222 | 2202 | $6143-6135$ |
| $\ldots$ | 2203 | 6144 |
|  | 2204 | 6145 |


| Thomas <br> $\&$ | National <br> Metal |  |
| :---: | :---: | :---: |
| Isetts |  |  | | Molding |
| :---: | :---: |$\quad$| Pratt Chuck |
| :---: |
| $\ldots$ |

# FLEXIBLE CONDUIT FITTINGS AND CUTTERS 



Lead Bushins


No. 6811 BX Armor Cutter Attached to Bench

## Brass Terminal Bushings



No. 6812 BX IIand Armor Cutter

|  |  | Weight | List |
| :---: | :---: | :---: | :---: |
| Unit | Std. | Std. Pkg. | Price |
| Pkg. | I'kg. | in lbs. | per 100 |
| 100 | 200 | 8 | \$5. 00 |
| 100 | 200 | 7 | 9.50 |
| 100) | 200 | 7 | 9.50 |
| 50 | 100 | 7 | 12.50 |
| 50 | 100 | 7 | 13.50 |

## Lead Bushings

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size of <br> Conduit | Std. <br> Pkg. | Weight Std. Pkg. in lus. |  | List <br> No. | Size of Conduit | Std. Prg. | Weight Std. Pkst. in Lbs | $\begin{array}{r} \text { List } \\ \text { Price } \\ \text { per } 100 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60.40 | $3 / 8 \mathrm{in}$. | 100 | 1 | \$1.80 | $(0043$ | 1 in. | 50 | 9 | \$3.40 |
| 6041 | $1 / 2 \mathrm{in}$. | 100) | 2 | 1.90 | (i)4.4 | $11 / 4 \mathrm{in}$. | 25 | 2 | 5.00 |
| (i)42 | $3 / 4 \mathrm{in}$. | 50 | 2 | 2.60 | (0045) | $11 / 2 \mathrm{in}$. | 25 | 3 | 10.00 |
|  |  |  |  |  | 6046 | 2 in. | 25 | 4 | 15.00 |

## Armor Cutters




No. 6813


No. 6810 Reamer for S. S. Type of Flexible Steel conduit


No. 6814 Special Vise

List No. 6815

|  | Weight | List No. 6815 |
| :---: | :---: | :---: |
|  | per 100 | List |
| Size | in Lbs. | Each |
| $3 / 8$ in. | 19 | $\$ 0.60$ |
| $1 / 2$ in. | 44 | .60 |
| $3 / 4$ in. | 106 | .80 |

## Bushing Tools

For D. S. Type of Flexible Steel Conduit

|  | Weight | List |  | Weight | List |
| :---: | :---: | :---: | :---: | :---: | ---: |
|  | per 100 | Price |  | per 100 | Price |
| Size | in Lbs. | Each | Size | in Lbs. | Each |
| 1 in. | 156 | $\$ 1.00$ | $11 / 2$ ins. | 20 | $\$ 1.50$ |
| $11 / 4 \mathrm{ins}$. | 13 | 1.50 | 2 | ins. | 38 |

Tools for $3 / 8$ inch to 1 inch inclusive, made of machine steel.
Tools for $11 / 4$ inch to 2 inches inchusive, made of hard wood.
Armor Cutters, Reamer and Vise

| Weight | List Price |
| :---: | ---: |
| $0 z$ | Each |
| $71 / 4$ | $\$ 1.10$ |
| 12 | 1.50 |
| 12 | 5.00 |

Bushing


| Size | Pkg. | Pkg. per Std. Pkg. per 100 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $1 / 2$ inch. | 100 | 1000 | 45 lbs . | \$S. 40 |
| $3 / 4$ inch. | 100 | 1000 | 60 lbs . | 11.20 |
| inch. | 100 | 1000 | 90 lbs. | 15.00) |
| $11 / 4$ inch. |  | 500 | (6) lbs. | 20.00 |
| $11 / 2$ inch. |  | 200 | 30 lbs . | 25.00 |
| 2 inch. |  | 100 | 20 lbs . | 40.00 |
| $21 / 2$ inch. |  | 100 | 30 lbs. | (00.00) |
| 3 inch. |  | 100 | 40 lbs. | 70.00 |
| $31 / 2$ inch. |  | 25 | 14 lbs. | 160.00 |
| 4 inch. |  | 25 | 20 lbs . | 240.00 |
| $41 / 2$ inch. |  | 20 | 24 lbs . | 256.00 |
| 5 inch. |  | 20 | 30 lbs . | 320.00 |
| 6 inch. |  | 15 | :34 lbs. | $38+.00$ |

## Locknuts

Unit Std. Weight List Price Pkg. Pkg. per Std. Pkg. per 100

| Size | Pkg. | Pkg. per Std. Pkg. per 100 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $1 / 2$ inch. | 100 | 5000 | 70 lbs . | \$5.00 |
| $3 / 4$ inch. | 100 | 5000 | 128 lbs . | 7.00 |
| 1 inch. | 100 | 1000 | 40 lbs. | 8.40 |
| $11 / 4$ inch. |  | 500 | 40 lbs . | 14.00 |
| $11 / 2$ inch. |  | 250 | 30 lbs . | 15.00 |
| 2 inch. |  | 100 | 16 lbs . | 20.00 |
| $21 / 2$ inch. |  | 100 | 20 lbs . | 30.00 |
| 3 inch. |  | 100 | 30 lbs . | 50.00 |
| $31 / 2$ inch. |  | 25 | 9 lbs. | 56.00 |
| 4 inch. |  | 25 | 12 lbs . | 80.00 |
| $41 / 2$ inch. |  | 20 | 15 lbs . | 112.00 |
| 5 inch. |  | 20 | 18 lbs. | 128.00) |
| if inch. |  | 15 | 28 lbs. | 160.00 |

Bushings

Squeeze Connectors<br>For Connecting Flexible Conduit to Outlet Boxes



Armored Conduit Bushing
$\left.\begin{array}{cccr} & & \text { Weight } & \text { List } \\ & & \text { Std. } & \text { per } 100\end{array}\right)$ Price
Price includes locknut.

## Hood Connectors



Armored Condnctor Bnshing


## G. V. Pipe Caps


G. V. Pipe Cap

| List |  |
| :--- | :--- |
| No. | Size |
| 1012 | 16 in. |
| 1034 | $3 / 4 \mathrm{in}$. |
| 1001 | 1 |
| 1114 | $11 / \mathrm{in}$. |
| 1112 | $11 / 2 \mathrm{in}$. |
| 1002 | 2 in. |


| List Price | List Price |
| :---: | ---: |
| Each | per Box |
| $\$ 0.64$ | $\$ 6.40$ |
| .80 | 8.00 |
| 1.24 | 10.00 |
| 1.48 | 9.00 |
| 2.08 | 10.00 |
| 3.04 | 14.65 |


| List |  | List Price | List Price |
| :--- | :--- | ---: | ---: |
| No. | Size | Each | per Box |
| 1212 | $21 / 2 \mathrm{in}$. | $\$ 5.44$ | 26.16 |
| 1003 | 3 | in. | 7.36 |
| 1312 | $31 / 2 \mathrm{in}$. | 9.86 | 59.16 |
| 1004 | 4 | in. | 11.64 |
| 1006 | 6 | in. | 38.40 |
|  |  |  | 207.36 |

$1 / 2,3 / 4$ and 1 inch put up ten in a box.
$11 / 4$ and $11 / 2$ inch put up six in a hox.


No. 551


No. 161


No. 685


No. 695


No. 855


No. 480

# CONDUIT FITTINGS <br> "DEAD GEOUND" CABLE BOXES 

## For Àrmored Conductors

These boxes have the simplest, yet absolutely the most effective connerting amb grounding device which entirely does away with a multiplicity of parts. These boxes are easy io install.

Deep Box-3 Inch Diameter by $1 / \mathfrak{s}$ Inch Deep

| List |  | std. | Wt., Lubs. per | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Pkg. | 100 | per 100 |
| 5n) | lior straight electric woris, $3^{8} \mathrm{in}$. fixture stem. | 100 | 88 | \$31.68 |
| 551 | For combination gas and electric to slip $3 / 8 \mathrm{in}$. gas pipe | 100 | 79 | 31.68 |
| 85 | For combination gas and electric to slip $1 / 2 \mathrm{in}$. gas pipe | 100 | 79 | 31.08 |


| Shallow Box-3 Inch Diameter by 3/4 Inch Deep |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| .).\% | Fors straight electric work, $3 / 8$ in. fixture stem. | 100 | 50 | \$31.68 |
| 5in 4 | For combination gas and clectric to slip $3 / 8 \mathrm{in}$. gas pipe | 100 | 47 | 31.68 |
| 555 | For conmbination gas and electric to slip $1 / 2 \mathrm{in}$. gas pipe | 100 | 47 | 31.68 |
|  | For $1 / 2$ Inch Flexible Steel |  |  |  |
| 560 | For straight electric work, $3 / 8 \mathrm{in}$. fixture stem. | 100 | 103 | \$34.56 |
| 561 | For combination gas and electric to slip $3 / 8 \mathrm{in}$. gas pipe | 10) | 100 | 34.56 |
| 502 | For rombination gas and clectric to slip $1 / 2 \mathrm{in}$. gits pije. | 10) | 100 | 34.56 |

## STANDARD BOX FOR ARMORED CONDUCTORS

Designed for finishel house work. Fits flush with the'surface of the wall Two sides of this box are made on an angle, making installation casy.
160 For straight electric work, $\frac{3}{6}$ in. fixture stem. $100 \quad 74 \quad \$ 29.20$
161 Jor combination gas and elect ric, to slip $3 / 8 \mathrm{in}$.
gas pipe

100
$76 \quad 29.20$
$2803 / 8$ in. connector for use with above. ........ $100 \quad 10 \quad 11.86$

## SPLIT TEES

Malleable iron, heavily galvanizel. Isushed and flanged at joints to prevent entrance of dust or grit.
$\begin{array}{lll}685 & 1 / 2 \text { in. run throngh } & 1 / 2 \\ 686 & 3 / 4 & \text { in. run through } \\ 1 / 2 \\ 687 & 3 / 4 & \text { in. run throngh } \\ 3 / 4 \\ 6 \times 8 & 1 & \text { in. run through } \\ 68 \\ 689 & 1 & \text { in. run through } \\ 69 / 4 \\ 690 & 1 & \text { in. run through }\end{array}$


## SPLIT ELBOWS

Malleable iron, heavily galvanized. Bushed and flanged at joints to prevent entrance of dust or grit.

| 695 | For $1 / 2 \mathrm{in}$. conduit. | 100) | 27 | n |
| :---: | :---: | :---: | :---: | :---: |
| 696 | For $3 / 4 \mathrm{in}$. conduit | 50 | 34 | Appl. |
| 697 | For 1 in. conduit | 25 | $3 \cdot 1$ |  |

## SPLIT COUPLINGS

Malleable iron, heavily galvanized. Bushed and flanged at joints to prevent entrance of dust or grit.

| 855 | For | in. conduit. | 100 | 18 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 856 | lor $3 /$ | /4 in. conduit. | 50 | 25 | 1 |
| 857 | For 1 | in. conduit. | 25 | 37 |  |

## BRASS FLOOR COUPLINGS

Designed for use with bushed elbows and "bulb" tees, and can be used to great advantage with ordinary conduit elbows.

| List |  | Outside | Std. | Wt., Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Size | Diam. | Pkg. | per 100 | per 100 |
| 480 | $1 / 2 \mathrm{in}$. | $1 \frac{5}{16} \mathrm{in}$. | 100 | 23 | \$137.60 |
| 481 | \% in. | $1 \frac{9}{16} \mathrm{in}$. | 100 | 35 | 163.40 |
| 482 | 1 in. | $1{ }_{1}^{13} \mathrm{ib}$ in. | 25 | 58 | 197.80 |
| 483 | 11/4 in. | 23/8in. | 10 | 95 | 438.00 |

## CONDUIT FITTINGS



Fish Wire

## Fish Wire

This wire is regularly furnished in $100,200,250$ and 300 feet lengths, but can be furnished in any length desired.
List No. List Price per 100 Feet

| 1000 | Fish Wire, $1 / 8 \mathrm{in}$. (standard size) | \$4.00 |
| :---: | :---: | :---: |
| 1001 | Fish Wire, $\frac{3}{16}$ in. | 6.00 |
| 1002 | Fish Wire, $1 / 4 \mathrm{in}$. | 8.00 |



Pipe Ilook


Nippie


## Wrought Pipe Hooks

| Size |  | Black Finish |  |  | Pkg. Wgt. | List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | . pipe hook |  |  |  | $13 / 8 \mathrm{lbs}$. |  |
|  | pipe hook |  |  |  | $23 / 4 \mathrm{lbs}$. | . Prices |
|  | . pipe hook. |  |  |  | $23 / 8 \mathrm{lbs}$. | . on |
|  | . pipe hook. |  |  |  | $47 / 8 \mathrm{lbs}$. | . applica- |
|  | . pipe hook. |  |  |  | $51 / 2 \mathrm{lbs}$ | tion |
|  | . pipe hook. |  |  |  | $121 / 2 \mathrm{lbs}$. |  |
| List |  | Chase Nipples |  |  | List Price |  |
| No. |  | Chase Nipples | $10 \mathrm{~J}_{\mathrm{in}}$ los. | Pkg. | Each p | per Std. Pkg. |
| 840 | 1/4in. nipples. |  | 2 | 100 | \$0.09 | \$6.00) |
| 841 | $3 / 8 \mathrm{in}$. nipples. |  | 3 | 100 | . 09 | 6.00 |
| 842 | $1 / 2 \mathrm{in}$. nipples. |  | 5 | 100 | . 09 | 6.00 |
| 843 | $3 / 4 \mathrm{in}$. nipples |  | 6 | 100 | . 11 | 9.60 |
| 844 | 1 in. nipples. |  | 12 | 100 | . 27 | 18.00 |
| 845 | $11 / 4 \mathrm{in}$. nipples |  | 19 | 100 | . 32 | 21.60 |
| 846 | $11 / 2 \mathrm{in}$. nipples |  | 27 | 50 | . 36 | 24.00 |
| 847 | ${ }_{2}$ in. nipples. |  | 45 | 50 | . 54 | 36.00 |
| 848 | 21/2 in. nipples . |  | 68 | 25 | . 90 | 60.00 |
| 849 | 3 in. nipples. |  | 108 | 25 | 1.44 | 96.00 |
| 850 | $31 / 2 \mathrm{in}$. nipples. |  | 122 | 20 | 4.50 | 300.00 |

## Chase Couplings



## FIXTURE STEMS, BEAM STRAP AND FIXTURE HANGERS



Fixture Stem
$8 / 8$ Inch Solid


Fixture Stem
$1 / 2$ Inch Solid


Fixture Stem
$3 / 8$ Inch IIollow

Fixture Stems

List
No Description
$1300 \quad 8 / 8$ in. soli 1
1301 1 in solid .................................................... Sherardized
1305 3/8 in. hollow . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Sherardized
1306 1/2 in. hollow . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Sherardized
larked in cartons containing 100 stems.
Enameled finish also furnished at same price as sherardized.
Stove bolts with nuts are not included in price of stems. 'Two bolts usually specified for each fixture stem.

2000 bolts with nuts for 1000 fixture stems, $\$ 7$ net.


No. 1326

Conduit Bushing Adapters

| List | con | List l'rice Each | List Price per 100 |
| :---: | :---: | :---: | :---: |
| No. | Sizes | 80.20 | \$16.00 |
| 1325 | $3 / 4$ in. male $x 1 / 2$ in. female. | . 35 | 32.00 |
| 1326 | $1 / 2$ in. male $x \frac{3}{4}$ in. female. | 35 | 32.00 |
| 1327 | 1 in. male $\times 3 / \frac{1}{}$ in. female |  |  |



No. 1316


Showing Application to Beam


Hickey Fixture Hangers


| List |  | Pkg. | Each | per 100 |
| :---: | :---: | :---: | :---: | :---: |
| No | Finish | 100 | \$0.06 | \$5.25 |




Type L Conduit Fitting


## Bendhick's Conduit Elbow

| Type L |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Size | Std. | $\underset{\text { List }}{\text { Price }}$ | List | Nizo | N | List |
| No. | Conduit | Pkg. | Each | List | Size | std. | Price |
|  |  | 100 | Lach | No. | Conduit | Pkg, | Each |
| L. $3 / 2$ | $1 / 2 \mathrm{in}$. | 100 | \$0.06 | L. $11 / 2$ | $11 / 2$ ins. | 20 | \$3.30 |
| L. $3 / 4$ | $3 / 4 \mathrm{in}$. | 100 | . 78 | L. 2 | 2 ins. | 10 | 6.60 |
| L. 1 | 1 in . | 50 | 1.00 | L. $21 / 2$ | $21 / 2$ ins. | 4 | 8.80 |
| L. $11 / 4$ | 11/4 ins | 24 | 2.76 | L. 3 | 3 ins. | 4 | 11.00 |

## Erickson Conduit Coupling

Does away with running threads. Permits opening of conduit at any point.

|  | Std, | List |  | Std. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Size | Pkg. | Each | Size | Pkg. | Each |
| 1/2 inch | 100 | \$0.45 | 11/4 inches | 25 | \$1.40 |
| $3 / 4$ inch | 50 | . 56 | 11/2 inches | 25 | 1.62 |
| 1 inch | 25 | . 88 |  |  | 1.20 |



## Krantz Porcelain Lined Bushings

Porcelain Lined Threaded and Set Screw Bushings
These bushings are a great convenience where it is found difficult to place a thread on the conduit. Size of Conduit,

| Inches. ........ | $1 / 2$ | $3 / 4$ | 1 | $11 / 4$ | $11 / 2$ | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List Price each... | $\$ 0.32$ | $\$ 0.36$ | $\$ 0.45$ | $\$ 0.50$ | $\$ 0.59$ | $\$ 0.68$ | $\$ 0.97$ | $\$ 1.19$ | $\$ 1.44$ | $\$ 1.76$ |
| Standard Package | 100 | 100 | 60 | 60 | 50 | 20 | 20 | 20 | 10 | 10 |

## Porcelain Lined Split Bushings

These bushings are designed to be used on conduits which have already been equipped with wire. Size of Conduit,

| Inches....... | $1 / 2$ | $8 / 4$ | 1 | $11 / 4$ | $11 / 2$ | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List Price each... | $\$ 0.54$ | $\$ 0.54$ | $\$ 0.68$ | $\$ 0.79$ | $\$ 0.86$ | $\$ 0.99$ | $\$ 1.35$ | $\$ 1.62$ | $\$ 1.98$ | $\$ 2.25$ |
| Standard Package | 100 | 100 | 60 | 60 | 50 | 50 | 20 | 20 | 10 | 10 |

Western Electric

## HANGERS AND CONDUIT FITTINGS



MINERALLAC CABLE AND CONDUIT HANGERS


No. 2 and 4
Universal Bushing

## List Size of 250 Volt No. Lead-Covered Cable

 o) 3 cont. No. 14 to 7 emond. No. 14. No. 1 to $2-0$So. 4-0 to $300 \mathrm{M1}$.1
$1 / 2 \mathrm{in} 103 /$.4 $\because \quad N o .4-0$ to 300 MI 1 in . $3 \quad 500 \mathrm{M}$. to 750 M .
 4-0).......... 21/2 ins. 21 手ins. :3 ins

| . 1 pprox. Weight per Pks. | Std. Pkg. |  |
| :---: | :---: | :---: |
| +1自llos. | 100 | \$8.79 |
| $71 / 2 \mathrm{lbs}$ | 100 | 9.69 |
| 10 lbs. | 100 | 13.80 |
| 10 lbs | 100 | 13.89 |
| 1.1 lbs. | 100 | 17.22 |
| 11 Ils. | 50 | 18.48 |
| 123/2 11 x. | 50 | ${ }^{2} 0.67$ |

Standard finish japan. The above prieres do not include stove bolts. For galvanized add $\$ 0.02$ each.

PORCELAIN BUSHINGS-FOR MINERALLAC HANGERS


No. 911 Conduit (Slamp


Conduit Hanger

| List | Size of 250 Volt |
| :--- | :--- |
| No. | Rubber-Covered C'able |


|  |  |
| :--- | :---: |
| Diameter of Opening |  |
| Min. | Max. |
| $\frac{5}{16}$ in. | $\frac{10}{3}$ in. |
| $5 / 3$ in. | $\frac{27}{32}$ in. |
| $7 / 3$ in. | $1 \frac{3}{32}$ ins. |
| $11 / 3$ ins. | $1 \frac{9}{32}$ ins. |
| $1 \frac{5}{16}$ ins. | $11 / 2$ ins. |
| $1 \frac{17}{38}$ ins. | 2 |
| ins. |  |


| Approx. |  | List |
| :---: | :---: | :---: |
| Weight | Std. | Price |
| per l lkg . | P'kg. | per 100 |
| 8 lbs . | 100 | \$10.05 |
| 12 lbs. | 100 | 11.49 |
| $13 \mathrm{lbs}$. | 100 | 12.63 |
| $\because 2 \mathrm{lbs}$. | 100 | 14.64 |
| $1+\mathrm{lbs}$. | 50 | 16.25 |
| 5 lbs | 50 | 17.67 |

## UNIVERSAL BUSHINGS

Iniversal lBushings are approved by the National Board of Fire Underwriters.

| List <br> No. |  | sitd.Pkg. | -_List Irice_-- |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Fach | Per 100 |
| 1 | For $5 / 8 \mathrm{in}$. knockout. $1 / 4 \mathrm{in}$. and $\frac{3}{18} \mathrm{in}$ in tubing. | 100 | S0.04 | \$4.50 |
| 2 | For $7 / 8 \mathrm{in}$. knockout, $1 / 4 \mathrm{in}$. and $\frac{5}{16} \mathrm{in}$. tuhing. | 100 | . 07 | 5.26 |
| 4 | For $5 / 8$ in. knockout. $\frac{7}{32}$ in. tubing. | 100 | . 06 | 4.50 |
| 4 | For $7 / 8$ in. knockout, ${ }^{\frac{7}{32}} \mathrm{in}$. ti.bing | 100 | . 07 | 5.26 |

H AND H CONDUIT CLAMP
List
No.
911 Conduit Clamp, for armored eonductor. .

Std.
Pkg.
100
Schedule "H"

CONDUIT HANGERS
Size
$3 / 8 \mathrm{in}$.
$1 / 2 \mathrm{in}$.
$3 / 4 \mathrm{in}$.
$11 / 4$ ins.
$11 / 2$ ins.
$21 / 2 \mathrm{ins}$.
$21 / 2$ ins.
Weight
11 lbs
11 lbs
11 lbs
11 lbs
14 lbs.
14 lbs
16 lbs
17 lbs.

| Length |
| :---: |
| ins. |
| ins. |
| ins. |
| ins. |
| $41 / 2 \mathrm{ins}$. |
| $41 / 2$ ins. |
| 5 ins. |
| $51 / 2 \mathrm{n}$ ins. |

Std. Pkg.
100
100
100
100
100
100
100
100

| Each | Per 100 |
| :---: | :---: |
| \$0. 15 | \$5.50 |
| . 15 | 5.50 |
| . 15 | 5.50 |
| . 15 | 5.50 |
| . 15 | 5.72 |
| . 15 | 5.72 |
| . 1.5 | 5.72 |
| 15 | (i. 16 |

## CONDUIT OUTLET BOXES



No. YA


No. 2A


No. FM

## Round Outlet Boxes

## NO. Ya CEILING BOX

Dimensions- $31 / 2$ inches diameter, $5 / 8$ inch deep.
Outlets-8 $1 / 4$ inch Circular Loom Outlets and one $3 / 4$ inch Rigid Conduit Outlet in bottom.

|  |  | Mifs. | W. E. List |
| :---: | :---: | :---: | :---: |
| List |  | List | Each |
| No. |  | per 100 | Gaiv. |
| YA | Ceiling Box. | \$14.00 | \$0.28 |

## NO. ZA OUTLET AND RECEPTACLE BOX

Dimensions- $31 / 4$ inches diameter, $13 / 4$ inches deep.
$81 / 4$ inch Circular Loom and $13 / 4$ inch Rigid Conduit Knock-out in botom.
$41 / 4$ inch Circular Loom and $41 / 2$ inch Rigid Conduit Knock-out in the side.
Depth--1 $3 / 4$ inches.
Screw holes spaced for all FA box covers.


NO. FM OUTLET BOX
Dimensions- $31 / 4$ inch diameter, $3 / 4$ inch deep; $31 / 2$ inch Outlets only in bottom.
Outlets-3 $1 / 2$ inch Rigid Conduit Outlets in bottom.

|  | -31/2 meh | Mfrs. | W. E. List |
| :---: | :---: | :---: | :---: |
| List |  | List | Each |
| No. |  | per 100 | Galv. |
| FM | Outlet Box | \$18.00 | \$0.36 |



No. AA


No, BBA


Plate

## Round Outlet Boxes NO. AA ROUND OUTLET BOX

$31 / 4 \times 3 / 4$ inches deep. No knock-outs in sides.
$71 / 4$ inch Circular Loom Knock-outs and $13 / 4$ inch Rigid Conduit Knock-out in bottom. Screw-holes spaced for all FA box covers.


## NO. BBA ROUND OUTLET BOX

$31 / 4 \times 3 / 4$ inch deep. No Knock-outs in sides.
$71 / 4$ inch Circular Loom Knock-outs and $13 / 4$ inch Rigid Conduit Knock-out in bottom. Screw holes spaced for all FA box covers.


## STEEL PLATE



## CONDUIT OUTLET BOXES AND COVERS



NO. EA RECEPTACLE BOX
For G. E. Receptacle No. 50746 and Bryant Receptacle Nos. 40507, 50744 and 50746
Dimensions- $31 / 4$ inches diameter $15 / 8$ inches deep.
Outlets-Four outlets in sides.
Size Outlets-For $1 / 2$ inch condurt only.
Note-Box cannot be furnished with bottom outlet.


Dimensions- $31 / 4$ inches diameter, $15 / 8$ inches deep.
Outlets-Four outlets in sides and one in bottom.
Size Outlets-For $1 / 2$ inch conduit only.
Fixture Stems-Boxes are drilled for fixture stems.
For Outlet and Junction purposes No. FA box with covers, FG and FH, can be used where a small box is necessary.


No, ED


No. EE
COVERS FOR $31 / 4$ INCH ROUND BOXES


No. FB


No, FF


| Mfrs. | W. E. List |
| :---: | ---: |
| List | Each |
| per 100 | Galv. |
| $\$ 20.00$ | $\$ 0.40$ |
| 20.00 | .40 |



No. FE

| Finish Galv. | Mfrs. | , |
| :---: | :---: | :---: |
|  | List | Each |
|  | per 100 | Galv. |
|  | \$10.00 | \$0.20 |
|  | 50.00 | 1.00 |
| Galv. | 10.00 | 20 |
|  | 54.00 | 1.08 |
| Galv. | 10.00 | . 20 |
| Galv. | 10.00 | 20 |
|  | 50.00 | 1.00 |

No. FG



No. $\mathbf{F H}$
COVERS FOR $31 / 4$ INCH ROUND BOXES



No. FE


No. FO


No. FP

## COVERS FOR $31 / 4$ ROUND BOXES

| List |  |  | Mifrs. <br> List | W. E. <br> List <br> Each |
| :--- | :--- | :--- | :--- | ---: | ---: |
| No. |  | Finish | per 100 |  |



COVERS FOR $31 / 4$ ROUND BOXES

| COVERS FOR 31/4 ROUND BOXES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List No. | COVERS FOR 31/ ROUND BOXES | Finish | Mfrs. List per 100 | W. E. <br> List <br> Each |
| FQ | Flat Steel Cover, drilled for 5 Amp. Snap Switches. | Galv. | \$12.00 | \$0.24 |
| FR | Snap Switch Steel Cover | Galv. | 12.00 | . 24 |
| FT | Flat Brass Cove | . | 50.00 | 1.00 |



## COVERS FOR $31 / 4$ ROUND BOXES

| COVERS FOR $31 / 4$ ROUND BOXES |  |  |  |
| :---: | :---: | :---: | :---: |
| List |  | List | Each |
| No. |  | per 100 | Galv. |
| FU | Closed Steel Cover, $1 / 2$ inch Knock-out Center. | \$10.00 | \$0.20 |
| FV | Steel Cover for $1 / 4$ inch bushing . | 10.00 | . 20 |
| FW | Steel Cover for Hubbell Receptacle No. 5506 | 10.00 | . 20 |
| FY | Raised Steel Cover for Freeman Receptacle No. 140. | 12.00 | . 24 |
|  | enameled boxes, deduet $10 \%$. |  |  |

## CONDUIT OUTLET AND JUNCTION BOXES




No. CAO


No. DA

## NO. CA OUTLET BOXES

Dimensions- 4 inch diameter, $15 / 8$ inches deep.
Outlets-Four outlets in side and five in bottom.
Size Outlets-For $1 / 2$ inch or $3 / 4$ inch conduit only.
Fixture Stems-Boxes are drilled for fixture stems.

| ${ }_{\text {List }}$ |  | Mfrs. List per 100 | W.E.List Each Galv. |
| :---: | :---: | :---: | :---: |
| CA | Round Box. | \$25.00 | \$0.50 |
| CAO | Octagonal Box. | 25.00 | 50 |

## NO. DA OUTLET BOX

Dimensions-4 inches diameter, $21 / 4$ inches deep.
Outlets-Four outlets in sides and five in bottom.
Note: Size Outlets-For $1 / 2 \mathrm{inoh}, 3 / 4$ inch and 1 inch conduit-No bottom outlets are provided in boxes arranged for 1 inch conduit.

Fixture Stems-Boxes are drilled for fixture stems.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Mfrs. List per 100 | W.E.List Each Galv. |
| :---: | :---: | :---: | :---: |
| DA | Round Box. | \$32.00 | \$0.64 |



No. OA


No. $R A$


No. WA

NOS. QA AND RA OUTLET BOXES

## For Combination Gas and Electric Fixtures

Dimensions-4 inches diameter; depth for brick work, $15 / 8$ inches; for lath and plaster, $21 / 4$ inches.
Outlets-Four in sides and four in bottom for $1 / 2$ inch pipe. Where $3 / 4$ inch pipe is used, box cannot be furnished with bottom outlets.

Center Nipple-Will pass $1 / 2$ inch gas pipe.

| List No. | 促 | Mfrs. List per 100 | W.E.List Each Galv. |
| :---: | :---: | :---: | :---: |
| QA | Round box for brick, $15 / 8$ inches deep. | \$40.00 | \$0.80 |
| RA | Round box for lath and plaster, $21 / 4$ inches deep | 52.00 | 1.04 |

## WA OUTLET AND JUNCTION.,BOX For Rigid and Flesible Conduits

Dimensions- 4 inches diameter, $15 / 8$ inches deep.
Outlets-21 outlets: $43 / 2$ inch knock-outs in side; 8 circular loom knock-outs in side; 6 circular loom knock-outs in bottom; $31 / 2$ inch knock-outs in bottom; drilled for fixture stems.


## CONDUIT OUTLET BOXES AND COVERS



No. GA


No. GB


No. GI

NO. GA RECEPTACLE BOX
For Norbitt, Trumbull, P. \& S. and G. E. Receptacles
Dimensions-4 inches diameter, $15 / 8$ inches deep.
Outlets-Four side outlets only.
Size Outlets-For $1 / 2$ inch or $3 / 4$ inch conduit only. No provision is made for fixture stems.
Note-Box cannot be furnished with bottom outlets.


No. GC

No. GF

No. GL

## COVERS FOR 4 INCH ROUND BOXES




No. CC

No. CD


Finish \begin{tabular}{c}
Mfrs. List <br>
per 100

 

W.E.List <br>
Each
\end{tabular}

Galv. \$14.0n \$0.28
 Brass Cover for C-227 Norbitt Receptacle, 1 \& S. Receptacles Nos. 61877, 61988 and 61577
....
$\begin{array}{lll}\cdots & 62.00 & 1.24\end{array}$ Steel Cover for Trumbull Receptacle.

Galv.
14.00

GG Brass Cover for Trumbull Receptacle
Galv.


No. CE

## COVERS FOR 4 INCH ROUND BOXES



Drilling and tapping cover No. CE for any standard rosette, net extra, 10 cents each.
For enameled boxes, deduct $10 \%$.

## CONDUIT BOX COVERS



No. CF


No. $\mathbf{C H}$


No. CJ


No. CI

COVERS FOR 4 INCH ROUND BOXES

| List |  | Mfrs. <br> List | W. E. <br> List <br> Each |
| :--- | :--- | :--- | :--- | ---: |
| No. |  | Finish | ler 100 |



COVERS FOR 4 INCH ROUND BOXES W.E.

| Mifrs. | List <br> List |
| :---: | ---: |
| Pach |  |
| $\$ 14.00$ | $\$ 0.28$ |
| 12.00 | .24 |
| 14.00 | .28 |



No. CP


No. CQ


No. CS

COVERS FOR 4 INCH ROUND BOXES

| List |  | Mfrs. <br> List |
| :---: | :---: | :---: |
| No. |  | Per 100 |
| CP | Flat steel cover for G. E. Rosette No. 39237. | \$14.00 |
| CQ | Flat steel cover for P. \& S. Receptacles Nos. 61777 and 61997. | 14.00 |
| CS | Flat steel snap switch cover. | 14.00 |
| For enameled boxes, deduct $10 \%$. |  |  |

## CONDUIT OUTLET BOXES



No. HA


No. KA


No. IA

## No. HA CEILING BOX

Dimensions-4 inches diameter, $3 / 4$ inch deep.
Size Outlets-For $1 / 2$ inch or $3 / 4$ inch conduit only.
Fixture Stems-Boxes are drilled for fixture stems.

List
No.
HA
HA

|  | Mfrs. <br> List <br> per 100 |
| :--- | :--- | | W. E. List |
| ---: |
| Each |
| Galv. |

## No. KA CEILING BOX

Dimensions- $51 / 2$ inches diameter, $3 / 4$ inch deep.
Outlet-Five in bottom.
Size Outlets-For $3 / 4$ inch conduit only.
KA Ceiling box
30.00

No. IA CEILING BOX
Dimensions-4 inches diameter, $1 / 2$ inch deep.
Outlets-Five in bottom.
Size Outlets-For $1 / 2$ inch or $8 / 4$ inch conduit only.
Ceiling box
15.00
. 30


No. $A$


No. BA

No. A OUTLET BOX
For Combination Gas and Electric Fixtures
Dimensions- 4 -inch square, $15 / 8$ inches deep.
Outlets-Eight conduit outlets in sides and five in bottom.
Gas Outlets-One in each of two opposite sides for $1 / 2$ inch gas pipe only.
Size Outlets-For $1 / 2$ inch or $3 / 4$ inch conduit only.
Fittings-Boxes are drilled and tapped for gas elbows.

W. E. List
Each

                                    Galv.
    
                                    \$0.60
    No. BA SWITCH OUTLET OR JUNCTION BOX
Dimensions-4 inch square, $15 / 8$ inches deep.
Outlets-Eight outlets in side, five in bottom.
Size Outlets-For $1 / 2$ inch or $8 / 4$ inch conduit only.
For enameled boxes, deduct $10 \%$.

## CONDUIT BOX COVERS



No. B


No. C


No. D

## COVERS FOR 4 INCH SQUARE BOXES

| List No. |  | Mrs. List per 100 | W. E. List Each Galv. |
| :---: | :---: | :---: | :---: |
| B | Open cover, steel. | \$20.00 | \$0.40 |
| C | Closed cover, steel | 20.00 | \$0.40 |
| D | Open cover, steel. | 20.00 | . 40 |



No. BI


## CONDUIT OUTLET BOXES AND COVERS



No. BK


No. BJ


No. BM


No. BL


No. $B O$


No. BN

COVERS FOR 4 INCH SQUARE BOXES



No. SA


No. TA

## NO. SA AND TA OUTLET BOXES AND COVERS

## For Combination Gas and Electric Fixtures

Dimensions- $4 \frac{1}{16}$ inches square; depth for brick work, $15 / 8$ inches; for lath and plaster, $21 / 4$ inches.
Outlets-Two in each of four sides and four in bottom for $1 / 2$ inch conduit. When $3 / 4$ inch conduit is used, box cannot be furnished with bottom outlets.

Center Nipple-Will pass $3 / 4$ inch gas pipe.
Fixture Steme-Cannot be used with this box.
Note-Box is carried in stock for $1 / 2$ inch conduit only.

## List

No.
SA
Box for brick, $15 / 8$ inches deep.
Mfrs.
W. E. List

SA
Box for plaster, $21 / 4$ inches deep per 100 $\$ 50.00$ Each Galv.

TA Box for plaster, $21 / 4$ inches deep.
ND Steel Open Lapped Cover for above boxes. 20.00

For enamel boxes, deduct $10 \%$.


No. MA


No. NA

NO. MA OUTLET AND JUNCTION BOX
Dimensions- $4 \frac{4}{16}$ inches square, $15 / 8$ inches deep.
Outlet3-Eight outlets in sides and five in bottom.
Size outlets-For $1 / 2$ inch or $3 / 4$ inch conduit only.
Boxes are drilled for Fixture Stems.

| List <br> No. |  | Mirs. List per 100 | W. E. List Each Galv. |
| :---: | :---: | :---: | :---: |
| MA | Square Box. | \$40.00 | \$0.80 |

## NO. NA DEEP OUTLET AND JUNCTION BOX <br> For Lath and Plaster or Concrete

Dimensions-4 $4 \frac{1}{6}$ inches square, $21 / 4$ inches:deep.
Outlets-Eight in sides and five in bottom.
Size Outleta-For $1 / 2$ inch, $3 / 4$ inch or 1 inch conduit only
Boxes are drilled for Fixture Stems.
Note-No bottom outlets are furnished in boxes for 1 inch conduit.

| List <br> No. |  | Mirs. List per 100 | W. E. List Each Galv. |
| :---: | :---: | :---: | :---: |
| NA | Square Deep Box for Plaster. | \$50.00 | \$1.00 |


${ }^{*}$ No. MB


No. MC


No. MD

## COVERS FOR 41 t INCH SQUARE BOXES

List
No.

## OUTLET BOXES AND COVERS



COVERS FOR $4 \frac{1}{8}$ INCH SQUARE BOXES


NO. UA BOX
For Push-Buttons
Dimensions- $2 \frac{18}{18}$ inches long, $13 / 4$ inches wide, $11 / 2$ inches deep.
Outleto-Two in bottom, one in each end and two in each side.
Size Outlets-For $1 / 2$ inch conduit only.
List


Mfrs.
List W. E. List

UB Brass cover for bell push-buttons
Gal.
25.00
.50

## NO. VA BOX

For Exposed Conduit Work
Dimenstons- $33 / 4$ inches long, $11 / 4$ inches wide, $11 / 4$ inches deep.
Outlets-One in bottom, one in each end and three in each side. Size Outlets-For $1 / 2$ and $3 / 4$ inch conduit only.



## PORCELAIN COVERS WITH NIPPLES

## For $33 / 4 \times 11 / 4$ Inch Boxes

| List | For | Std. Pkg. | Mirs. List per 100 | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: |
| VA1 | Porcelain, $1 / 8$ inch female nipple | 200 | \$40.00 | \$0.80 |
| VA2 | Porcelain, $1 / 8$ inch male nipple. | 200 | 40.00 | 80 |
| VA3 | Porcelain, $3 / 8$ inch female nipple | 200 | 55.00 | 1.10 |
| VA4 | Porcelain, $3 / 8$ inch male nipple. | 200 | 55.00 | 1.10 |
|  | eled boxes, deduct $10 \%$. |  |  |  |

## CONDUIT BOXES AND COVERS



## METAL COVERS WITH NIPPLES

## For $33 / 4 \times 11 / 4$ Inch Boxes



## PORCELAIN COVERS

For 33/4 x 11/4 Inch Boxes

| List <br> No. |  | Std. Pkg. | Mrrs. List per 100 | W. E. List Each |
| :---: | :---: | :---: | :---: | :---: |
| VA12 | Porcelain, 1 hole. | 200 | \$12.00 | \$0.24 |
| VA13 | Porcelain, 2 hole. | 200 | 12.00 | 24 |
| VA10 | Porcelain, 3 hole. | 200 | 12.00 | 24 |
| VA11 | Porcelain, 5 hole. | 200 | 12.00 | 24 |



Gang Box

## GANG BOXES

Outlets-Two outlets on two opposite sides for each switch.
Size Outlets-Boxes carried in stock for $1 / 2$ inch and $8 / 4$ inch pipe.
Price list of boxes for push-button or rotary rectangular base switches and plug receptacles.


## CONDUIT OUTLET BOXES AND COVERS



No. LA


No. LB


No. OA


No. OB

## No. LA BRACKET OUTLET AND JUNCTION BOX

Dimension- $3 \frac{18}{16}$ inches diameter, 2 inches deep.
Outlets-Four in bottom, one in top side and two in flat side
Size Outlets-For $3 / 2$ inch and $3 / 4$ inch conduit only.
Boxes are drilled for fixture stems.

| List <br> No. |  | $\begin{gathered} \text { Mfrs. } \\ \text { List } \\ \text { prr } 100 \end{gathered}$ | W. E. List Each Galv. |
| :---: | :---: | :---: | :---: |
| LA | Bracket outlet box. | \$25.00 | \$0. 50 |
| LB | Steel open cover for bracket box. | 12.00 | . 24 |
| LC | Steel closed cover for bracket box. | 12.00 | . 24 |

Note: No cover necessary with 4 inch canopy.

## No. OA BOX <br> For Flush Rotary Snap Switches and Plug Receptacles

Dimensions- $2 \frac{5}{18}$ inches wide, 4 inches long, $17 / 8$ inches deep.
Outlets-One in each end, one in bottom, two on one side, one in opposite side.
Size Outlets-For $1 / 2$ inch conduit only.
Note: These boxes designed for 2 inch partitions.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | $\begin{gathered} \text { Mifrs. } \\ \text { List } \\ \text { per } 100 \end{gathered}$ | W. E. List Each Galv. |
| :---: | :---: | :---: | :---: |
| O.A | Box. | \$25.00 | \$0.50 |

For all Diamond H rectangular base rotary snap flush switches.
Hart and Hegeman rectangular base rotary flush snap switches, either 5 ampere or 10 ampere Nos $600,601,602,603,604,605,609$ and 619.

Hubbell plug receptacle.
Hart and Hegeman shallow flush push-button switches Nos. 2081, 2082, 2083, 2084 , flush plug receptacle and shallow momentary contact push-button switch.


# GEM SECTIONAL SWITCH BOXES 

## For Use with NON-METALLIC FLEXIBLE CONDUIT Takes all Makes of Push Button and Rectangular Base Switches and Receptacles

The extreme simplicity of construction of the "Gem" box must appeal to all users. The assembling can be done quickly by the use of no other tool than a screw-driver. It is impossible to put the box together in any way but the right way, as all sides arc interchangeable.

All boxes are equipped with reversible and sliding ears, so as to be adapted to plastered or unplastered walls. When building up into gang boxes, remove one side of box, insert unit, tighten one


Gem $D$ is designed particularly for the rewiring of old buildirgs, the heveled corners permit insertion into the smallest practical opening in walls and make the fishing of the ends of fexible conduit into the box very easy.

Gem E box having bevelcd corners, is designed particularly for the rewiring of old buildings, the beveled corners permitting the fishing of the ends of flexible conduit into the box very easy.

Gem X box is designed particularly for use with flexible mctallic conduit and armored cable.

Knockouts are $\frac{11}{16}$ inch in diameter, being amply large enough to acconmmodate BX Nos. 10,12 or 14 B. \& S. twin conductors, and BX3 Nos. 12 and 14 B. \& S. triple conductors, also $\frac{5}{16}$ and $3 / 8$ inch Greenfield flexiblc steel conduit when ends are protected by brass bushing caps.

Gem B, $23 / \frac{1}{4}$ inches deep, is designed for switch and receptacle casings in concealed conduit or armored cable work-takes $1 / 2$ inch and $3 / 4$ inch conduit and may be used where a larger flexible tubing than $1 / 2$ inch is desired. Can be used with Standard BX conductor by using Sprague box conncctors No. $6119-6124$ adapted to old as well as new work.

Gem Y Knock-outs are $\frac{11}{16}$-inch in diameter, being amplylarge enough to accommorlate BX Nos. 10, 12 and 14 IB. \&S. twin conductors, and BX 3 Nos. 12 and 14 B. \&S. triple conductors; also $\frac{5}{16}$ and $8 / 8$ inch Greenfield flexible steel condluit when ends are protected by brass bushing eaps. Box is provided with 2 holes in earh end and 4 in back so that it can be used as a junction center as well as a switch box; they are $31 / 4$ inches deep, which allows ample room in the back of switch to make and tape all joints without undue crowding.

BD Box is designed for switch and receptacle casings in conccaled eonduit or armored cable work in ordinary partitions and walls.

Takes $1 / 2$ inch and $3 / 4$ inch corduit and may be used where a larger flexible tubing than $1 / 2$ inch is desired. Can be used with Standard BX conductors by using Sprague box connectors No. 6119-6124; adapted to olil as well as new work.

Gem B


Gem S
Gem D
Gem F
Gem G
Gem E
Gem X
Gem B
Gem A
Gem Y
Gem BD
2 ins. deep
2 ins. deep
$21 / 4$ ins. decp
$21 / 2$ ins. deep
$21 / 2$ ins. deep
$21 / 2$ ins. deep
$23 / 4$
3 ins. deep
3 ins. deep
3 ins. deep
$31 / 2$ ins. deep

Gem $\mathrm{BD} \quad 31 / 2$ ins. deep
List Prices and Data

|  | List Prices and Data | Mfrs. List Price | -W. E. List Price Each - |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Enamel | Sherardized |
| Single box complet |  | $\$ 0.50$ | \$0.60 | \$0.70 |
| Single box with clamps. |  | . 60 | . 48 | . 86 |
| Unit without sides with clanıs. |  | . 50 | . 60 | . 70 |

K.O. Square corners
K.O. Bevel corncrs
K.O. Bevel corners
K.O. Square corners
K.O. Square corners
K.O. Square corners with clamps
K.O. Square corners
K.O. Square corners
K.O. Square corners with clamps
K.O. Square corners
$3 / 2$ or $3 / 4$ in.
$5 / 8 \mathrm{in}$.
$\frac{11}{16}$ in.
$1 / 2$ or $3 / 4$ in.
$5 / 8 \mathrm{in}$.
$5 / 8 \mathrm{in}$.
$5 / 8 \mathrm{in}$.
$5 / 8 \mathrm{in}$.
$5 / 8 \mathrm{in}$.
$\frac{11}{16} \mathrm{in}$. Price $\$ 0.50$ .40 .60 .50

Types of Boxes

# "UNION" SECTIONAL SWITCH BOXES 

Take All Makes of Switches and Receptacles
For Old and New Work
"UNION" SECTIONAL BOXES FOR FLEXIBLE CONDUIT


Sinple Box. Showing One Side Removable by I oosening Screws at Hooks


2-Gang Box made from a Single Box and Spacer
"Union" scctional switch boxes may be built up from the single unit by the use of spacer sections by loosening the two binding screws and slipping the spacers in position and tightening up the serews. No dividing walls leetween switch units. No binding straps or screws to be lost. No working part afier being installed No open spare hetween the different sections; a perfect gang switch box.


C'C's single box-

## Dimensions

(CC single -2 ins. deep, 3 ins. long, 2 ins. wide.
13 single box- $21 / 2$ ins. deep, 3 ins. long, 2 ins. wide. id single box- 234 ins. deep, 3 ins. long, 2 ins. wide. ()] single box-3 ins. deep, 3 ins. long, 2 ins. wide. 1)1) single box-2 ins. decp, 3 ins. long, 2 ins. wide. DE single box- $21 / 2$ ins. cleep, 3 ins. long, 2 ins. wide. DC single box- $21 / 2$ ins. deep, 3 ins. long, 2 ins. wide. 13 E single hox- 23 ins. deep, 3 ins. long, 2 ins. wide. A( single box- 31 ins. deep, 3 ins. long, 2 ins. wide. single box- $31 / 2 \mathrm{ins}$. deep, 3 ins. long, 2 ins. wide.
Note: Clamps for flexible conduit can be furnished with any of the above boxes ar spacers when specified, but the A.C. and I).C. boxes are regularly carried in stock with elamps and are always furnished in this manner unless otherwise instructed.

Lquipped with reversible and slicling ears so as to be adapted to plastered or umplastered walls.

All single boxes furnished with one side removable (unless otherwise specified), ()viating the necessity of carrying 2-gang boxes, alrearly assembled, in stock.

When building up into gang boxes, simply loosen screws, remove side of box, insert spacers and tighten screws and all sections will fit solidly together.

All above boxes are finished in a heavy black insulating enamel, but can also be

AB
Prices



BE Single


DD Single


DC: Box

# SECTIONAL CONDUIT SWITCH BOXES <br> NOS. 155, 160 AND 170 FOR RIGID CONDUIT <br> For Push Button, Rotary Rectangular Base Switches and Plug Receptacles 



No. 155


2-Gang Plate Cover


No. 170 Single


No. 170 Spacer


No. 160


No. 160 3-Gang

Box No. 155. Measures 4 inches long, 4 inches wide, $25 / 8$ inches deep.
The only single switeh box that has ample room for making splices, taps and junctions. Wither of the small top cover plates can be removed by loosening screws, permitting access to wires without disturbing switeh.

Two conduit openings in each end, two in each side.
Box No. 160. Measures $53 / 4$ inches long, 4 inches wide, $25 / 8$ inches deep.

No. 160 Spacer. Measures $1 \frac{13}{16}$ inches wide, $25 / 8$ inches deep.
Enables you to meet the demand for any gang box by building up with spacers.

The hook cye construction permits of rapid assembling to any size gang desired, by loosening screws and inserting spacers.

Made for $1 / 2$ inch and $3 / 4$ inch condluit only, having six holes in each and scetion. The spacers have but one outlet in each end.

Covers. By equipping above boxes with flat steel covers you have in ideal junction box for single and double main line blocks mecting every requircment of the underwriters.

No. 180 covers will also fit Box No. 155, so as to be used with snap switches, receptacles and rosettes.

Box No. 170. Measures 4 inches long, 2 inches wide, $17 / 8$ inches deep.
A sectional, combination loom and conduit, shallow switeh box for thin partitions and outside wall work.

The end outlets for $1 / 2$ inch conluit, the two outlets on either side for loom or $3 / 8$ inch flexible conduit.

Prices


Note: No. 170A box with ears not suitable for old work, because standard switch plates will not cover ears.

## FLOOR BOXES AND RECEPTACLES



No. 4000
With 10 Amp. 250 Volts
Recepracles and Plugs


No. 4000 B
Blank Bronze Plate No Receptacle or Plug


No. 4000 BN
With Double-Outlet Nozzle With 10 Amp. 250 Volts Receptacle and Plugs

## Patterson Adjustable Floor Boxes

Adjustable liloor Boxes Nos. $4000,4003,400013$ and 400013 N are made for cement and granolithic type floor work.

In these adjustable floor boxes the vertical up-and down adjustment of 1 inch is ample for any variation of floor level and side or off level adjustment of $5 / 8$ inch, makes possible the perfect flushing of plate with surface of floor. The box is universal, giving any combination of conduit entrances. Every possible connection to lighting circuits without additional marhine work can be made as follows:
(a) By portable cord through rubber-loushed dome cap.
(b) $13 y \frac{5}{8}$ inch brass tubing into dome cap when bushing is removed.
(c) $13 \mathrm{y} 1 / 2$ inch conduit into flush dise when removable plug is taken out.

Na 4003 is furnished complete with a 10 ampore, 3 wire receptarcle and plug of non-reversing polarity type-just the device required for installations where a telephone comeotion from flowr outlet is wanted. These floor boxes can be set in half the time it takes for any other box on the market.
They save more than they cost and make a first-class job in every respect.

| List | Receptacle and | Diam., Inches | Depth, Inches | Std. | W't., I.bs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Plug Equipment | Bronze Plate | Over All | lig. | Std. Pkg. | Fach |
| 4000 | 10 amp., '2 wire | $5{ }_{5} \frac{3}{16}$ | $51 / 8$ to $4^{1 / 8}$ | 2.5 | 244 | \$18.00 |
| 4003 | 10 amp., 3 wire | $5_{16}^{36}$ | $51 / 8104^{1 / 8}$ | 25 | 270 | 21.00 |
| 4000013 | No rereptacle or plug | $5^{\frac{3}{16}}$ | 518 to $41 / 8$ | 2.5 | 238 | 16.00 |
| 400013 N | 10 amp., 2 wire | $5 \frac{3}{16}$ | 51/8 to $41 / 8$ | 2i) | 240 | 18.00 |



No. 1500 ' ${ }^{\circ}$

# Fielding Receptacles and Plugs 

## SECTIONAL MICA STAGE POCKETS

50 Amperes, 250 Volts
Flush Floor Type

| List |  | Size Plate | Depth | List Price |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Inches | Inches | Each |
| 150\% | Stage poeketand plug complete. | $9 \times 9$ | $81 / 4$ | \$100.00 |
| 1505 ${ }^{\text {a }}$ | Two gang pocket with two plugs. | $13 \times 9$ | $81 / 4$ | 120.00 |
| 1505)(1R-2 | Two gang porket only, no plugs. | $13 \times 9$ | 81/4 | 60.00 |
| 150:51 | Plug only, with hamule and lorkine eollar. |  | 71/2 | 30.00 |
| 150:5R | ceket only. | $9 \times 9$ | $81 / 4$ | 30.00 |

## SIDE WALL RECEPTACLES AND PLUGS

50 Amperes, 250 Volts

| List | Conduit |  | Dimensions. Inches |  |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| No. |  | From | Length | Width | 1)epth | Each |
| $1500{ }^{\circ} \mathrm{T}$ | Receptarle complete. | Top | 63/4 | $133 / 4$ | $51 / 2$ | \$50.00 |
| 1500013 | Receptarle complete . | Bottom | $133 / 4$ | $63 / 4$ | $51 / 2$ | $50 .(1)$ |
| 1500 TlR | Receptade only.... | Top | $63 / 4$ | (13/4 | $51 / 2$ | 25.00 |
| 150013 l | Recrptarlo only ... | Buttom | $63 / 4$ | $63 / 4$ | $51 / 2$ | 25.00 |
| 1500 P | Plug only, aluminum handle. |  | 91/2 | $21 / 2$ | ... | 25.00 |

Prices for gang receptacles in proportion.

## ADJUSTABLE WATERTIGHT FLOOR BOXES



No. 400


No. 400


No. 401


No. 420

| List | Fullman Adjustable Watertight Floor Boxes †L | $\dagger$ List Price |
| :---: | :---: | :---: |
| No. 400 |  |  |
|  | Complete outlet, consisting of box body, sealing gement arjusting ring, rubher gasket, hras cover plate with $1 / 2$-inch flush brass plug for No. 405 nozzle or $1 / 2$-inch pipe extension. . . | - \$8.40 |
| 401 | Complete ontlet with s-inch flush brass plug for No. 466 nozzle. |  |
| 420 | Complete outlet with $\frac{1}{-2}$-inch flush brass plug for No. 465 nozzle, or $1 / 2$-inch pipe extension | 9.46 10.50 |
| 421 | Complete outlet as above with 2 -inch flush brass plug for No. 466 nozzle. . . . . . . . . . . . . | g $\quad 10.50$ |
| *442 | Two-section gang outlet, complete with individual cover plates with $1 / 2$-inch flush brass plug | g 10.50 |
| *.4.43 | Three-section gang ouflet, complete with three individual cover plates with $1 / z^{-i n c h}$ flush brass plug. | . 10.50 |
| *444 | Same with four section gang outlet and four individual cover plat | 10.50 |
| * 445 | Same with five section gang outlet and five individual cover plates | 10.50 |
| 46.5 | Brass nozzles for Nos. $400,420,442,443,4.44$ and 445 floor outlet | $\stackrel{2.10}{\sim}$ |
| 466 | I3rass nozzles for Nos. 401, $421,442,443,444$ and 445 floor outle | 2.10 |
| 413 | Brass flange ring, including rubher gasket for Nos. 400 and 401 flo |  |
| 440 | 13rass flange ring, including rubber gasket for Nos. 420 and 421 floor |  |
| 402 | Standard box for Nos. 400 and 401 outlet |  |
| 422 | Standard box for Nos. 420 and 421 outlet |  |
| 448 | Standard 2 gang box for Nos. 442, 443, 444 and 445 outlet. |  |
|  | d $\$ 1.05$ to list price for 2 -inch flush plug. <br> pecify size of flush brass plug desired in cover plate. $\dagger$ Delivery F. O. B. Factory, Pittsbur | $\dagger$ Delivery F. O. B. Factory, Pittsburgh, Pa. |



No. 1100


## T. \& B. Adjustable Watertight Floor Box



The cover of this box can be tilted $1 / 2$-inch in any direction.
6562 Box complete, consisting of box body No. 6061, gasket No. 60 f , adjustable ring No. 60 f 3 , cover ring No. 6055 , nozzle cover No. 6007 and center No. 7012.
6561 Box complete, consisting of box borly No. 6011, gasket,
No. (5062, adjustable ring No. 6065, gasket No. (6017, cover No. 6012
9.64

0061 Galvanizod cast-iron box body.. . . . . . . . . . . . . . . . . . 2.80
6062 IRuhber gasket. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 28
6inti3 Adjustable ring with inside fastening ring No. $6064 .$.
(0065 Adjustable cover ring with brass floor flange No. (i00) 2.90
(007 Brass nozzle cover with gasket and receptacle bridge
support . . ...............................................
3.12
6012 Brass cover plate, blank . . . . . . . . . . . . . . . . . . . . . . . 1.80
6011 Brass cover plate with $1 / 2$-inch plug. . . . . . . . . . . . . . . . 2.1 ?
7002 Brass nozzle with insulating bushing. . . . . . . . . . . . . . 2.30
7011 Brass center flat . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 70
7012 Brass center $1 / 2$-inch plug. . . . . . . . . . . . . . . . . . . . . . . 1.20
** Delivery: F. O. 13. Factory, Brooklyn, N. Y.
For warehonse deliveries on adjustable watertight floor boxes, write nearest house.

# CUTTER STEEL SERVICE AND CUT-OUT BOXES 

Schedule O-Std. Pkg.

Five of One Size

Large Quantities in Stock for Prompt Shipment

Boxes are formed up from a single piece of sheet steel clectrically wolded. There are no inserts to work loose. linished in high-grade black enamel.

Mail Orders Filled at Prevailing Prices

## STOCK CUT-OUT BOXES

Boxes listed on this page are carried in stoek, painted, sten(iled and labeled ready for shipment.

Specifications cannot be ehangel.

1. Made for surface mounting only.
2. For flush mounting boxes add 50 per cent. to list prices of made-to-order boxes (see pages following).
3. 'nderwriters' label on every box.
4. Doors overlap boxes on all four sides and are hinged on right hamd (long) side.
5. Furnished with four 5-16 inch holes one inch from each eorner for fastening box in place.
6. Standard package five boxes of any one size.

## MFRS. PRICE LIST OF STOCK CUT-OUT BOXES With $7 / 8$ Inch Knockouts for $1 / 2$ Inch Conduit Pipe

|  |  | List Price Fach |  | Lisú l'rice Faci |  | List Irice Each <br> list No. 5 In . 1 eep |  | List Price Each |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Width ln . | Length In. | List No. | 3 In . Deep | List No. | 4 In .1 leep |  |  | List No. | 6 ln . leep |
| 4 | 6 | 30857 | \$0.55 |  |  |  | * | * |  |
| 4 | 8 | 308.59 | (in) | $30 \mathrm{st0}$ | \$0.80 | * | * | * | * |
| 4 | 10 | * | * | 30862 | . 80 | * | * | * |  |
| 6 | 6 | 30863 | (6) | 30864 | . 75 | * | * | * | * |
| 6 | 8 | 30865 | . 70 | :0866 | . 80 | - | - | * | * |
| 6 | 10 | 30867 | 80 | 30868 | . 90 | 30869 | \$1.15.5 | * |  |
| 6 | 12 | ${ }^{*}$ | * | 30871 | 1.00 | * | * | * |  |
| 6 | 16 | * | * | 30873 | 1.55 | * | * | * |  |
| 8 | 8 | 30874 | . 80 | 30875 | . 90 | * | * | * |  |
| 8 | 10 | 30876 | . 85 | 30877 | 1.00 | * | * | * |  |
| 8 | 12 | 30878 | . 95 | 30879 | 1.10 | * | * | * |  |
| 8 | 14 | 30880 | 1.45 | 30881 | 1.60 | * | * | * |  |
| 8 | 16 | * | * | 30883 | 1.30 | * | * | * |  |
| 9 | 9 | 30884 | 1.0 | 30885 | 1.50 | * | * | * |  |
| 10 | 10 | 30886 | 1.10 | 30877 | 1.10 | * | * | * |  |
| 10 | 12 | 30887 | 1.10 | 30889 | 1.25 | * | * | * | * |
| 10 | 16 | * | * | 30891 | 1.45 | * | * | 30892 | \$2.20 |
| 10 | 18 | * | * | 30893 | 1.55 | * | * | * |  |
| 12 | 12 | * | * | 30894 | 1.35 | * | * | * |  |
| 12 | 16 | * | * | 30895 | 1.60 | * | * | * |  |
| 12 | 18 | * | * | 30896 | 1.70 | * | * | * |  |
| 12 | 20 | * | * | 30897 | 9.25 | * | * | * |  |
| 12 | 24 | * | * | 30898 | 2.35 | * | * | * |  |

*Not carried in stoek. See price list on following page.

## Special Prices:

$30809 \quad 41 / 2 \times 9 \times 31 / 2$ box hinged at top insteard of right hand side

NO. 16 U. S. GAUGE STEEL CUT-OUT BOXES

## With Combination Knock-outs-Carried in Stock

One row of $7 / 8$ inch knockouts for $1 / 3$ inch conduit pipe and one row of $11 / 16$ inch knoekouts for $1 / 4$ ineh cireular loom are furnished in the following boses, which are carried in stock.
List No. Jimensions $\quad$ Price Fach

30900 ( i inehes wide, 8 inehes long, 4 indhes deep. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 . 0 .
309018 inches wide, 10 inches long, 4 inches deep......................................... . . . . . . 25
3000210 inehes wide, 12 inches long, 4 inches (leep. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1 )
3090;3 10 inches wide, 16 inches long, 4 inches deep................................................. 10
If any deviation is made in the aformentioned specifications or if other sizes are required, the prices should be taken from the pages following listing made-tororder baves.

NO. 14 U. S. GAUGE STEEL CUT-OUT BOXES
With Standard 7/8 Inch Knockouts for 1/2 Inch Conduit Pipe—Carried in Stock
List No. Dimensions

Price Each
3090412 inehes wide, 30 inches long 4 inches decp. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 4.15$
3090518 inches wide, 24 inches long, 1 inehes deep). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 4 . (f)
3090618 inches wide, 36 inches long, 4 inches deep. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6.30
3090718 inches wide, 42 inches long, 4 inches deep . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7.10
3090818 inches wide, 48 inches long, 4 inches decp . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7.75
Mfr. List Prices-Special Discounts on Application.

## Made to Order Cut-out Boxes

Flush type cut-out boxes will be furnished when so ordered at ar addition of 50 per cent. to the list prices given, not including type 1 . hoxes. This price applies only on boxes having the door opening the samesize as the box. Add is per cent. to list price for flush cut-out boxes with door opening smaller than the box.

The standard finish of flush cut-out boxes is a high-grade black conamel.
Add $\$ 1.00$ list per square foot area of trim and door for whion enamel finish.

Cut-out boxes will be provided with steel barriers forming gutters around an open space in center of box for ? 00 per cent. additional to the list prices given, for surface type or flush type boxes.

Steel barriers will be furnished securely riveted to the back of the box, and arranged to allow a wide vein pocket or raceway around the center section of the box. Knock-outs for the areommotation of $1 / 2$-ineh steel or porcelain bushings will be provided in all barriers. All boxes are provided with standard $7 / 8$-inch knoek-outs for $1 / 2$-inch conduit pipe.

Noth A. When ordering eut-out boxes with steel baryiers specify size of cabinet and width of gutter desired--rather than the dimensions of the spaee required for wiring devices. Prices are based on the size of cabinet and not on size of space for wiring devices.

Inderwriters' requirements for cut-out boxes containing derices controlling more than four cireuits:


Flush Iype Box

## Wire Compartments

Note B-Cabinets and cut-out boxes, when used to enclose deviees or apparatus connecterl within the cabinerf or eut-out box to the wires of more than four circuits, not including thesupply cireuit or a continnation thereof, must habe hame wiring spaccos or one or more side wiring spaces, side gutters or wiring compartments unless ahe wires leave the cabinet or cut-ont
box directly opposite their terminal connections.

## Barriers

Cabinets or cut-out boxes having one or more side wiring spaers, side gutters or side wiring compartmenta must be furnished with covers, barriers or partitions extending around. or from the side ors sides of aill hateon or sroups of hases of the switehes, cut-outs, circuit breakers or fecder and cireuit branch parkellowrds within the cabinat or cut-out box and providing a elose fit with the dowr, frame or side walls so as to enclose these spaces, gutters or compartments and the wizes an owed within them. At sides where wires or cables are led from the cabinet or eut-out box at points directly opposite their terminal connertions to devices or apparatus within the eabinet or cut-out box and other wires or cables are not placed, these eovers, barriers
or partitions may be omited.

Poreolain bushings will be furnished for cut-out boxes at the fallowing list prices per bushing:


## Extended Cover Pull Boxes

lextended cover pull boxes with cover fastened on with machine serews are easy to install and afford all the sparereruired to make splices, taps or bends, without the incoms nience or working in a deep box. The box proper is made uf sutficiert depth to acommodate the conduit connerted to the box. This provides an open sparefor prilling in heary eables without drawing
 connections have been tnade, the extended cover is put on and conpletely imeloses all cables


Fxtended Cover Pull Box

List prices include any number of me size of knock-cuis up to 3 -ineh conluit pipe. Add lo cents lint in atheh box for each change of knock-out: not larger than for 3 -inch conduit. For larger holes add 25 eents list per hole.

Cover- 3 to finches drep No. 14 (" S. ciuge steel
Box - 3 to i
or No. 1: 1". S. rauge sterl add 20\%.
" $" 1 \mathrm{~m} \quad$ " " 4 " $45 \%$.

| Length | Wielth | I.int | Iencth | Width | I.ist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Inches | Inches | I'rice | Inches | Inches | Iriee |
| 12 | 12 | $\$ 1.70$ | 19 | 24 | $\$ 1.3 .10$ |
| 12 | 15 | 7.80 | 21 | 21 | 13.10 |
| 12 | 18 | 8.75 | 21 | 24 | 11.30 |
| 15 | 15 | 8.75 | 21 | 26 | 17.20 |
| 15 | 18 | 0.90 | 29 | 24 | 10.00 |
| 18 | 18 | 10.75 | 21 | 27 | 18.85 |
| 18 | 21 | 11.95 | 24 | 30 | 20.00 |

l'riecs for sizes not listed will be quoted upon recript of full details.
Mfre, Lista, Special Discounta on ApplicationaidRadoHisfory

CUTTER STEEL SERVICE AND CUT-OUT BOXES

Made-to-Order Cut-out Boxes Schedule " $O$ " Price List No. 10 U. S. Gauge Steel Boxes

The Specifications and prices of special features given at the top of a previous page listing 16 (iauge Made-to-order Boxes, apply also to the Boxes listed below:

The National loard of Fire Underwriters' corle specifies No. 10 IT. S. gauge stel for all boxes having any dimension over 48 inches and any surface over 1200 square inches.

| Width | Length | 4 | 6 | 9 |
| :---: | :---: | :---: | :---: | :---: |
| Ins. | Ins. | Ins. Deep | Ins. Deep | Ins. Deep |
| 10 | 11 | 84.50 | \$5.5) | \$6.05] |
| 10 | 12 | 4.70 | 6.00 | 6.80 |
| 10 | 1.5 | 5.55 | 6.40 | 7.45 |
| 10 | 18 | 6.00 | 7.30 | 8.30 |
| 10 | 21 | (i) (i) | 8.70 | 9.50 |
| 10 | 24 | 7.85 | 9.35 | 10.00 |
| 10 | 27 | 8.45 | 10.05 | 10.9 |
| 10 | 30 | 9.10 | 10.75 | 11.75 |
| 10 | 33 | (). 70 | 11.50 | 12.5 .5 |
| 10) | 36 | 10.30 | 12.15 | 13.40 |
| 12 | 12 | \%. 30 | 6.45 | 7.20 |
| 12 | 15 | 5.95 | 7.30 | 8.15 |
| 12 | 18 | (i. 60 | 7.90 | 9.05 |
| 12 | 21 | 7.95 | 9.55 | 10.15 |
| 12 | 21 | 8.60 | 10.20 | 10.95 |
| 12 | 27 | 9.30 | 11.00 | 12.10 |
| 12 | 30 | 10.00 | 11.75 | 12.80 |
| 12 | $3 ;$ | 11.41) | 13.30 | 15.00 |
| 12 | 12 | 12.85 | 14.95 | 16.95 |
| 12 | 48 | 14.15 | 16.40 | 18.90 |
| 1.5 | 15 | 6.70 | 8.05 | $9.0 \%$ |
| 1.5 | 18 | 7.5.) | 8.90 | 10.35 |
| 15 | 21 | 7.65 | 10.6 | 11.45 |
| 1.5 | 24 | 8.25 | 11.50 | 12.55 |
| 1.5 | 27 | 10.65 | 12.30 | 13. 60 |
| 15 | 30 | 11.40 | 13.20 | 14.70 |
| 15 | 36 | 13.05 | 15.00 | 16.14 |
| 15 | 42 | 14.65 | 16.75 | 20.10 |
| 15 | 48 | 16.30 | 18.55 | 21.30 |
| 18 | 1s | 8.40 | 9.85 | 11.50 |
| 18 | 21 | 10.05 | 11.70 | 12.70 |
| 18 | 2.4 | 10.95 | 12.75 | 13.05 |
| 1s | 27 | 11.85 | 13.75 | 15.50 |
| 18 | 30 | 12.80 | 14.75 | 16.40 |
| 18 | 36 | 14.80 | 16.80 | 19.15 |
| 18 | 42 | 16.55 | 18.85 | 21.25 |
| 18 | 48 | 18.40 | 20.80 | 23.50 |
| 18 | it | 21.80 | 24.40 | 31.35 |
| 21 | 21 | 11.10 | 12.85 | 14.00 |
| 21 | 24 | 12.15 | 13.95 | 15.40 |
| 21 | 27 | 13.20 | 15.10 | 16.70 |
| 21 | 30 | 14.25 | 16.20 | 18.0 \% |
| 21 | 36 | 16.35 | 18.50) | 20.80 |
| 21 | 42 | 18.40 | 20.75 | 23.45 |
| 21 | 45 | 20.35 | 23.90 | 26.20 |
| 21 | 54 | 2.20 | 26.90 | 33.35 |
| 21 | (6) | 26.40 | 29.20 | 35.90 |
| 21 | (6i) | 27.55 | 31.55 | 38.70 |
| 21 | 73 | 29.70 | 3.3 .90 | 41.80 |
| 24 | 24 | 13.30 | 15.20 | 16.85 |
| 24 | 27 | 14.45 | 16.45 | 18.30 |
| 24 | 30 | 15.65) | 17.80 | 19.75 |
| 24 | 36 | 17.95 | 20.20 | 22.70 |
| 24 | 42 | 20.30 | 22.75 | 25.50 |
| 24 | 48 | 22.35 | 24.30 | 28.55 |
| 24 | - ${ }^{\text {d }}$ | 26.15 | 29.30 | $33^{3} .30$ |
| 24 | (6) | 29.50 | 31.90 | 38.30 |
| 24 | (if) | 31.90 | 34.55 | 41.30 |
| 24 | 72 | 3.4 .20 | 37.10 | 44.30 |

## Type L Cut-out Boxes

High grade installations call for high grade cut-out boxes with doors secured to a matt or trim which is secured to the front flanges of the cabinet. This construction insures perfect fitting dours on large cut-out boxes.

Prices below apply on cut-out boxes having trims and doors similar to that shown on page 8 , except that the following prices apply only to boxes with single doors.

| Width | Le |  |  |  | Depth, Inches |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inches | Inches | 4 | 6 | 9 |  |  | 18 | 22 | 24 |
| 18 | 54 | \$27.45 | \$30.45 | \$10 45 | \$39.65 | \$45.85 | \$1883 | \$54 95 | \$57. 95 |
| 21 | 54 | 30.30 | 33.45 | 38.10 | 43.05 | 47.65 | 52.35 | 58.59 | 61.75 |
| 21 | 60 | 3285 | 3615 | 4110 | 4615 | 51.45 | 56.15 | 62.85 | 66.15 |
| 21 | 66 | 4440 | 38 1i5 | 4415 | 4945 | 54.95 | 60.10 | 67.111 | 70.85 |
| 21 | 72 | 37.95 | 41.70 | 47.25 | 52.75 | 58.55 | 64.05 | 71.45 | 75.05 |
| 24 | 54 | 33. 60 | 3640 | 40.45 | 44.35 | 48.65 | 53.90 | 58.15 | 60.95 |
| 24 | (6) | 36.55 | 3930 | 43.70 | 48.05 | 52.60 | 57.00 | 62.85 | 65.70 |
| 24 | 66 | 39.30 | 42.5 | 46.95 | 51.65 | 50.55 | 81.15 | 67.35 | 70.45 |
| 24 | 72 | 42.15 | 45.45 | 50.45 | 55.35 | 60) 45 | 65.25 | 71.95 | 75. |

Surface type boxes will be furnished unless otherwise specified. Flush type boxes will fo furnished whin so ordered at the same prices.

| 12 | . . . | . . . | . . | ..... |
| :---: | :---: | :---: | :---: | :---: |
| Ins. Deep | . . . . | ..... | . . . . | . . . ${ }^{\text {. }}$ |
| \$8.30 | . . . . | . . . . | ..... | ..... |
| 9.40 | . . . . | . . . . | . . . . | . . . . |
| 10.50 |  | . . . . | . |  |
| 11.(\%) |  | . . . . | . ... | . . . . . |
| 12.75 |  | . ... . | . . . . . |  |
| 13.75 |  | . . . . | ..... |  |
| 14.85 |  | $\ldots$ | $\ldots$ | . $\cdot$. |
| 17.05 |  | . . . . | . . . |  |
| 19.30 | 15 | . . . $\cdot$ | $\ldots$ |  |
| 21.50 | 1 ns . Deep | . . . . | $\cdots$ |  |
| 10.5\% | \$11.80 |  | . $\cdot$. $\cdot$. |  |
| 11.75 | 13.20 | . . . . | . $\cdot$. |  |
| 13.00 | 14.60 |  | ..... |  |
| 14.20 | 15.95 |  | . . . . ${ }^{\text {a }}$ |  |
| 15.45 | 17.30 |  | - . . . |  |
| 16.65 | 18.6.5 |  |  |  |
| 19.10 | 21.30 |  |  |  |
| 21.40 | 24.00 | 18 | .... |  |
| 2.400 | 26.70 | Ins. Deep | ..... |  |
| 12.9\% | 14.60 | \$16.95 | $\ldots$ |  |
| 14.4is | 15. 65 | 18.10 | . . . . |  |
| 15.75) | 17.60 | 19.70 | $\ldots$. |  |
| 17.10 | 19.05 | 21.25 | . $\cdot$. |  |
| 18.80 | 20.55 | 22.85 | .... |  |
| 21.10 | 23.50 | 26.05 |  |  |
| 23.80 | 26.45 | 39.25 |  |  |
| 26.50 | 29.35 | 32.45 | 22 |  |
| 34.75 | 39.15 | 42.50 | Ins. Deep |  |
| 15.85 | 17.65 | 19.75 | \$22.20 |  |
| 17.35 | 19.30 | 21.45 | 24.10 |  |
| 18.80 | 20.85 | 23.20 | 26.95 |  |
| 20.30 | 22.45 | 24.95 | 27.80 |  |
| 23.30 | 25.60 | 28.35 | 31.60 |  |
| 26.20 | 28.90 | 31.80 | 35.40 |  |
| 29.05 | 32.05 | 35.25 | 39.15 |  |
| 37.50 | 41.45 | 45.50 | 45.98 |  |
| 40.50 | 44.65 | 48.90 | 54.90 |  |
| 43.50 | 47.80 | 52.40 | 58.68 | 24 |
| 46.50 | 51.00 | 55.90 | 62.40 | Ins. I eep |
| 18.90 | 21.00 | 23.30 | 26.00 | \$27.40 |
| 20.50 | 22.50 | 25.10 | 28.05 | 29.55 |
| 22.10 | 24.50 | 26.95 | 30.05 | 31.65 |
| 24.60 | 27.20 | 29.95 | 33.35 | 25.15 |
| 28.40 | 31.30 | 33.70 | 38.05 | 39.95 |
| 31.45 | 35.75 | 36.40 | 42.05 | 44.15 |
| 39.00 | 42.30 | 46.00 | 50.80 | 53.15 |
| 42.25 | 45.90 | 49.70 | 54.85 | 57.40 |
| 45.50 | 49.30 | 53.40 | 58.85 | 61.55 |
| 48.75 | 52.80 | 56.90 | (i2. 90 | 65.80 |

Note.-1)oors over 48 inches long will be provided with a substantial vault hande and three way cateh. Doors less than 48 inches long will be provided with galvanized commode catch unless otherwise specified.

# CUTTER STEEL SERVICE AND CUT-OUT BOXES 

Made-to-order Cut-out Boxes

Schedule "O"

The specifications and prices for special features given at the top of a previous page listing 16 Gauge Made-to-orler Boxes, apply also to the boxes listed below.

# Mfr. Price List of No. 12 U. S. Gauge Steel Boxes 

Underwriters' f No dimension to exceed 48 inches.
Requirements No one surface to exceed 1200 square inches.

| Width | Jength |  |  |  |  | Drpth, | Inches |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inches | Inches | 4 | 5 | 6 | 8 | 9 | 12 | 15 | 18 | 22 | 24 |
| 10 | 10 | \$3.25 | \$3.60 | \$4.00 | 84.55 | \$4.80 |  |  |  |  |  |
| 10 | 12 | 3.50 | 3.90 | 4.30 | 5. 10 | 5.35 |  |  |  |  |  |
| 10 | 1.5 | 4.00 | 4.30 | 4.7.) | 5. 0.5 | 5. 90 |  |  |  |  |  |
| 10 | 18 | 4.30 | 4.75 | 5.25 | 6.25 | (i.55 |  |  |  |  |  |
| 10 | 20 | 5.05 | 5. 5.5 | (i. 10 | 6.65 | 7.00 |  |  |  |  |  |
| 10 | 24 | 5. 6.5 | 6.20 | (6.45 | 7.55 | 7.90 |  |  |  |  |  |
| 10 | 27 | 5.75 | 6.30) | (6.8.) | 8.15 | 8.5 |  |  |  |  |  |
| 10 | 30 | (5.20) | 6.75 | 7.35 | 8.80 | 9.25 |  |  |  |  |  |
| 10 | 33 | 6.60 | 7.10 | 7.85 | 9.45 | 9.90 |  |  |  |  |  |
| 10 | 36 | 7.05 | 7.65 | 8.30 | 10.10 | 10.55 |  |  |  |  |  |
| 12 | 12 | 3.80 | 4.20 | 4.6.) | 5.45 | 5.70 | \$6.50 |  |  |  |  |
| 12 | 1.5 | 4.20 | 4:70 | -. 20 | 6.15 | (6.45 | 7.15 |  |  |  |  |
| 12 | 18 | 4.75 | 5.20 | 5.70 | (i. 8.5 | 7.15 | 8.15 |  |  |  |  |
| 12 | 20 | 5. 6.5 | (1.05 | 6.60 | 7.30 | 7 (6) | 8.70 |  |  |  |  |
| 12 | 24 | 5.90 | 6.75 | 7.35 | 8.35 | 8.60 | 9.80 |  |  |  |  |
| 12 | 27 | (6.36 | 6.90 | 7.45 | 8.90 | 9.35 | 10.60 |  |  |  |  |
| 12 | 30 | (6.85 | 7.40 | 8.05 | 9.65 | 10. 10 | 11.40 |  |  |  |  |
| 12 | 33 | 7.05 | 7.95 | 8.60 | 10.30 | 10.80 | 12.25 |  |  |  |  |
| 12 | 36 | 7.80 | 8.45 | 9.15 | 11.00 | 11.50 | 13.10 |  |  |  |  |
| 12 | 42 | 8.80 | 9.30 | 10. 30 | 12.30 | 13.00 | 14.80 |  |  |  |  |
| 12 | 48 | 9.75 | 10.50 | 11.3 .5 | 13.90 | $14 .(6)$ | 16.35 |  |  |  |  |
| 15 | 15 | 4.85 | 5.30 | 5.80 | 6.90 | 7.25 | 8.20 | \$9.20 |  |  |  |
| 15 | 18 | 5.40 | 5.90 | ( ) . 40 | 7.70 | 8.05 | $9.0 \%$ | 10.20 |  |  |  |
| 15 | 20 | (6.2.5 | 6.80 | 7.40 | 8.20 | 8.60 | 9.75 | 10.85 |  |  |  |
| 15 | 24 | 6.95 | 7.60 | 8.25 | 9.25 | 9.70 | 10.95 | 12.20 |  |  |  |
| 15 | 27 | 7.25 | 7.85 | 8. 6.5 | 10.05 | 10.50 | 11.80 | 13.30 |  |  |  |
| 15) | 30 | 7.80 | 8.45 | 9. 10 | 10.85 | 11.30) | 12.70 | 14.30 |  |  |  |
| 15 | 33 | 8.40 | 9.05 | 9.75 | 11.85 | 12.15 | 13.70 | 1.5 .25 |  |  |  |
| 15 | 36 | 8.95 | 9.65 | 10.35 | 12.40 | 1:1.00 | 14.60 | 16.25 |  |  |  |
| 15 | 42 | 10.10 | 10.85 | 11.63 | 14.00 | 14.60 | 16.40 | 18.25 |  |  |  |
| 15 | 48 | 11.25 | 12.05 | 12.85 | 15.50 | 16.20 | 18.25 | 20.25 |  |  |  |
| 18 | 18 | 6.00 | 6.55 | 7.10 | 8.85 | 8.90 | 10.09 | 11.25 | \$12.00 |  |  |
| 18 | 20 | 6.45 | 7.00 | 7.5.) | 9. 10 | 9.55 | 10.75 | 11.95 | 12.80 |  |  |
| 18 | 24 | 7.90 | 8.50 | 0.15 | 10.30 | 10.75 | 11.19 | 13.50 | 14.30 |  |  |
| 18 | 27 | 8.15 | 8.80 | 9.40 | 11.15 | 11.70 | 13.10 | 14.50 | 15.40 |  |  |
| 18 | 30 | 8.80 | 9.45 | 10.15 | 12.05 | 12.60 | 14.15 | 15.65 | 16.60 |  |  |
| 18 | 33 | 9.85 | 0.95 | 10.85 | 12.90 | 13.50 | 15.15 | 16.75 | 17.65 |  |  |
| 18 | 36 | 10.15 | 10.8.7 | 11.70 | 13.80 | 14.40 | 16.10 | 17.90 | 18.80 |  |  |
| 18 | 42 | 11.40 | 12.1\% | 13.05 | 15.5\% | 16.20 | 18.20 | 20.00 | 21.05 |  |  |
| 18 | 48 | 12.75 | 13.55 | 14.45 | 17.40 | 1. 5.00 | 20.10 | 22.10 | 23.30 |  |  |
| 21 | 21 | 8.00 | \%. 60 | (0.25) | 10.35 | 10.80 | 12.20 | 13.50 | 14.15 | \$16.10 |  |
| 21 | 24 | 8.75 | 9.35 | 10.05 | 11.30 | 11.80 | 13.30 | 14.70 | 15.55 | 17.45 |  |
| 21 | 27 | 9.10 | 10.00 | 10.40 | 12.45 | 12.80 | 14.35 | 15.85 | 16.75 | 18.75 |  |
| 21 | 30 | 9.80 | 10.50 | 11.45 | 13.30 | 13.80 | 15.45 | 17.10 | 18.00 | 20.20 |  |
| 21 | 33 | 10.55 | 11.50 | 11.95 | 14.30) | 14.80 | 16.5\% | 18.25 | 19.20 | 21.30 |  |
| 21 | 36 | 11.65 | 11.95 | 12.80 | 15.30 | 15.80 | 17.60 | 19.45 | 19.45 | 22.80 |  |
| 21 | 42 | 12.75 | 13.63 | 13.05 | 17.20 | 17.80 | 18.53 | 21.75 | 22.90 | 25.55 |  |
| 21 | 48 | 14.20 | 15.00 | 14.50 | 19.10 | 16.80 | 21.60 | 24.15 | 25.30 | 28.15 |  |
| 24 | 24 | 9.15 | 9.80 | 10.5.5 | 11.40 | 12.90 | 14.45 | 16.00 | 16.80 | 18.90 | \$19.90 |
| 24 | 27 | 10.00 | 10.85 | 11.36 | 13.40 | 13.90 | 15.60 | 16.80 | 18.20 | 20.30 | 21.30 |
| 24 | 30 | 10.80 | 11.50 | 12.25 | 14.50 | 15. 05 | 16.85 | 18.45 | 19.50 | 21.70 | 22.90 |
| 24 | 33 | 11.80 | 12.35 | 13.10 | 15.55 | 16.20 | 18.00 | 19.80 | 20.80 | 23.10 | 24.30 |
| 24 | 36 | 12.45 | 13.50 | 14.10 | 16.55 | 17.30 | 18.65 | 20.60 | 21.40 | 24.10 | 25.30 |
| 24 | 42 | 14.10 | 14.95 | 15.80 | 18.70 | 19.50 | 21.40 | 23.45 | 24.50 | 27.50 | 28.70 |
| 24 | 48 | 15.75 | 16.65 | 17.50 | 20.90 | 21.80 | 23.90 | 26.15 | 27.30 | 30.30 | 31.70 |

## CUTTER STEEL SERVICE AND CUT-OUT BOXES

Made-to-order Cut-out Boxes-Schedule " $O$ "
The specifications and prices for special features given at the top of the preceding page, apply to the boxes listed below.

Price List of No. 14 U. S. Gauge Steel Boxes
UNDERWRITERS' $\{$ No dimension to execed 48 inches.
REQUIREMENTS \{ No one surface to exced 1 ? 200 square inches

| Wirth Inches | Langth <br> lnches | 3 | 4 | 5 | 6 | $\begin{aligned} & \text { Depth, } \\ & 8 \end{aligned}$ | $\begin{gathered} \text { Inche's } \\ 9 \end{gathered}$ | 12 | 1.5 | is | 2: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{6}$ | 10 | \$1.90 | \$2. 10 | \$2.40 | \$2. 70 |  |  |  |  |  |  |
| i | 12 | 2.05 | 2.30 | 2.55 | 2.90 | . |  |  |  |  |  |
| 6 | 14 | 2.20 | 2.45 | 2.75 | 3.10 |  |  |  | . | . . . |  |
| ( | 15 | 2.25 | 2.55 | 2.85 | 3.20 | . $\cdot$ |  | . . . |  |  |  |
| 6 | 16 | 2.35 | 2.65 | 2.95 | 3.30 | . |  | ... |  |  |  |
| 8 | 10 | 2.10 | 2.35 | 2.65 | 2.95 | $\ldots$ |  | . . . ${ }^{\text {a }}$ | . . |  |  |
| 8 | 12 | 2.30 | 2.55 | 2.85 | 3.0 |  |  | . . . . |  |  |  |
| 8 | 14 | 2.45 | 2.75 | 3.0 .5 | 3.0 |  |  |  |  |  |  |
| 8 | 15 | \%.5\% | 2.85 | 3.20 | 3.55 |  |  | . | .... | . . . |  |
| 8 | 16 | 2 .6is | 2.9 .5 | 3.30 | 3.65 |  |  | . . | . . . | . . . |  |
| $\star$ | 1* | 2.8 .5 | 3.15 | 3.50 | 3.90 |  |  |  | . |  |  |
| 8 | 20 | 3.00 | 3.35) | 3.70 | 4.10 |  |  | . | . | . . $\cdot$ |  |
| $s$ | 22 | 3.20 | 3.5.) | 3.90 | 4.30 |  |  |  |  |  |  |
| 10 | 10 | 2.30 | 9.60 | 2.90 | 3.25 | \$3.50 | 83.70 |  |  |  |  |
| 10 | 12 | 2.50 | 2.80 | 3.15 | 3.50 | 3.95 | 1.20 |  |  |  |  |
| 10 | 14 | 2.75 | 3.0\% | 3.10 | 3.75 | 4.25 | 4.4 .5 |  |  |  |  |
| 10 | 1.5 | 2.85 | 3.1.) | 3.50 | 3.90 | 4.45 | 4.65 |  |  |  |  |
| 10 | 16 | 2.95 | 3.30 | 3.65 | 4.05 | 4.60 | 4.85 |  |  | . |  |
| 10 | 18 | 3.30 | 3.810 | 3.90 | 4.30 | +.95 | 5. 20 |  |  |  |  |
| 10 | 20 | 3.70 | 4.10 | 4.50 | 4.95 | 5.30 | 5.60 |  |  | $\cdots$ |  |
| 10 | 22 | 3.95 | 4.35) | 4.75 | 5. 20 | 5.65 | .) 95 |  |  |  |  |
| 10 | 24 | 1.20 | 4.60 | 5.00 | 5.50 | 1.00 | 6.35 |  |  |  |  |
| 12 | 12 | 2.80 | 3.10 | 3.40 | 3.50 | 4.25 | 4.45 | 85.15 |  |  |  |
| 12 | 1.5 | 3.15 | 3.45 | 3.8 .5 | 4.15 | 4.85 | 5. 10 | 5.85 |  |  |  |
| 12 | 1s | 3.55 | 3.85 | 4.25 | 4.65 | -. 10 | 5.70 | (1.5.) |  | . . |  |
| 12 | 29 | 4.35 | 4.75 | 5.20 | 5.65 | 6.25 | (3.5) | 7 E |  |  |  |
| 12 | 24 | $4.61{ }^{\text {d }}$ | $\therefore 05$ | 5.50 | 6, 00 | 6.6i0 | 6.96 | 7.95 |  |  |  |
| 12 | 27 | 5.15 | 5. 60 | (6.0)5 | 6.55 | 7.20 | 7.60 | -6.65 |  |  |  |
| 12 | 30 | 5.5.) | 6.00 | (5.5) | 7.00 | 7.80 | $\therefore .20$ | 9.35) |  |  |  |
| 1.5 | 15 | 3.60 | 3.95 | 4.35 | 4.75 | 5.50 | 5.80 | (6. ii) | \$7.45 |  |  |
| 15 | 18 | 4.05 | 4.40 | 4.80 | 5.25 | 6.15 | (i.45 | 7.40 | 8.30 |  |  |
| 15 | 22 | 5.00 | 5. 40 | 5.85 | 6.35 | 7.05 | 7.10 | 9.41 | 9,5\% |  |  |
| 15 | 21 | 5.30 | 5.75 | 6. 20 | 6.70 | 7.50 | 7.85 | 8.9 .5 | 10.05 |  |  |
| 15 | 27 | 5.90 | (i.35) | 6.80 | 7.50 | $\therefore .15$ | 8.50 | 9.25 | 10.90 |  |  |
| 15 | 30 | (6.35) | 6.80 | 7.30 | 7.85 | 8.85 | 9.9 | 10.50 | 11.80 |  |  |
| 15 | 33 | (6.75 | 7.30 | 7.85 | 8.40 | 9.55 | 10.00 | 11.75 | 12.60 | $\cdots$ |  |
| 15 | 36 | 7.25 | 7.75 | -.s0 | 8.90 | 10.20) | 10.70 | 12.05 | 13.45 |  |  |
| 1.5 | 42 | 8.10 | 8.70 | 9.35 | 10.00 | 11.55 | 12.05 | 13.60) | 1.5.15 |  |  |
| 15 | 48 |  |  |  |  | 12.90 | 13.45 | 1.5. 20 | 16.90 |  |  |
| 18 | 18 | 4.505 | 4.95 | 5.10 | 5.85 | 6.90 | 7.20 | 8.2 | 9.25 | 810.90 | 812.21 |
| 18 | $\because 1$ | 5.5.5 | 5.85 | 6.35 | 6.85 | 7.65 | 8.00 | 9.10 | 10.15 | 11.90 | 13.4. |
| 18 | 21 | 0.10 | 13.10 | 6.95 | 7.45 | 8.35 | \%.s) | 9.9 .5 | 11.10 | 12.90 | 14.45 |
| 18 | 27 | 6. 4.5 | 7.10 | 7.60 | 8.15 | 9.15 | 10.00 | 10. 80 | 12.0 .5 | 13.90 | 1.5.50 |
| 18 | 30 | 7.10 | 7 \% 65 | 8.15 | 8.75 | 9.90 | 10.30 | 11.6i) | 12.95 | 14.90 | 16. 6 is |
| 18 | 33 | 7.65 | S. 40 | 8.60 | 9.85 | 10.65 | 11.10 | 12.55 | 13.90 | 15.90 | 17.75 |
| 18 | 36 | 8.15 | 9.70 | 9.35 | 9.95 | 11.40 | 11.90 | 13.35 | 14.55 | 16.90 | 1s. 85 |
| 18 | 42 | 9.20 | 9.90 | 10.55 | 11.10 | 12.90 | 13.45 | 15. 10 | 10.70 | 18.90 | 21.00 |
| 18 | 48 | 10.25 | 10.91) | 11.55 | 12.35 | 14.4 .5 | 15. 00 | 16.80 | 18.60 | 20.90 | 23.20 |
| 21 | 21 | 6.0.5 | 6. 50 | 7.05 | 7.55 | 8.4.5 | 8.80 | 10.00 | 11.15 | 12.95 | 14.4.) |
| 21 | 24 | 0.60 | 7.15 | 7.6 .5 | 8.20 | 9.25 | 9.70 | 10.95 | 12.15 | 14.05 | 1.).75 |
| 21 | 27 | 7.20 | 7.85 | 8.685 | 8.95 | 10.10 | 10.55 | 11.85 | 13.15 | 15.10 | 16.85 |
| 21 | 30 | 7.90 | 8.4.5 | 9.0 .5 | 9.60 | 10.95 | 11.10 | 12. () | 14.20 | 16.20 | 18.00 |
| 21 | 33 | 8.50 | 9.0 .5 | 9.15 | 10.25 | 11.30 | 12.25 | 13.75 | 1.5.20 | 17.25 | 19.20 |
| $? 1$ | 36 | 9.10 | 9.70 | 10. 30 | 12.00 | 12.60 | 13.15 | 14.6.5 | 16. 10 | 18.30 | 20.35 |
| 21 | 42 | 10.25 | 10.94) | 11.55 | 13.10 | 14.25 | 14.90 | 15.55 | 18.30 | 20.45 | (2) 15 |
| $\because 1$ | 48 | 11.45 | 12.10 | 12.80 | 13.55 | 15.90 | 16.65 | 15.40 | 20.30 | 22.65 | 2.505 |
| 2.4 | 24 | 7.25 | 7.10 | 8.45 | 0.05 | 10.15 | 10.60 | 11.95 | 13.2 .5 | 15.15 | 17.20 |
| 24 | 27 | 7.8 .5 | 8.610 | 9.15 | 9.75 | 11.05 | 11.5 .5 | 12.95 | $1+.30$ | 16.30) | 18. 15 |
| 24 | 30 | 8.70 | 9.25 | 9.85 | 10.50 | 12.00 | 12.45 | 14.00 | 14.4.5 | 17.50 | 19.410 |
| 24 | 33 | 9.40 | 10.00 | 10.55 | 11.55 | 12.90 | 13.40 | 15.00 | $1(9.50)$ | 15. 610 | 20 , in |
| 24 | 36 | 10.0 .5 | 10.65 | 11.25 | 11.90 | 13.80 | 14.35 | 15.55 | 17.20 | 19.35 | 21.45 |
| 24 | 42 | 11.65 | 12.05 | 12.75 | 13.70 | 15.65 | 16.25 | 18.0 .5 | 19.85 | 22.05 | 24.30 |
| 24 | 48 | 12.70 | 13.35 | 14.05 | 14.85 | 17.40 | 18.10 | 20.05 | 21.95 | 24.30 | 26.85 |

## CUTTER STEEL SERVICE AND CUT-OUT BOXES

Knockouts. T'nless otherwise ordered, boxes will be furnished with standard $7 / 8$-inch knockouts for $1 / 2$-inch eonduit pipes. For knockouts other than standard, add 10 cents list per box for each change in size of knockout: Knockouts for loom will be furnished when ordered, without additional charge, provided all knockouts in the same box are of the same size.

Mounting. Made for surface mounting unless otherwise specified. For flush mounted boxes, add 50 per cent. to list price and specify "Flush Boxes" on the orter.

For commode catch, add 40 cents list to prices of boxes less than 6 inches deep; boxes over 6 inches deep are regularly furnished with commode catch. For nickel-plated vault handle, add $\$ 1.00$ list. For Yale cylinder lever lock, add 70 cents list. For masterkeyed cylinder lever lock, add $\$ 1.00$ list. For master keys, add 75 cents list for each key. For spring hinges on doors, add 30 cents list per hinge. (All boxes less than 32 inches long require 2 hinges; No. 14 U. S. Gauge steel boxes over 32 inches long require 3 hinges; No. 12 and 10 U.S. Gauge steel boxes over 36 inches long require 3 hinges; all hoxes over 54 inches long require 4 hinges.)

Doors. Unless otherwise ordered, all boxes will be furnished with hinged doors. Boxes ordered with covers fastened on with screws take the same list prices as surface type boxes. ['nless otherwise ordered, box doors will he made with all four sides overlapping and hinged on right-hand side. Doors will be hinged at top when so ordered, without additional eharge. Add 60 cents each list for hasp and staple on door. Deduct 20 per cent. for boxes with doors omitted. For boxes with overhanging and sloping roof (or sloping bottom) add 50 per cent. to list price, unless 'nderwriters' code applies.

Galvanizing. For galvanized boxes, add 100 per cent. to list price.
Weatherproof Boxes. For galvanized weatherproof boxes, made according to Underwriters' code, add 200 per cent. to list price if made of 12 or 14 U . S. Gauge steel; add 150 per cent. if made of No. 10 IV. S. Gauge steel, each box to bear Underwriters' label. Add 60 cents each for hasp and staple on doors.

## Mfr's Price List of No. 16 U. S. Gauge Steel Boxes

Underwriters' $\{$ No one dimension to exceed 24 inches.

| Req Width | iremen |  |  |  |  | are inc Denth, |  |  |  | Sched | ' 'O', |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{\text {r n }}$, | lnches | 3 | 4 | 5 | 6 | 8 | 9 | 10 | 12 | 14 | 15 |
| 4 | 4 | \$1.05 | \$1.20 | \$1.35 | \$1.55 |  |  |  | 12 | 14 | 15 |
| 4 | 6 | 1.15 | 1.30 | 1.45 | 1.65 | . |  |  |  |  |  |
| 4 | 8 | 1.25 | 1.40 | 1.60 | 1.80 |  |  |  |  |  |  |
| 4 | 10 | 1.35 | 1.50 | 1.75 | 1.90 |  |  |  |  |  |  |
| ( | 6 | 1.25 | 1.45 | 1.60 | 1.80 |  |  |  |  |  |  |
| 6 | 8 | 1.40 | 1.55 | 1.75 | 2.00 |  |  |  |  |  |  |
| 6 | 9 | 1.45 | 1.60 | 1.85 | 2.10 |  |  |  |  |  |  |
| 6 | 10 | 1.50 | 1.70 | 1.90 | 2.15 |  |  |  |  |  |  |
| 6 | 12 | 1.60 | 1.80 | 2.03 | 2.30 |  |  |  |  |  |  |
| 6 | 14 | 1.75 | 1.95 | 2.20 | 2.45 |  |  |  |  |  |  |
| 6 | 15 | 1.80 | 2.05 | 2.25 | 2.50 |  |  |  |  |  |  |
| 6 | 16 | 1.85 | 2.10 | 2.30 | 2.60 |  |  |  |  |  |  |
| 8 | 8 | 1.50 | 1.70 | 1.90 | 2.15 | \$2.70 | 82.80 |  |  |  |  |
| 8 | 9 | 1.60 | 1.80 | 2.00 | 2.25 | 2.30 | 2.90 |  |  |  |  |
| 8 | 10) | 1.70 | 1.90 | 2.10 | 2.35 | 3.10 | 3.19 |  |  |  |  |
| 8 | 12 | 1.80 | 2.05 | 2.25 | 2.50 | 3.25 | 3.35 |  |  |  |  |
| 8 | 14 | 1.95 | 2.15 | 2.40 | 2.70 | 3.55 | 3.64 |  |  |  |  |
| 8 | 15) | 2.00 | 2.25 | 2.50 | 2.75 | 3.65 | $3.7 \overline{7}$ |  |  |  |  |
| 8 | 16 | 2.10 | 2.35 | 2.60 | 2.85 | 3.30 | 3.95 |  |  |  |  |
| 8 | 18 | 2.25 | 2.50 | 2.75 | 3.05 | 4.10 | 4.21 |  |  |  |  |
| 8 | 20 | 2.45 | 2.70 | 3.00 | 3.35 | 4.35 | 4.80 |  |  |  |  |
| 8 | 23 | 2.60 | $\bigcirc .90$ | 3.20 | 3.55 | 4.65 | 4.80 |  |  |  |  |
| 10 | 10 | 1.85 | 2.05 | 2.25 | 2.05 | 3.25 | 3.35 | \$3.00 |  |  |  |
| 10 | 12 | 2.00 | 2.2.5 | 2.45 | 2.75 | 3.6 | 3.75 | 3.95 |  |  |  |
| 10 | 14 | 2.15 | 2.40 | 2.5 | 2.95 | 3.85 | 4.00 | +.20 |  |  |  |
| 10 | 15 | 2.25 | 2.50 | 2.75 | 3.05 | 4.05 | 4.15 | 4.35 |  |  |  |
| 10 | 16 | 2.35 | 2.60 | 2.85 | 3.15 | 4.20 | 4.35 | 4.60 |  |  |  |
| 10 | 18 | 2.50 | 2.75 | 3.05 | 3.35 | 4.50 | $4.6{ }^{5}$ | $\therefore .00$ |  |  |  |
| 10 | 20 | 3.05 | 3.35 | 3.70 | 4.05 | 4.80 | 4.95 | 5.30 |  |  |  |
| 10 | 22 | 3.25 | 3.55 | 3.90 | 4.30 | 5.00 | 5.25 | 5.65 |  |  |  |
| 10 | 24 | 3.40 | 3.75 | 4.15 | 4.50 | -. 40 | 5.55 | 6.0) |  |  |  |
| 12 | 12 | 2.20 | 2.40 | 2.80 | 3.10 | 3.90 | 4.00 | 4.30 | \$4.70 |  |  |
| 12 | 1. | 2.40 | 2.60 | 3.00 | 3.30 | 4.25 | 4.35 | 4.68 | - 5.10 |  |  |
| 12 | 15 | 2.45 | 2.75 | 3.10 | 3.45 | $+.40$ | 4.55 | 4.8 \% | \%. 30 |  |  |
| 12 | 16 | 2.55 | 2.85 | 3.25 | 3.55 | 4.60 | 4.70 | 5.05 | 5. 50 |  |  |
| 12 | 18 | 2.76 | 3.05 | 3.45 | 3.80 | 4.89 | 5.05 | 5.48 | -, 90 |  |  |
| 12 | 20 | 3.40 | 3.70 | 4.05 | 4.30 | 5.26 | 5.50 | 5. 80 | 6.30 |  |  |
| 12 | 22 | 3.60 | 3.90 | 4.30 | 4.70 | 5.60 | 5.75 | 6.15 | 6.70 |  |  |
| 12 | 24 | 3.80 | 4.15 | 4.50 | 4.95 | 5.95 | 6.10 | 6.50 | 7.10 |  |  |
| 15 | 16 | 2.95 | 3.20 | 3.65 | 4.00 | 5. 15 | 5.30 | 5.70 | ( 3.20 | \$6.70 | \$6.95 |
| 15 | 18 | 3.15 | 3.45 | 3.90 | 4.30 | 505 | 5.70 | 6.10 | 6.50 | 7.15 | 16.95 7.40 |
| 15 | 20 | 3.85 | 4.20 | 4.55 | 4.95 | 5.95 | 6.10 | 6.50 | 7.05 | 7.60 | 7.90 |
| 15 | 22 | 4.10 | 4.45 | 4.85 | 5.25 | 6.30 | 6.50 | 6.90 | 7.50 | 8.10 | 8.40 |
| 15 | 2.4 | 4.35 | 4.75 | 5.15 | 5.55 | 6.70 | 6.85 | 7.35 | 7.95 | 8.60 | 8.90 |
| 18 | 18 | 3.55 | 3.85 | 4.40 | 4.75 | 620 | 6.35 | 6.75 | 7.85 | 7.90 | 8.20 |
| 18 | 20 | 4.30 | 4.35 | 4.70 | 5.10 | 6.60 | 6.75 | 7.20 | 7.80 | 8.40 | 8.75 |

Mfr's. Lists Special Discounts on application.


For Standard Iron Pipe Double Screw


For Flexible Steel Conduit


No, V-2

## Ground Clamps

FOR STANDARD IRON PIPE


100 clamps of assorted sizas eonstitute a sta ward paekage. N. F. C. standard.
The aberage assortment of 500 clamps boxed for shipment weighs apmoximately 100 lbs .


Blackburn Adjustable Ground Clamps


"Shawmut" Ground Clamp


New York Type A


Security Conduit Clamp

$\begin{array}{ll}\text { Cleat } & \text { List No. } \\ & 580894 \\ & 580895 \\ & 580896\end{array}$

List No.
15118
15100
15103
15108
15102
15104
15116

## CLAMPS, CLEATS AND STRAPS Ground Clamps <br> G-V-TYPE A GROUND CLAMP

This Clamp is copper, tinncd. For No. 4 wire and smaller. No iron enters into the construction of this clamp.

| $\begin{gathered} \text { List } \\ \text { No. } \end{gathered}$ | Size | Std. <br> I'kg. | List Price Each | $\begin{aligned} & \text { List } \\ & \text { Non } \end{aligned}$ | Size | Std. Pkg. | List Price Fach |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5014 | BX | 100 | \$0.48 | 5112 | $11 / 2^{\prime \prime}$ | 50 | \$0.92 |
| 5038 | $88^{\prime \prime}$ | 100 | . 48 | 5002 | $2^{\prime \prime}$ | 50 | 1.04 |
| 5012 | $1{ }^{\prime \prime \prime}$ | 100 | . 48 | 5212 | 21/2' | 25 | 1.16 |
| 5034 | $3{ }^{\prime \prime}$ | 100 | . 56 | 5003 | $3^{\prime \prime}$ | 25 | 1.28 |
| 5001 | $1{ }^{\prime \prime}$ | 75 | . 68 | 5312 | $31 / 2^{\prime \prime}$ | 10 | 1.60 |
| 5114 | $11 / 4^{\prime \prime}$ | 75 | . 80 | 50104 | $4^{\prime \prime}$ | 10 | 1.76 |

## SHAWMUT GROUND CLAMP

These Clamps are marle for usc on $3 / 8$ inch to 3 inch pipe, and are so constructed as to give the maximum strength with a minimum amount of metal, thus reducing cost. The Clamps will hold No. 4 Ground Vire.

| List <br> No. | Size | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{aligned} & \text { List Price } \\ & \text { Each } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size | Std. Pkg. | List I'rice Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 580881 | $8 / 8^{\prime \prime}$ | 100 | \$0.24 | 580886 | $11 / 2^{\prime \prime}$ | 50 | \$0.46 |
| 580882 | $1 /{ }^{\prime \prime}$ | 100 | . 24 | 580887 | $2^{\prime \prime}$ | 25 | . 52 |
| 580883 | $1^{\frac{3}{4 \prime \prime}}{ }^{\prime \prime}$ | 100 | . 28 | 580888 | $21 / 2^{\prime \prime}$ | 25 | . 58 |
| 580884 | $1 "$ | 50 | . 34 | 580889 | $3^{\prime \prime}$ | 15 | .64 |
| 580885 | $11^{\prime \prime}{ }^{\prime \prime}$ | 50 | . 40 |  |  |  |  |

## NEW YORKGROUND CLAMP

These Ground Clamps are madc in three types, A, B, and D. Type A clamps are for connecting telephone and telegraph ground wires to pipes or cables. Type B clamps are for making ground connections for electric light wires without the use of solder. Binding posts provide conneetions for No. 2 and No. 4 B. \& S. wircs. Type D for electric light and motor work.

| List No. | Type | Size | List Price per 100 | List No. | Typo | Size | List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 580890 | A | 1" pipe | \$16.00 | 580988 | B | $3^{\prime \prime}$ pipe | \$70.00) |
| 580891 | A | $2^{\prime \prime}$ pipe | 20.00 | 580989 | 13 | $4^{\prime \prime}$ pipe | 75.00 |
| 580892 | A | $3^{\prime \prime}$ pipe | 24.00 | 580990 | 1) | $1^{\prime \prime}$ pipe | (i2.00 |
| 580893 | B | 1', pipe | 62.00 | 580991 | 1) | $2^{\prime \prime}$ pipe | 66.00 |
| 580847 | B | $2^{\prime \prime}$ pipe | 66.00 | 580992 | D | $3^{\prime \prime}$ pipe | 70.00 |
|  |  |  |  | 580993 | D | $4^{\prime \prime}$ pipe | 75.00 |

## SECURITY CONDUIT CLAMP

This Clamp may be used for supporting conduit on brick or concrete walls, ceilings, iron beams, etc. It is stamped from $1 / 2$ inch steel and is black enameled to prevent rust. These clamps are made in $1 / 2,3 / 4$, and 1 inch size, and are packed in boxes containing 100 of a size.

|  |  | List Price per 1000-1000 |  |  |  |  |
| :--- | ---: | :---: | :---: | :---: | ---: | :---: |
| List No. | Size | Less than 100 | $100-500$ | $500-1000$ | 1000 and Over |  |
| 580894 | $112^{\prime \prime}$ | $\$ 30.00$ | $\$ 24.00$ | $\$ 20.00$ | $\$ 18.00$ |  |
| 580895 | $3 / 4^{\prime \prime}$ | 45.00 | 36.00 | 30.00 | 27.00 |  |
| 580896 | $1^{\prime \prime}$ | 75.00 | 60.00 | 50.00 | 45.00 |  |
|  |  |  |  |  |  |  |
|  | BRASS CLEATS |  |  |  |  |  |

BRASS CLEATS

|  | Std. | List Price |
| :---: | :---: | :---: |
| Description | Pkg. | per 100 |
| For $\frac{3}{16}$ ", outside diameter wir | 250 | \$39.00 |
| For $3 / 8$ ", outside diamcter wire | 250 | 48.00 |
| For 1/2" ${ }^{\prime \prime}$ outside diameter wire | 250 | 60.00 |
| For $\frac{12}{16}{ }^{\prime \prime}$ outside diameter wire | 250 | 90.00 |
| Corncr Cleat, for $3 / 8^{\prime \prime}$ outside dia | 250 | 45.00 |
| Corner Cleat, for $1^{1} 2^{\prime \prime}$, outside diameter wire. | 250 | 48.00 |
| Corner Cleat, for $\frac{11^{\prime \prime}}{}{ }^{\prime \prime}$ outside diameter wire. | 250 | 75.00 |

## PIPE STRAPS

| List |  | Aprx. Qnty. | Std. | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | List |  | Aprx. Qnty. | Std. | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . | Size | per Lb. | Pkg. | per Lb. | No. | Size | Llb. | Pkg. | per Lb. |
| 290 | 1/4" F ipe Strap | 32 | 1000 | \$0.50 | 295 | 1 "Pipe Strap | 16 | \%) | \$0.50 |
| 291 | $88^{\prime \prime}$ I Pipe Strap | 30 | 1000 | . 50 | 296 | $11 / 4^{\prime \prime}$ Pipe Strap | 10 | 25 | . 50 |
| 292 | $1{ }^{1 / n}$ Pipe Strap | 25 | 1000 | . 50 |  | $21 / 2^{\prime \prime}$ Pipe Strap | 8 | 2.5 | 50 |
| 293 | 3/4" Pipe Strap | 20 | 500 | . 50 | 298 | $2{ }^{\prime \prime}$ Pipe Strap | 6 | 20 | 50 |
| 294 | " Pipe Strap | 18 | 100 | . 50 | 299 | $31 / 2^{\prime \prime}$ Pipe Strap | 5 | 20 | 50 |

## LONG RADIUS CONDUIT FITTINGS

Floor Outlets
An efficient substitute for the old style floor box or receptacle, with its necessarily large and objectionable floor plate, which has limited the distribution of floor outlets to the most neeessary locations only.

With this fitting, future requirements may be anticipated by systematically studding the floor with these outlets, all radiating from one or more pull boxes, located in the side walls, from which any changes or additions can subsequently be made by the pulling of wires.

The complete outlet consists of a long rarlius conduit fitting, as listed below, and an adjustable top, with waterproof cap, as listed below, which can be raised or lowered to meet the final surfacing of floor.


No. 1900


No. 1905


No. 1915


Cable Support

## Floor Outlets

Receptacles Nos. 61, 170-175 have been especially designed for use with these fittings with adjustable top and brass extension No. 1925.

Made of galvanized iron, tapped for conduit. Brass fittings on special order.


## Adjustable Tops

Cast brass, bottom threaded to fit long radius fittings listed alove, top threaded to take extension or stand pipes and fitted with gasket and blind cap.

| List |  | List |
| :---: | :---: | :---: |
| No. |  | Price |
| 1915 | 1/2 inch adjustable tops | \$1.26 |
| 1916 | $3 / 4$ inch adjustable tops | 1.54 |
| 1917 | 1 inch adjustable tops | 1.98 |
| 1918 | $11 / 4$ inch adjustable tops | 2.40 |
| 1919 | $11 / 2$ inch adjustable tops | 2.82 |
| 1925 | Polished brass extension, | 1.26 |

## Cable Supports

These cable supports are used throughout the country in large notel and office buildings and lofts. They consist of a galvanized iron collar screwed on the end of a riser in place of a bushing. Cable is then pulled and galvanized iron inserts are dropped around cables and rest on seating in collar. Split fiber bushings, which are threaded on the inside to grip cable and tapered on the outside to fit the taper of the iron inserts, are then placed around cables, which are now allowed to pull the grips into place by their own weight.

These cable supports are made for 1 inch, $11 / 4$ inch, $11 / 2$ inch, 2 inch, $21 / 2$ inch, 3 inch, $31 / 2$ inch and 4 inch conduit and can be furnished to take $1,2,3$ or 4 cables in a conduit. Write us for further information and quotation.

Delivery F. O. B. New York City. For warehouse deliveries write nearest house.

## WIRE GRIP MOULDING AND FIBRE CLEATS



## Wire Grip Moulding

| Mirs. |  | Softwoad | Hard or Softwood | Hard or Softwoord |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Painted IV hite | Oak Stained | Unfinished |
| No. | --No. and Size- | per 100 feet | per 100 feet | per 100 feet |
| 3 | 1/4 in. 2 wire | \$5.40) | \$5.10 | \$4.80 |
| 4 | $1 / 4$ in. 3 wire | 7.05 | 6.75 | 6.45 |
| 5 | $3 / 8$ in. 2 wire | 7.20 | 6.45 | (6.0) |
| 6 | $3 / 8$ in. 3 wire | 9.30 | 9.00 | 8.40 |
| 7 | $1 / 2$ in. 2 wire | 7.80 | 7.20 | 6.90 |
| 8 | $1 / 2 \mathrm{in}$. 3 wire | 10.20 | 9.90 | 9.60 |

Note: When ordering please state whether you want, 1st: unfinished, oak stain or painted white; 2d: size of groove; 3d: number of grooves; 4th: hardwood or softwood; 5th: inserted cap or wide cap style.

## Hard Fibre Cleats



Style A


Style No. 1


Style B


Style No. 2


Style C


Style No. 2A

These cleats are neat, durable, easy to install, gool insulators, and on account of the finished appearance they make, are just the thing for office or residence installation.

They were originally designed for telephone wiring only, but are now being used extensively for bell wiring, annunciator systens, tince clocks, telegraph outfits, etc. Type E is particularly adapted for fastening electric light wires to switchboards, motor frames, etc.

In ordering be sure to mention color preferred: red, gray or black; otherwise red will be furnished.

| Style |  | Length | Width | Groove | *List Price per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A | Single groove cleat, | $3 / 4 \mathrm{in}$. | $\frac{13}{32} \mathrm{in}$. | $1 / 4 \times 1 / 8 \mathrm{in}$. | \$18.00 |
| B | Double groove cleat. | $3 / 4 \mathrm{in}$. | $\frac{13}{32} \mathrm{in}$. | $1 / 8 \times 1 / 8 \mathrm{in}$. | 18.00 |
| C | Corner cleat. | $\frac{11}{16} \mathrm{in}$. | $\frac{13}{3} \frac{3}{2} \mathrm{in}$. | $1 / 4 \times 1 / 8 \mathrm{in}$. | 16.00 |
| D | Three-wire cleat. | $11 / 8 \mathrm{in}$. | $\frac{13}{32} \mathrm{in}$. | $1 / 8 \times 1 / 8 \mathrm{in}$. | 36.00 |
| E | Large double cleat. | $15 / 8 \mathrm{in}$. | $\frac{9}{16} \mathrm{in}$. | $1 / 4 \times 1 / 4 \mathrm{in}$. | 60.00 |
| 1 | Single groove. . |  |  |  | 8.00 |
| 2 | Double groove. . |  |  |  | 8.00 |
| 2A | Double groove. | $\ldots$ | .... |  | 8.00 |

*Delivery F. O. B. Factory, Wilmington, Del. For warehouse deliveries write nearest house.

# CONDULET BODIES WITH OBROUND OPENINGS 

TYPE A
TYPE B
TYPE BE

Types A and B Condulet Bodies Take Obround Covers and Obround Conduletto Fittings Type BE Condulet Bodies Take Obround Covers Only

|  | TYPE A CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches...... | $1 / 2$ | 3/4 | 1 | $11 / 4$ | $11 / 2$ | 2 |
|  | Catalogue Number. Stanlard Package. Ship. W't. Std. I'kg. List l'rice, each. . | A1 <br> 200 <br> 130 lbs <br> $\$ .21$ | $\begin{aligned} & \hline A 2 \\ & 100 \\ & 9 . \\ & 8.31 \end{aligned}$ | $\begin{aligned} & \hline \text { A3 } \\ & 50 \\ & 80 \mathrm{lbs} . \\ & \$ .43 \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline \mathrm{A} 4 \\ 20 \\ 60 \mathrm{lhs} . \\ 8.62 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 45 \\ 10 \\ 40 \mathrm{lbs} . \\ 8.80 \\ \hline \end{array}$ | ```A6 5 30lbs. $1.66``` |
|  | Size in inches..... | $21 / 2$ | 3 | $31 / 2$ | 4 | 5 | 6 |
|  | Catalogue Number. St:andard Package. Ship. Wt. Std. Pkg. List Price, each.... | $\begin{aligned} & A 7 \\ & 5 \\ & 50 \mathrm{lbs} . \\ & 84.95 \end{aligned}$ | $\begin{aligned} & \mathrm{A} 8 \\ & 5 \\ & 5 . \\ & 55.45 \\ & 85.4 \end{aligned}$ | $\begin{aligned} & \text { A } 9 \\ & 5 \\ & 6=\text { libs. } \\ & \$ 10.40 \end{aligned}$ | $\mathbf{A} 10$ <br> 5 <br> 70 lbs. <br> $\$ 11.70$ | A 012 <br> 5 <br> 90 lbs <br> $\$ 20.04$ | $\begin{aligned} & \bar{A} 014 \\ & 5 \\ & 100 \text { lbs. } \\ & \$ 30.00 \end{aligned}$ |

TYPE B CONDULET BODIES-Black Enamel Finish

| Size in inches. | $1 / 2$ | 3/4 | 1 | 11/4 | $11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue Number Standard Package. Ship. Wt. Std. Pkg. List Price, each.... | $\begin{aligned} & \hline \text { I31 } \\ & 200 \\ & 140 \mathrm{lbs} . \\ & 8.29 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 132 \\ & 100 \\ & 100 \mathrm{lbs} . \\ & \$ .36 \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline 133 \\ 50 \\ 80 \mathrm{lbs} . \\ 3.50 \\ \hline \end{array}$ | $\begin{aligned} & 134 \\ & 20 \\ & 65 \mathrm{~ms} . \\ & \$ .80 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { B5 } \\ & 10 \\ & 40 \mathrm{lbs} . \\ & \$ 1.04 \\ & \hline \end{aligned}$ |
| Size in inches...... | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
| Catalogue Number. Standard l'ackage. Ship. Wt. Std. Pkg. List Price, each.... | $\begin{aligned} & \text { B } 6 \\ & 5 \\ & 30 \mathrm{Ibs} . \\ & 82.14 \end{aligned}$ | $\begin{aligned} & \mathrm{B7} \\ & 5 \\ & 50 \mathrm{lbs} . \\ & \$ 5.3 \overline{5} \end{aligned}$ | $\begin{aligned} & 138 \\ & 5 \\ & 60 \mathrm{Hfs} . \\ & \$ 5.85 \end{aligned}$ | $\begin{aligned} & \mathrm{L} 39 \\ & 5 \\ & 65 \mathrm{lbs} . \\ & \$ 11.35 \end{aligned}$ | $\begin{aligned} & \text { B10 } \\ & 5 \\ & 70 \text { lbs. } \\ & \$ 12.70 \end{aligned}$ |

TYPE BE CONDULET BODIES-Black Enamel Finish


| size in inches. | 1/2 | 3/4 | 1 | $11 / 4$ | $11 / 2$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (ataloge Number. | 1315 | 13E2 | 13E3 | 13E4 | 3E5 | BE6 |
| Standard Package. | 200 | 100 |  |  |  |  |
| 'hip. Wt. Std. P'kg. List, Priee, each | $\begin{aligned} & 390 \mathrm{lbs} \\ & \left.\mathrm{~g} .4^{\prime}\right) \end{aligned}$ | $\begin{aligned} & 300 \mathrm{lbs} . \\ & \$ .50 \end{aligned}$ | $190 \mathrm{lbs}$ $\$ .85$ | $120 \mathrm{lbs} .$ <br> \$1.30 | $\begin{aligned} & 100 \mathrm{lbs} \\ & \$ 2.00 \end{aligned}$ | $\begin{aligned} & 801 \mathrm{bs} . \\ & 83.50 \end{aligned}$ |
| Nize in inches. | 21/2 | 3 | $31 / 2$ | 4 | 5 | 6 |
| atalogue Number . | BE7 | IBE8 | BE9 | I3E10 | 13E012 | BL014 |
| Standard Package. |  | $5$ |  | 5 | $5$ | 5 |
| Ship. Wt. Std. Pkg. | $160 \mathrm{lbs} .$ | 160 lbs. $\$ 10.15$ | 225 lbs. $\$ 21.30$ | $\begin{aligned} & 225 \text { lbs. } \\ & \$ 25.30 \end{aligned}$ | 480 lbs. <br> $\$ 70.00$ | $\begin{aligned} & \text { 4301bs. } \\ & 580.00 \end{aligned}$ |

## CONDULET BODIES WITH OBROUND OPENINGS

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that type BE Condulet bodies take Obround covers only.
Proper fastening serews are furmished with Obround covers and Obround Conduletto fittings, and are so held in serew holes that they can not fall out.
Finishes: Black enamol is the standard finish for Condulet bodies, and will be furnished unless another finish is sperified on the order: Cialvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order sperifies galvanized finish. For special plated finishes, cast brass and cast bronze ('ondulet bodiess with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's P'age No. 182.
Black entameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard packige. No other assortment is allowed.

## CONDULET BODIES WITH OBROUND OPENINGS-Continued TYPE C <br> TYPE D

## Take Obround Covers and Obround Conduletto Fittings

|  | TYPE C CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. . . . | $1 / 2$ | 3/4 | 1 | $11 / 4$ | 11/2 |
|  | Catahme No.... Standand Package. Weight Std. Pkg.. List Price, earh.. | $\begin{aligned} & c 1 \\ & 200 \\ & 160.1 \mathrm{bs} . \\ & 8.66 \end{aligned}$ | $\begin{aligned} & \mathrm{C2} \\ & 100 \\ & 120 \mathrm{lbs} . \\ & 8.41 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} 3 \\ & 50 \\ & 90 \mathrm{lbs} . \\ & 8.59 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C4} \\ & 20 \\ & 75 \mathrm{lbs} . \\ & 8.94 \end{aligned}$ | $\begin{aligned} & \mathrm{C5} \\ & 10 \\ & 45 \mathrm{lbs} . \\ & \$ 1.22 \end{aligned}$ |
|  | Size in inches. . . . | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
|  | Catalogue No.... Standard Package. Weight sitd. l'kg. . List I'rice, cach.. | $\begin{aligned} & \mathrm{C} 6 \\ & 5 \\ & 35 \mathrm{lbs} . \\ & 82.43 \end{aligned}$ | $\begin{aligned} & \mathrm{C7} \\ & 5 \\ & 65 \mathrm{lbs} . \\ & 86.25 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} 8 \\ & 5 \\ & 70 \mathrm{lbs} . \\ & \$ 7.40 \end{aligned}$ | $\begin{aligned} & \mathrm{C9} \\ & 5 \\ & 80 \mathrm{lbs} . \\ & \$ 16.70 \end{aligned}$ | $\begin{aligned} & \hline \text { C10 } \\ & 5 \\ & 90 \mathrm{lbs} . \\ & \$ 18.30 \end{aligned}$ |



TYPE CO CONDULET BODIES—Black Enamel Finish

| Size in inches. | $1 / 2$ | 3/4 | 1 | 11/4 | $11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No.... Standard I'aekage. Weight Std. Ikg. . List Price. cach... | $\begin{aligned} & \mathrm{CO} 011 \\ & 75 \\ & 120 \mathrm{lbs} . \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \mathrm{CO}(22 \\ & 50 \\ & 100 \mathrm{lbs} . \\ & \$ .(\overline{5}) \end{aligned}$ | $\begin{aligned} & \text { (0)33 } \\ & 25 \\ & 60 \mathrm{lbs} . \\ & \$ .75 \end{aligned}$ | CO44 15 50 lbs. 81.25 | $\begin{aligned} & \hline \text { CO55 } \\ & 10 \\ & 50 \mathrm{lbs} . \\ & 81.60 \end{aligned}$ |
| Size in inches | 2 | 21/2 | 3 | $31 / 2$ | 4 |
| Catalogue No..... Standard Package. Weight Sttl. Pkg. List l'rice, each.. | $\begin{aligned} & \hline 0046 \\ & 0 \\ & 45 \mathrm{lbs} . \\ & 83.25 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{COT7} \\ & 5 . \\ & 70^{\circ} \mathrm{lbs} . \\ & \$ 7.80 \end{aligned}$ | $\begin{aligned} & \mathrm{CO} 08 \\ & 5 \\ & 80 \mathrm{Hs} . \\ & \$ 9.25 \end{aligned}$ | $\begin{aligned} & \hline \text { CO99 } \\ & 5 \\ & 100 \text { lbs. } \\ & \$ 21.00 \end{aligned}$ | $\begin{aligned} & \hline \text { CO1010 } \\ & 5 \\ & 120 \mathrm{lbs} . \\ & \$ 23.00 \end{aligned}$ |

TYPE D CONDULET BODIES-Black Enamel Finish


| Nize in inches. | 1/2 | 3/4 | 1 | 11/4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No.. | D1 | D2 | 113 | D4 | D5 |
| Stamlard Package. | 75 | 50 | 25 |  |  |
| Weight Std. l'kg. . | 60 lhs. | 60 lbs. | 40 lbs. | 50 lbs. | 45 lbs . |
| List l'rice, each... |  |  |  |  |  |
| Size in inches. | 2 | 21/2 | 3 | $31 / 2$ | 4 |
| Catalogue No.... | I 6 | 107 | $1) 8$ | $1) 9$ | D10 |
| Standard l'ackage. | 5 |  |  |  | 5 90 lbs |
| Weight Std. Pkg. . List l'rice, each. . . | $\begin{aligned} & 35 \mathrm{lbs} . \\ & 82.43 \end{aligned}$ | $\begin{aligned} & 65 \mathrm{lbs} \\ & 86.25 \end{aligned}$ | $\begin{aligned} & 70 \mathrm{lbs} . \\ & \$ 7.40 \end{aligned}$ | 80 lbs. $\$ 16.70$ | $\begin{aligned} & 90 \text { lbs. } \\ & \$ 18.30 \end{aligned}$ |

Obround eovers and obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.
Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Gavamized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies witi phain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enaneled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make up a standard package. No other assortment is allowed.

CONDDLET BODIES WITH OBROUND OPENINGS-Continuea TYPE E TYPE F TYPE FE

Type E Condulet Bodies Take Obround Covers and Obround Conduletto Fittings
Types F and FE Condulet Bodies Take Obround Covers Only

|  | TYPE E CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches ..... | $1 / 2$ | $3 / 4$ | 1 | 11/4 | 11/2 |
|  | Catalogue Number . . | E1 | E2 | E3 | E4 | L5 |
|  | Standard Package. | $200$ | 100 |  |  |  |
|  | Shipping Wt. Std.Pkg. <br> List Price, each . .... | $\begin{aligned} & 140 \mathrm{lbs} . \\ & \$ .29 \end{aligned}$ | 110 lbs. | 80 lbs. 8.50 | 60 lbs. | 40 lbs. |
|  | Size in inches . . . . . . | 2 | 21/2 | 3 | $31 / 2$ | 4 |
|  | Catalogue Number.. | E6 | E7 | L8 | E9 | E10 |
|  | Standard Package... |  | 5 | 5 |  | 5 |
|  | Shipping Wt. Std.Pkg. | 35 lbs. | 55 lbs . | 60 lbs . | 65 lbs . | $70 \mathrm{lhs}$. |
|  | List Price, each . .... | \$2.14 | \$5.35 | 85.85 | \$11.35 | \$12.70 |

TYPE F CONDULET BODIES-Black Enamel Finish


| Size in inches . . . . | 1/2 | $3 / 4$ | 1 | 11/4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue Number | F1 | 12 | F3 | Ft | Fio |
| Standard Paekake... | 100 | 100 | 50 |  |  |
| Shipping Wt. Std. 1 kg . | 150 lbs. | 200 lbs. | 175 lbs . | 10.5 lhs, | 65 lbs . |
| List Priee, each ..... |  | 8.65 | 81.05 | \$1.61 | \$2. 22 |
| Size in inches. | 2 | 21/2 | 3 | 31/2 | 4 |
| Catalogue Number . . | F6 | F7 | F8 | F9 | $1 \cdot 10$ |
| Standard Package. . | 5 |  |  |  |  |
| Shipping Wt.Std. Pkg. | 45 lbs. |  | 115 lbs. | 265 lhs. | 315 lbs. |
| List Price, each . .... | \$4.40 | $\$ 11.70$ | $\$ 12.70$ | \$20.60 | \$31.60 |



TYPE FE CONDULET BODIES-Black Enamel Finlsh

| Size | 1/2 | 3/4 | 1 | $11 / 4$ | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| atalog | IFE1 | FE2 | F | F | FED |  |
| Standard Paekag | 100 | 100 | 50 | 20 |  |  |
| Shipping W't.Std.I | 240 lbs . | 3 y 0 lbs . | 240 lbs. | 175 lbs . | 130 lbs. | 100 |
| List Price, each | \$ . 50 | \$ .65 | \$1.03 | \$1.61 | \$2.52 | \$1.40 |
| Size in inches | 21/2 | 3 | $31 / 2$ | 4 | 5 | 6 |
| Catalogue Numbe | FE7 |  |  | FE10 | I] |  |
| Standard Package |  |  |  |  |  |  |
| Shipping Wt.Std. Pk | 2001 lbs . | 200 lbs . | 320 lbs . | 320 lbs . | 600 lhs . | 600 |
| List Price, each | \$11 | \$12.7 | \$26.60 | \$31.60 | \$90.00 | \$100 |

Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size, except that types F and FE Condulet bodies take Obround covers only.
Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodifa with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

| CONDULET |  | BODIES | WITF OBROUND OPENINGS-continued |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $Y P E$ | LB | TYPE LF |  |

Take Obround Covers and Obround Conduletto Fittings

|  | TYPE LB CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | 1/2 | 3/4 | 1 | 11/4 | 11/2 |
|  | Catalugue Number Standard Package. Shipping Wt. Std. Pkg. List Price, each....... | $\begin{array}{\|l\|} \hline \mathrm{L} 1311 \\ 200 \\ 175 \mathrm{lbs} . \\ \mathrm{S} .40 \\ \hline \end{array}$ | $\mathrm{I}, 1322$ 100 120 lhs 5.45 | $\begin{aligned} & 1.1333 \\ & 50 \\ & 90 \mathrm{ibs} . \\ & 5.65 \end{aligned}$ | $\begin{aligned} & \hline[1344 \\ & 20 \\ & 75 \mathrm{lhs} . \\ & 81.04 \end{aligned}$ | $\begin{aligned} & \mathrm{L} 1355 \\ & 10 \\ & 15 \mathrm{lhs} . \\ & \$ 1.37 \end{aligned}$ |
|  | Size in inches......... | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
|  | Catalogue Number ... Standard Parkage Shipping Wt. Sted. Pkg. List l'rice, each. | LBC6 <br> 5 <br> 35 lhs. <br> 82.65 | $\begin{aligned} & \text { LBTT } \\ & 5 \\ & 6016 \mathrm{lh} . \\ & 8(5.53 \end{aligned}$ | $\begin{aligned} & 11388 \\ & 5 \\ & 70 \mathrm{lbs} \\ & 87.70 \end{aligned}$ | $\mathrm{L} \operatorname{li} 399$ 5 80 lbs. 817.10 | $\begin{aligned} & \hline \text { LB1010 } \\ & 5 \\ & 90 \text { lbs. } \\ & \$ 19.10 \end{aligned}$ |


|  | TYPE LF CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | rize in inches........ | $1 / 2$ | 3/4 | 1 | 11/4 | 11/2 |
| 13 annoutr (1) | Catalogue Number Standard lackage Shipping W't. Std. Pkg. List Price, each. | $\begin{aligned} & \text { LIF11 } \\ & 200 \\ & 175 \mathrm{lbs} . \\ & \$ .40 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{L} 1 \mathrm{l} 22 \\ & 100 \\ & 120 \mathrm{lbs} . \\ & 8.65 \end{aligned}$ | $\begin{aligned} & \hline 1,133 \\ & 50 \\ & 90 \mathrm{lhs} . \\ & 8.63 \end{aligned}$ | LJ 144 <br> 20 <br> 75 lbs. <br> 81.04 <br> 82 | LIF55 <br> 10 <br> 45 lbs. <br> $\$ 1.37$ |
|  | Size in inches.. | 2 | 21/2 | 3 | $31 / 2$ | 4 |
|  | Catalogne Number Standard Package Shipping W't. S'tcl. Pkg. List l'riere, each. | LF 66 5 35 lbs. 82.65 | $\begin{aligned} & \hline \text { LF77 } \\ & 5 \\ & 60 \mathrm{lhs} . \\ & 66.55 \end{aligned}$ | $\begin{array}{\|l} \mathrm{LF} 88 \\ 5 \\ 70 \mathrm{lbs} . \\ \$ 7.70 \end{array}$ | $\begin{aligned} & \hline \text { LF99 } \\ & 5 \\ & 80 \text { lbs. } \\ & \$ 17.10 \end{aligned}$ | $\begin{aligned} & \hline \text { LF1010 } \\ & 5 \\ & 90 \mathrm{lhs} . \\ & \$ 19.10 \end{aligned}$ |

TYPE LL CONDULET BODIES-Black Enamel Finish


|  | 1/2 | 3/4 | 1 | / | 1/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| atalogne Number | L.I.11 | L.L22 | 1.13 | L | L |
| Standard Packag | 200 | 100 |  |  |  |
| Shipping W't. Std. | 175 lbs | 120 lbs . | 9016 | 75 | 45 |
| List l'rice, cach | \$. 41 | S | S | 81 | 1.37 |
| Size in i | 2 | 21/2 | 3 | $31 / 2$ | 4 |
| Catalogue Number |  |  |  |  |  |
| Standard Packag |  |  |  |  |  |
| Shipping Wt. Std | 35 lbs | (60 lbs | 70 lbs. | 80 | $90$ |
| List Price, each. | \$2. 15 | 86.55 | \$7.70 | \$17. | \$19.10 |

TYPE LR CONDULET BODIES-Black Enamel Finish

| Size in | 1/2 | 3/4 | 1 | 11/4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| atalogue Num | L1211 | 1.1222 | LR33 | LR4 | LR55 |
| Standiurd Packige | 200 | 100 |  |  |  |
| Shipping Wt. Std. Pkg. | 175 lbs. | 120 Ibs. | 90 lbs. | 75 lbs . |  |
|  |  |  |  |  |  |
| Size in in | 2 | 21/2 | 3 | $31 / 2$ | 4 |
| um | Ll |  |  | LP | LR1010 |
| andard Package |  |  |  |  |  |
| Shipping W't. Std. Pkg. | 35 lhs. | 60 lbs. | 70 lbs . | 80 lbs . | 90 |
| List l'riee, each. | \$2. 65 | \$6.55 | \$7.70 | \$17.10 | \$19.10 |

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a stanclard package. Black enameled and galvanized types LR, I,F, LL and LR. Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.

CONDULET BODIES WITH OBROUND OPENINGS-ContInued
TYPE LBB TYPE LFB TYPE LLB TYPE LRB
Take Obround Covers and Obround Conduletto Fittings

|  | TYPE LBB CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | $1 / 2$ | 3/4 | 1 | 11/4 | $11 / 2$ |
|  | Catalogue No. | LI3B11 | L131322 | LBB33 | LBB4t | $\frac{1}{\text { LBB55 }}$ |
|  | Standard I'kg.. | 100 | 75 | 50 | 20 | $10$ |
|  | Weight Std. Pkg. . List Price, each | 100 lbs. | 95 lbs. | 90 lbs. | 75 lbs . | 45 lbs. |
|  |  |  |  |  | \$1.04 | \$1.37 |
|  | Size in inches.. | 2 | 21/2 | 3 | 31/2 | 4 |
|  | Catillogue No..... | LI31366 | L13B77 | LBB88 | LB1399 | LBB1010 |
|  | standard Pkg.... | $35 \mathrm{lbs} .$ | 5 60 lbs. | 5 70 lbs. | 5 80 lbs | 5 90 lbs. |
|  | List Price, each... | 82.65 | \$6.55 | $\$ 7.70$ | $\$ 17.10$ | $\$ 19.10$ |

TYPE LFB CONDULET BODIES-BIack Enamel Finish


| Nize in inches. | 1/2 | 3/4 | 1 | 4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No. | LIFB11 | L.F1322 | LFB33 | LIFB44 | LFB55 |
| Standard 1'kg. | 100 |  |  |  |  |
| Weight Std. Pkg. List Price, each | $\begin{aligned} & 100 \text { lbs. } \\ & 8.40 \end{aligned}$ | 95 lbs. <br> 8.45 | 90 lbs. | 75 lbs. | 45 lbs. |
| Size in inches. | 2 | 21/2 | 3 | 3112 | 4 |
| Catalogue No. | L1'1366 | LFIS 377 | LIFB88 | LFB99 | LFB1010 |
| Standard Pkg. |  |  |  |  | 5 |
| Weight Std. Pkg | 35 lbs . | 60 lbs . | 70 lbs. | 80 lbs . | 90 lbs . |
| List 1'rice, each. | 82.65 | 86.55 | 87.70 | \$17.10 | \$19.10 |

TYPE LLB CONDULET BODIES-Black Enamel Finish

|  | Size in inches... | 1/2 | 3/4 | 1 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Catalogue No... | $\frac{1 / 2}{\text { LIS } 11}$ | $\frac{3 / 4}{\text { LLB22 }}$ | LLB33 |  | $\frac{11 / 2}{\operatorname{LsL} B 55}$ |
|  | Standard I'kg. | 100 | 75 | 50 | $20$ | $\begin{aligned} & \text { LLL } \\ & 10 \end{aligned}$ |
|  | Weight Std. Pkg. . List J'rice, each | 100 lbs. | 95 lbs. | 90 lbs . | 75 lbs. | 45 lbs . |
|  | Size in inches.. | 2 | 21/2 | 3 | 31122 | 4 |
|  | Catalogue No.. | LLB66 | LLB377 | $\overline{\text { LLI388 }}$ | LLB99 | LLB1010 |
|  | Standard Ikg.... | 5 | $5$ | 5 | $5$ | $5$ |
|  | Weight Std. Pkg.. <br> List Price, each. | 35 lbs. $\$ 2.65$ | 60 lbs. $\$ 6.55$ | 70 lbs. $\$ 7.70$ | 80 lbs. $\$ 17.10$ | 90 lbs. 819.10 |



TYPE LRB CONDULET BODIES-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 | 11/4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No | LRBB11 | LRB22 | LRBB33 | LR1344 | LRB5 |
| Standard Pkg | 100 |  |  |  |  |
| Weight Std. Pkg | 100 lbs . | 95 ibs . | 90 lbs . | 75 lbs. | 45 lbs |
| List l'rice, each | \$ . 40 | 8. 45 | \$ . $6 \overline{3}$ | 81.04 | \$1.37 |
| Size in inches | 2 | 21/2 | 3 | 31/2 | 4 |
| Catalogue No. | LRB66 | LIRB77 | $\overline{\text { LI2 } 1388}$ | LTRB99 | LRB10 |
| sitandard Pkg |  |  |  |  |  |
| Weight Sitd. Pkg. . List l'rice, each | 35 lbs. <br> $\$ 265$ | 60 lb <br> S6.5 | 70 lbs. <br> 87.70 | $\begin{aligned} & 80 \mathrm{ll} \\ & \$ 17 \end{aligned}$ | $90 \mathrm{lt}$ |

Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized types LBBB, LF'B, LLAB and LRRB Condulet bodies of the same size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES WITH OBFOUND OPENINGS-Continued TYPE LBL TYPE LU TYPE U TYPE UB

Take Obround Covers and Obround Conduletto Fittings

TYPE LBL CONDULET BODIES
Black Enamel Finish


TYPE U CONDULET BODIES-Black Enamel Finish

| Size in inches | $1 / 2$ | $3 / 4$ | 1 | $11 / 4$ | $11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Citt. No..... <br> sid. Plis. <br> W't. stal. I'kg. <br> List Price, eat. | $\begin{aligned} & 1111 \\ & 100 \\ & 100 \mathrm{fbs} . \\ & 8.52 \end{aligned}$ | $\begin{aligned} & \mathrm{U} 22 \\ & 50 \\ & 80 \mathrm{lbs} . \\ & \$ .57 \end{aligned}$ | $\begin{aligned} & \hline 33 \\ & 40 \\ & 80 \mathrm{llis} . \\ & 8.85 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline U 44 \\ & 20 \\ & 7.5 \mathrm{lbs} . \\ & 81.19 \end{aligned}$ | U55 10 15 lhs. 81.52 |
| Vize in inches | 2 | 21/2 | 3 | $31 / 2$ | 4 |
| (Gat. No...... sid. l'kg. IVt. std. Pkg. List l'rice, e: | L 10 5 40 lbs. $\$ 2.90$ | $\begin{aligned} & \text { U.7 } \\ & 5 \\ & 70 \mathrm{lhs} . \\ & 87.10 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} 88 \\ & 5 \\ & 75 \mathrm{lhs} . \\ & \$ 8.10 \end{aligned}$ | $\begin{aligned} & \mathrm{L} 99 \\ & 5 \\ & 90 \mathrm{lhs} . \\ & 818.60 \end{aligned}$ | $\begin{aligned} & 11010 \\ & 5 \\ & 100 \mathrm{lbs} . \\ & 820.60 \end{aligned}$ |

TYPE UB CONDULET BODIES-Black Enamel Finish

| Size in inches | 1/2 | $3 / 4$ | 1 | 11/4 | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (at. No | [1311 | [1322 | [ B33 | V1344 | [1355 |
| Std. Pkg | 1010 | 50 | 40 |  |  |
| Wit.std. 1’kg | $\begin{aligned} & 101 \mathrm{lhs}^{2} . \\ & 52 \end{aligned}$ | 80 lbs. | 80 lhs. | (7.) lbs. $81.19$ | 45 lbs |
| size in inthes | 2 | $21 / 2$ | 3 | $31 / 2$ | 4 |
| Cat. No. | U1366 | [1377 | UB88 | [1399 | ['B1010 |
| Std. Pkg | $5$ |  | $15$ | $5$ | $5$ |
| Wi.std Pkg. | 10 lbs . | 70 lbs . | 75 lbs . | 90 lbs | 100 lbs. |
| List Price, ea. | \&2 90 | 187.10 | \%8.10 | 818.6i) | 820.60 |

Obround covers and ()hround Condulet to fittings of same size are interchangeable on above Condulet bodies of comesponding size.
Proper fastening serews are furnished with Ohround covers and Obround Conduletto fittings, and are so held in seres holes that they can not fall out.
Finishes: black enamel is the standard finish for Condulet bodies, and will be furnished moless another finish is specified on the order. Gavanized finish on exterior and blach enamed finish on interior of Condulat boties will be furnished, at same price as all black enamel fimish, when the order suecifer galvanized finish. For special phated finishes, cast brass and cast bronze Condulet borlies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES WITH OBROUND OPENINGS—Continued TYPE T

Takes Obround Covers and Obround Conduletto Fittings

|  |  |  | TYPE T CONDULET BODIES-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ize in incl <br> Cat. No.. <br> td. Pke. <br> t. Std. P <br> ist Price, |  | $1 / 2 T^{1 / 2}$ $\mathrm{~T}^{1 / 2}$ $1111^{*}$ 120 1201 bs. $\$ .48$ | $\begin{aligned} & 1 / 2 T^{1 / 2} \\ & \frac{3 / 4}{1121^{*}} \\ & 100 \\ & 120 \mathrm{lhs} . \\ & .56 \end{aligned}$ | $1 / 2-1$ <br> 1 <br> 1131 <br> 100 <br> 90 lbs. <br> $\$ .63$ | $3 / 4 T^{-3 / 4}$ $\frac{1 / 2}{T 212^{*}}$ 775 lbs. 8.57 |
| Size in inches | $\begin{array}{r} 3 / 4 \\ \hline \end{array}$ | $\begin{array}{r} 3 / 4-1 \\ 1 \end{array}$ | $3 / 4 \frac{1}{1 / 4}$ | $3 / 4 T_{11 / 2}^{3 / 4}$ | $1 T_{1 / 2}^{1}$ | $1 T_{3 / 4}^{1}$ | $1{ }_{1}$ | $1 T_{11 / 4}^{1}$ |
| $\begin{aligned} & \text { Cat. No....... } \\ & \text { Std. Pkg.... } \\ & \text { Wt. Std.Pkg. } \\ & \text { List Price, ea. } \end{aligned}$ |  | $\begin{aligned} & \mathrm{T} 232 \\ & 75 \\ & 95 \mathrm{lbs} . \\ & 8.65 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{T} 242 \\ & 75 \\ & 100 \mathrm{Ibs.} \\ & \mathrm{~S} .7 \mathrm{~T} \end{aligned}$ | $\begin{aligned} & \mathrm{T} 2 \overline{2} 2 \\ & 75 \\ & 120 \mathrm{lbs} . \\ & 8.90 \end{aligned}$ | $\begin{aligned} & \text { T313 } \\ & 50 \\ & 95 \mathrm{lbs} . \\ & 8.80 \end{aligned}$ | $\begin{aligned} & T 323 \\ & 50 \\ & 100 \mathrm{lbs} . \\ & \$ .80 \end{aligned}$ | T333* 50 105 lbs. | $\begin{aligned} & \text { T343 } \\ & 50 \\ & 115 \mathrm{lbs} . \\ & 8.97 \end{aligned}$ |
| Size in inches | $1 T_{11 / 2}^{1}$ | $1 T_{2}^{1}$ | $11 / 4 \top^{11 / 2}$ <br> $11 / 4$ | 11/4 ${ }^{1 / 4} 1{ }^{1 / 4}$ | $\begin{gathered} 1 / 4 T^{11 / 4} \\ 1 \end{gathered}$ | $\begin{gathered} 11 / 4 丁^{11} \\ 1^{1 / 4} \end{gathered}$ | $\begin{gathered} 1 / 4 T^{11} \\ 1^{1 / 2} \end{gathered}$ | (1/4 2 $^{11 / 4}$ |
| $\begin{aligned} & \text { Cat. No...... } \\ & \text { Std. Pkg. } \\ & \text { Wit. Std. Pk. } \\ & \text { List Price, ea. } \end{aligned}$ | $\begin{aligned} & 1353^{*} \\ & 50 \\ & 125 \mathrm{lbs} . \\ & \$ 1.15 \end{aligned}$ | $\begin{aligned} & \mathrm{T} 363^{*} \\ & 50 \\ & 135 \mathrm{llbs} . \\ & \$ 1.45 \end{aligned}$ | $\begin{aligned} & \hline 124 \\ & \hline 20 \\ & 70 \mathrm{bs} . \\ & 81.22 \\ & \hline \end{aligned}$ | $\begin{aligned} & T 424 \\ & 20 \\ & 75 \mathrm{lbs} . \\ & \$ 1.22 \end{aligned}$ | T434 20 80 81.22 $\$ 1$. | $\begin{aligned} & \text { T444 } \\ & 20 \\ & 85 \mathrm{lbs} . \\ & \$ 1.22 \end{aligned}$ | $\begin{aligned} & \text { T454 } \\ & 20 \\ & 90 \\ & \text { lhs. } \\ & \hline 1.50 \\ & \hline \end{aligned}$ | T464 20 95 9165. 81.96 |
| Size in inches | $\begin{gathered} 11 / 2 \top^{11} \\ 1 \end{gathered}$ | $\begin{array}{r} 11 / 2 丁^{1} \\ 3 / 4 \end{array}$ | $\begin{gathered} 11 / 2 \top^{11 / 2} \\ 1 \\ \hline \end{gathered}$ | $\begin{gathered} 11 / 2 \sigma^{11 / 2} \\ 1 / 4 \end{gathered}$ | $\begin{gathered} 11 / 2 \top^{11} 1 / 2 \\ 11 / 2 \end{gathered}$ | $\begin{gathered} 11 / 2 \text { T }^{11 / 2} \\ 2 \end{gathered}$ | $2 T_{1 / 2}^{1}$ | $T_{3 / 4}^{2}$ |
| $\begin{aligned} & \hline \text { Cat. No...... } \\ & \text { Stt. Pkg.o.. } \\ & \text { Wit. Stid. Pheg. } \\ & \text { List Price, ea. } \end{aligned}$ | $\begin{aligned} & \text { T515 } \\ & 10 \\ & 45 \mathrm{lbs} . \\ & \$ 1.69 \end{aligned}$ | $\begin{aligned} & 1525 \\ & 10 \\ & 40 \\ & 4 . \mathrm{lbs} . \\ & 81.69 \end{aligned}$ | 7535 <br> 100 lbs <br> 50 <br> 81.69 | $\begin{aligned} & \text { T545 } \\ & 10 \\ & 50 \mathrm{lbs} . \\ & \$ 1.69 \end{aligned}$ | T555 $10 \mathrm{lls}$. 50 $\$ 1.69$ | T565 <br> 10 <br> 95 lbs. <br> $\$ 2.52$ | $\begin{aligned} & \text { T616- } \\ & 5 \\ & 95 \mathrm{lbs} . \\ & 8.5 \mathrm{~F} \end{aligned}$ | T626 <br> 5 <br> 100 lbs. <br> $\$ 2.55$ |
| Size in inches | $21$ | $2 \frac{1}{11 / 4}$ | $7_{11 / 2}^{2}$ | $2$ | $11 / 2$ | $\begin{array}{r} 21 / 2 \text { T }_{2} \end{array}$ | $\begin{gathered} 1 / 2 \sigma^{21 / 2} \\ 2^{1 / 2} \end{gathered}$ | $T_{2}{ }^{3}$ |
| $\begin{aligned} & \text { Cat. No...... } \\ & \text { Std. Pkg. } \\ & \text { Wt. Std.P. } \\ & \text { List Price, ea. } \\ & \hline \end{aligned}$ | T636 5 $10 \overline{5}$ lbs. 82.55 |  | $\begin{aligned} & T 656 \\ & 5 \\ & 125 \mathrm{lbs} . \end{aligned}$ |  | $\begin{aligned} & \text { T757 } \\ & 5 \\ & 9.5 \mathrm{lhs.} \\ & 8.4 \overline{5} \\ & \hline \end{aligned}$ | T767 50 100 lbs. 87.45 |  | $\begin{aligned} & \text { T868 } \\ & 5 \\ & 115 \mathrm{lbs} . \\ & 88.15 \\ & \hline \end{aligned}$ |
| Size in inches | $3 \frac{1}{1 / 2}^{3}$ | $\begin{array}{r} 3 T^{1} \\ \hline \end{array}$ | $21 / 2$ | $\begin{array}{r} 31 / 2 T \\ \hline \end{array}$ | $\begin{aligned} & 11 / 2 T^{31 / 2} \\ & 31 / 2 \end{aligned}$ | $\begin{array}{r} 47 \\ \hline \end{array}$ | $31 / 2$ |  |
| $\begin{aligned} & \text { Cat. No....... } \\ & \text { Std. Pkg. } . . \\ & \text { Wt. Std. Pkg. } \\ & \text { List Price, ea. } \end{aligned}$ | T878 5 125 lbs. 88.15 | $\begin{aligned} & \text { T888 } \\ & 5 \\ & 13 \overline{\mathrm{lbs} .} \\ & \$ 8.15 \end{aligned}$ | $\begin{aligned} & \text { T979 } \\ & 5 \\ & 45 \mathrm{lbs} . \\ & \$ 22.60 \end{aligned}$ | $\begin{aligned} & \text { T989 } \\ & 5 \\ & 45 \mathrm{lbs} . \\ & 82.60 \end{aligned}$ | $\begin{aligned} & \text { T999 } \\ & 5 \\ & 50 \text { lbs. } \\ & 822.60 \end{aligned}$ | $\begin{aligned} & \mathrm{T} 108 \\ & 5 \\ & 50 \mathrm{lbs} . \\ & 824.60 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { T109 } \\ & 5 \\ & 50 \mathrm{lbs} . \\ & 824.60 \end{aligned}$ | $\begin{aligned} & \text { T1010 } \\ & 5 \\ & 25 \mathrm{lbs} . \\ & 824.60 \end{aligned}$ |

The size of cover required for type T Condulet body is the same size as the conduit hubs at the ends of the cover opening.
Obround covers and Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.
Proper fastening screws are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.
Black enameled and galvanized Condulet bodies of the same type and with the same size cover openings may be assorted to make a standard package. No other assortment is allowed.
$* 1 / 2,3 / 4$ and 1 -inch types $\mathrm{T}, \mathrm{TB}$ and X Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the same size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying Smaller Wiring Chamber.

## CCNDULET BODIES WITH OBROUND OPENINGS-continued TYPE TB TYPE TL TYPE TR

Take Obround Covers and Obround Conduletto Fittings
TYPE TB CONDULET BODIES-Black Enamel Finish


TYPE TL CONDULET BODIES-Black Enamel Finish

| Size in inches ... | $1 / 2 \prod_{1 / 2}^{1} 1 / 2$ | $12 \prod_{3 / 4}^{1} 1 / 2$ | ${ }_{1}^{1 / 2} T_{1}^{1 / 2}$ | $3 / 4 T_{1 / 2}^{1}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No. | 'TL111 | TL, 121 | 'TL131 | TIL212 | TL222 |
| Standard l'ackuge. |  | 100 | 100 |  |  |
| Ship. I't. Std. I'kg List Price, each | $\begin{aligned} & 9.3 \mathrm{lhs} \\ & 8.48 \end{aligned}$ |  |  |  | $\begin{aligned} & 125 \text { lbs. } \\ & \$ .57 \end{aligned}$ |
| Size in inches . |  | $1 \prod_{1 / 2}^{1}$ | $1-1$ | $1 T$ | $\begin{gathered} 11 / 4 T_{1}^{11 / 4} \end{gathered}$ |
| Catalogue No.. | 112:3 | TL313 | T1.323 | TL333 | TL444 |
| Standard Package. | $50$ | $40$ |  |  |  |
| Ship. W't. Stor. 1'kg. List I'rice, eaeh | $\begin{aligned} & 185 \mathrm{lbs} . \\ & \hline 63 \end{aligned}$ | $\begin{aligned} & 100 \mathrm{lhs} . \\ & \$ .80 \end{aligned}$ | 100) lhs. | 100 lbs. <br> $\$ 80$ | 75) lbs . $\$ 1.22$ |

TYPE TR CONDULET BODIES-Black Enamel Finish

|  | $1 / 2$ | $3 / 4$ | 1 | $1 / 2$ | $3 / 4$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | TR11 | 121 |  | T12212 | T12222 |
| amdard l'ackage. | 1100 |  |  |  |  |
| hip. Wt. Stal. 1'ky. | ${ }^{9.3} 11$ | ${ }_{9}^{100} 11$ | 105 lb | 11 | 125 lbs . |
| List lrice, each . |  |  |  |  |  |
|  | $\begin{gathered} 4-3 / 4 \\ 1 \end{gathered}$ | $1 / 2$ | $3 / 4$ | $1_{1}^{1}$ | $\begin{gathered} 11 / 4 \top^{1} \\ 11 / 4 \end{gathered}$ |
|  |  |  |  |  |  |
| Standard l'arekage. |  |  |  |  |  |
| in ${ }^{\text {'t }}$ |  |  | $\begin{aligned} & 100 \mathrm{lbs} . \\ & \$ .80 \end{aligned}$ | $\begin{aligned} & 10011 \\ & 8.80 \\ & 8 \end{aligned}$ | 5 |

[^67]
## CONDULET BODIES WITH OBROUND OPENINGS-Continued TYPE X

Takes Obround Covers and Obround Conduletto Fittings


The size of eover required for type $\mathcal{X}$ Condulet body is the same size as the largest conduit hub. Obround eovers and (Obround Conduletto fittings of same size are interchangeable on above Condulet bodies of corresponding size.
Black enameled and galvanized type $X$ Condulet bodies with the same size cover openings may be assorted to make up a standard paekage. No other assortment is allowed.

* $1 / 2,3 / 1$ and 1 -inch types ' I , 'TIS and X Condulet bodies are regularly furnished with larger wiring chamber than other ()bround Condulet bodies of corresponding size. These Condulet bodies will be furnished with wiring chamber of the stme size as other Obround Condulet bodies, if specifically ordered, using regular catalogue numbers and specifying "Smaller Wiring Chamber."


## TYPES DF, LFM, LFN, TM AND TMD CONDULET BODIES WITH OBROUND OPENINGS

Condulets for Gooseneck Brackets and Similar Installations
Types DF and TM Condulet Bodies Take Obround Covers only
Types LFM, LFN and TMD Condulet Bodies Tahe Obround Covers and Obround Conduletto Fritings
$\qquad$


## OBROUND COVERS

For Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB and X Condulet Bodies

## Furnished with Fastening Screws




## OBROUND PORCELAIN COVERS WITH 1-WIRE HOLE AND $1 / 8$ MALE NIPPLE



Ftandard and special 1-wire hole covers differ only in diameter of wire hole. Standard 1-wire hole covers will always be furnished, unless order specifieally ealls for special 1 -wire hole covers.
Obround covers are interchangeable on corresponding sizes of Condulet bodies with Obround openings. $21 / 2$ and 3 -incli Obround covers are interchangeable. $31 / 2$ and 4 -inch Obround covers are interchangeable.
Above composition Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover.
Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of eovers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

## OBROUND COVERS

For Types A, B, BE, C, CO, D, DF, E, F, FE, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TJD, TL, TM, TR, U, UB AND X Condulet Bodies

Furnished with Fastening Screws


PORCELAIN COVERS WITH WIRE HOLES*

|  | List, ca.. | 8. 10 | ${ }^{21} .15$ | \$ .25 | 41. | 51. | $\begin{aligned} & 61.60 \\ & 8 . \end{aligned}$ | $\left\lvert\, \begin{array}{ll} 71 \\ \$ \end{array} .80\right.$ | 81.80 5.80 | $\left\lvert\, \begin{aligned} & 91 \\ & 8.90 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 101 \\ & 8.90 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 1401 \\ & \$ 2.00 \end{aligned}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | Cat. No. | 11 | 21 s | 3 | 418 | 51 | ¢ | 7 | 81 | 91 | 101s |  |
|  | List, | \$. 10 | \$. 15 | 8.25 | 8.36 | S . 48 | \$. 60 | \$. 80 | \$. 80 | 8.90 | \$. 90 |  |
| 2-wi | Cat. No. | $\overline{12}$ | $22$ | $32$ | 42 |  | $\overline{0} 2$ | 72 | 82 | 92 | 102 | 1402 |
|  |  | $\$ .10$ |  |  |  |  | \$ . 60 | 8.80 | \$ | \$ | \% . 9 | $\$ 2$ |
| 3-wi | Cat. No. | 13 | 23 | 33 | 43 | $5: 3$ | 63 | 73 | $8: 3$ | 93 | 103 | 1403 |
| 3 | List. | \$ . 10 | 8 | 8. | S . 3 | \$. 48 | \$ . 60 | \$ . 80 | 8.80 | \$ |  | \$2.00 |
|  | Cat. | 1400 | 2.400 | 340) | 4100 | 5100 | 6400 | 7400 | 8400 | 3400 | 10.400 | 14 |
|  | List, ea. | \$. 10 | 8.15 | 8.25 | \$ . 36 | \$. 48 | \$. 60 | 8.80 | \$ . 80 | \% . 90 | \$ . 90 | \$2.00 |
| wi | Cat. No. | N | 2500 | 3500 | 4500 | 5.00 | 15.500 | 7500 | \$0500 | 9500 | 1050 | 14 |
| 5-wire | List, ea.. | mad | \$ . 15 | 8.25 | 8.36 | 8.48 | 8. 60 | \$ . 80 | 5. 80 | 8.90 | \$ . 90 | \$2.00 |
| 6-wi | Cat. No. | N | 26 | 3600 | 1600 | 5100 | 6600 | 7600 | 8600 | 9600 | 1060 | 14600 |
|  | List, ea. | marle | 8.15 | 8.25 | \$ . 36 | 8.48 | \$. 60 | \$. 80 | \$. 80 | \$ . 90 | \$ . 0 | \$2.00 |
| 7-wire | Cat.No. | No |  | 3700 | 4700 | 5700 | $6{ }^{6} 700$ | 7100 | 8700 | 9700 | 1070 |  |
| 7-wire | List, | mad | mad | 8.25 | 8.36 | 8. 48 | 8.60 | S. 80 | 8.80 | \$. 90 | \$ . 90 | 2.00 |
| 8-wi | Cat. |  | N | 3800 | 4800 | 5200 | (i800 | 7800 | 8800 | 9800 | 1080 | 14800 |
| 8-wi | List, ca. | made | mat | 8.25 | \$ . 36 | \$. 48 | 8. 60 | S . 80 | 8.80 | \$ . 90 | \$ . 00 | \$2.00 |
| 9-wire | Cat. No. |  | Not | 3900 | 4900 | 5100 | 6100 | 7900 | 8900 | 9900 | 1090 | 00 |
| 9-wire | List, ea. | made | made | 8.25 | 8.36 | \$ . 48 | 8.60 | \$ . 80 | S. 80 | \$. 90 | \$ . 9 | \$2.00 |
| $\begin{aligned} & \text { For } \\ & \text { W. P. } \\ & \text { Socket } \end{aligned}$ | $\begin{aligned} & \mathrm{C} \\ & \mathrm{Li} \end{aligned}$ | $\stackrel{14}{\$ .16}$ | $\begin{aligned} & 24 \\ & \$ .25 \end{aligned}$ | $\begin{aligned} & 34 \\ & 8.40 \end{aligned}$ | Stand sperif |  | occial <br> chole <br> a for $s$ | 1-wi | re hole |  |  |  |
| Weight Std. P'kg.. |  | 0 lbs | $3 \bar{\square}$ | 25 lbs | $2 \overline{3} \mathrm{lbs}$ | 20 lbs | 15 lbs | 20 lbs | $\overline{20}$ lbs. 30 lbs. 30 lbs. |  |  | 40 lbs |

BLANK METAL COVERS-Black Enamel Finish

| St |  | \% . 08 | $8.11$ | $5.23$ | $5.32$ | $8.45$ | $.56$ | $\$ .75$ | $\$ .75$ | $\$$ | $1000$ | $\begin{aligned} & 14000 \\ & \$ 1.25 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight Strl. Pkg... |  | 30 lbs | 15 hs . | 10 lbs . | 10 lb | 1011 | $\overline{\mathrm{jbs}}$ | 101 hs . | $10 \mathrm{lhs}$. | L5lhes. | 15 lbs | 20 lbs |
| Cast <br> Iron |  | 10 |  | $300 f$ |  |  |  | 700f | 800 f | 90 | 1000f | 0t |
| (Flange) |  |  |  | \$ . 35 | \$ | \$. 7 | \$. 9 | \$1.1 | \$1.15 | \$1.25 | \$1.25 | 5 |
| Weight Std |  |  | 60 |  | 25 lbs . | 15 lb | 10 | 10 | 15 lbs . | 20 lbs . | 51 | 30 |

OBROUND COVERS-Continued

|  | Size of C | Cover.......... | 1/2 | $3 / 4$ | 1 | $11 / 4$ | $11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Std. Pk | Assortec | 200 | 100 | 50 | 20 | 10 |
| Ketal, $1 / 8$ Male Jipple | METAL COVERS WITH NIPPLES-Black Enamel Finish |  |  |  |  |  |  |
|  | $1 / 8$ Male | Catalogue No. <br> List, each..... | $\begin{aligned} & 15 \\ & 8.20 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 25 \\ & \$ .25 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & 35 \\ & 3 . \end{aligned}\right.$ | $\left.\right\|_{8.45} ^{45}$ | $\left\lvert\, \begin{aligned} & 35 \\ & 8.08 \end{aligned}\right.$ |
| Ktral, 1/8 Pemale Nipple |  | Catalogue No. List, each..... | $\begin{aligned} & 16 \\ & \$ .20 \end{aligned}$ | $\begin{aligned} & 26 \\ & \$ .25 \end{aligned}$ | $\begin{aligned} & 36 \\ & 8.35 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 46 \\ & \$ .46 \end{aligned}\right.$ | $\begin{aligned} & 56 \\ & 8.58 \end{aligned}$ |
|  | $\begin{gathered} 1 / 4 \\ \text { Male } \end{gathered}$ | Catalogue No. List, each | $\begin{aligned} & 113 \\ & \$ .23 \end{aligned}$ | $\begin{aligned} & 213 \\ & \$ .28 \end{aligned}$ | $\underset{\$ .38}{313} \begin{aligned} & \text { 8 } \end{aligned}$ | $\begin{aligned} & 413 \\ & { }_{n} \end{aligned}$ | $\begin{aligned} & 513 \\ & \$ .61 \end{aligned}$ |
|  | $\begin{gathered} 1 / 4 \\ \text { Female } \end{gathered}$ | Catalogue No. List, each. .... | $\left\lvert\, \begin{array}{l\|l\|} 114 \\ 8.23 \end{array}\right.$ | $\begin{aligned} & 214 \\ & \$ .28 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 31.4 \\ & 6 . \\ & 8 . \end{aligned}\right.$ | $\begin{aligned} & 414 \\ & \$ .49 \end{aligned}$ | $\begin{aligned} & 514 \\ & 8.61 \end{aligned}$ |
| Metal, 3 \% Male Mipple | $\begin{gathered} 3 / 8 \\ \text { Male } \end{gathered}$ | Catalogue No. <br> List, each | ${ }^{17}{ }_{8} .25$ | ${ }_{\$}^{27} .30$ | $\begin{aligned} & 37 \\ & \$ .40 \end{aligned}$ | $47.51$ | $\begin{aligned} & 57 \\ & 8.63 \end{aligned}$ |
|  | $\begin{gathered} 3 / 8 \\ \text { Female } \end{gathered}$ | Catalogue No. List, each..... | $\begin{aligned} & 18 \\ & \$ .25 \end{aligned}$ | $\begin{aligned} & 28 \\ & \$ .30 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 38 \\ & \$ .40 \end{aligned}\right.$ | $\begin{aligned} & 18 \\ & 8.51 \end{aligned}$ | $\begin{aligned} & 58 \\ & \$ .63 \end{aligned}$ |
| \% 1.10 | $1 / 2$ Male | Catalogue No. <br> List, earlh. .... | $\begin{gathered} \text { Not } \\ \text { made } \end{gathered}$ | $\begin{aligned} & 215 \\ & \$ .35 \end{aligned}$ | $\begin{aligned} & 315 \\ & \$ .45 \end{aligned}$ | $\begin{aligned} & 415 \\ & \$ .55 \\ & \hline \end{aligned}$ | $\begin{aligned} & 515 \\ & 8.68 \\ & \hline \end{aligned}$ |
| Yetal, 3\% Pemale Nipple | $1 / 2$ Female | Catalogue No. <br> List, carh..... | $\begin{gathered} \text { Not } \\ \text { made } \end{gathered}$ | $\begin{aligned} & 216 \\ & 8.35 \end{aligned}$ | $\begin{aligned} & 316 \\ & \$ .45 \end{aligned}$ | $\begin{aligned} & 416 \\ & 8.56 \\ & \hline \end{aligned}$ | $\begin{aligned} & 516 \\ & \$ .68 \end{aligned}$ |
|  | Ship. Weight Sta. I'kg. |  | $40 \mathrm{lbs}$ | 25 H s s. | $20 \mathrm{lhs} .$ | 10 hms | 10 lhs. |



Poreelain, 1/8 Malo Nipple


Partu lain. $1 / 8$ Female Nipplo


Poz=elain, 8/8 Male Nipple

l'orcrlain, $8 / 8$ Female Nipple

| $\begin{gathered} 1 / 8 \\ \text { Male } \end{gathered}$ Male | Catalogue No. <br> List, earlı. ... | $\left\lvert\, \begin{aligned} & 19 \\ & 8.25 \end{aligned}\right.$ | $\begin{aligned} & 29 \\ & \$ .30 \end{aligned}$ | $\begin{aligned} & 30 \\ & 8.43 \end{aligned}$ | $\begin{aligned} & \text { 4!) } \\ & \$ .58 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 53 \\ & \$ .72 \end{aligned}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 1 / 8 \\ \text { Female } \end{gathered}$ | Catalogue No. List, earh..... | $\begin{aligned} & 110 \\ & 8.25 \end{aligned}$ | $\begin{aligned} & 210 \\ & \$ .30 \end{aligned}$ | $\begin{aligned} & 310 \\ & 8.43 \end{aligned}$ | $\begin{aligned} & 410 \\ & \$ .58 \end{aligned}$ | $\begin{aligned} & 510 \\ & 1.72 \\ & \hline \end{aligned}$ |
| $\begin{gathered} 1 / 4 \\ \text { Male } \end{gathered}$ | Catalogue No. list, each..... | $\begin{aligned} & 119 \\ & \$ .30 \end{aligned}$ | $\begin{aligned} & 219 \\ & \$ .35 \end{aligned}$ | $\begin{aligned} & 319 \\ & \$ . .18 \\ & \$ . \end{aligned}$ | $\begin{aligned} & 419 \\ & \$ .63 \end{aligned}$ | $\$ 19$ |
| Female | Catalogue No. <br> List, each..... | $\begin{aligned} & 120 \\ & 8.30 \end{aligned}$ | $\begin{aligned} & 220 \\ & 8.35 \end{aligned}$ | $\begin{aligned} & 320 \\ & 8.48 \end{aligned}$ | $\begin{aligned} & 120 \\ & \$ .63 \end{aligned}$ | $\begin{aligned} & 520 \\ & 8.77 \end{aligned}$ |
| $\begin{gathered} 3 / 8 \\ \text { Male } \end{gathered}$ | Catalogue No. List, each..... | $\begin{aligned} & 111 \\ & 5.35 \end{aligned}$ | $\begin{aligned} & 211 \\ & \$ .41 . \end{aligned}$ | $\begin{aligned} & 311 \\ & \$ .53 \end{aligned}$ | $\begin{aligned} & .411 \\ & \$ .68 \end{aligned}$ | $\begin{aligned} & 511 \\ & \$ .82 \end{aligned}$ |
| Female | Catalogue No. <br> List, earh..... | $\begin{aligned} & 112 \\ & 8.35 \\ & \hline \end{aligned}$ | $\begin{aligned} & 212 \\ & \$ .41 \\ & \hline \end{aligned}$ | $\begin{aligned} & 312 \\ & 8.53 \end{aligned}$ | $\begin{array}{\|l\|} \hline 412 \\ \$ .68 \\ \hline \end{array}$ | $\begin{aligned} & 512 \\ & \$ .82 \end{aligned}$ |
| $\begin{gathered} 1 / 2 \\ \text { Male } \end{gathered}$ | Catalogue No. List, each. | $\begin{aligned} & 121 \\ & 8.40 \end{aligned}$ | $\begin{aligned} & 221 \\ & 8.46 \end{aligned}$ | $\begin{aligned} & 321 \\ & \$ .58 \end{aligned}$ | $\begin{aligned} & 421 \\ & 8.73 \\ & \hline \end{aligned}$ | $\begin{aligned} & 521 \\ & \$ .87 \end{aligned}$ |
| $\begin{gathered} 1 / 2 \\ \text { Female } \end{gathered}$ | Catalogue No. list, each..... | $\begin{aligned} & 122 \\ & 8.40 \end{aligned}$ | $\begin{aligned} & 222 \\ & \$ .46 \end{aligned}$ | $\begin{aligned} & 322 \\ & 8.58 \end{aligned}$ | $\begin{aligned} & 422 \\ & \$ .73 \end{aligned}$ | $\begin{aligned} & \overline{322} \\ & \$ .87 \end{aligned}$ |
| Ship. Weight Sta. Pky. |  | co lbs. | $40 \mathrm{Jhs}$. | $30 \mathrm{lbs}$. | 30 lbs . | 25 lbs . |

Obround covers are interchangeable on corresponding sizes of Condulet borlies with Obround openings. $21 / 2$ and 3 -inch Obround covers are interchangeable. $31 / 2$ and 4 -inch Obround covers are interchangeable.
Proper fastening screws are furnished with covers, and are so held in serew holes that they can not fall out.
Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finish, see Manufacturer's Page No. 182.
Black cnameled, galvanized and porcelain Obround covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment is allowed.
Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

## CONDULET BODIES-FS SERIES, SHALLOW TYPE-Continued <br> TYPES FS, FSA, FSC, FSL AND FSR

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches; Depth, 1 7-8 Inches. Furnished with Fastening Screws for Fittings

TYPE FS CONDULET BODIES-Black Enamel Finish

|  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |

TYPE FSA CONDULET BODIES-Black Enamel Finish


| Size in inches | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number. | FSA1 | FSA2 | FSA3 |
| Standard Paekage...... |  |  |  |
| Shipping Weight Stu. Pkg. . List Price, each. | $\begin{aligned} & 140 \mathrm{lbs} . \\ & 8.65 \end{aligned}$ | $\begin{aligned} & 75 \mathrm{lbs} . \\ & 8.75 \end{aligned}$ | $\begin{aligned} & 60 \mathrm{lbs} . \\ & 5.85 \end{aligned}$ |

TYPE FSC CONDULET BODIES-Black Enamel Finish

|  | Size in inches . . . . . . . . . . $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { lSC22 } \\ & 50 \\ & 150 \mathrm{lbs} . \\ & 8.90 \end{aligned}$ | $\begin{aligned} & \text { FSC33 } \\ & 25 \\ & 90 \text { lbs. } \\ & \$ 1.10 \end{aligned}$ |

TYPE FSL CONDULET BODIES—Black Enamel Finish


TYPE FSR CONDULET BODIES-Black Enamel Finish

|  | Size in inches ............. | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
| ) | Catalogue Number Standard Packnge. Shipping Weight Std. Pkg List Iriee, eaeh. | $\begin{aligned} & \text { FSR11 } \\ & 50 \\ & 130 \text { lbs. } \\ & \$ .75 \end{aligned}$ | $\begin{aligned} & \text { FSl22 } \\ & 30 \\ & 80 \mathrm{lbs} . \\ & \$ .90 \end{aligned}$ | $\begin{aligned} & \text { FSR33 } \\ & 20 \\ & 60 \mathrm{lbs} . \\ & \$ 1.10 \end{aligned}$ |

CONDULET BODIES-FS SERIES, SHALLOW TYPE-Continued
TYPES FSLA, FSS, FSCC, FSCA AND FSCT
For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers

Over-all Dimensions of Body, Exclusive of Hubs: Length, 49-32 Inches; Width, 23-4 Inches; Depth, 17-8 Inches. Furnished with Fastening Screws for Fittings

TYPE FSLA CONDULET BODIES-Black Enamel Finish

|  | Size in inches | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number | FSLA11 | lisLid22 | HSLA33 |
|  | Standard Package. | 50 |  |  |
|  | Ship. Weight Std. Ikg | 130 lhs . | 80 lbs . | $60 \mathrm{lhs}$. |
|  | List lrice, each . | S . 75 | \$ . 90 | \$1.10 |

TYPE FSS CONDULET BODIES-Black Enamel Finish

|  | Nize in inches . . . . . . . . . . . | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | (:atalogue Niumber........ <br> Stanlard l'ackage. <br> Ship. Weight stad. Pkg..... <br> List Price, earl | $\begin{aligned} & 16 \mathrm{sin} 11 \\ & 50 \\ & 130 \mathrm{lhs} . \\ & 8.76 \end{aligned}$ | $\left\lvert\, \begin{aligned} & \operatorname{lNS} 22 \\ & 30 \\ & 80 \\ & 80 \\ & \$ .90 \end{aligned}\right.$ | $\begin{aligned} & \text { Fss33 } \\ & 20 \\ & 60 \mathrm{lhs} . \\ & \$ 1.10 \end{aligned}$ |

TYPE FSCC CONDULET BODIES—Blacii Enamel Finish

|  | Nize in inches | $\|$1,2 in. main <br> $\frac{1}{2}$ inch main <br> branchos |  | 1 in . main $1 / 2$ inch branches |
| :---: | :---: | :---: | :---: | :---: |
|  | (Catalogue Number Standard Parkage Ship. Weight std. P List Priere, marh.. | $\begin{aligned} & \mathrm{FSCC} 111 \\ & 50 \\ & 140 \mathrm{lbs} . \\ & 81.00 \end{aligned}$ | $\begin{aligned} & \mathrm{FSCC} 211 \\ & 30 \\ & 90 \mathrm{lbs} . \\ & 81.20 \end{aligned}$ | ```FNCC311 20 70 lbs. 1.45``` |

TYPE FSCA CONDULET BODIES-Black Enamel Finish

|  | Nize in inches . . . . . . . . . . | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | ("atalogue Ximber........ <br> Standard Package. <br> Nhip. Weight sta. Pkg..... <br> List Price, earh. | $\begin{aligned} & \text { Fic } \mathrm{A} 111 \\ & 50 \\ & 140 \mathrm{lhs} . \\ & \$ 1.00 \end{aligned}$ | $\begin{aligned} & \mathrm{FC} \mathrm{C}, 222 \\ & 30 \\ & 90 \mathrm{lbs} . \\ & 81.25 \end{aligned}$ | $\begin{aligned} & \text { lisCA333 } \\ & 20 \\ & 70 \mathrm{lhs} . \\ & \$ 1.45 \end{aligned}$ |

TYPE FSCT CONDULET BODIES--Black Enamel Finish

|  | Size in inches . . . . . . . . . . | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Citalogue Number......... <br> Standard l'ackage. <br> Ship. Weight std. IPkg..... <br> list Price. earh | $\begin{aligned} & \text { 1-SCT111 } \\ & 50 \\ & 140 \mathrm{lbs} . \\ & \$ 1.00 \end{aligned}$ | $\begin{aligned} & \mathrm{FSCT} 222 \\ & 30 \\ & 90 \mathrm{lbs} . \\ & \$ 1.25 \end{aligned}$ | $\begin{aligned} & \text { PSCT333 } \\ & 20 \\ & 70 \mathrm{lbs} . \\ & \$ 1.45 \end{aligned}$ |

# CONDULET BODIES-FS SERIES, SHALLOW TYPE-Continued TYPES FST AND FSX 

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow);<br>Flush Plug Receptacles (Shallow), and Porcelain or Metal Covers<br>Over-all Dimensions of Body, Exclusive of Hubs: Length, 4 9-32 Inches; Width, 2 3-4 Inches; Depth, 17-8 Inches. Furnished with Fastening Screws for Fittings

TYPE FST CONDULET BODIES-Black Enamel Finish

|  | Size in inches . | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number <br> Standard lackage. <br> Shipping Weight stil. likg.. <br> List Price, earh. | $\begin{aligned} & \text { Fর'lill } \\ & 60 \\ & 1401 \mathrm{hs} \\ & 81.00 \end{aligned}$ | $\begin{aligned} & \mathrm{F} \times \mathrm{T} 22 \\ & 39 \\ & 90 \mathrm{lbs} . \\ & 81.25 \end{aligned}$ | ```FST333 20 70) lbs. 81.45``` |

TYPE FSX CONDULET BODIES—Black Enamel Finish


Switches and receptacles suitable for the FS series of Condulet bodies are as follows:
Single Push Button Switches: PERKINS-2457, 2458, 2459, 2460, 2461, 2462, 2491, 2492, 2493, 2494.
Double Push Button Switches: ARROW E-6500, 6501, 6502, 6503. DIAMOND H-050, 060, 070, 080. G. E. CO. $6824 \overline{4}$, ( $88248,68 \% 49,6 \$ 250$. HART \& HEGEMAN- $2031,2082,20 \$ 3,2084$. CUTTER-"S-F." MACHEN \& MAYER - 2000, $2001,2002,2003$. KNOWLES- $2971,2972,2973,2974$. PERKINS-2201, 2202, 2203, 2204. CUTLER-HAMMER CO.-7201, $7202,7213$.
Double Push Button Lock Switches: ARROW E-6501, 6505, 6506, 6507. DIAMOND H-05̃5, 065, 075, 085. G. E. CO. CH6 MAYER-2004, $2005,2006,2007,2008$. KNOWLES- $12971,12972,12973,12974$. PERKINS—22 052,2296, 2297, 2298.
Double Push Button, Removable Mechanism, Switches: G. E. CO.-GLi73I, GE732, GE733. PERKINS—2519, 2520, 2521, 2522, 25223, 2524.
Double Push Button, Removable Mechanism, Lock Switches: G. E. CO.-GE6S4, GE685, GE686. PERKINS$2519,2520,2521,2525,2526,2527$.
Flush Rotary Switches: ARROW E-6250, $6251,6252,6253,6254,6255,6256,6257$. DIAMOND H- $0105,0110$. $0120,0130,0140,(0150,0160$. G. E. CO. - $60468,60459,(10470,60473,6445,60476,610477,60478,60479,60480$, HART \& HEGEMAN- $600,601,602,603,604,2263$. PERKINS— $2205,2206,2207,2208,2209,2210,2224,2325$.
Flush Plug Receptacles: ARROW E-1064. MACHEN \& MAYER-2042, 4355. PERKINS-281, 1363, 1708. HUBBELL-5547, 5502, 5579. TRUMBULL—1015, 1008. G. E. CO.-36817.
Removable Flush Wall Receptacles: G. E. CO.-GE692. PERKINS—2520, 2528.
Double Door Flush Receptacle: G. E. CO.-GEes7.
Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is speeified on the order. Galyanized finish on exterior and black enamel finish on interior of Condule bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and east bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and 'galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES-TWO-GANG FS SERIES-SHALLOW TYPE TWO-GANG TYPES FS, FSC AND FSD

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow), and Blank Metal Covers
Over-all Dimensions of Body, Exclusive of Hubs: Length, 45-8 Inches; Width, 49-32 Inches; Depth, 17-8 Inches. Furnished with Fastening Screws for Fittings


TWO-GANG TYPE FS CONDULET BODIES-Black Enamel Finish

| Size in inches | 1 2 in. main | 3/4 in. mam | 1 in. min |
| :---: | :---: | :---: | :---: |
| Catalogue Nomber | lis12 | WS22 | P-32 |
| Standard Package. . . . . . . | 50 | $25$ |  |
| Shipping Weight Stal. Ikg.. | 140 lhs. | $90 \mathrm{lbs} .$ | 50 lbs . |



TWO-GANG TYPE FSC CONDULET BODIES--Black Enamel Finish

| Size in inches | $1 / 2 \mathrm{in}$. mains | $3 / 4 \mathrm{in}$. mains | 1 in. mains |
| :---: | :---: | :---: | :---: |
| Catalogue Number . . . . . . | FSC112 | FSC222 | FsC332 |
| Standard Package . . . . . . . |  |  |  |
| Shipping Weeight Std. Ikg.. | 150 lbs . | 100 lbs . | 60 Ibs . |
| List Price, each ........ | \$1.30 | \$1.40 | \$1.53 |

TWO-GANG TYPE FSD CONDULET BODIES-Black Enamei Finish

| Size in inches | $\left\{\begin{array}{l} 1 / 2 \mathrm{in} .1 \\ 1 / 2 \mathrm{in} . \end{array}\right.$ | $3,4 \mathrm{in}$. main .in. hranclies | 1 in. main 1gin. branches |
| :---: | :---: | :---: | :---: |
| Cat alogue Number | l'SD1112 | ISD2112 | I'SD3112 |
| Standard P'ackage |  |  |  |
| Shipping Weight Std. Pkg | 160 ll s. | 110 lbs . | 70 lbs. |
| List Price, each | \$1.45 | \$1.55 | \$1.65 |

## CONDULET BODIES-THREE-GANG FS SERIES-SHALLOW TYPE THREE-GANG TYPES FS, FSC AND FSD

For Single Push Button, Double Push Button or Flush Rotary Switches (Shallow); Bryant Heater Control Combination 398 (less Plate), and Blank Metal Covers
Over-all Dimensions of Body, Exclusive of Hubs: Length, 6 1-2 Inches; Width, 4 9-32 Inches; Depth, 17-8 Inches. Furnished with Fastening Screws for Fittings


Thrse-Gang Type FSC with Cover for Flush Rotary 8 witchos


Three-Gang Type FS with Cover for Single Push Bution Switches


Three-Gang Type FSD with Cover for Duuble Push Button Switches

|  | THREE-GANG TYPE FS CONDULET BODIES Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Nize in inches . . . . . . . | $\frac{1}{2} \mathrm{in}$. main | ${ }_{4}^{3} \mathrm{in}$. main | 1 in. main |
|  | C'atalogue Number.... Standard Packare. . . Ship. Wt. Sid. I'ky. List Priee, each | Not <br> Pructical | $\begin{aligned} & 1 \$ 23 \\ & 20 \\ & 110 \mathrm{lhs} . \\ & s 1.80 \end{aligned}$ | $\begin{aligned} & \text { l's33 } \\ & 10 \\ & 60 \mathrm{lbs} . \\ & \$ 1.95 \end{aligned}$ |
|  | THREE-GANG TYPE FSC CONDULET BODIES <br> Black Enamel Finish |  |  |  |
|  | Size in inches . | in. mains | ${ }_{4}^{3}$ in. mains | 1 in . mains |
|  | ('atalomene Nuber.... Standiurd Packagr. Ship. Wt. Stal. Plog.... List l'rice, each. | Not Pratetical | $\begin{aligned} & \operatorname{lic} 223 \\ & 219 \\ & 11511 \mathrm{ss} . \\ & =1.90 \end{aligned}$ | $\left\lvert\, \begin{aligned} & 1 \mathrm{NC} 333 \\ & 10 \\ & 65 \mathrm{lbs.} \\ & 82.05 \end{aligned}\right.$ |
|  | THREE-GANG TYPE FSD CONDULET BODIES <br> Black Enamel Einish |  |  |  |
|  | Size in incles | $\frac{1}{2} \mathrm{in}$. main in. branches | ${ }^{3}$ in. main in.branches | 1 in. main $\frac{1}{2}$ in. branches |
|  | (atalozue Numbrr.... Standard lathage. Nhip. IIt. Std. l’eg List Price, each . | Fsi)11133 <br> 35 <br> 190 lbs. <br> $\$ 1.95$ | $\begin{aligned} & \text { Psi } 21113 \\ & -0 \\ & 120 \mathrm{lbs} . \\ & 82.15 \end{aligned}$ | $\begin{aligned} & \text { FSD } 31113 \\ & 10 \\ & 6.3 \mathrm{lbs} . \\ & 8.2 .30 \end{aligned}$ |

## COVERS

For FD and FS Series of Condulet Bodies
Furnished with Fastening Screws


COVERS FOR SWITCHES AND PLUG RECEPTACLES, AND BLANK METAL COVERS Black Enamel Finish

| For Single Push Button Switch | Cat. No. List, ea... | $\begin{aligned} & 157 \\ & \$ .10 \end{aligned}$ | $\begin{aligned} & \text { TSS } 7 \\ & \$ .10 \end{aligned}$ | For Rectangular Plug Receptacle | Cat. No.. <br> List, ca... | $\begin{aligned} & 10811 \\ & \$ .80 \end{aligned}$ | $\begin{aligned} & \text { 1)SS11 } \\ & \text { W. } 80 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| For Double Push Button Switch | Cat. No. List, ea... | $\begin{aligned} & \text { DS8 } \\ & \$ .10 \end{aligned}$ | $\begin{aligned} & 1+5.88 \\ & \$ .10 \end{aligned}$ | $\begin{gathered} \text { For Hubbell } \\ \text { Polarity Plug } \\ \text { Receptacle } 5552 \end{gathered}$ | Cat. No.. List, ea... | $\begin{aligned} & \mathrm{D} \times 12 \\ & \$ .20 \end{aligned}$ | $\begin{array}{\|l} \text { DSS12 } \\ 8.20 \end{array}$ |
| For $\underset{\substack{\text { Slush } \\ \text { Switch }}}{ }$ | Cat. Nu. List, ea. | $\begin{aligned} & \hline \mathrm{DS9} \\ & 8.10 \end{aligned}$ | $\begin{aligned} & \text { DSss } \\ & \$ .10 \\ & \hline \end{aligned}$ | Blank Metal | $\begin{aligned} & \text { Cat. No. } \\ & \text { List, ea... } \end{aligned}$ | $\begin{aligned} & \text { DS } 100 \\ & \$ .10 \end{aligned}$ | $\overline{\mathrm{D} S \mathrm{SS} 100}$ |
| For Round Plug Receptacle | Cat. No.. List, ea.. | $\begin{aligned} & 1 \$ 10 \\ & \$ .60 \end{aligned}$ | $\begin{aligned} & \operatorname{LSS} 10 \\ & \$ .60 \end{aligned}$ | Cast Iron | $\begin{aligned} & \text { Cat. No.. } \\ & \text { List, ea.. } \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~N} 100 \mathrm{~g} \\ & \$ .25 \end{aligned}$ | $\begin{aligned} & \text { DSS100g } \\ & \$ .25 \end{aligned}$ |
| $\underline{\text { Shipping Weight Std. Pkg. }}$ |  | 30 lb :. | $35 \mathrm{Ihs}$. | Shipping Weight Stal. I'kg. |  | 35 Ihs. | 40 lbs. |

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanizel finish will be furnished, if specifically ordered, at the same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, see Minufacturer's P'age No. 182.
White enamel finish will be furnished on metal covers, if specifically ordered, at $50 \%$ increase over list price of black enamel finish.
All back enameled, galvanized and porcelain covers, listed on this and the following page, may be assorted to make up a standard package.

## COVERS <br> FOR FD AND FS SERIES OF CONDULET BODIES <br> Furnished with Fastening Screws

COVERS FOR FLUSH PLUG RECEPTACLES

| Black Enameled | Surface Type | Flush Type | Style of Cover |  | Surface Type | Flush 'Type | Black <br> Enameled |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 75 | 75 | Standard I'ackage |  | 75 | 75 |  |
| $\infty$ | For Hubbell "Duplex' Flush Plug Receptacle 6257 |  |  | For Hubbell Fluslı Plug J'eceptacle 5547, 5802 or 6051* |  |  |  |
|  | 1)SI 3 <br> 30 lbs. <br> $\$ .30$ | DSS13 <br> 35 lbs . <br> $\$ .30$ | Catalogue Nuinber Ship. Wt. Std. I'kg. <br> . List Price, each . |  | DS21 <br> 30 lbs. <br> \$. 25 | 1)SS21 <br> 35 lbs. <br> \$. 2 5 | $\bigcirc$ |
|  | For Hubbell Flush Plug Receptacle 5566 |  |  |  |  |  |  |
| 0 | Catalogue Number Ship. Wt. Std. Pkg. List Price, each |  | $\begin{aligned} & \text { US22 } \\ & 30 \mathrm{lbs} . \\ & \$ .40 \end{aligned}$ | DSS22 <br> 35 lbs . <br> S. 40 | Condulets of the FD and FS series are listed on Manufacturer's Pages Nos. 35 to 41 , |  |  |

## GANG COVERS

FOR TWO-GANG FS SERIES OF CONDULET BODIES
Furnished with Fastening Screws
COVERS FOR FLUSH SWITCHES AND PLUG RECEPTACLES

| Black <br> Enameled | Sirface 'lype | I'lush Туре | Style of Cover | Surface 'lype | Flush <br> Type | Black Enameled |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 50 | Standard Package | 30 | 50 |  |
| $\infty$ | For Round Flush Plug Receptacles |  |  | For Rectangular Flush Plug Receptacles |  |  |
|  | $\begin{aligned} & \$ 102 \\ & \$ 1.20 \end{aligned}$ | $\begin{aligned} & \$ 102 \\ & \$ 1.20 \end{aligned}$ | Catalogue Number <br> . Iist Pricc, each . | $\begin{aligned} & \text { S112 } \\ & \$ 1.60 \end{aligned}$ | $\begin{aligned} & 88112 \\ & \$ 1.60 \end{aligned}$ | $\square$ |
| (1) | For Hubbell Polarity Plug Receptacle 5552 |  |  | For Hubbell "Duplex" Receptacle 6357 |  | ? |
| - | $\begin{aligned} & \$ 122 \\ & \$ .50 \end{aligned}$ | $\begin{gathered} \operatorname{SS} 122 \\ 8.50 \end{gathered}$ | Catalogue Number <br> . List Price, cach . | S132 <br> $\$ .60$ | $\begin{aligned} & \text { SS132 } \\ & \$ .60 \end{aligned}$ | $\bigcirc$ |
|  | For Hubbell Flush Plug Receptacle 5547. 5802 or 6051* |  |  | For Hubbell Flush Plug Receptacla 5566 |  |  |
| $\bigcirc$ | $\begin{aligned} & S 212 \\ & \$ .50 \end{aligned}$ | SS 212 $\$ .50$ | Catalogue Number List Price, cach . | $\begin{aligned} & \mathrm{S} 222 \\ & \$ .80 \end{aligned}$ | $\begin{aligned} & \operatorname{SS} 222 \\ & \$ .80 \end{aligned}$ | (0) 0 |
|  | For Single Pusli Switch and Round Flush Plug Receptacles |  | tch and <br> Feptacles$\|$For Sin <br> Rectangul | For Single Push Switch and Rectangular Flush Plug Recept. |  | $0[0]$ |
|  | $\begin{aligned} & S 7102 \\ & \$ .80 \end{aligned}$ | SST 102 $\$ .80$ | Catalogue Number <br> List Price, each | $\begin{aligned} & \mathrm{S} 7112 \\ & \$ 1.20 \end{aligned}$ | $\begin{aligned} & \operatorname{SK} 112 \\ & \$ 1.20 \end{aligned}$ |  |
|  | For Single Push Switch and <br> Hubbell Polarity Receptacle 5552$\|$For Single Push Switch and <br> Hubbell "Duplex' <br> Recept. 6257 |  |  |  |  | , |
|  | $\begin{aligned} & \$ 7122 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \text { SS7122 } \\ & \mathrm{S} .50 \end{aligned}$ | Catalogue Number St 132 <br> . Jist Price cach $\mathbb{\$} .50$ |  | $\begin{aligned} & S S 7132 \\ & \$ .50 \end{aligned}$ | $\bigcirc$ |
|  | For Single Push Switch and Hubbell โ. 323 D .5547 .5802 or 6051 * |  | tch and For Sing <br> 02 or $6051 *$ Hubbell | For Single Push Switch and Hubbell Plug Receptacle 5566 |  | $0\binom{0}{0}$ |
|  | $\begin{aligned} & \mathrm{S} .212 \\ & \$ .50 \end{aligned}$ | SS7212 $\$ .50$ | Catalogue Number <br> . List Price, each | $\begin{aligned} & \mathrm{S}-292 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \operatorname{SS7} 222 \\ & \$ .50 \end{aligned}$ |  |

## GANG COVERS—Continued

## FOR TWO-GANG FS SERIES OF CONDULET BODIES

Furnished with Fastening Screws

## COVERS FOR FLUSH SWITCHES AND PLUG RECEPTACLES-Continued

| Black Enameled | Surface Type | $\begin{aligned} & \text { Flush } \\ & \text { Type } \end{aligned}$ | Style of Cover |  | $\begin{aligned} & \text { Surface } \\ & \text { Type } \end{aligned}$ | Flush Type | BlaekEnameled |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 50 | 50 | Standard Paekage |  | 50 | 50 |  |
| $00$ | Oor Double Push Switchand RoundFlush Plug Receptacle $\begin{aligned} & \text { For Double Push Switch and Rec- } \\ & \text { tangular Flush Plug Receptacle }\end{aligned}$ |  |  |  |  |  | $\therefore \mathrm{O}$ |
|  | $\begin{array}{\|l\|l} \mathrm{SS} 102 \\ \$ .80 \end{array}$ | $\begin{aligned} & \text { SS8102 } \\ & \$ .80 \end{aligned}$ | Catalogue Number List Price, each |  | $\left\lvert\, \begin{aligned} & \text { SS112 } \\ & \S 1.20 \end{aligned}\right.$ | $\begin{aligned} & \text { SS8112 } \\ & \$ 1.20 \end{aligned}$ |  |
|  | For Double Push Switch and Hubbell Polarity Receptacle 5552 |  |  | Tor Double Push Switch and Hubbell "Duplex" Receptacle 6257 |  |  | $\therefore \Omega$ |
|  | $\begin{array}{\|l\|l\|l\|} \hline \text { S3122 } \\ \$ .50 \end{array}$ | $\begin{aligned} & \text { SSS122 } \\ & \$ .50 \end{aligned}$ | Catalogue Number List Price, each . |  | $\begin{array}{\|l\|} \hline \mathrm{S} \$ 132 \\ \$ .50 \end{array}$ | $\begin{aligned} & \text { SSS132 } \\ & \$ .50 \end{aligned}$ |  |
|  | For Double Switch and Hubbell Receptacle 5547. 5802 or $6051^{*}$ |  |  | For Double Switch and Hubbell Plug Receptacls 5566 |  |  | $\bigcirc$ (8) |
|  | $\begin{array}{\|l\|l\|l} \text { SS212 } \\ \$ .50 \end{array}$ | ${ }_{\$ .50}^{\text {CSS } 212}$ | Catalogue Number List Price, each |  | $\begin{aligned} & \text { SS222 } \\ & \$ .50 \end{aligned}$ | ${ }_{3.50}^{\operatorname{CSS} 222}$ |  |
|  | For Rotary Switch and Round Fiush Plug Receptacle |  |  | For Rotary Switchand Rectangular Flush Plug Receptacle |  |  | (8) 0 |
|  | $\begin{aligned} & \mathrm{S} 0102 \\ & \$ .80 \end{aligned}$ | $\begin{aligned} & \text { SS9102 } \\ & \$ .80 \end{aligned}$ | Catalogue Number List Price, each . |  | $\begin{aligned} & \mathbf{S} 0112 \\ & \$ 1.20 \end{aligned}$ | $\begin{array}{\|l\|l\|l\|} \hline \text { SS9112 } \end{array}$ |  |
| (1)(1) | For Rotary Switch and Hubbell Polarity Receptacle 5552 |  |  | For Rotary Switch anł Hubhell <br> "Duplex" Receptail3 6257 |  |  | $83$ |
|  | $\begin{array}{\|c} \hline \text { c.0122 } \\ \$ .50 \\ \hline \end{array}$ | $\begin{aligned} & \text { SS0122 } \\ & \$ .50 \end{aligned}$ | Catalogue Number List Price, cach . |  | $\begin{aligned} & \mathrm{S} 0102 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \mathrm{SS} 9102 \\ & \$ .50 \end{aligned}$ |  |
| (0) | For Rotary Switch and Hubbell Receptacle 5547. 5802 or $6051^{*}$ |  |  |  |  |  | (6) (8) |
|  | $\begin{array}{\|l\|l\|l} \text { S9212 } \\ \$ .50 \end{array}$ | $\begin{aligned} & \text { CS9212 } \\ & \$ .50 \end{aligned}$ | Catalogue Number List Priee, each . |  | $\begin{aligned} & \mathrm{S} 9222 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \text { SS9222 } \\ & \$ .50 \end{aligned}$ |  |
|  | For Hubboll Receptaclos 6257 and one of $\cup 547,58 \mathrm{C} 2$ or 6C51* |  |  | For Hubbell "Duplevo" Receptacle: 6257 aind 50 C 6 |  |  |  |
|  | $\begin{array}{\|l\|l} \hline 12212 \\ \$ .50 \end{array}$ | $\begin{array}{\|l} \hline \text { SS13212 } \\ \$ .50 \\ \hline \end{array}$ | Catalogue Number I.ist Price, each |  | $\begin{array}{\|l\|l} \hline \mathrm{S} 1002 \\ \mathrm{~S} .50 \end{array}$ | $\begin{aligned} & \text { S. } 110,2 \\ & \$ .50 \end{aligned}$ |  |
| (8) | Tor F.ubbell Pecentacles 55f6 and $0: 12$ of 5547. 5802 or 6L51* |  |  |  Recta:arulur Plus liec-ptacis |  |  | $0 \text { 어 }$ |
|  | $\begin{aligned} & \mathrm{S} 21222 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \mathrm{S} \sim 21222 \\ & \$ .50 \\ & \hline \end{aligned}$ | Catalogue Number List Price, each . |  | $\begin{array}{\|l} \begin{array}{l} \text { S10112 } \\ \text { S1.75 } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|l\|l} \hline \text { SS10112 } \\ \text { SS1.75 } \end{array}$ |  |
|  | For Hubbell Polarlty Recept. 5552 and one uf 5J47. 5802 or 6051* |  |  | For Hubholl Polarity $R$ scent. 555 L and IIubbill liecejt. 'iJ66 |  |  | (1)(2) |
|  | $\begin{aligned} & 11212 \\ & \$ .50 \end{aligned}$ | $\begin{array}{\|l} \because \sim 12212 \\ 8.50 \end{array}$ | Catalogue Number I.ist Price, each |  | $\begin{aligned} & \mathrm{E} 12222 \\ & \$ .50 \end{aligned}$ | $\begin{array}{\|l} \hline \mathrm{SS} 12222 \\ \$ .50 \end{array}$ |  |

*Or Bryant "Spartan" receptacle No. 120 ,
Finisnes: Black enameī is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at the same price as black enamel finish.

White enamel finish will be furnished on metal covers, if specifically ordered, at $50 \%$ increase over list price of black enamel finish.
All black enameled and galvanized covers for Condulet bodies of the FD and FS series may be assorted to make up a standard package, also all black enameled and galvanized covers for two-gang FS series of Condulet bodies.

## GANG COVERS

For Two and Three-gang Types FS, FSC and FSD Condulet Bodies
Furnished with Fastening Screws


COVERS FOR TWO-GANG CONDULET BODIES --Black Enamel Finish

| Style of Cover |  | Surface Type | Flush Type | Style of C | ver | Surface Type | $\begin{aligned} & \text { Wush } \\ & \text { Type } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Standard Parkarre....... |  | 50 | 50 | Standard Parkame ...... |  | 50 | 50 |
| For Single Push Butwon Switches | Cat. No.. List, ea.. | $\begin{aligned} & 172 \\ & 8.20 \end{aligned}$ | $\begin{array}{\|c} \text { SS72 } \\ 8.20 \end{array}$ | \|For Flush Rotary Switches | Cat. No. <br> list, ea. | $\begin{aligned} & \text { S02 } \\ & 8.20 \end{aligned}$ | $\begin{aligned} & \text { SS92 } \\ & \$ .20 \end{aligned}$ |
| For Double Pash Button Switches | Cat. No.. <br> List, ea... | $\begin{aligned} & \text { S82 } \\ & \$ .20 \end{aligned}$ | $\begin{array}{r} 5 \times 82 \\ \$ .20 \\ \hline \end{array}$ | Blank Metal | Cat. No. <br> List, ea. . | $\begin{array}{r} \$ 1002 \\ 8.20 \end{array}$ | $\begin{aligned} & \mathrm{SS} 1002 \\ & 8.20 \end{aligned}$ |
| Shipping Weigh | Stcl. Pkg. | 30 lbs . | 35 lbs . | Shipping Weigh | t. Std. Pkg. | 30 lbs . | 3.5 lbs. |



OVERS FOR THREE-GANG CONDULET BODIES—Black Enamel Finish

| Style of Cover |  | Surface Type | Ilush Type | Style of | ver | Surface Type | Flush Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Standard Packare....... |  | 35 | 35 | Standard Package . ...... |  | 35 | 35 |
| For Single Push Button Switches | Cat. No. <br> List, ea. | $\begin{aligned} & \text { S73 } \\ & \mathrm{S} .40 \end{aligned}$ | $\begin{aligned} & \text { SST3 } \\ & \text { S. } 40 \end{aligned}$ | Crouse-IInds Cover for Dryant Heater Control Combination Plate | Cat. No. <br> List, ca... | $\begin{aligned} & \mathrm{S} 7113 \\ & \$ 1.45 \end{aligned}$ | $\begin{aligned} & \operatorname{SS}_{\$ 1.45} \end{aligned}$ |
| For Double Push Button Switches | Cat. No. List, ea | $\begin{aligned} & \hline \text { S83 } \\ & 8.40 \end{aligned}$ | $\left\lvert\, \begin{array}{l\|l} \text { SS. } \\ 8.40 \end{array}\right.$ |  |  |  |  |
| For Flush Rotary | Cat. No. List ea. | $\begin{aligned} & \mathrm{S} \subseteq 3 \\ & \$ .40 \end{aligned}$ | $\begin{aligned} & 6 S 3 \\ & 8.40 \end{aligned}$ | Blank Metal | Cat. No. List, ea. | $\begin{array}{\|l} \$ 1003 \\ 8.40 \end{array}$ | $\begin{aligned} & \text { SS1003 } \\ & \$ .40 \end{aligned}$ |
| Shipping Weight Std. Pkg. |  | 20 llos. | Ej lios. | Whipping Weigh | t Sid. Pkg. | 40 lbs . | 45 lbs . |

Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finsh. For special plated finishes, brass and bronze covors with plain and sperial finishes, see Manufacturer's Page No. 182.
White enamel finish will be furnished on metal covers, if specifically ordered, at $50 \%$ increase over list price of black enamel finish.
All black enameled and galvanized covers for Two-Gang FS series Condulet bodies may be assorted to make up a standard package.
All black enameled and galvanized covers for Three-Gang FS series Condulet bodies may be assorted to make up a standard package.

## CONDULETS

## TYPE FF-SERVICE ENTRANCE-Continued

Fused and Weatherproof-For 250 Volt Cartridge or 125 Volt Plug Fuse Cut-outs
Furnished with Universal Cut-out Fastening Plate, Porcelain Bushings and all necessary Bolts and Screws, but without Cut-out

For 30 Ampere, 250 Volt Cartridge or 125 Volt Plug Fuse, N. E. C. Main Line Cut-outs-Cut-outs not Furnished


| Style of Cut-out | Size in inches | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { 2-wire } \\ & \text { or } \\ & \text { 3-wire } \end{aligned}$ | Catalogue Number | l'li13022 | 1 F 23022 | 11133022 |
|  | Sitandard lackage | 20 | 20 |  |
|  | Weight Stel. Pkg. List Price each | 200 lbs. | 230 lbs . | 140 lbs . |
|  | List Price, each |  | $\bigcirc 4.00$ | \$4.10 |
| sityle of Cut-out | Size in inches | $3 / 4$ | 1 | $11 / 4$ |
| 4-wire | Catalorue Number | I' ${ }^{\prime} 23042$ | F1333042 | IF 43042 |
|  | Standard l'ackage | 20 | 10 |  |
|  | Weight std. l'kg. | 280 lbs. | 180 lbs. | 195 lbs. |
|  | List l'rice, earh | \$4.75 | \$4.90 | \$5.10 |

For 60 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished


For 100 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished

| Style of Cut-out | 1 | 11/2 | 2 | Size in inelas | sityle of Cut-out | $11 / 4$ | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-wire or 3-wire | $\begin{aligned} & \text { FF31002: } \\ & 10 \\ & 250 \text { lbs. } \\ & \$ 9.90 \end{aligned}$ | $\begin{aligned} & \text { FF510022 } \\ & 5 \\ & 14.5 \mathrm{lbs} . \\ & \$ 10.30 \end{aligned}$ | $\begin{aligned} & \text { Fl } 610022 \\ & 5 \\ & 150 \mathrm{lbs} . \\ & \$ 10.50 \end{aligned}$ | .. .Strd. I'kg... W't. stal. Pkg. . .List, each.. | 4-wire | $\begin{aligned} & \text { r'r } 410042 \\ & 10 \\ & 300 \mathrm{lbs} . \\ & \$ 12.10 \end{aligned}$ | $\begin{aligned} & \text { FF510042 } \\ & 5 \\ & 175 \text { lbs. } \\ & \$ 12.30 \end{aligned}$ | $\begin{array}{\|l} \text { li F } 610042 \\ 5 \\ 170 \mathrm{lbs} . \\ \$ 12.50 \end{array}$ |

The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs: 30 Ampere, 250 Volt, Cartridge and 125 Volt, Plug Fuse Cut-outs
2-Wire: BRYANT-(C'artridge) 1917, (Plug) 62965. D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge) 34367. (Plug) 62965. NOARK - (Cartridge) 3327. PAISTE-(Cartridgre) 72965, (Plug) 2965. SHAWMUT-(Cartridge)
 3-Wire: BRYANT-(Cartridge) 1924, (1)lag) 62165. D. \& W.-(Cartridge) 91103 . G. E. CO.-(Cartrilge) 34372 ,
 (Cartridge) 2089. TRUMBULL-(Cartridge) 2165\%, (Ilug) 2165. WEBER-(Plug) 62165. UNION-(Cartridge) 2012.
4-Wire: Mount two 2 -wire cut-outs side by side.

## 60 Ampere, 250 Volt, Cut-outs

2-Wire: BRYANT-(Cartridge) 191S. D. \& W.-(Cartridge) 91109 . G. E. CO.-(Cartridge) 34376. NOARK(Cartridge) 3:329. PAISTE-(Cartrilge) 82965. SHAWMUT—(Cartridge) 2078 . TRUMBULL—(Cartridge) 29656. UNION- (Cartridge) 2011.

3-Wire: BRYANT-(Cartridge) 1925 . D. \& W.-(Cartridge) 11109 . G. E. CO.-(Cartridge) 34377. NOARK(Cartridge) 3330. PAISTE-(Cartridge) $8216 \overline{0} . \quad$ SHAWMUT-(Cartridg() 20 80. TRUMBULL—(Cartridge) 21656. UNION-(Cartridge) 2013.

4-Wire: Mount two 2-wire cut-outs side by side.

## 100 Ampere, 250 Volt, Cut-outs

 (Cartridge) 33:31. SHAWMUT-(Cartridge) 2101. UNION-(Cartridge) 2111.
3-Wire: BRYANT-(Cartridge) 272. D. \& W.- (Cartrider) !1120. G. E. CO.-(Carírige) 36kn). ivUARK(Cartridge) 3332. SHAWMUT-(Cartridge) 2102. UNION-(Cartridge) 201.5.
4-Wire: Mount two 2-wire cut-outs side by side.
Padlock is not included in prices for Condulets.

## CONDULETS-FOR CONTROL OF HEATING DEVICES

TYPE FH
TYPE FHF

Furnished with Crouse-Hinds Receptacle C337G, Adjustable Bar for Round Base Switch or Plug Receptacle and all necessary Fastening Screws

Curnished with Pilot Lamp Receptacle, Universal Cut-out Fastening Plate, Adapting Rings and Adjustable Bars for Switch and Attachment Plug Receptacle, Jewel in

Cover and all necessary Bolts and Screws


Type FBF
Showing Snap Switch, Cut-ont. Incandescent Lamp and Attachment Pluy Receplacle Monnted (Broxen-a way View)

TYPE FH CONDULET BCDIES—Black Enamel Finish

|  | $\underset{10}{\text { Form }}$ | Size in inches. | 1/2 | 3/4 | $\frac{1}{1} \frac{1}{1310}$1075 lbs.82.70 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | FH210 |  |
|  |  |  |  |  |  |
|  |  |  |  | 100 lbs. |  |
|  |  | size in inehes..... | 1/2 | 3/4 | 1 |
|  |  | Catalogue Number.. | FI1120 | FIT20 | F11320 |
|  | ${ }_{20}$ | Standard l'ackage.. |  |  |  |
|  |  | Ship. Wt. Stcl. Ikg. | 120 lbs. | 125 lbs . | 9) lbs. |
|  |  | Tist I'rice, each | 83. 30 | \$3.10 | 83. 20 |

TYPE FHF CONDULET BODIES-Black Enamel Finish


| Size in inches | $1 / 2$ | $3 / 4$ |
| :---: | :---: | :---: |
| Catalogue Number. | F1HP120 | FH1:220 |
| Standard Package. |  | 15 |
| Ship. Wt. Stcl. 1'kg. |  |  |
| List I'rice, rach .... | \$1.65 | $\$ 4.75$ |

The adjustable bars and adapting rings furnished with each Condulet permit the proper mounting of any switch or Form 5 or Form 10 (or in case of type FHF Condulet, any Form 20) attachment plug receptacle enumerated on Manufacturer's Page Nos. 62 and 63.
The universal cut-out fastening plate, furnished with each type FHF Condulet, takes any of the following 2 -wire, 30 ampere, 250 volt cartridge, or 2 -wire, 30 ampere, 125 volt, plug fuse cut-outs:
BRYANT-(Cartridge) 1917, (Plug) 62965. D. \& W.-(Curtridge) 91102. G. E. CO.-(Cartridge) 34367, (Plug) 62965. NOARK-(Cartridge) 3327. PAISTE—(Cartrige) 72965, (Plug) 2065. SHAWMUT-(Cartridge) 2077. TRUMBULL-(Cartridge) 29653. (Plug) 2965. WEBER-(Plug) 62965. UNION-(Cartridge) 2010.
Type FHF Condulets are designed to take style H (bulb S9) lamp.
Type FH Condulet bodies take covers DS7, DS8, DS9, DS10, DS11 and DS12,

# CONDOLET BODIES-G AND H SERIES-Continued TYPES G AND GA 

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches, or Round Base Fittings

Furnished with Adjustable Bar and all necessary Fastentig Screws


Type G
Showing Saap Switch Mounted
(Broken-away Fiew Ilustrating use of Adjustable Bar in Pastening Fitting or Cover to a Condulet Body of the $G$ and $H$ Series)

Condulet bocies of the $G$ and $H$ series are so designed that covers, switches or fittings are fastened to them by means of an adjustable bar and two screws. The adjustable bar permits switch or fitting to be mounted in any desired position.

A gasket may be used between cover or fitting and Condulet body.

Gaskets are not furnished with Condulet bodies, and if desired must be ordered separately.

Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which talke fittings correspondingly classified on two of the following pares.

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size | TYPE G BODIES |  |  | $\underset{\text { Einish }}{\text { Black Enamel }}$ | Size | TYPE GA BODIES |  |  |
|  | Form 5 | Form 10 | Form 20 |  |  | Form 5 | Form 10 | Form 20 |
| $\begin{aligned} & 1 / 2- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { (1151 } \\ & 100 \\ & 110 \mathrm{lbs} . \\ & \$ .55 \end{aligned}$ | $\begin{aligned} & \hline \text { G1101 } \\ & 75 \\ & 90 \mathrm{lbs} . \\ & \$ .65 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { G1201 } \\ & 50 \\ & 75 \mathrm{lbs} . \\ & 8.90 \end{aligned}$ | Catalogue Number. . Standard I'sckage. . . Ship. W't. Std. Pkg.. ...I,ist Price, each... | $\begin{aligned} & 1 / 2- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { CA151 } \\ & 100 \\ & 120 \text { lbs. } \\ & \$ .75 \end{aligned}$ | $\begin{aligned} & \hline \text { GA1101 } \\ & 75 \\ & 100 \mathrm{lbs} . \\ & \$ .85 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GA1201 } \\ & 50 \\ & 80 \mathrm{lbs} . \\ & \$ 1.10 \\ & \hline \end{aligned}$ |
| $\begin{aligned} & 3 / 4- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { (i252 } \\ & 50 \\ & 75 \mathrm{lbs} . \\ & \$ .65 \end{aligned}$ | $\begin{aligned} & \mathrm{G} 2102 \\ & 25 \\ & 55 \mathrm{lbs} . \\ & 8.80 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} 2202 \\ & 25 \\ & 60 \mathrm{lbs} . \\ & 6.95 \end{aligned}$ | . Catalogıe Number. .Staruard Package. .Stıp. W't. Std. Pkg. ...List Price, each... | $\begin{gathered} 3 / 4- \\ \text { inch } \end{gathered}$ | $\begin{aligned} & \text { CA252 } \\ & 50 \\ & 80 \mathrm{lbs} . \\ & \$ .85 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} \AA 2102 \\ & 25 \\ & 60 \mathrm{lbs} . \\ & \$ 1.00 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { G } 12202 \\ & \mathbf{2 5} \\ & 65 \mathrm{lbs} . \\ & \$ 1.20 \end{aligned}$ |
| $\stackrel{1-}{\text { inch }}$ | (1353 <br> 25 <br> 60 lbs. <br> $\$ .90$ | $\begin{aligned} & \text { G3103 } \\ & 25 \\ & 65 \mathrm{lbs} . \\ & \$ 1.00 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { G3203 } \\ & 25 \\ & 70 \mathrm{lbs} . \\ & 81.20 \end{aligned}$ | Catalogue Number. .Standard Package. . Ship. Wt. Std. I'kg. ...List Price, each... | $\underset{\text { inch }}{1-}$ | $\begin{aligned} & \text { GA353 } \\ & 25 \\ & 65 \mathrm{lbs} . \\ & \$ 1.10 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { GA3103 } \\ & 25 \\ & 70 \mathrm{lbs} . \\ & \$ 1.20 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GA3203 } \\ & 25 \\ & 75 \mathrm{lbs} \\ & \$ 1.50 \\ & \hline \end{aligned}$ |

Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the orller. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES-G AND H SERIES-Continued TYPES GL, GLA, GT AND GTA

Take Round Covers; 5, 10 or 20 Ampere Round Base Switches, or Round Base Fittings
Furnished with Adjustable Bar and all necessary Fastening Screws

Type GL

| Size | TYPE GL BODIES |  |  | $\begin{aligned} & \text { Black Enamel } \\ & \text { Finish } \end{aligned}$ | Size | TYPE GLA BODIES |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Form 5 <br> GL151 <br> 100 <br> 110 lbs. <br> $\$ .60$ | liorm 10 Form 20 |  |  |  | Form 5 | Form 10 | Form 20 |
| $\begin{aligned} & \begin{array}{l} 1 / 2- \\ \text { inch } \end{array} \end{aligned}$ |  | $\begin{aligned} & \text { QL1101 } \\ & 75 \\ & 100 \mathrm{lbs} . \\ & \$ .70 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { GL1201 } \\ 50 \\ 80 \mathrm{lbs} . \\ \$: 95 \\ \hline \end{array}$ | $\begin{aligned} & \text {.Catalogue No... } \\ & \text { SSandard Packag. } \\ & \text { Weight Std. Pkg. } \\ & \text { Wist Price, each. } \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 1 / 2- \\ \text { inch } \end{array} \end{aligned}$ | GLA151 100 130 lbs . \$ 75 | GLA 1101 <br> 75 <br> 110 lbs. <br> \& 85 | GLA 120 50 90 lbs . $\$ 1.10$ |
| $\begin{aligned} & 3 / 4- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { (: LL2 } 22 \\ & 50 \\ & 75 \mathrm{blbs} \\ & \$ .70 \end{aligned}$ | $\begin{aligned} & \mathrm{QLL2102} \\ & 25 \\ & 55 \mathrm{lbs} . \\ & 8.85 \\ & \hline 8.8 \end{aligned}$ | $\begin{aligned} & \text { (11.2202 } \\ & 25 \\ & 60 \mathrm{lbs} . \\ & 61.05 \\ & \hline 9.0 \end{aligned}$ | $\begin{aligned} & \text { Catalogue No... } \\ & \text { St tand ard Packag. } \\ & \text { Weight Std Pkg. } \\ & \text {. } . \text {.ist Price, each. } \end{aligned}$ | $\begin{aligned} & 3 / 4- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { GLA2 } 2 \overline{2} \\ & 50 \\ & 9 \overline{y y} \\ & 9.85 . \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GLA } 2102 \\ & 25 \\ & 60 \mathrm{lbs} . \\ & \$ 1.00 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GLA 2202 } \\ & 25 \\ & 65 \mathrm{lbs} \\ & 61.20 \\ & \hline 81 \end{aligned}$ |
| $\begin{gathered} 1- \\ \text { inch } \end{gathered}$ | (11. $3 \overline{5}$ 25 60 lbs . \$ . 95 | Q C .3103 25 $65 \mathrm{lhs}$. $\$ 1.05$ | $\begin{aligned} & 61.3203 \\ & 25 \\ & 75 \mathrm{lbs.} \\ & \$ 1.35 \end{aligned}$ |  | $\underset{\text { inch }}{1-}$ | $\begin{aligned} & \text { CLA353 } \\ & 25 \\ & 60 \mathrm{lbs} \\ & \$ 1.10 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GLA 3103 } \\ & 25 \\ & 65 \mathrm{lbs} . \\ & \$ 1.20 \\ & \hline \end{aligned}$ | GLA 3203 <br> 25 <br> 60 lbs. <br> $\$ 1.50$ |
|  |  |  | Noded |  |  |  |  |  |
|  | TY | ET B | DIES |  |  | TYPE | GTA | DIES |
|  | Form $\overline{5}$ | Form 10 | Form 20 | - |  | Form 5 | Form 10 | Form |
| $\begin{gathered} 1 / 2- \\ \text { inch } \end{gathered}$ | $\begin{aligned} & \text { GT151 } \\ & 100 \\ & 110 \mathrm{lbs} \\ & \$ .75 \end{aligned}$ | $\begin{aligned} & \text { QT1101 } \\ & 75 \\ & 100 \mathrm{lbs} . \\ & \$ .8 .5 \end{aligned}$ | $\begin{aligned} & \text { GT1201 } \\ & 50 \\ & 80 \mathrm{Jbs} . \\ & 81.10 \end{aligned}$ | $\begin{aligned} & \text { C.Cat alogue No... } \\ & \text { Whandiad Packag. } \\ & \text { Weight Sul. Pkg. } \\ & \text {.List l'rice, each.. } \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 1 / 2- \\ \text { inch } \end{array} \end{aligned}$ | $\begin{aligned} & \text { GTA151 } \\ & 100 \mathrm{lbs.} \\ & 160.90 \\ & \$ .90 \end{aligned}$ | GTA1101 <br> 75 <br> 120 lbs. <br> $\$ 1.00$ | $\begin{aligned} & \text { GTA1201 } \\ & 50 \\ & 100 \mathrm{lbs} . \\ & \$ 1.25 \end{aligned}$ |
| $\begin{aligned} & 3 / 4- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { GT252 } \\ & 50 \mathrm{lbs.} \\ & 75 \mathrm{lbs} \\ & 8.85 \end{aligned}$ | $\begin{aligned} & \text { GT2102 } \\ & 25 \\ & 5 . \mathrm{lbs} . \\ & 81.00 \end{aligned}$ | $\begin{aligned} & \hline 112202 \\ & 25 \\ & 60 \text { lbs. } \\ & \$ 1.20 \end{aligned}$ |  | $\begin{aligned} & 3 / 4- \\ & \text { inch } \end{aligned}$ | $\begin{aligned} & \text { CTA252 } \\ & 50 \\ & 100 \mathrm{lbs} . \\ & \$ 1.00 \\ & \hline \end{aligned}$ | GTA2102 <br> 25 60 lbs. \$1.15 | $\begin{aligned} & \text { GTA2202 } \\ & 25 \\ & 65 \mathrm{lbs} . \\ & \$ 1.40 \\ & \hline \end{aligned}$ |
| $\begin{gathered} 1- \\ \text { inch } \end{gathered}$ | (1] 353 25 60 lbs. $\$ 1.10$ | GT3103 25 65 lbs. <br> 81.20 | $\begin{aligned} & \hline \text { CT3203 } \\ & 25 \\ & 75 \mathrm{llss} \\ & 8.1 .50 \\ & \hline 8.1 \end{aligned}$ | Catalogue No... Sit andard PPack Weige. Weight Std. Pkg. .List Price, each. | $\underset{\text { inch }}{1-}$ | CTA353 <br> 25 lbs <br> 601.35 <br> $\$ 1.35$ | GTA3103 <br> 65 lbs . <br> \$1.45 | $\begin{aligned} & \text { GTA3203 } \\ & 25 \\ & 75 \mathrm{lbs} . \\ & \$ 1.80 \end{aligned}$ |

Form 5, Form 10 and Yorm 20 are designations to indicate sizes of Condulet bodies which take fittings correspondingly classified on Manufacturer's P'age Nos. 62 and 63.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same pr.ce as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodieswith plain and special finishes, see Manufacturer's Page No. $1 \not 2$.
Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES-G AND H SERIES-Continued TYPES GX, GXA, H AND HA

Take Round Covers; 5, 10 or 20-Ampere Round Base Switches,
or Round Base Fittings
Furnished with Adjustable Bar and all necessary Fastening Screws


Form 5, Form 10 and Form 20 are designations to indicate sizes of Condulet bodies which take fittings corresponelingly classified on Manufacturer's P'age Nos. 62 and 63.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, east brass and east bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard package. No other assortment is allowed.

# CONDULET BODIES-G AND H SERIES-Continued TYPES HH, HHC, HLA AND GXB 

Take con d Covers; 5, 10 or 20 Ampere Round Base Switches, or Round Base FittingsExcept Type GXB which is made in Form 10 Only

Furnished with Adjustable Bar and All Necessary Fastening Screws


Form 5, Form 10 and Form 20 are designations to indieate sizes of Condulet bodies which take fittings correspondingly classified on Manufacturer's l'age Nos. 62 and 63.
Finishes: Blatek enamel is the standard finish for Condulet bodien, and will be furnished unless another finish is specified on the order. Galvanized finish on exter or and black enanel finish on interior of Condulet bolies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type, size and form may be assorted to make up a standard packate. No other assortment is allowed.

## COVERS

For $\mathbf{G}$ and H Series of Condulet Bodies
Fursished with Fastening Screms

| Porcolsin, 1-Wire Holo <br> Porcelain, 4-Wire Hole | Size of Cover..... <br> Stel. Plag. Assortal |  | $\begin{array}{\|c\|} \text { For } \\ \text { Form 5 or } \\ \text { Form 10 } \\ \text { Boc'.cs } \\ \hline \end{array}$ | $\begin{aligned} & \text { For } \\ & \text { Form } 20 \\ & \text { Bodies } \end{aligned}$ | Size of C | Cover. | For <br> Torm 5 or <br> Form 15 <br> Hor! | $\begin{aligned} & \text { For } \\ & \text { Form } 20 \\ & \text { Bodies } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1C) | E) | Std. Pk\% | r. Assortal. . | 1 C 3 | EJ |
|  | PORCELAIN COVERS WITH WIRE HOLES |  |  |  |  |  |  |  |
|  | 1-wire | Cat. No List, each | $\left\lvert\, \begin{aligned} & 101 \\ & \$ . .10 \end{aligned}\right.$ | $\left\lvert\, \begin{aligned} & \Sigma 01 \\ & \$ .25 \end{aligned}\right.$ | 3-wi-e | Cat. No.... | $\begin{array}{\|l\|} \hline 5103 \\ 3.10 \end{array}$ | $\begin{aligned} & 203 \\ & 3.25 \end{aligned}$ |
|  | 2-wire | $\begin{aligned} & \text { C'at. No.... } \\ & \text { List, each. } \end{aligned}$ | $\begin{gathered} 102 \\ \$ .10 \end{gathered}$ | $\begin{aligned} & 232 \\ & +.25 \end{aligned}$ | 4-wire | Cat. No.... List, each. | $\begin{aligned} & \hline .10400 \\ & \$ .10 \end{aligned}$ | $\begin{aligned} & 2040 \mathrm{~J} \\ & 8.25 \end{aligned}$ |
|  | Weight Std. Plorn.... |  | -j l'ss. | CJ 130. | Weight s | Std. Pks | 45 livs . | 60 lbs. |
| Ketal, Malo Nipple | METAL COVERS WITII NIPPLES-Black Enamel Finish |  |  |  |  |  |  |  |
|  | $\begin{gathered} 1 / 8^{\prime \prime} \\ \text { Male } \end{gathered}$ | Cat. No.... List, enc!. . | $\left[\begin{array}{l} {[165} \\ 3.20 \end{array}\right.$ | $\left\lvert\, \begin{aligned} & 2.5 \\ & 3.35 \end{aligned}\right.$ | $\begin{aligned} & 3 / 3^{* *} \\ & \text { I:ICle } \end{aligned}$ | Cat. No.... <br> List, eac'l. | $\begin{aligned} & 〔 107 \\ & 8.25 \end{aligned}$ | $\begin{aligned} & 297 \\ & \$ .40 \end{aligned}$ |
|  | $\begin{gathered} 1 / 8^{\prime \prime} \\ \text { Female } \end{gathered}$ | $\begin{aligned} & \text { Cat. No.... } \\ & \text { List, each. . } \end{aligned}$ | $\begin{aligned} & 6105 \\ & 8.25 \end{aligned}$ | $\begin{aligned} & 2.6 \\ & 3.35 \end{aligned}$ | $r^{3 / 1 / 3}=\text { ale }$ | Cat. No.... List, eac.1. | $\begin{aligned} & 710.3 \\ & \$ .25 \end{aligned}$ | $\begin{aligned} & 208 \\ & \$ .40 \end{aligned}$ |
|  | $\begin{aligned} & 1 / 4^{\prime \prime} \\ & \text { Male } \end{aligned}$ | $\begin{aligned} & \text { Cat. No.... } \\ & \text { List, eac. } \end{aligned}$ | $\begin{aligned} & 11013 \\ & 8.23 \end{aligned}$ | $\begin{gathered} 1.013 \\ 3.38 \end{gathered}$ | $\begin{gathered} 1 / 2^{\prime \prime} \\ \mathbf{N}^{\prime \prime}=1 \mathrm{le} \end{gathered}$ | Cat. No.... <br> List, each1. | $\begin{aligned} & 51015 \\ & \$ .30 \end{aligned}$ | $\begin{aligned} & 2015 \\ & 8.45 \end{aligned}$ |
|  | $\begin{gathered} 1 / 4^{\prime \prime} \\ \text { Frale } \end{gathered}$ | Cat. No.... | $\begin{aligned} & 01 \cup 14 \\ & \$ .23 \end{aligned}$ | $\begin{array}{\|l} 2014 \\ 3.38 \end{array}$ | $1 / 2^{\prime \prime}$ | Cat. No.... <br> List, cach . | $51013$ | $\begin{aligned} & 2013 \\ & 5.45 \end{aligned}$ |
|  | licimht Etd. Pler.... in lom. |  |  | ¢5 lis. | Weirht | Std. Plag.... | 25 lbs. | 30 lbs . |
| Porcolkin, Mave Hipple | PORCELAIN COVERS WITH NIPPLES |  |  |  |  |  |  |  |
|  | $1 / 8{ }^{\prime \prime}$ Male | Cat. No.... | [ 5109 | $\begin{aligned} & 203 \\ & 8.43 \end{aligned}$ | $3 / 8^{\prime \prime}$ Mile | Cat. No.. | $51011$ | $2011$ |
|  |  | List, each.. | $\frac{\$ .25}{51010}$ |  | Male | $\frac{\text { List, each . . }}{\text { Cat. No }}$ |  |  |
|  | Temale | List, each.. | \$ . 25 | $\$ .43$ | Fomale | List, each. . | $\$ .35$ | $8.53$ |
|  | 1/4" | Cat. No... | 51019 | 2015 | $1 / 2^{\prime \prime}$ | Cat. No... | 51021 |  |
|  | Male | List, each. . | \$ . 30 | \$ . 49 | ITa!e | List, each . . | \$ . 40 | \$. 58 |
|  | $1 / 4{ }^{*}$ | Cat. No. | 51020 | 2020 | $1 / 2^{\prime \prime}$ | Cat. No. | 51022 |  |
|  | Female | List, each.. | \$ . 30 | \$ 8.48 | Female | List, each . | $\$ .40$ | $\$ .58$ |
| Porcolain, Pemalo Nipple | Weipht Std. Pkg.... |  | cJ lbs. | Lj liss. | Weight | Std. Pkg.... | 60 lbs . | 55 lbs . |

BLAN工 ITETAL COVERS—Black Enamel Finish


| Style of Cover |
| :---: |
| Catalogue Number . ..Standard Package. . . Weipht Std. Pkg . . . ..... List, each...... |


| For | Sheet <br> Stecl | Cast <br> Iron |
| :---: | :--- | :--- |
| 20 | 2000 | 2000 g |
| Bodies | 50 | 50 |
|  | 20 lbs | 20 lbs. |
|  | $\$ .23$ | 8.30 |

The same covers fit both Form 5 and Form 13 Condulct bodies, and these covers are interchangeable on any Form 5 or Form 13 Condulet body of the G and II scrics.
Covers for Form 20 Condulet bodies are interchangeable on any Form 20 Condulet body of the G and II series.
Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish will be furnished, if specifically ordered, at same price as black enamel finish. J'or special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled, galvanized and porcelain covers of the same size may be assorted to make up a standard package, regardless of style of cover. No other assortment of covers only is allowed.
Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies.

## CONDULET BODIES-J AND K SERIES-Continued TYPES J, JA AND JB

Take Norbitt Conduletto Fittings and Blank Metal Cover


Type J
Showing Norbitt Conduletto Receptacle with Shade Holder Groove Mounted (Broken-away and kiploded View)

Condulet bodies of the J and K series are so designed that the bases of Norbitt Conduletto fittings or blank metal covers fasten to them by means of a single screw.

The cap of the Norbitt Conduletto Hubbell plug receptacle is secured to its base by a single center screw.

The cap of a Norbitt Conduletto receptacle or rosette is secured to its base by two screws, which also complete the electrical connection.

A gasket is furnished with each Norbitt Conduletto fitting and blank metal cover, and makes the installation weatherproof.

TYPE J CONDULET BODIES—Black Enamel Finish


Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangcable on all Condulet bodies of the J and II series.
Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES - J AND K SERIES-Continued TYPES JL, JT, JU, JX AND K

Take Norbitt Conduletto Fittings and Blank Metal Cover

|  | TYPE JL CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in incles .......... | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number Standard lackage Shipping Weight Std. Pkg List Price, each | $\mathrm{lL11}$ 100 140 lbs. 8.85 | $\begin{aligned} & \hline \mathrm{JL}, 22 \\ & 75 \\ & 120 \mathrm{lbs} . \\ & 8.95 \end{aligned}$ |  |
|  | TYPE JT CONDULET BODIES-Black Enamel Finish |  |  |  |
|  | Size in inches | $1 / 2$ | $3 / 4$ | 1 |
|  | Catalogue Number. Standard Parkage. Shipping Weirht Std. Plkg List, I'rice, earh | $\begin{aligned} & \text { JT1i11 } \\ & 100 \mathrm{lbs} \\ & 150 . \mathrm{bs} . \\ & 8.95 \end{aligned}$ | $\begin{aligned} & \hline \text { JT222 } \\ & 75 \\ & 130 \mathrm{lbs} . \\ & { }_{3} 1.05 \end{aligned}$ | $\begin{array}{\|l} \hline \text { JT333 } \\ 50 \\ 109 \mathrm{lbs} . \\ 81.15 \end{array}$ |
|  | TYPE JU CONDULET BODIES-Black Enamel Finish |  |  |  |
| 9 | Ni\%e in inches | $1 / 2$ | $3 / 4$ | 1 |
|  |  | JU11 <br> 100 <br> 160 lbs. <br> $\$ .70$ | $\begin{aligned} & \mathrm{JU} 22 \\ & 75 \\ & 140 \mathrm{lbs} . \\ & 8.8 \overline{5} \end{aligned}$ | $\begin{aligned} & 3133 \\ & 50 \\ & 110 \mathrm{lbs} . \\ & 81.15 \end{aligned}$ |
|  | TYPE JX CONDULET BODIES-Black Enamel Finish |  |  |  |
|  | Size in inches . ........... | 1/2 | 3/4 | 1 |
|  | Catalogue Number. Standard Package. Shipping Weight Std. I'kg List Price, earh | $\begin{aligned} & \text { JX1111 } \\ & 100 \\ & 180 \mathrm{lbs} . \\ & 81.0 \overline{3} \end{aligned}$ | $\begin{aligned} & \mathrm{J} \times 2222 \\ & 75 \\ & 140 \mathrm{lbs} . \\ & 81.15 \end{aligned}$ | JX 3333 50 120 lbs. 81.30 |

TYPE K CONDULET BODIES-Black Enamel Finish


| Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | K1 | K2 | K3 |
| Standard Package......... | 100 |  |  |
| Shipping Weight Std. Pkg. | 100 lbs. | 85 lbs . | 70 lbs. |
| List Price, each | \$ . 50 | 8. 65 | \$. 95 |

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.
Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished un. less another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet borlies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

# CONDULET BODIES-J AND K SERIES-Continued TYPES KA, KB, KC AND KD 

Take Norbitt Conduletto Fittings and Blank Metal Cover


## BLANK METAL COVER-Cast Iron



For 1-2, 3-4 and 1-inch Condulet Bodies of the $J$ and $K$ Series

Catalogue Number . ........ ${ }^{\mathbf{J} 100}$ Standard Package.......... 200
Shipping Weight. Std. Pkg.. 90 lbs. List Price, each
$\$ .30$

This blank metal cover is furnished with gasket and fastening screw.

Norbitt Conduletto fittings and the blank metal cover are made in one size only, and are interchangeable on all Condulet bodies of the J and K series.
Proper fastening screws are furnished with Norbitt Conduletto fittings and blank metal cover, and are se held in screw holes that they can not fall out.
Finishes: Ihtrek enamel is the standard finish for Condulet bodies and blank metal cover, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on hlank metal cover will be furnisherl, at same price as all black enamel finish, when the order siecifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies and blank metal cover with plain and special finishes, aluminum Condulet bodies end blank metal cover with plain and black enamel finish, see Manufacturer's I'age No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make op a standard package. No other assortment of Condulet bodies is allowed.
Black enameled and galvanized blank metal covers may be assorted to make up a standard parkage. No other assortment rif covers, is allowed.
Standard package discount is allowed on coverc when an order is for a standard package of Condulet bodiess and an equal number of covers for those bodies; but on an order for covere elone standard parkage discount is allowed, only, on the specified standard package quabtity of eovers.

## CONDULET BODIES WITH ELLIPTICAL OPENINGS-RJ AND RK SERIES--Continued TYPES RJ AND RJA

Take Elliptical Conduletto Fittings and Elliptical Covers



Showing Elliptical Conduletto Rosetto (Broken-away and Exploded Viow)

Condulet bodies with elliptical openings are so designed that elliptical Conduletto fittings and elliptical covers fasten to them by means of two screws which are always accessible. These two screws secure both cap and base of an elliptical Conduletto fitting to the Condulet body.

Ample space is provided in the Condulet body for the unobstructed passage of extra wires.
A gasket is furnished with each elliptical Conduletto fitting, and makes the installation weatherproof. Gaskets are not furnished with elliptical eovers, and if desired must be ordered separately.


Elliptical Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the IRJ and RK series.
Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnisherl unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminun Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enaineled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULET BODIES WITH ELLIPTICAL OPENINGS-RJ AND RK SERIES-Continued

## TYPES RJB, RJD, RJF, RJK AND RJL

Take Elliptical Conduletto Fittings and Elliptical Covers


Elliptieal Conduletto fittings and elliptical covers are made in one size only, and are interchangeable on Condulet bodies of the IRJ and RK series.
Proper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in serew holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condu'et bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard paekage. No other assortment is allowed.

CONDULET BODIES WITF ELLIPTICAL OPENINGS-RJ AND RK SERIES-Continued TYPES RJR, RJT, RJU, RJX AND RK

Take Elliptical Conduletto Fittings and Elliptical Covers

|  | TYPE RJR CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in incles. | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number ......... Standard Packatge .o..... Shipping Wciglt Std. Pkg. List Price, e:th .......... | $\begin{aligned} & \text { R.JR11 } \\ & 100 \\ & 150 \mathrm{lbs} . \\ & \$ .70 \end{aligned}$ | $\begin{aligned} & 1: ⿹ 11222 \\ & 75 \\ & 120 \mathrm{lbs} . \\ & 8.80 \end{aligned}$ |  |
|  | TYPE RJT COITDULET BCDIES-Black Enamel Finish |  |  |  |
|  | Stize in inches . . . . . . . . . . | 1/2 | 3/4 | 1 |
|  | Catalogue Number Standard Packinge Shipping Weight Std. Plig. List Price, each | $\begin{aligned} & \text { RJT111 } \\ & 100 \\ & 160 \mathrm{lbs} . \\ & 8.80 \end{aligned}$ | $\begin{aligned} & \text { TVT } 222 \\ & 75 \\ & 130 \mathrm{lbs} . \\ & \$ .90 \end{aligned}$ | RJTT33 50 $951 \mathrm{bs}$. \$1.00 |
|  | TYPE RJU CONDULET BODIES-Black Enamel Finish |  |  |  |
| 壁 | Size in inches. | 1/2 | 3/4 | 1 |
|  |  | $\begin{aligned} & \text { RJC11 } \\ & 100 \\ & 135 \mathrm{lbs} . \\ & { }^{2} .60 \end{aligned}$ | $\begin{aligned} & \hline \text { RJC'22 } \\ & 75 \\ & 100 \mathrm{lhs} . \\ & \$ .70 \end{aligned}$ | $\begin{aligned} & \text { RJUU33 } \\ & 50 \\ & 80 \mathrm{lhs.} \\ & \$ .95 \end{aligned}$ |
|  | TYPE RJX CONDULET BODIES-Black Enamel Finish |  |  |  |
|  | Size in inches . | 1/2 | 3/4 | 1 |
|  | Catalogue Number Standard Package Shipping Weight Sta. Pkg. List Price, each | $\begin{aligned} & \text { R., X11111 } \\ & 100 \\ & 160 \mathrm{lbs} . \\ & \$_{8} .90 \end{aligned}$ | RJX2222 75 130 lbs. 81.00 | RJX 13333 50 951 lbs. 81.10 |
|  | TYPE RK CONDULET BODIES-Black Enamé Finish |  |  |  |
|  | Size in inches | $1 / 2$ | $3 / 4$ | 1 |
|  | Catalogue Number Standard Package Shipping W'eight Stıl. Pkg List Price, each | RK1 100 <br> 135 lbs <br> \$. 40 | $\begin{aligned} & \mathrm{RL} 2 \\ & 75 \\ & 100 \mathrm{lbs} . \\ & 18.55 \end{aligned}$ | $\begin{array}{\|l\|} \hline \mathrm{KlN3} \\ 50 \\ 80 \mathrm{lbs}- \\ 80.80 \\ \hline \end{array}$ |

Elleptical Conduleto fittings and clliptical covers are madr in one size only, and are interchangeable on Condulet bodies of the RJ and RKN series.
Preper fastening screws are furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in serew holes that they can not fall out.
Finishes: Black enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. (ialvanized finish on exterior and black enamel finish on interior of Condulet bodies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Islack enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard packige. No other assortment is allowed.

## CONDULET BODIES WITH ELLIPTICAL OPENINGS-RJ AND RK SERIES-Continued TYPES RKA, RKB, RKC, RKD AND RKK

## Take Elliptical Conduletto Fittings and Elliptical Covers

|  | TYPE RKA CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inclues . . . . . . . . . . . | $1 / 2$ | $3 / 4$ | 1 |
|  | Catalogue Number........ | RK゙A1 | RKA2 | RKA3 |
|  | Standard Parkage........ | 100 | 75 | 50 |
|  | Shipping Wright Std. P'kg. L, ist Price, each. | 135 lbs. | $100 \mathrm{lbs} .$ | 80 lbs. \$. .90 |

TYPE RKB CONDULET BODIES-Black Enamel Finish


| Size in inches | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | RK131 | RKB2 | RLil33 |
| Standard Package . . . . . . . |  | 75 |  |
| Shipping Weright Sud. Pkg. | 135 lhs. | 100 hs. | 80 lbs. |



TYPE RKC CONDULET BODIES-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | RKC1 | 1RKC2 | RKC3 |
| Standurd Packige........ |  | 75 |  |
| Shippling Weight witd. Pkg. | 170 lbs | 140 lbs . | 100 lbs . |

TYPE RKD CONDULET BODIES-Black Enamel Finish

| Nize in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Nomber | RKD1 | $\overline{\mathrm{KD} 2}$ | RKD3 |
| Standard 1 ackage. | 100 |  |  |
| Shipping Woight std. I'kg List l'rice, each. | $\begin{aligned} & 170 \mathrm{lbs} . \\ & 8.50 \end{aligned}$ | $\begin{aligned} & 140 \mathrm{lbs} . \\ & \$ .60 \end{aligned}$ | $\begin{aligned} & 100 \mathrm{lbs} . \\ & 0.90 \end{aligned}$ |

TYPE RKK CONDULET BODIES-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number........ | RKK1 | IKK2 | RKK3 |
| Standurd Packiuge. |  |  |  |
| Shipping Weight std. Pkg. List Price, each. | $\begin{aligned} & 160 \mathrm{lbs} . \\ & \$ .50 \end{aligned}$ |  | 100 lbs. |

Elliptical Condulato fittings and elliptical covers are inade in one size only, and are inter. changeable on Condulet hodies of the RJJ and RK sories.
Proper fastening screws aro furnished with elliptical Conduletto fittings and elliptical Condulet covers, and are so held in serew holes that they can not fall out.
Finishes: l3lack enamel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black cnamel finish on interior of Condulet borlies will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulet bodies with plain and special finishes, aluminum Condulet bodies with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment is allowerd.

## ELLIPTICAL COVERS

## For Condulet Bodies with Elliptical Openings-Types RJ and RK Series Furnished with Fastening Screws



RTO1


RK020


RK013


RE00
Wianclard Package Assorted........| 200 ||Standard Package Assorted......... 200
PORCELAIN WIRE HOLE AND BLANK METAL COVERS

| 1-wire | Catalogue Number..... List Price, each........ | $\begin{aligned} & \text { RKK01 } \\ & \$ .10 \\ & \hline \end{aligned}$ | Sheet Steel | Catalogue Number..... <br> List Price, each. | $\begin{aligned} & \text { RKK00 } \\ & \$ .08 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2-wire | Catalogue Number. .... <br> List Price, cach........ | $\begin{aligned} & \text { RKK02 } \\ & \$ .10 \end{aligned}$ |  |  |  |
| 3-wire | Catalogue Number..... List Price, each........ | $\begin{aligned} & \text { RK03 } \\ & \$ .10 \end{aligned}$ | (Flange) | Catalogue Number...... <br> List I'rice, each......... | $\begin{aligned} & \text { RK00f } \\ & \$ .16 \end{aligned}$ |
| Shipping Weight Stal. Pkg. ......... |  | 60 lbs. | Shipping Weight Std. Plkg. ......... |  | 40 Jbs . |

METAL COVERS WITH NIPPLES-Black Enamel Finish

| 1/8" Male | Catalogue Nunber. .... List Price, each........ | $\begin{array}{\|l\|} \hline \text { RKin05 } \\ \$ .20 \end{array}$ | 3/8" ITale | Catalogue Number..... <br> List Price, each........ | $\left\lvert\, \begin{gathered} \text { RK007 } \\ \$ .25 \end{gathered}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $1 / 8$ " Female | Catalogue Nunber. | RK06 | $3 / 8{ }^{\prime \prime}$ Fernale | Catalogue Number.... | RL08 |
| 1/8 Female | Jist Price, cach... | \$. 20 | 3/8 Fenale | List Price, each. | \$ . 25 |
| $1 / 4^{\prime \prime}$ Male | Catalogue Nunber. List Price, each | $\begin{aligned} & \text { RK } \mathrm{R} 013 \\ & \text { \$ } 23 \end{aligned}$ | $1 / 2^{\prime \prime}$ I-ale | Catalogue Number..... <br> List Price, each | RK015 |
| 1/4" Female | Catalorue Number | IRK01.4 |  | Catalogue Numb | RK016 |
| , | List Price, each. | \$. 23 |  | List Price, each. | \$. 30 |
| Shipping | eight Std. Pkg. | 50 lbs . | Shipping | eight Std. Pkr. | 67 Jhs. |

PORCELAIN COVERS WITH NIPPLES

| 1/8" Male | Catalogue Numb <br> List I'rice, each. | $\begin{array}{\|l\|l\|} \hline \text { RK009 } \\ \$ .25 \end{array}$ | 3/8" | $\begin{aligned} & \text { Catalogue Number..... } \\ & \text { List Price, each........ } \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { RK.. } 11 \\ & \$ .35 \end{aligned}\right.$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1/8" Female | Catalogue Numb | R1र010 | $3 / 8{ }^{\prime \prime}$ 「emalc | Catalogue Numb | RLiC12 |
| 1/8 Female | List Price, each | \$ .25 | 3/8 Lemalc | List Price, each. | \$ . 35 |
| 1/4" Male | Catalogue Numb | RK019 | $12^{\prime \prime}$ Inale | Catalogue Number | RIVC21 |
|  | List Price, each |  |  | List Price, each | \$ . 40 |
| 1/4"Female | Catalogue Numb | IRK020 | Female | Catalogue Numb | RK022 |
|  | List Price, each | \$ 30 |  | List Price, each | \$ . 40 |
| Shipping Weight Std. Pkg. |  | 90 lbs . | Shipping W eight Std. Pkg. . |  | 95 lbs . |

Elliptical covers are made in one size only, and are interchangeable on all elliptical Condulet bodies - IRJ and IRK series.
Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Finishes: Black enamel is the standard finish for metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish, when specifically ordered, will be furnished at same price as black enamel finish. For special plated finishes, brass and bronze covers with plain and special finishes, aluminum covers with plain and black enamel finishes, see Manufacturer's Page No. 182.
Black enameled, galvanized and porcelain elliptical covers may be assorted to make up a standard package. No other assortment is allowed.
Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity of covers.

## TYPES N, NA, NC, NL, NT AND NX CONDULETS

For Stucco Work, Using Flush Pocket Receptacles-Crouse-Hinds, C9514; Bryant, 4033, 9514; G. E. Co., 9514; Paiste, 9514; P. \& S., 9514, and Hubbell Flush Plug Receptacle, 5506
Furntshed Complete with Telescopic Cover ( $1:$-inch Telescope), Temporary Cap and all Necessary Fastentng Screws, but without Receptacle

|  | TYPE N CONDULETS-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | $1 / 2$ | $3 / 4$ | 1 |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pkg. <br> List Price, each........... . | N 1000 100 125 lb s § . 90 | $\begin{aligned} & \mathrm{N} 2000 \\ & 75 \\ & 110 \mathrm{lbs} . \\ & 8.95 \end{aligned}$ | $\begin{aligned} & \mathrm{N} 3000 \\ & 25 \\ & 55 \\ & 5 . \mathrm{lbs} . \\ & 81.05 \end{aligned}$ |
|  | TYPE NA CONDULETS-Black Enamel Finish |  |  |  |
|  | Size in inches. | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number Standard pack age Shipping Weight Std. Plig. List J'rice, each | $\begin{array}{\|l} \mathrm{N} \Delta 1000 \\ 100 \\ 130 \mathrm{lbs} . \\ 8 \quad .90 \end{array}$ | $\begin{aligned} & \begin{array}{l} \mathrm{N} .12000 \\ 75 \\ 135 \mathrm{lbs} \\ 8 . \\ 8.95 \end{array} \end{aligned}$ | $\begin{aligned} & \text { NA3000 } \\ & 25 \\ & 60 \mathrm{lbs} \\ & 81.05 \end{aligned}$ |

TYPE NC CONDULETS-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number Standard Package Shipping Weight Std. Pkg List Prica, each . | $\mathrm{NCl1000}$ 100 lbs 165. $\$ .95$ | $\begin{aligned} & \mathrm{NC} 22000 \\ & 75 \\ & 130 \mathrm{lbs} \\ & 11.05 \end{aligned}$ | $\begin{aligned} & \mathrm{NC} 33000 \\ & 2.7 \\ & 70 \mathrm{lls.} \\ & \$ 1.15 \end{aligned}$ |



TYPE NL CONDULETS-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalorne Number Stamdard Package. Shipping W eight Std. Pkg. List Price, each | $\begin{aligned} & \text { NL.11000 } \\ & 100 \\ & 165 \mathrm{bbs} . \\ & \$ .95 \end{aligned}$ | $\begin{aligned} & \mathrm{N} 1.22000 \\ & 85 \\ & 130 \mathrm{lbs} \\ & 81.05 \end{aligned}$ | $\begin{aligned} & \therefore \mathrm{L} 23000 \\ & 2 . \\ & 70 \mathrm{lbs.} \\ & \$ 1.15 \end{aligned}$ |

TYPE NT CONDULETS-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalorue Number | NT111000 | NT222000 | NT333000 |
| standard Paclsage.. |  |  |  |
| Shipping Weight Stc. Plig. | 175 lbs . | 150 lbs . | 80 lhs . |
| List Price, each......... | \$1.05 | ¢1.15 | 81.35 |



TYPE NX CONDULETS-Black Enamel Finish

| Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogne Number........ <br> Standaid Package. <br> Shipping W eight Std. Pkg. <br> List Price, each | $\begin{aligned} & \text { NX1111000 } \\ & 100 \\ & 190 \mathrm{lbs} . \\ & \$ 1.15 \end{aligned}$ | $\begin{aligned} & \mathrm{N} \times 2222000 \\ & \frac{15}{3} \\ & 170 \mathrm{lbs} . \\ & \$ 1.25 \end{aligned}$ | XX3333000 <br> 25 <br> 85 hs. <br> \$1.50 |

Prices for Condulets of the N series do not include receptacle.

## TYPES PG, PGB, PGC, PGCA, PGL, PGT AND PGG CONDULETS

Take General Electric 2 H. P., 250 -Volt, 3-Phase, Snap Switch 151394 with Protective Cover for Textile Mill Installations
Furnished with All Necessary Fastening Screws


|  | TYPE PGC CONDULETS-Black Enamel Finish |  |  |
| :---: | :---: | :---: | :---: |
|  | Size in inches ..................... $1 / 2$ | 3/4 | 1 |
|  | Catalogue Number . . . . . . . . . . . . . . . ${ }^{\text {chCll }}$ | $\text { P(iC } 22$ | $\mathrm{PGC} 3 \overline{3}$ |
|  | Standard Package . . . . . . . . . . . . 35 | $25$ | 10 |
|  |  | 90 llss . | 50 lbs . |
|  | Hist Price, each . . . . . . . . . . . . . . . . . $\$ 1.25$ |  | \$1.55 |
|  | TYPE PGCA CONDULETS-Black Enamel Finish |  |  |
|  | Size in inches . . . . . . . . . . . . . . . . . . 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number . . . . . . . . . . . . . . PGCA111 | P(iCA222 |  |
|  | Standard Packare ${ }^{\text {Shipping Weirht }}$ Sti p............. 35 | 25 |  |
|  | Shipping Weight Std. Pkg. . . . . . . . . 125 lbs. | 115 lbs . | 60 lbs. |
|  | List Price, each . . . . . . . . . . . . . . . $\$ 1.45$ | \$1.60 | \$1.75 |


| Size in inches |
| :---: |
| Catailogue Number |
| Standard Package |
| Shipping Weight Strl |
| List Price, each |


| 1/2 | 3/4 | 1 |
| :---: | :---: | :---: |
| PCL11 | PCL22 | P( CL 33 |
| 35 | 25 | 10 |
| $95 \mathrm{lhs}$. | $90 \mathrm{lhs}$. | 50 lbs. |
| \$1.25 | \$1.40 | \$1.55 |



| Wize in inches <br> Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pkg <br> List Irice, each |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |


| 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: |
| PG'1111 | PCT1222 | P('T333 |
| 35 | 25 | 10 |
| $125 \mathrm{lhs}$. | $115 \mathrm{lhs}$. | 60 lhs . |
| \$1.45 | \$1.60 | \$1.75 |

TYPE PGG CONDULETS-Black Enamel Finish

| Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | PGG11 | PGiCl 22 | PGG33 |
| Standard Package | 35 |  |  |
| Shipping Weight Std. I | $95 \mathrm{lths}$. | 90 lbs | 50 lbs . |
| List Price, each | \$1.25 | 81.40 | \$1.55 |

Above prices do not include switches.

# TYPES PM, PMA, PMC, PML, PMT AND PMX CONDULETS 

## TAKE 3 TO 4-INCH CANOPIES

For Electroliers and Combination Gas and Electric Fixtures, also Abolite G403


|  | Nize in inches. | 1/2 | $3 / 4$ | 1 | 11/4 | $11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Catalogue No. Standard Pkg. Wit. Nitl. Plig. List Price, each | $\begin{aligned} & \text { PNC11 } \\ & 35 \\ & 90 \text { !bs. } \\ & 81.05 \end{aligned}$ | $\begin{aligned} & \text { PMC'22 } \\ & 25 \\ & 851 \mathrm{lbs} . \\ & 81.20 \end{aligned}$ | 1311:33 | PMC44 | PMC55 |
|  |  |  |  |  | 10 |  |
|  |  |  |  | 4.5 lbs. | 50 lbs. | 5.5 lbs |
|  |  |  |  | $\$ 1.35$ |  |  |


|  | TYPE PML CONDULETS-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | 1/2 | $3 / 4$ | 1 | $11 / 4$ | $11 / 2$ |
| $5$ | Catalogue No. Standird lekg. Wt. stal. Phy. list I'rice, each | $\begin{aligned} & \text { PNL11 } \\ & 35 \\ & 90 \\ & \$ 1.05 \end{aligned}$ | $\begin{aligned} & \text { PML22 } \\ & 25 \\ & 85 \mathrm{lbs} . \\ & 81.20 \end{aligned}$ | $\begin{aligned} & \text { l'ML33 } \\ & 10 \\ & 45 \mathrm{lbs} \\ & 51.35 \end{aligned}$ | $\begin{aligned} & \text { PNLL44 } \\ & 10 \\ & 50 \text { lbs. } \\ & \$ 1.50 \end{aligned}$ | $\begin{aligned} & \text { PML5 } \\ & 10 \\ & 55 \mathrm{lbs} . \\ & \$ 1.65 \end{aligned}$ |


|  | TYPE PMT CONDULETS-Black Enamel Finish |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | $1 / 2$ | $3 / 4$ | 1 | 11/4 | 11/2 |
| $23$ | Catalogue No. standard l'kg. Wt. Std. Pkg. List I'rice,each | PHTT11 <br> 35 <br> 121) lbs. <br> $\$ 1.25$ | 13TT222 <br> 2.5 <br> 110 lbs. <br> $\$ 1.40$ | $\begin{aligned} & \text { PMT333 } \\ & 10 \\ & 5.5 \text { lbs. } \\ & \$ 1.05 \end{aligned}$ | $\begin{aligned} & \text { PMTT444 } \\ & 10 \\ & 60 \text { lbs. } \\ & \$ 1.70 \end{aligned}$ | $\begin{aligned} & \text { PM'T'555 } \\ & 10 \\ & 65 \mathrm{lbs} . \\ & \$ 1.85 \end{aligned}$ |



TYPE PMX CONDULETS-Black Enamel Finish

| Size in inches. | 1/2 | $3 / 4$ | 1 | $11 / 4$ | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Catalogue No.. | PHI1111 | P112222 | 1 1 M 3333 | PMM444 | I'M1 55555 |
| Standard Plkg. | 35 | 25 | 10 |  |  |
| IIt. Std. Plig., | 140 lbs. | ${ }^{120} \mathrm{l} \mathrm{lbs}$ | 60 bs. | 65 lbs. | 70 lbs. |
| List lPrice, each | 81.40 | \$1.55 | \$1.70 | \$1.85 | \$2.0) |

Grounding clamp, for use with combination gas and electric fixtures, is not included in prices for condulets of the PM series, but will be furnished, if specifically ordered.

## CONDULETS-QE SERIES-Continued TYPES QEE AND QEF

## Weather-proof Condulets for Standard Lock Snap Switches

 Furnished with Adjustable Bar and Fastening Screws, but without Switches

TYPE QEE CONDULETS-Black Enamel Finish


|  | Size in inches | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Form } \\ 10 \end{gathered}$ | Catalogue No.. | QEIC1108 | (2EL2108 | (21H3108 |
|  | Standard P'kg. | 35 |  |  |
|  | Wt. Std. Pkg. | 145 lbs. | $115 \mathrm{lbs} .$ | 80 lbs . |
|  | List Price. cach | S1.85 | $\$ 1.9 .$ | \$2.05 |
| $\begin{gathered} \text { Form } \\ 20 \end{gathered}$ | (atalogue No.. | QEE1208 | QEE2208 | QEE3? ) $^{\text {d }}$ |
|  | Standard Pkg. |  |  |  |
|  | Wt. Ntd. Pkg. | 225 lbs | $170 \mathrm{lbs}$ | 110 lbs. |
|  | List Price, pach | \$2.6.\% | $\$ 2.75$ | $2.4 .5$ |

TYPE QEF CONDULETS-Black Enamel Finish


|  | Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Form } \\ 10 \end{gathered}$ | (atalogue No. <br> Standard l'kg. <br> Wt. Nitd. Pkg. <br> list I'rice, each | $\begin{aligned} & \text { QEF } 110 \mathrm{~s} \\ & 3.5 \\ & 165 \mathrm{lbs} . \\ & \$ 2.0 .5 \end{aligned}$ | $\begin{aligned} & \text { QEN. } 2108 \\ & 25 \\ & 12.5 \mathrm{lbs} . \\ & \$ 2.1 .5 \end{aligned}$ | $\begin{aligned} & \mathrm{QH}_{5} \mathrm{~F} 3108 \\ & 15 \\ & 90 \mathrm{lbs} . \\ & \$ 2.25 \end{aligned}$ |
| $\begin{gathered} \text { Form } \\ 20 \end{gathered}$ | Catalogue No. Standard I'kg.. IIt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEI } 1208 \\ & 35 \\ & 260 \mathrm{lbs} . \\ & \$ 2.85 \end{aligned}$ | $\begin{aligned} & \text { QEF } 2208 \\ & 25 \\ & 195 \mathrm{lbs} . \\ & \$ 2.95 \end{aligned}$ | $\begin{aligned} & \text { QEF320s } \\ & 15 \\ & 125 \text { lbs. } \\ & \$ 3.05 \end{aligned}$ |

Black enameled and galvanized Condulets of the same type and size can be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-QE SERIES-Continued TYPES QED, QEK, QEP AND QEJ

Weather-proof Condulets for Standard Lock Snap Switches
Furnished with Adjustable Bar and Fastening Screws, but without Switches

|  | TYPE QED CONDULETS - Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | $\begin{aligned} & \text { Form } \\ & 10 \end{aligned}$ | Catalogue No. Standard Pkg. Wt. Stcl. Pkg List lriee, cach | $\begin{aligned} & \text { QED1 } 10 \mathrm{~S} \\ & 3.5 \\ & 1901 \mathrm{lbs} . \\ & \$ .2 .5 \end{aligned}$ | $\begin{aligned} & \text { QED2108 } \\ & 25 \\ & 11+0 \mathrm{lbs} \\ & \$ 2.35 \end{aligned}$ | $\begin{aligned} & \text { QED } 310 \mathrm{~s} \\ & 15 \\ & 15.5 \mathrm{lbs.} \\ & \$ .45 \end{aligned}$ |
|  | $\begin{aligned} & \text { Form } \\ & 20 \end{aligned}$ | Catalogue No. Standard Pkg. W't. Stcl. Pkg. List Price, Carh | $\begin{aligned} & \hline \text { QED1208 } \\ & 3.5 \\ & 260 \mathrm{lbs} . \\ & \$ 3.15 \end{aligned}$ | $\begin{aligned} & \text { QED2208 } \\ & 2 . \mathrm{J} \\ & 195 \mathrm{lbs} . \\ & \$ 3.25 \end{aligned}$ | $\begin{aligned} & \text { QEI } 3208 \\ & 15 \\ & 125 \mathrm{lbs} . \\ & 83.35 \end{aligned}$ |
|  | TYPE QEK CONDULETS-Black Enamel Finish |  |  |  |  |
|  |  | Size in inches | $1 / 2$ | $3 / 4$ | 1 |
|  | $\begin{aligned} & \text { Form } \\ & 10 \end{aligned}$ | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Irice, cach | $\begin{aligned} & \text { QEK11:N } \\ & 35 \\ & 145 \mathrm{lbs} \\ & \$ 1.95 \end{aligned}$ | $\begin{aligned} & \text { QLK2108 } \\ & 25 \\ & 115 \mathrm{lbs} . \\ & \$ 2.05 \end{aligned}$ | $\begin{aligned} & \text { QEK3108 } \\ & 15 \\ & 80 \mathrm{lbs} . \\ & \$ 2.15 \end{aligned}$ |
|  | $\begin{gathered} \text { Form } \\ 20 \end{gathered}$ | Catalogue No. Standard Pkg. Wt. Sth. Pkg. <br> List lriee, cach | $\begin{aligned} & \text { QER1208 } \\ & 35 \\ & 3.35 . \mathrm{lbs.} \\ & \$ 2.75 \end{aligned}$ | $\begin{aligned} & \text { QEK220s } \\ & 25 \\ & 180 \mathrm{lbs} \\ & \$ 2.8 ; .5 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { QSK320x } \\ & 15 \\ & 115 \mathrm{lbs} \\ & \$ 2.95 \\ & \hline \end{aligned}$ |
|  | TYPE QEP CONDULETS - Black Enamel Finish |  |  |  |  |
|  |  | size in inches | 1/2 | 3/4 | 1 |
|  | $\begin{gathered} \text { Form } \\ 10 \end{gathered}$ | Catalogue No Standard Pkg. Wt. Std. Phg. list Irice, earth | $\begin{aligned} & \text { QLPP1108 } \\ & 35 \\ & 145 \mathrm{llbs} . \\ & 81.95 \mathrm{~F} \end{aligned}$ |  | $\begin{aligned} & \text { QLIP3108 } \\ & 15 \\ & 80 \mathrm{bs} . \\ & 82.15 \end{aligned}$ |
|  | $\begin{aligned} & \text { Form } \\ & 20 \end{aligned}$ | Catalogue No. Standard l'kg. Wt. Stel. Pke. <br> List Prime, nath | $\begin{aligned} & \text { QEPP120s } \\ & 35 \\ & 23.5 \mathrm{llbs} \\ & \$ 2.75 \end{aligned}$ | $\begin{aligned} & \text { QEP2 } 208 \\ & 25 \\ & 280 \mathrm{lbs} . \\ & 82.45 \end{aligned}$ | $\begin{aligned} & \text { QEP3208 } \\ & 15 \\ & 115 \mathrm{lbs} . \\ & 82.95 \end{aligned}$ |
|  | TYPE QEJ CONDULETS-Black Enamel Finish |  |  |  |  |
|  |  | Size in inches | 1/2 | 3/4 | 1 |
|  | $\begin{aligned} & \text { Form } \\ & 10 \end{aligned}$ | ('atalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEJ110s } \\ & 35 \\ & 175 \mathrm{lbs} . \\ & \$ 2.15 \end{aligned}$ | $\begin{aligned} & \text { QEJ2108 } \\ & 25 \\ & 135 \mathrm{lbs} \\ & \$ 2.25 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { QFJ3108 } \\ \text { 15 } \\ 85 \\ 82.35 . \\ \hline \end{array}$ |
|  | $\begin{aligned} & \text { Form } \\ & 20 \end{aligned}$ | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { (2EJ120s } \\ & 35 \\ & 255 \mathrm{lbs} . \\ & \$ 3.00 \end{aligned}$ | $\begin{aligned} & \text { QEJ } 2208 \\ & 25 \\ & 1901 \mathrm{bs} . \\ & \$ 3.10 \end{aligned}$ | $\begin{aligned} & \text { QEJ3208 } \\ & \text { 15 } \\ & 120 \mathrm{lbs} . \\ & \$ 3.20 \\ & \hline \hline \end{aligned}$ |

Black enameled and galvanized Condulets of the same type and size can be assorted to nake up a standard package. No other assortment is allowed.

# CONDULETS-QE SERIES <br> TYPES QEE AND QEF 

Plug Receptacle Condulets with Door

Furnished Complete with 30-Ampere, 250-Volt, 2-Pole Receptacle R QH302 or 3-Pole Receptacle R QH303
The Above Receptacles Take 2-Pole Plug RQ302 or 3-Pole Plug RQ303. Respectively


|  | TYPE QEE CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches . | $1 / 2$ | 3/4 | 1 |
|  | 2-Pole | Catalogue No. Standard Pkg.. Wt. Std. Pkg. I ist Price, cach | $\begin{aligned} & \text { QEE11066 } \\ & 25 \\ & 115 \mathrm{lbs} . \\ & \$ 3.80 \end{aligned}$ | $\begin{aligned} & \text { ( EE2iOC6 } \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 3.00 \end{aligned}$ | $\begin{aligned} & \text { Q } 531066 \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 4.00 \end{aligned}$ |
|  | 3-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, earh | $\begin{aligned} & \text { QEE12066 } \\ & 25 \\ & 160 \mathrm{lbs} . \\ & \$ 5.50 \end{aligned}$ | ```r EE220C6 25 165 lbs. $5.60``` | $\begin{aligned} & \text { QEES2066 } \\ & 25 \\ & 175 \mathrm{lbs} . \\ & \$ 5.70 \end{aligned}$ |
|  | TYPE QEF CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt |  |  |  |  |
|  |  | Size in inches | $1 / 2$ | 3/4 | 1 |
|  | 2-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEF } 11066 \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 4.00 \end{aligned}$ | $\begin{aligned} & \text { QEF21066 } \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 1.10 \end{aligned}$ | $\begin{aligned} & \text { QEF31066 } \\ & 25 \\ & 145 \mathrm{lbs} . \\ & \$ 4.20 \end{aligned}$ |
|  | 3-Pole | Catalogue No.. Standard Pkg. Wt. Std. Pkg. List Price, each | ```QEF12066 25 170 lbs. $5.75``` | $\begin{aligned} & \text { QEF22066 } \\ & 25 \\ & 180 \mathrm{lbs} . \\ & \$ 5.85 \end{aligned}$ | $\begin{aligned} & \text { QEF32066 } \\ & 25 \\ & 190 \mathrm{lbs} . \\ & \$ 5.95 \end{aligned}$ |

# CONDULETS—QE SERIES-Continued TYPES QED, QEK, QEP AND QEJ 

## Plug Receptacle Condulets with Door

Furnished Complete with 30-Ampere. 250-Volt. 2-Fole Feceptacle RQH302 or 3-Pole Receptacle R QH303 The Ahove Recoptacles Tike 2-Pole Plug RQ302 or 3-Pole Plug RQ303, Respectively

|  | TYPE QED CONDULETS-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | 2-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, earh | $\begin{aligned} & \text { QED11066 } \\ & 25 \\ & 145 \mathrm{lbs} \text {. } \\ & \$ 4.20 \end{aligned}$ | $\begin{aligned} & \text { QED21066 } \\ & 25 \\ & 155 \mathrm{lbs} . \\ & \$ 4.30 \end{aligned}$ | $\begin{aligned} & \text { QED31066 } \\ & 25 \\ & 165 \mathrm{lbs} . \\ & \$ 4.40 \end{aligned}$ |
|  | 3-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QED12066 } \\ & 25 \\ & 200 \mathrm{lbs} . \\ & \$ 6.10 \end{aligned}$ | $\begin{aligned} & \text { QED22066 } \\ & 25 \\ & 210 \mathrm{lbs} . \\ & \$ 6.20 \end{aligned}$ | $\begin{aligned} & \hline \text { QED32066 } \\ & 25 \\ & 220 \mathrm{lhs} . \\ & \$ 6.30 \end{aligned}$ |

TYPE QEK CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | 2-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEK11066 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 3.90 \end{aligned}$ | $\begin{aligned} & \text { QEK21066 } \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 4.00 \end{aligned}$ | $\begin{aligned} & \text { חLi3 c66 } \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 1.1 \end{aligned}$ |
|  | 3-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg List Price, each | $\begin{aligned} & \text { QEK12066 } \\ & 25 \\ & 175 \mathrm{lbs} . \\ & \$ 5.60 \end{aligned}$ | $\begin{aligned} & \text { QEK } 22066 \\ & 25 \\ & 185 \mathrm{lbs} . \\ & \$ 5.70 \end{aligned}$ | $\begin{aligned} & \text { QEE } 32066 \\ & 25 \\ & 195 \mathrm{lbs} . \\ & \$ 5.80 \end{aligned}$ |
|  | TYPE QEP CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt |  |  |  |  |
|  |  | Size in inches | $1 / 2$ | 3/4 | 1 |
|  | 2-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \hline \text { QEP11066 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 3.90 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { QEP21066 } \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 4.00 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { QEP31066 } \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 4.10 \end{aligned}$ |
|  | 3-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEP12066 } \\ & 25 \\ & 175 \mathrm{lbs} . \\ & \$ 5.60 \end{aligned}$ | $\begin{aligned} & \hline \text { Q1EP22066 } \\ & 25 \\ & 185 \mathrm{lbs} . \\ & \$ 5.70 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { QEP32066 } \\ & 25 \\ & 195 \mathrm{lbs} . \\ & \$ 5.80 \end{aligned}$ |
|  | TYPE QEJ CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt |  |  |  |  |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | 2-Pole | Catalogue No . Standard Pkg. Wt. Std. Pkg. List Price, eailh | $\begin{aligned} & \hline \text { QEJ11066 } \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 4.10 \end{aligned}$ | $\begin{aligned} & \hline \text { QEJ21066 } \\ & 25 \\ & 145 \mathrm{lbs} . \\ & \$ 1.20 \end{aligned}$ | $\begin{aligned} & \text { CEJ31066 } \\ & 25 \\ & 155 \mathrm{lbs} . \\ & \$ 4.30 \end{aligned}$ |
|  | 3-Pole | Catalogue No. Standard Pkg. Wt. Std. Pkg List Price, each | $\begin{aligned} & \text { QEJ12066 } \\ & 25 \\ & 200 \text { lbs. } \\ & \$ 5.90 \end{aligned}$ | $\begin{aligned} & \hline \text { QEJ22066 } \\ & 25 \\ & 210 \mathrm{lbs} . \\ & \$ 6.00 \end{aligned}$ | $\begin{aligned} & \text { QEJ32066 } \\ & 25 \\ & 220 \mathrm{lbs} . \\ & \$ 6.10 \end{aligned}$ |

# CONDULETS-QE SERIES <br> TYPES QEE, QEF AND QED 

Plug Receptacle Condulets without Door

Furnished Complete with 30-Ampere, 250-Volt, 2-Pole Receptacle RQH302 or 3-Pole Receptacle RQH303 The Above Receptacles Take 2-Pole Plug RQ302 or 3-Pole Plug R Q303. Respectively

Condulets of the QE series with ROH Receptacles consist of two parts-body and receptacle housing.

These Condulets are weather-proof and exceptionally easy to wire because the circuit wires are drawn out of the body and connection with receptacle is made in the open. After this is done, the wires are pushed back in the body and the receptacle housing is fastened to the body by four heavy screws. This operation also clamps receptacle securely in place. Furthermore, the receptacle is protected from damage as it sets back in the housing.


## CONDULETS-QE SERIES-Continued TYPES QEK, QEP AND QEJ <br> Plug Receptacle Condulets without Door

 Furnished Complete with 30-Ampers. 250-Volt. 2-Pole Recepatcle RQH302 or 3-Pole Receptacle RQH303

| TYPE QEK CONDULETS-Black Enamel Finisin 30-Ampere, 250-Volt |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| 2-Pole | Catalogue No.. Standard Pkg. W't. Std. Pkg List Price, elrh | $\begin{aligned} & \text { QEKLlog } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 3.90 \end{aligned}$ | $\begin{aligned} & \text { QLK2106 } \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 4.00 \end{aligned}$ | $\begin{aligned} & \text { QEI:3106 } \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 4.10 \end{aligned}$ |
| 3-Pole | Catalogue No. Standard Pkg.. Wt. Std. Pkg. List Price, each | $\begin{aligned} & \text { QEK120 } \\ & 25 \\ & 175 \mathrm{lbs} . \\ & \$ 5.60 \end{aligned}$ | $\begin{aligned} & \text { QEN22O; } \\ & 25 \\ & 185 \mathrm{lbs} . \\ & \$ 5.70 \end{aligned}$ | ```QkN320%; 2.5 195 lbs. $5.80``` |

TYPE QEP CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt


| Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue No.. | QEP1106 | QEP2106 | QEP310 |
| Standard Pkg.. | 25 | $25$ |  |
| Wt. Std. Pkg. | 120 lbs . | 12.5 lbs . | 135 l l s . |
| List IPrice, each | $\$ 3,90$ | 84.00 | \$4.10 |
| Catalogue No.. | QEP1206 | (2EP2206 | QEP320\% |
| Standard Pkg. |  |  |  |
| Wt. Std. Pkg. | 175 lbs . | 185 lbs . | 195 lbs |
| List Price, eath | \$5.60 | \$5.70 | \$5. 80 |

TYPE QEJ CONDULETS-Black Enamel Finish 30-Ampere, 250-Volt


|  | Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
| 2-Pole | Catalogue No. Standard Pke. Wt. Std. Pkg. list I'rice, each | $\begin{aligned} & \text { QEVJ } 1106 \\ & 25 \\ & 135 \mathrm{lbs} . \\ & \$ 4.10 \end{aligned}$ | $\begin{aligned} & \text { (2L.JO106 } \\ & 25 \\ & 145 \mathrm{lbs} . \\ & 84.20 \end{aligned}$ | $\begin{aligned} & (2 l i j 3106 \\ & 25 \\ & 155 \mathrm{lbs} . \\ & \$ 4.30 \end{aligned}$ |
| 3-Pole | Catalogue No. Standard Pkg. Wt. sitd. Pkg. List I'rice, earh | $\begin{aligned} & \text { Qlid } 1206 \\ & 25 \\ & 200 \text { lhs. } \\ & \$ 5.90 \end{aligned}$ | ```(QTJ22065 25. 210 1/mu. 8(.0)``` | $\begin{aligned} & \text { QEJ320( } \\ & 25 \\ & 220 \mathrm{lbs} . \\ & \$ 6.10 \end{aligned}$ |

TYPE RQ PLUGS- 30 Ampere Capacity
For Types RQH, RQK and RYQ Receptacles-Aluminum Handles


TYPE RQH RECEPTACLES-30 Ampere Capacity
For Condulets of the QE Series

| 8 ma | 2-Pole 3-Pole |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { RQH302 } \\ & .25 \\ & 30 \mathrm{lbs} . \\ & \$ 2.00 \end{aligned}$ | Catalogue Number Standard Package Weight Std. P'kg. List Price, exch | $\begin{aligned} & \mathrm{IRQ1H} 303 \\ & 25 \\ & 30 \mathrm{lbs} \\ & \$ 3.00 \end{aligned}$ |  |

## CONDULETS-BH SERIES

TYPES BHE AND BHF
Plug Receptacle Condulets-Swivel Mounting
Furnished Complete with 50-Ampere, 125-Volt, 2-Pole Receptale BR50 and Spring Door
The Above Receptacle Takes 2-Pole Plug BP50


Type BHE with BP50 Plug Inserted


## CONDULETS-BH SERIES-Continued

 TYPES BHD, BHK, BHP AND BHJPlug Receptacle Condulets-Swivel Mounting Furnished Complete with 50-Ampere, 125-Volt, 2-Pole Receptacle BR50 and Spring Door

The Above Receptacle Takes 2-Pole Plug BP50

|  | TYPE BHD CONDULETS-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | $3 / 4$ | 1 | $11 / 2$ |
|  | Cat, No. Stcl. Pkg. Wt. Stcl. Pku. List, each | $\begin{aligned} & \text { BHD2506 } \\ & 10 . \\ & 19 . \mathrm{lbs} . \\ & \$ 13.55 \end{aligned}$ | $\begin{aligned} & \text { BHD3506 } \\ & 10 \\ & 200 \mathrm{lbs} . \\ & \$ 13.70 \end{aligned}$ | $\begin{aligned} & \text { BHD5506 } \\ & 10 \\ & 205 \mathrm{lbs} . \\ & \$ 14.00 \end{aligned}$ |
|  | TYPE BHK CONDULETS—Black Enamel Finish |  |  |  |
|  | Size in inches | 3/4 | 1 | $11 / 2$ |
|  | Cat. No. <br> Std. I'kg. <br> Wt. Stcl. P'kg. <br> List, each | $\begin{aligned} & \text { BHK } 2506 \\ & 10 \\ & 180 \mathrm{lbs} . \\ & \$ 13.25 \end{aligned}$ | BHK3506 <br> 10 <br> 185 lbs. <br> $\$ 13.40$ | $\begin{aligned} & \text { BHK550 } \\ & 10 \\ & 190 \mathrm{lbs} . \\ & \$ 13.70 \end{aligned}$ |
|  | TYPE BHP CONDULETS-Black Enamel Finish |  |  |  |
|  | Size in inches | 3/4 | 1 | $11 / 2$ |
|  | Cat. No. <br> Std. Pkg. <br> Wt. Std. Pkg. <br> List, each | $\begin{aligned} & \text { BHP2506 } \\ & 10 \\ & 180 \mathrm{lbs} . \\ & \$: 3.25 \end{aligned}$ | BHP3506 <br> 10 <br> 18 j lbs. <br> $\$ 13.40$ | BHP5506 <br> 10 <br> 190 lbs. <br> $\$ 13.70$ |
|  | TYPE BHJ CONDULETS-Black Enamel Finish |  |  |  |
|  | Size in inchew | 3/4 | 1 | $11 / 2$ |
|  | Cat, No, <br> Std. Pkg, <br> Wt. Std. Pkg. <br> List, each . | $\begin{aligned} & \text { I311J2506 } \\ & 10 \\ & 200 \mathrm{lhs.} \\ & \$ 13.55 \end{aligned}$ | $\begin{aligned} & \text { BHJJ3506 } \\ & 10 \\ & 205 \text { lhs. } \\ & \$ 13.70 \end{aligned}$ | $\begin{aligned} & \text { I3IIJ5506 } \\ & 10 \\ & 210 \mathrm{lbs} . \\ & \$ 14.00 \end{aligned}$ |

## CONDULETS

TYPE BHG
Plug Receptacle Condulets-Iron or Aluminum
Furnished Complete with 50-Ampere, 125-Volt, 2-Pole Receptacle BR50 and Spring Door
The Above Receptacle Takes Plug BP50


## TYPE BHS

Plug Receptacle and Housing-For Switchboard Mounting<br>Furnished Complete with 50-Ampere, 125-Volt, 2-Pole Receptacle BR50

The Above Receptacle Takes Plug BP50

Type 13HS plug receptacle and housing is designed for use on switchboards. It projects only $3 / 4$-inch from the face of the switchboard, and is easily installed. All that is necessary is to drill $21 / 15$ inches hole through the panel, also a small dowel hole, insert the receptacle and tighten the fastening nut on the rear. All live metal parts are enclosed.

Plug Receptacle and Housing Type BHS-Mounted

## TYPE BHS PLUG RECEPTACLE AND HOUSING Polished Copper Finish

| Complete as illustrated at loft of listing <br> and deseribed in lieading |
| :--- |

## TYPE BR RECEPTACLE

For BH, QE107 and QE1076 Series, Type BHG
Condulets and Type BHS Plug Receptacle and Housing


## TYPES SE, SEC, SEL, SET AND SEX CONDULET BODIES

Take Key, Keyless or Pull Receptacles; Rosettes; Pull Switch Rosettes, or Pull Switches Enumerated Below

|  | TYPE SE CONDULET BODIES--Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number <br> Standard Parkage <br> Shipping 11 eight Std. Pkg. <br> List Price, each | $\begin{aligned} & \hline \text { SE1 } \\ & 75 \\ & 155 \mathrm{lbs} . \\ & 8.80 \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \mathrm{SE} 2 \\ 50 \\ 115 \mathrm{lbs} . \\ 8.90 \end{array}$ | $\begin{aligned} & \hline \text { SE3 } \\ & 25 \\ & 701 \mathrm{bs} . \\ & 8110 \\ & \hline \end{aligned}$ |
|  | TYPE SEC CONDULET BODIES-Black Enamel Finish |  |  |  |
|  | Size in inches | 1/2 | $3 / 4$ | 1 |
| With Receptacle Mounted Prices do not include Receptacle | Catalogue Number Standard Package Shipping Weight Std. Pkg List Price, each | $\begin{aligned} & \hline \text { SEC11 } \\ & 75 \\ & 165 \mathrm{lbs} . \\ & 8.95 \end{aligned}$ | $\begin{array}{\|l} \hline \text { SEC22 } \\ 50 \\ 125 \mathrm{lbs} . \\ \$ 1.05 \end{array}$ |  |


|  | TYPE SEL CONLULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | 3/4 | 1 |
|  | Catalogue Number Standard Package Shipping Weight Stal. Pkg. List Price, each | $\begin{aligned} & \hline \text { S1SL11 } \\ & 75 \\ & 165 \mathrm{lbs} . \\ & \$ .95 \end{aligned}$ | SEL22 50 125 lhs. $\$ 1.05$ | $\begin{aligned} & \text { SEL33 } \\ & 25 \\ & 75 \mathrm{lhs.} \\ & \$ 1.25 \\ & \hline \end{aligned}$ |



TYPE SET CONDULET BODIES-Black Enamel Finish

| Size in inches | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | SET111 | SET222 | SET333 |
| Standard Package |  | 50 |  |
| Shipping Weight Std. Pkg | 180 lbs . | 140 lbs . | 80 lbs . |
| List Price, earh | 81.05 | \$1.15 | \$1 3.5 |


|  | TYPE SEX CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | 3/4 | 1 |
|  | Catalogue Number Standard Package Shipping Weight sitd. Pkg List Price, each | $\begin{aligned} & \hline \text { SEX } 1111 \\ & 75 \\ & 200 \mathrm{lbs} . \\ & \$ 1.15 \end{aligned}$ | SEX 2222 50 155 lbs. 81.25 | SEX 3333 <br> 25 <br> 90 lbs. <br> $\$ 1.45$ |

Condulet bodies listed above take the following:
Receptacles, Key: ARROW E-4045, $7513,7513 \mathrm{~W}, 7536,7.336 \mathrm{~W}, 8044,8044 \mathrm{~W}, 8080,8080 \mathrm{~W}$. BRYANT- 4045 4513 , $4536,7513,7536$, all BL and BN bases. G. E. CO.-GE0.22, GE278, GE2 1 , GE418, GE483, GE495. HUBBELL—3070, 3156, 3316, 3752, PAISTE—5473, 5476. 5569, 5571. P. \& S.-7, 46, 814.

Receptacles, Keyless: ARROW E-10, 41, 85, 109, 4046, $7514,7537,8645,8081,62357,103704$. BRYANT$4031,4046,7514,7537,62357$, all BL and BN bases. G. E. CO-GE055, GE096, GE155, GE279, GE4S4, GE496, 62357. HUBBELL-3071, 3754. PAISTE-5474, 5477, 5570, 5572. P. \& S. $1,4,40,41,85,109$, 62357, 103704.
Receptacles, Pull: ARROW E-4047, 4515, 4537, 8522, 8537. BRYANT-4047, 4515, 4537, all BL and BN bases. G. E. CO.-GE280, 88964. HUBBELL-3069, 3083, 3750, 3811. PAISTE-5475, 5478, 5587, 5588, P. \& S. -128 .

Rosettes: ARROW E-368, $369,457,525,8074,8075$. BRYANT-368, 369,457 , all BL and BN bases. P. \& S.$113,199,723,1172,1174$.
Rosettes, Pull Switch: ARROW E-176, 179, 8605, 8608. BRYANT-All BL and BN bases. HUBBELL-5906, 5926, 5996, 6007, P. \& S.-700.
Switches, Pull: ARROW E $-174,175,177,178,8603,8604,8606,8607$. BRYANT-All BL and BN basea,

## CONDULET BODIES-S SERIES

## TYPES S, SA AND SC

For Pony Receptacles, Clamp Receptacles and Rosettes, and Hubbell Polarity Plug Receptacle 5757

Furnished with Fastening Straps for Fittings and all necessary Screws


TYPE S CONDULET BODIES-Black Enamel Finish


TYPE SA CONDULET BODIES-Black Enamel Finish


[^68]
# CONDULET BODIES-S SERIES-Continued <br> TYPES SL, ST AND SX 

## For Pony Receptacles, Clamp Receptacles and Rosettes, and Hubbell Polarity Plug Receptacle 5757 <br> Furnished with Fastening Straps for Fittings and all necessary Screws

|  | TYPE SL CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Sta. Pkg. <br> List Price, each | $\begin{aligned} & \text { SL11 } \\ & 100 \\ & 160 \mathrm{lbs} . \\ & 8.80 \end{aligned}$ | $\begin{aligned} & \text { SL22 } \\ & 75 \\ & 135 \mathrm{lbs} . \\ & \$ .85 \end{aligned}$ | SL33 <br> $2 \overline{2}$ <br> ( B $^{2} \mathrm{lhs}$. <br> $\$ 1.05$ |

TYPE ST CONDULET BODIES Black Enamel Fin'sh


| Size in inches | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | ST111 | ST222 | ST333 |
| Standard l'ackage | 100 |  |  |
| Shipping Weight stal. likg. | 170 lbs . | 149 hs . | 70 lbs . |
| List Price, each | \$. 90 | 81.00 | 81.23 |

TYPE SX CONDULET BODIES-Black Enamel Finish


| Size in inches | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | SX1111 | SX2222 | S.23333 |
| Standard l'ackage . . . . |  |  |  |
| Shipphing Weight Nitd. Pkg. | 210 lhs. | 180 lbs. | 80 lhs. |
| List Price, each. . . . . . . . . . . . . . |  | \$1.10 | \$1.35 |

COVERS FOR TYPES S, SA, SC, SL, ST AND SX CONDULET BODIES-Black Enamel
Finish. For 1-2, 3-4 and 1-inch Condulet Bodies

|  | for Receptacles and losettes |  | For Hubbell Plug 5757 |  | Style of Cover | Blank Metal |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Sheet Steel | Cast <br> Iron | Sheet Stcel | Cast Iron |  | sheet Stecl | Cast Iron |  |
|  | 00 | 00 g | 00k | 00 kg | .. Catalogue No. | 00b | 00 bg |  |
|  | 100 | 100 | 100 | 100 | ..Standard Pkg. | 100 | 100 |  |
|  | 50 lbs . | 50 lbs. | 40 lbs . | 40 lbs . | Weight S'tl. Pkg. | 70 lbs . | 70 lbs. |  |
|  | 8.12 | \$. 35 | \$. 12 | \$. 35 | .. List l'rice, each.. | 8.12 | \$ . $3 \overline{5}$ |  |

Fittings for use with Condulets of the $S$ series are not included in above list prices, but are as follows:
Pony Receptacles: ARROW E-28795, 50715. BRYANT-28795, 50715. G. E. CO.-11221, 28795, 50715. PAISTE-28795, $5071 \overline{5}$. P. \& S. -61870.
Clamp Recepracles and Rosettes: CONDULETTO (Crousc-Hinds)-C337G, C337, C442, C448, C449. ARROW E-8100, 59108 . BRYANT-59108, 61988. FEDERAL-303, 304, 305. G. E. CO.-105001. PAISTE59439, 6i988. P. \& S. -61877 . 61988, 102703.
Polarity Plug Receptacle: HUBBELL-̄̄त̄̀7.
Types 00 and 01 g covers have openings $1 \frac{1}{3} \frac{2}{2}$ inches in diameter. Types 00 k and 00 kg covers have openings $1_{32}^{23}$ inches in dianeter.
Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. Black enameled and galvanized covers of all three styles may be assorted to make up a standarl package. No other assortments are allowed.
Standard package discount is allowed on covers when an order is for a standard package of Condulet bodies and an equal number of covers for those bodies; but on an order for covers alone, standard package discount is allowed, only, on the specified standard package quantity for those covers.

## CONDULETS--V SERIES

## TYPES V, VA AND VC-Iron

## Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding 23/4 $\times 51 / 4$ Inches <br> Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and all necessary Fastening Screws, and with or without Globe and Guard

For marine work and in breweries, refineries, flour mills or wher-


Type $V$
(Pailock not included in list prices) cver there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

|  | Size in inches. | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
| Complete | Catalogue Number ..... <br> Standard Package <br> Weight Std. Pkg......... <br> List Price, each | $\begin{aligned} & \text { V189 } \\ & 35 \\ & 230 \text { lbs. } \\ & \$ 4.50 \end{aligned}$ | $\begin{aligned} & \text { V289 } \\ & 25 \\ & 180 \text { lbs. } \\ & \$ 4.55 \end{aligned}$ | $\begin{aligned} & 1389 \\ & 10 \\ & 100 \mathrm{lbs} . \\ & 84.60 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number ..... <br> Standard Package <br> Weight Std. Pkg. <br> List Price, cach | $\begin{aligned} & \text { V1 } \\ & 35 \\ & 125 \text { lhs. } \\ & \$ 1.90 \end{aligned}$ | $\begin{aligned} & \mathrm{V} 2 \\ & 25 \\ & 100 \text { lbs. } \\ & \$ 1.95 \end{aligned}$ | $\begin{aligned} & \text { V3 } \\ & 10 \\ & 50 \text { lbs. } \\ & \$ 2.00 \end{aligned}$ |

TYPE VA CONDULETS-IRON-Black Enamel Finish


|  | Size in inches.. | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
| Complete | Catalogue Number . .... <br> Standard Package ...... <br> Weight Std. Pkg. ....... <br> List Price, each......... . | $\begin{array}{\|l} \text { VA189 } \\ 35 \\ 230 \mathrm{lbs} . \\ \$ 4.50 \end{array}$ | $\begin{aligned} & \text { VA289 } \\ & 25 \\ & 180 \mathrm{lbs} . \\ & \$ 4.55 \end{aligned}$ | $\begin{aligned} & \text { VA389 } \\ & 10 \\ & 100 \mathrm{lbs} . \\ & \$ 4.60 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number ..... <br> Standard Package...... <br> Weight Std. Pkg. ........ <br> List Price, each. | $\begin{array}{\|l} \text { VA1 } \\ 35 \\ 125 \mathrm{lbs} . \\ \$ 1.90 \end{array}$ | $\begin{array}{\|l} \text { VA2 } \\ 25 \\ 100 \mathrm{lbs} . \\ \$ 1.95 \end{array}$ | $\begin{aligned} & \text { VA3 } \\ & 10 \\ & 50 \mathrm{lbs} . \\ & \$ 2.00 \end{aligned}$ |

TYPE VC CONDULETS-IRON-Black Enamel Finish


|  | Size in inches. | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
| Complete | Catalogue Number <br> Standard Package <br> Weight Std. Pkg.. ....... <br> List Price, each. . | $\begin{aligned} & \text { VC1189 } \\ & 35 \\ & 250 \text { lbs. } \\ & \$ 4.60 \end{aligned}$ | $\begin{aligned} & \text { VC2289 } \\ & 25 \\ & 190 \text { lbs. } \\ & \$ 4.70 \end{aligned}$ | VC3389 <br> 10 <br> 110 lbs. <br> $\$ 4.80$ |
| Complete, except Globe and Guard | Catalogue Number..... <br> Standard Package <br> Weight Std. Pkg. ........ <br> List Price, each. | $\begin{aligned} & \text { YC11 } \\ & 35 \\ & 135 \text { lbs. } \\ & \$ 2.00 \end{aligned}$ | $\begin{aligned} & \text { VC22 } \\ & 25 \\ & 110 \mathrm{lbs} . \\ & \$ 2.10 \end{aligned}$ | $\begin{aligned} & \text { VC33 } \\ & 10 \\ & 60 \mathrm{lbs} . \\ & \$ 2.20 \end{aligned}$ |

For finishes, assortments and other important information, see note on the following page.

# CONDULETS-V SERIES-Continued <br> TYFES VL, VT AND VX-Iron 

Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding $23 / 4 \times 51 / 4$ Inches Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard

|  | TYPE VL CONDULETS-IRON-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches.. | 1/2 | $3 / 4$ | 1 |
|  | Complete | Catalogue Number Standard I'ackage. Weight Std. Pkg......... List Price, each. | $\begin{aligned} & \text { VL1189 } \\ & 35 \\ & 250 \text { lbs. } \\ & \$ 4.60 \end{aligned}$ | $\begin{aligned} & \text { VL2289 } \\ & 25 \\ & 190 \text { lbs. } \\ & \$ 4.70 \end{aligned}$ | VL3389 10 110 lbs. $\$ 4.80$ |
|  | Complete, except Globe and Guard | Catalogue Number <br> Standard Package. <br> Weight Std. Pkg.. <br> List Price, each.......... | $\begin{aligned} & \text { VL11 } \\ & 35 \\ & 135 \text { lbs. } \\ & \$ 2.00 \end{aligned}$ | $\begin{array}{\|l} \text { VL22 } \\ 25 \\ 110 \mathrm{lbs} . \\ \$ 2.10 \end{array}$ | $\begin{array}{\|l} \text { VL33 } \\ 10 \\ 60 \mathrm{lbs} . \\ \$ 2.20 \end{array}$ |



TYPE VT CONDULETS-IRON—Black Enamel Finish

| Complete | Size in inches .......... | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number. Standard Package. $\qquad$ Weight Std. Pkg. List Price, each. | $\begin{aligned} & \text { VT11189 } \\ & 35 \\ & 255 \mathrm{lbs} . \\ & \$ 4.75 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{VT} 22289 \\ & 25 \\ & 195 \mathrm{lbs} . \\ & \$ 4.85 \end{aligned}$ | $\begin{aligned} & \text { VT33389 } \\ & 10 \\ & 115 \mathrm{lbs} . \\ & \$ 5.05 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number. .... Standard Package. $\qquad$ Weight Std. Pkg. List Price, each......... | $\begin{aligned} & \text { VT111 } \\ & 35 \\ & 140 \mathrm{lbs} . \\ & \$ 2.15 \end{aligned}$ | $\begin{aligned} & \text { V'T222 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 2.25 \end{aligned}$ | $\begin{aligned} & \text { VT333 } \\ & 10 \\ & 70 \mathrm{lbs} . \\ & \$ 2.45 \end{aligned}$ |



TYPE VX CONDULETS-IRON-Black Enamel Finish

| Complete | Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number . . . . | VX111189 | VX222289 | VX333389 |
|  | Standard Package..... |  |  |  |
|  | Weight Std. Pkg. <br> List Price, each. | 265 lbs. $\$ 4.85$ | $\begin{aligned} & 200 \text { lbs. } \\ & \$ 5.05 \end{aligned}$ | $\begin{aligned} & 120 \mathrm{lbs} . \\ & \$ 5.20 \end{aligned}$ |
| Complete, except | Catalogue Number ..... Standard Package | VX1111 | VX2222 | VX3333 |
| Globe and | Standard Package...... | 35 150 lbs. | $\underline{25} 13 \mathrm{lbs}$. | 10 \% 1 bs . |
| Guard | List Price, each. | \$2.25 | \$2.45 | \$2.60 |

Clear globes are regularly furnished on orders for complete Condulets.
Colored globes will be furnished with Condulets of the V series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, $\$ .30$; green, blue or orange, $\$ .90$; ruby, $\$ 1.55$.
Globes and guards for Condulets of the V series are made in one size only.
Padlock is not included in prices for Condulets of the V series, but will be furnished, if specifically ordered.
Finishes: Black enamel is the 'standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-V SERIES-Continued <br> TYPES VE, VF AND VD-Iron

Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding $23 / 4 \times 51 / 4$ Inches
Furnished with Crouse-Hinds Receptacle CCV337, Seallng Plate, Gaskets and all necessary Fastening Screws, and with or without Glove and Guard


Type ve
(Padlock not incladed in list prices)


For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the V series meet every requirement.

These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-IInds receptacle CCV337 is the only receptacle that can be mounted in these Condulets.

| TYPE VE CONDULETS-IRON-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches. | $1 / 2$ | 3/4 | 1 |
| Complete | Catalogue Number ..... <br> Standard Package. $\qquad$ <br> Weight Stel. I'kg........ . <br> List Price, each | $\begin{aligned} & \text { VE189 } \\ & 35 \\ & 2.50 \mathrm{lbs} . \\ & \$ 4.75 \end{aligned}$ | $\begin{aligned} & \text { VE289 } \\ & 25 \\ & 190 \mathrm{lbs} . \\ & \$ 4.85 \end{aligned}$ | VE389 <br> 10 <br> 100 lbs. <br> $\$ 4.95$ |
| Complete, except Globe and Guard | Catalogue Number <br> Standard Package...... <br> Weight Std. Pkg. . . . . . . . <br> List lrice, each. | $\begin{aligned} & \text { VE1 } \\ & 35 \\ & 135 \mathrm{lbs} . \\ & \$ 2.15 \end{aligned}$ | $\begin{array}{\|l} \text { VE2 } \\ 25 \\ 110 \text { lbs. } \\ \$ 2.25 \end{array}$ | VE3 <br> 10 <br> 50 lbs. <br> $\$ 2.35$ |

TYPE VF CONDULETS-IRON-Black Enamel Finish

| Complete | Size in inches .. | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number .... <br> Standard Package. <br> Weight Std. Pkg....... . . <br> List I'rice, each........ | $\begin{aligned} & \text { VF189 } \\ & 35 \\ & 250 \text { lbs. } \\ & \$ 4.90 \end{aligned}$ | $\begin{array}{\|l} \text { VF289 } \\ 25 \\ 200 \mathrm{lbs} . \\ \$ 5.00 \end{array}$ | $\begin{array}{\|l} \text { VF389 } \\ 10 \\ 105 \mathrm{lbs} . \\ \$ 5.10 \end{array}$ |
| Complete, except Globe and Guard | Catalogue Number .... <br> Standard Package...... <br> Weight Std. Pkg....... <br> List Price, each . | $\begin{aligned} & \text { VF1 } \\ & 35 \\ & 145 \mathrm{lbs} . \\ & \mathscr{E} 2.30 \end{aligned}$ | $\begin{aligned} & \text { VF2 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 2.40 \end{aligned}$ | $\begin{aligned} & \text { VF3 } \\ & 10 \\ & \tilde{55} \mathrm{lbs} . \\ & \$ 2.50 \end{aligned}$ |

TYPE VD CONDULETS-IRON-Black Enamel Finish

| Compiete | Size in inches. . | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number..... <br> Standard I'ackage..... <br> Weight Stcl. Pkg........ <br> List Price, each | $\begin{aligned} & \text { V D1189 } \\ & 35 \\ & 275 \mathrm{lbs} . \\ & 55.15 \end{aligned}$ | ```VD2289 25 210 lbs. $5.25``` | $\begin{array}{\|l} \text { VD3389 } \\ 10 \\ 110 \mathrm{lbs} . \\ \$ 5.35 \end{array}$ |
| Complate, except Globe and Guard | Catalogue Number..... <br> Standard Package. <br> Weight Std. Pkg. <br> List Price, each | ```V D11 35 160 lbs. $2.55``` | $\begin{aligned} & \text { VD22 } \\ & 25 \\ & 130 \text { lbs. } \\ & \$ 2.65 \end{aligned}$ | $\begin{aligned} & \text { V D33 } \\ & 10 \\ & 60 \mathrm{lbs} . \\ & \$ 2.75 \end{aligned}$ |

[^69]
# CONDULETS-V SERIES-Continued <br> TYPES VK, VP AND VJ-Iron 

Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 40-Watt, or any Lamp with Dimensions not Exceeding $23 / 4 \times 5 \frac{1}{4}$ Inches

Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard

|  | TYPE VK CONDULETS-IRON-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches . . . . . . . . . . . | 1/2 | $3 / 4$ | 1 |
|  | Complete | Catalogue Number Standard Package. <br> Shipping Weight Std. Pkg. <br> List Price, each . | $\begin{aligned} & \text { VK1s9 } \\ & 35 \\ & 260 \mathrm{lbs} . \\ & 84.90 \end{aligned}$ | $\begin{aligned} & \text { VK289 } \\ & 25 \\ & 200 \mathrm{lbs} . \\ & 8.00 \end{aligned}$ | $\begin{aligned} & \hline \text { Vkis89 } \\ & 10 \\ & 105 \mathrm{lbs} . \\ & 85.10 \\ & \hline \end{aligned}$ |
|  | Complete, except Globe and Guard | Catalogue Number......... Standard Paclage. Shipping Weight Std. Pkg.. List Price, each | $\begin{aligned} & \text { VIV1 } \\ & 35 \\ & 145 \text { lbs. } \\ & \varepsilon 2.30 \end{aligned}$ | $\begin{aligned} & \text { VT2 } \\ & 25 \\ & 120 \text { lbs. } \\ & \$ 2.40 \end{aligned}$ | $\begin{aligned} & \mathrm{V} \mathrm{~K} 3 \\ & 10 \\ & 55 \mathrm{lbs} . \\ & \$ 2.50 \end{aligned}$ |


|  | TYPE VP CONDULETS-IRON-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | Complete | Catalogue Number Standard Package. Shipping Weight Stcl. Pkg. List Price, each | $\begin{aligned} & \text { VP189 } \\ & 35 \\ & 260 \text { lbs. } \\ & \$ 4.90 \end{aligned}$ | $\begin{aligned} & \text { V 1'289 } \\ & 25 \\ & 200 \text { lbs. } \\ & 85.00 \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline \text { VP389 } \\ 10 \\ 105 \mathrm{lbs} . \\ \$ 5.10 \end{array}$ |
|  | Complete, except Globe and Guard | Catalogue Number Standard Package. <br> Shipping Weight Std. Pöa <br> List Price, each | $\begin{aligned} & \text { VP1 } \\ & 35 \\ & 145 \mathrm{lbs} . \\ & \$ 2.30 \end{aligned}$ | VP2 <br> 25 <br> 120 lbs. <br> $\$ 2.40$ | $\begin{aligned} & \text { V133 } \\ & 10 \\ & 55 \text { lhs. } \\ & \$ 2.50 \end{aligned}$ |


|  | TYPE VJ CONDULETS-IRON-Black Enamel Finish |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | 3/4 | 1 |
|  | Complete | Catalogue Number. Standard Pachage. Shipping Weight Std. Pkg.. List Price, each | $\begin{aligned} & \text { VJ1189 } \\ & 35 \\ & 280 \mathrm{lbs} . \\ & \$ 5.15 \end{aligned}$ | $\begin{aligned} & \hline \text { VJ2289 } \\ & 25 \\ & 210 \text { lbs. } \\ & 85.25 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { VJ3389 } \\ & 10 \\ & 110 \mathrm{lbs} . \\ & 85.35 \\ & \hline \end{aligned}$ |
|  | Complete, except Globe and Guard | Catalogue Number Standard Package. Shipping Weight Stul. Plog.. List Irice, each | $\begin{aligned} & \mathrm{V} \text { J11 } \\ & 35 \\ & 165 \mathrm{lbs} . \\ & 82.55 \end{aligned}$ | $\begin{array}{\|l} \hline \text { VJ22 } \\ 2.5 \\ 130 \mathrm{lbs} . \\ \$ 2.65 \end{array}$ | $\begin{aligned} & \hline \text { VJ33 } \\ & 10 \\ & 60 \mathrm{lbs} . \\ & \$ 2.75 \end{aligned}$ |

Clear globes are regularly furnished on orders for complete Condulets.
Colored globes will be furnished with Condulets of the $V$ series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, $\$ 30$; green, blue or orange, $\$ .90$; ruby, $\$ 1.55$.
Globes and guards for Condulets of the $V$ series are made in one size only.
Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnisherd, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, east brass and east bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## COMDULETS-VH SERIES

## TYPES VH, VHA AND VHC-Iron

Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding $33 / 4 \times 73 / 4$ Inches
Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard

For marine work and in breweries, refincries, flour mills or


Type PH
(Padlock not included in list prices) wherever there is dampness, gas or fine dust, Condulets of the VH series neet every requirement.

These condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals.

Crouse-Hinds receptacle CCV 337 is the only receptacle that can be mounted in these Condulets.

TYPE VH CONDULETS-IRON-Black Enamel Finish

| Complete | Size in inches. | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number Standard Package. Ship. Wt. Std. I'kg. List Price, each... | $\begin{aligned} & \text { VH189 } \\ & 35 \\ & 285 \mathrm{lbs} . \\ & 85.40 \end{aligned}$ | $\begin{aligned} & \text { V } 11289 \\ & 25 \\ & 220 \mathrm{lbs} . \\ & \$ 5.45 \end{aligned}$ | $\begin{aligned} & \text { V H389 } \\ & 10 \\ & 120 \mathrm{lbs} \\ & \$ 5.50 \end{aligned}$ |
| Complete, | Catalogue Number | V H1 | VH | VH3 |
| except | Standard Package. | 35 | 25 | 10 |
| Globe and | Ship. Wt. Std. Pkg. | 135 lbs. | 110 lbs . | 60 lbs . |
| Guard | List Price, each.... | \$2.35 | \$2.40 | \$2.45 |



For finishes. assortments and other important information, see note on following page.

## CONDULETS-VH SERIES-Continued

## TYPES VHL, VHT AND VHX-Iron

Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding $33 / 4 \times 73 / 4$ Inches

Furgished with Crouse-Hinds Receptacle CCV337. Sealing Plate, Gaskets and all Necessary
Fastening Screws, and with or vithout Globe and Guard


TYPE VHL CONDULETS-IRON-Black Enamel Finish

| Complete | Size in inches. | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number | VHL1189 | VHL2289 | VHL3389 |
|  | Standard I'ackage. |  |  |  |
|  | Ship. Wt. Std. l'kg. .... List I'rice, each. | $\begin{aligned} & 295 \text { lbs. } \\ & \$ 5.50 \end{aligned}$ | $\begin{aligned} & 220 \mathrm{lbs} . \\ & \$ 5.60 \end{aligned}$ | $\begin{aligned} & 120 \mathrm{lbs} . \\ & 85.65 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number | VHL11 | VHL22 | VHL33 |
|  | Standard Package. |  |  |  |
|  | Ship. Wt. Std. Pkg. | 140 lbs . | 110 lbs . | 60 lbs . |
|  | List Price, each.. | \$2.45 | \$2. 50 | \$2.60 |



TYPE VHT CONDULETS-IRON—Black Enamel Finish

| Complete | Size in inches.......... | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number..... Standard Package...... <br> Ship. Wt. Std. Pkg..... <br> List Price, each. | $\begin{aligned} & \text { VHT11189 } \\ & 35 \\ & 305 \mathrm{lbs} . \\ & \$ 5.60 \end{aligned}$ | $\begin{aligned} & \text { VHT22289 } \\ & 25 \\ & 230 \mathrm{lbs} . \\ & 85.75 \end{aligned}$ | $\begin{aligned} & \text { VHT33389 } \\ & 10 \\ & 125 \mathrm{lbs} . \\ & \$ 5.85 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number Standard I'ackage...... Ship. Wt. std. Pkg. List Price, earh. | $\begin{aligned} & \text { VHT111 } \\ & 35 \\ & 150 \mathrm{lbs} . \\ & \$ 2.55 \end{aligned}$ | $\begin{aligned} & \text { VHT222 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 2.70 \end{aligned}$ | $\begin{aligned} & \text { VHT333 } \\ & 10 \\ & 65 \text { lbs. } \\ & \$ 2.80 \end{aligned}$ |



TYPE VHX CONDULETS-IRON—Black Enamel Finish

| Complete | Size in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Numbe | VHX111189 | V11. 222289 | VHX333389 |
|  | Standard Package |  |  |  |
|  | Ship. Wt. Std. Pkg | 310 lbs. <br> \$5.70 | 240 lbs. $\$ 5.90$ | 130 lbs . $\$ 6.05$ |
| Complete, except Globe and Guard | Catalogue Number | VHX1111 | VHX2222 | VHX3333 |
|  | Standard Package. |  |  |  |
|  | Ship. Wt. Std. Ikg. | 160 lbs. | 130 lbs . | 70 lbs. |
|  | List Price, each. | \$2.65 | \$2.85 | \$3.00 |

Clear glohes are regularly furnished on orders for complete Condulets.
Colored globes will be furnished with Condulets of the VH series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, $\Phi .90$; green, blue or orange, $\$ 1.55$; ruby, $\$ 2.10$.
Globes and guards for Condulets of the VH series are made in one size only.
Padloek is not included in prices for Condulets of the VH series, but will be furnished, if specifically ordered:
Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish, when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-VH SERIES-Continued

 TYPES VHE, VHF AND VHD-IronVapor, Gas and Dust-Proof-Take any Regular Mazda Lamp up to and Including 100-Watt, or any Lamp with Dimensions not Exceeding $33 / 4 \times 73 / 4$ Inches
Furnished with Crouse-Einds Receptacle CCV337, Sealing Plate, Gaskets and all Necessary Fastening Screws, and with or without Globe and Guard

|  | For marine work and in breweries, refineries, flour mills or wherever there is dampness, gas or fine dust, Condulets of the VH series meet every requirement. <br> These Condulets remain vapor, gas and dust-proof even though globes be broken or removed for lamp renewals. <br> Crouse-IIinds receptacle CCV337 is the only reeeptaele that ean be mounted in these Condulets. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | Complete | Catalogue Number Standard I'ackage. Ship. Wit. std. Pkg.. List Price, each. | VHE189 $3 \overline{1}$ 335 lbs. \$5.50 | VIIE289 25 260 lbs $\$ 5.60$ | VHC389 10 130 lbs. $\$ 5.70$ |
| $\text { ITpe vHB }_{\text {(Padoolk not indluded in list pricess) }}$ | Complete, except Globe and Guard | Catalogue Number. Standard Package. Ship. W't. Std. Pkg List Price, each. | $\begin{aligned} & \text { VIIE1 } \\ & 35 \\ & 185 \mathrm{lbs.} \\ & \$ 2.45 \end{aligned}$ | VHE2 25 150 lbs . $\$ 2.55$ | $\begin{aligned} & \text { VIIE3 } \\ & 10 \\ & 70 . \mathrm{lbs} . \\ & 82.65 \end{aligned}$ |



TYPE VHF CONDULETS-IRON—Black Enamel Finish

| Complete | Size in inches. | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number. Standard P'ackage. Ship. Wt. Std. Pkg. List Price, cach. | $\begin{aligned} & \text { VHF189 } \\ & 3 \overline{50} \\ & 335 \mathrm{lbs} . \\ & \$ 5.75 \end{aligned}$ | $\begin{aligned} & \text { VIIF289 } \\ & 25 \\ & 260 \mathrm{lbs} . \\ & \$ 5.85 \end{aligned}$ | $\begin{aligned} & \text { VIIF389 } \\ & 10 \\ & 130 \mathrm{bbs} . \\ & \boxed{65} .95 \end{aligned}$ |
| $\begin{aligned} & \text { Complete, } \\ & \text { except } \\ & \text { Globe and } \\ & \text { Guard } \end{aligned}$ | Catalogue Number standard l'ackage. Ship. W't. Std. I'kg. List Price, cuch..... | $\begin{aligned} & \text { YIIF1 } \\ & 35 \\ & 19 \overline{0} \text { lbs. } \\ & £ 2.70 \end{aligned}$ | VIIF2 25 150 lhs. $\$ 2.80$ | $\begin{aligned} & \text { VHIIF } \\ & 10 \\ & 70 \text { lbs. } \\ & \$ 2.90 \end{aligned}$ |



TYPE VHD CONDULETS-IRON-Black Enamel Finish

For finishes, assortments and other important information, see note on the following page.

CONDULETS-VH SERIES-Continued TYPES VHK, VHP AND VHJ-Iron
Vapor, Gas and Dust-Proof-Take any Regular Mazda Lamp uo to and Including 100-Watt, or any Lamp with Dimensions not Exceeding 33/4 $\times 73 / 4$ Inches
Furnished with Crouse-Hinds Receptacle CCV337, Sealing Plate, Gaskets and All Necessary Fastening Screws, and with or without Globe and Guard

|  | TYPE VHK CONDULETS-IRON-Black Enamel Finisk |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Size in inches.. | 1/2 | 3/4 | 1 |
|  | Complete | Catalogue Number . Standard Package Ship. Wt. Std. Pkg.... List Price, each. | $\begin{aligned} & \text { YHK189 } \\ & 35 \\ & 370 \mathrm{lbs} . \\ & \$ 5.75 \end{aligned}$ | $\begin{aligned} & \text { VHK289 } \\ & 25 \\ & 290 \mathrm{lbs} . \\ & \$ 5.85 \end{aligned}$ | $\begin{aligned} & \text { VIHK89 } \\ & 10 \\ & 150 \mathrm{lbs} . \\ & 85.05 \end{aligned}$ |
|  | Complete, except Globe and Guard | Catalogue Number... <br> Standard Package <br> Ship. W't. Std. Pkg.... <br> List Price, each. | $\begin{aligned} & \text { VIIK1 } \\ & 35 \\ & 220 \mathrm{lbs} . \\ & \$ 2.70 \end{aligned}$ | $\begin{aligned} & \text { VHK2 } \\ & 25 \\ & 130 \mathrm{lhs} . \\ & \$ 2.80 \end{aligned}$ | $\begin{aligned} & \mathrm{V} 11 \mathrm{~h} 3 \\ & 10 \\ & 90 \mathrm{lbs} . \\ & \$ 2.90 \end{aligned}$ |



|  | Size in inches. . . . . . . | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
| Complete | Catalogue Number ... <br> Standard Package .... <br> Ship. Wt. Std. Ikg.... <br> List Price, each | $\begin{aligned} & \text { VIIP189 } \\ & 35 \\ & 370 \mathrm{lbs} . \\ & \$ 5.75 \end{aligned}$ | $\begin{aligned} & \text { VIIP289 } \\ & 25 \\ & 290 \mathrm{lbs} . \\ & 85.85 \end{aligned}$ | $\begin{aligned} & \text { VIIl'389 } \\ & 10 \\ & 150 \mathrm{lbs} . \\ & 85.95 \end{aligned}$ |
| Complete, except Globe and Guard | Catalogue Number ... Standard Package .... Ship. Wt. Std. Pkg.... List I'rice, each. | $\begin{aligned} & \text { VIIP1 } \\ & 35 \\ & 220 \mathrm{lbs} . \\ & \$ 2.70 \end{aligned}$ | $\begin{aligned} & \text { V1IP2 } \\ & 25 \\ & 180 \mathrm{lhs} . \\ & \$ 2.80 \end{aligned}$ | $\begin{aligned} & \text { VII l'3 } \\ & 10 \\ & 90 \text { lbs. } \\ & \$ 2.90 \end{aligned}$ |



TYPE VHJ CONDULETS-IRON - Black Enamel Finish

| Complete | Size in inches. . . . . . . | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: | :---: |
|  | Catalogue Number | VHJ1189 | V HJ 2288 | VHJ3389 |
|  | Standard Package ... |  |  |  |
|  | Ship. Wt. Std. I'kg.... List I'rice, each. | 3.5 lbs. 85.90 | 295 lbs. <br> $\$ 6.00$ | 155 lbs. <br> \$6.10 |
| Complete, | Catalogue Number... Standard I'ackace | VIIJ11 85 | ${ }^{\text {VF }}$ HJ22 | VIIJ33 <br> 10. |
| Globe and | Ship. Wt. Std. Pkg.... | 225 lbs. | 185 lbs. | 95 lbs . |
| Guard | List Price, each...... . | \$2. 85 | \$2.05 | \$3.05 |

Clear globes are regularly furnishod on orde:s for complete Condulets.
Colored globes will be furnished with Condulets of the VII series, if specifically ordered, at the following increases over list prices for complete Condulets: opal, $\$ .90$; green, blue or orange, $\$ 1.55$; ruby, \$2.10.
Glohes and guards for Condulets of the VH series are made in one size only.
l'adlock is not included in prices for Condulets of the VII series but will be furnished, if specifically ordered.
Finishes: l3lack enamel is the standard finish for Condulets, and wi'l be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulets will be furnished, at same price as for all black enamel finish when the order specifies galvanized finish. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plain and black enamel finish, see Manufa, tu er's Page No. 182.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## TYPES GV, GVA, GVL AND GVLA WEATHER-PROOF CONDULETS

Furnished with Receptasle C337. Receptacle and Guard Holder RMP2 and Guard HV94*
Take any Incandescent Lamp not Exceeding $2_{\text {I }}$ 年 $\times 3$ Inches
Not Designed to Take Glass Sealing-Globe


Type GV

Condulets of the GV and HV series are weather-proof and semivapor-proof lamp fit tings, and can be used to advantage wherever conditions are not so severe as to require an outer scaling globe. They are thoroughly gasketed and arc in every way suitable for such places as laundries, kitchens, interior installations on boats and in subways.

The guard effectually protects the lamp from breakage and, when padlocked on, also prevents he unauthorized removal or theft of lamp.

| TYPE GV CONDULETS—Complete |
| :--- |

[^70]
## TYPES GVT, GVTA, GVX, GVXA, HV AND HVA WEATHER-PROOF CONDULETS

Furnished with Receptacle C337. Receptacle and Guard Holder RMP2 and Guard HV94*
Take any Incandescent Lamp not Exceeding $27^{7} \times 3$ Inches Not Designed to Take Glass Sealing-Globe

| TYPE GVT CONDULETS-Comple |  |  | plete TYPE | TYPE GVTA CONDULETS-Complete |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size |  | Black Enameled | Size |  |  |
|  | ${ }_{\text {inch }}^{1 / 2}$ | $\begin{array}{\|l\|} \hline \text { GVT1204 } \\ 35 \\ 145 \mathrm{lbs} . \\ \$ 3.20 \end{array}$ | Catalogue No. Std. Package. Wt. Std. Pkg. List, each. | 1/2-2-2 | $\begin{aligned} & \text { GVTA1204 } \\ & 35 \\ & 150 \mathrm{lbs} . \\ & \$ 3.35 \end{aligned}$ |  |
|  | Sinch | $\begin{aligned} & \text { GVT2204 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & \$ 3.30 \end{aligned}$ | Catalogue No. .Std. Package. .Wt. Std. Pkg. . . . List, each. | inch | $\begin{aligned} & \text { GVTA2204 } \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 3.50 \end{aligned}$ |  |
|  | inch | $\begin{array}{\|l\|} \hline \text { GVT3204 } \\ 10 \\ 60 \mathrm{lbs} . \\ \$ 3.60 \end{array}$ | Catalogue No Std. Package. Wt. Std. Pkg. List, each | inch | $\begin{array}{l\|} \hline \text { GVTA3204 } \\ 10 \\ 65 \mathrm{lbs} . \\ 83.90 \\ \hline \end{array}$ |  |
| TYPE GVX CONDULETS-Complete ${ }^{\text {a }}$ ( TYPE GVXA C |  |  |  |  |  |  |
|  | Size |  | Black Enameled | Size |  |  |
|  | 1/1/2-2 | $\begin{aligned} & \hline \text { GVX1204 } \\ & 35 \\ & 150 \mathrm{lbs} . \\ & \$ 3.35 \end{aligned}$ | Catalogue No. Std. Package. Wt. Std. I'kg. List, each | 1/2-2 | $\begin{aligned} & \text { GVXA1204 } \\ & 35 \\ & 155 \mathrm{lbs.} \\ & \$ 3.50 \end{aligned}$ |  |
| $3$ | Sinch | $\begin{aligned} & \overline{\text { GVX2204 }} \\ & 25 \\ & 125 \mathrm{lbs} . \\ & \$ 3.50 \end{aligned}$ | Catalogue No. Std. Package Wt. Std. Pkg. List, each | inch | $\begin{aligned} & \hline \text { GVXA2204 } \\ & 25 \\ & 130 \mathrm{lbs} . \\ & \hline 53.70 \\ & \hline \end{aligned}$ |  |
|  | $\xrightarrow[\text { inch }]{1-}$ | $\begin{aligned} & \text { GVX3204 } \\ & 10 \mathrm{lbs} . \\ & 65.90 \\ & \$ 3 \end{aligned}$ | Catalogue No. Std. Package Wt. Std. Pkg. . . List, each . | $\xrightarrow[\text { inch }]{1-}$ | $\begin{aligned} & \hline \text { GVXA3204 } \\ & 10 \\ & 70 \mathrm{lbs} . \\ & \$ 4.10 \end{aligned}$ |  |
| TYPE HV CONDULETS-Complet |  |  | plete TYP | TYPE HVA CONDULETS-Complete |  |  |
|  | Size |  | Black Enameled | Size |  |  |
|  | 1/2-2 | $\begin{aligned} & \text { IIV1204 } \\ & 35 \\ & 135 \mathrm{lbs} . \\ & \$ 2.90 \end{aligned}$ | Catalogue No.. . Std. Package. CWt. Std. Pkg.. . . List, each... | ${ }^{1 / 2}$ | 11VA1204 35. 135 lbs. $\$ 2.95$ |  |
|  | 1/4.4 | $\begin{aligned} & \text { IIV2204 } \\ & 25 \\ & 110 \mathrm{lbs} . \\ & \$ 2.95 \end{aligned}$ | Catalogue No. Std. Package Wt. Std. Pkg. List, each.. | inch | $\begin{aligned} & \hline \text { IIVA220. } \\ & 25 \\ & 110 \mathrm{lbs} . \\ & \$ 3.00 \\ & \hline \end{aligned}$ |  |
|  | ${ }_{\text {inch }}^{1-}$ | $\begin{aligned} & \text { IIV3204 } \\ & 10 \\ & 50 \mathrm{lbs} . \\ & \$ 3.20 \end{aligned}$ | Catalogue No. <br> Std. Package <br> W't. Std. Pkg. <br> List, each. . | $\xrightarrow[\text { inch }]{1-}$ | $\begin{aligned} & \hline \text { HVA3204 } \\ & 10 \\ & 50 \mathrm{lbs} . \\ & 83.30 \end{aligned}$ |  |

[^71]
# TYPES HHV, HHVC AND HVLA WEATHER-PROOF CONDULETS 

Furnished with Receptacle C337, Receptacle and Guard Holder RMP2 and Guard HV94*
Take any Incandescent Lamp not Exceeding $2{ }_{\mathrm{T}}^{7} \times 2{ }^{7}$ Inches
Not Designed to Take Giass Sealing-Globe

| TYPE HHV CONDULETS-Complete |  |  |  | TYPE HHVC CONDULETS-Complete |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Size |  | Black Enameled | Size |  |  |
|  | inch | $\begin{aligned} & \text { MHV1204 } \\ & 35 \\ & 140 \mathrm{lbs} . \\ & \$ 3.00 \end{aligned}$ | Catalogue No. Std. Package Wt. Std. Pkg. List, each | inch | $\begin{aligned} & \mathrm{IHFLC} 1204 \\ & 35 \\ & 145 \mathrm{lbs} . \\ & \$ 3.20 \end{aligned}$ |  |
|  | inch | $\begin{aligned} & \text { HHV2204 } \\ & 25 \\ & 115 \mathrm{lbs} . \\ & \$ 3.05 \end{aligned}$ | Catalogue No. Std. Package. Wt. Std. Pkg. List, each | inch ${ }_{\text {3/4, }}$ | $\begin{aligned} & \text { IIHVC2204 } \\ & 25 \\ & 120 \mathrm{lbs} . \\ & 83.20 \end{aligned}$ |  |
|  | finch | $\begin{array}{\|l\|} \hline \mathrm{IH} H \mathrm{~V} 3204 \\ 10 \\ 55 \mathrm{lbs} . \\ 83.30 \\ \hline \end{array}$ | Catalogue No. Std. Package Wt. Std. I'kg. List, cach | $\mathrm{inch}^{1-}$ | $\begin{aligned} & \hline \text { IIHVC320.1 } \\ & 10 \\ & 60 \mathrm{lbs} . \\ & \$ 3 . \mathrm{co} \\ & \hline \end{aligned}$ |  |
| TYPE HVLA CONDULETS-Complete RECEP. AND GUARD HOLDER |  |  |  |  |  |  |
|  | Size |  | Black Enamel Finish | For Weather-Proof Condulets of GV and <br>  Furnished with Gasket and Screws |  |  |
|  | inch | $\begin{aligned} & \text { 1IVLA1204 } \\ & 35 \\ & 140 \mathrm{lbs} . \\ & \$ 3.05 \end{aligned}$ | . Catalogue No. . .Stu. Package . W't. Std. Pkg. List, each | $\begin{aligned} & \text { 1MMP2 } \\ & 35 \\ & 30 \mathrm{lhs} . \\ & 8.30 \end{aligned}$ |  |  |
|  | inch | $\begin{aligned} & \text { IIVLA220t } \\ & 25 \\ & 115 \mathrm{lbs} . \\ & 83.15 \end{aligned}$ | Catalogue No. Std. Package Wt. Std. Pkg. List, each | This holder can be mounted on any Form 20 Condulet borly of the G and II series, provided holes for four No 8-32 serews are drilled and tapperl in the rim of the Condulet borly. When Condulet body is so used, the adjustable bar furnished with it is not needed. |  |  |
|  | inch | $\begin{aligned} & \text { IIVLA } 320.1 \\ & 10 \\ & 55 \mathrm{lbs} . \\ & 53.45 \end{aligned}$ | Catalogue No Std. Package Wt. Std. Plkg List, each |  |  |  |
|  |  | TYPE HV GUARDS <br> For Above Receptacle and Guard Holder Black Finish |  |  |  |  |
| $\pm$ |  | $\begin{aligned} & \mathrm{HV} 94 \\ & 35 \\ & 30 \mathrm{lbs} \\ & 81.40 \end{aligned}$ |  |  |  |  |

[^72]
## MIDGET GUARD EQUIPMENT

For Forms 5 and 10 Condulet Bodies of $G$ and $H$ Series Furnished Complete with Guard HGV95. Rcceptacle and Guard Holder RMP3. Keyless Receptacle PE55 and all necessary Screws* Takes any Incandescent Lamp not Exceeding $23 \times 37$ Inches Not Designed to Take Glass Sealing-Globe


Midget Guard Equipment Maunted on Type B Condulet Body and with Key Roceptacle and Lanp Installed (Broken-away Yiorr)

This equipment adapts Forms 5 and 10 Condulet bodies of the G and H series for use wherever a small, guarded electric light is required, such as on boats, in theatre dressing rooms, stairways, etc.

The equipment is designed to be attached to the adjustable bar furnished witl the Conclulet body.

Either key or keyless receptacles can be used.


Midget Guard Bquipment Mounted on sype H Condulet Boly and with Regless Recoptacle and Lamp Installed


MIDGET GUARD EQUIPMENT-Black Finish

| ( $o m p l e t e$ with Gua Receptacle and Gu RMP3, Keyless Rece and all necessary Scr | d HGV95, rd Holder acle 1'L5 s. | Guard Only | Receptacle and Guard Ilohler | Receptacle Only |
| :---: | :---: | :---: | :---: | :---: |
| Catalogue Number. | HGV3595 | 11GV95 | RMP3 | PE55 |
| Standard Package. | 40 |  |  | 200 |
| Ship. Wt. Std. Pkg. . | 80 lbs. | 30 lbs . | 50 lhs | ${ }_{9}^{95}$ Ihs. |
| List Price, each. . | S2.10† | \$1.40 | \$ . 30 | 8.40 |

*ucher receutacles thail PE55 which can be used with receptacle and guard holder RMP3. are as follows: Key Recentacles: ARROW E-8025, 802. W, 66609, 66609W. BRYANT-4484, 66609. G. E. CO.-GE043, GE324, GE41 4, GFH19, GE471. GE487. HUBBELL-3049, 3147 , 3307,3732 . PAISTE-5437, 5545. P. \& S.-132, 617, 618, 811, 61387, 66649.
Keyless Receptacles: ARKOW E-S026, 61610. BRYANT-66610, G. E. CO.-GE044, GE325, GIL472, GE488. HUBBELL-3050, 3733. PAISTE-5438, 5546. P. \& S.-146, 451, 60387, 88259.

## REFLECTORS-TYPE SH

For Guards V9. V90. VH9 and VH90-Furnished with necessary Fastening Screws
It is sometimes desirable to shut off the light from one side of a lamp mounted in a Condulet of the V or V1I series, and type SII reflectors are designed for this purpose.


Type V
With Refector SB4 Mounted

Two angle pieces on the face of the reffector hook over one of the guard rings. Tightening a serew in each ingle piece holds the reflector in place.

TYPE SH REFLECTORS-Steel
Outer Surface Black. Inner Surface Aluminumized

|  | For V9 and V90 Guards | Catalogue Number. Standard Package. Ship. Wt. Std. Pkg. List Price, each.... | $\begin{aligned} & \text { SH4 } \\ & 35 \\ & 40 \text { lbs. } \\ & \$ 1.70 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
|  | For VH9 and VH90 Guards | Catalogue Number. Standard Package. . Ship. Wt. Std. Pkg. List Price, each.... | ```SH5 35 50 lbs. $2.75``` |

## TYPE VS HAND LAMPS

Vapor, Gas and Dust-proof Portable Hand Lamp<br>Takes any Lamp with Dimensions not Exceeding $21 / 2 \times 51 / 4$ Inches*<br>Furnished with Crouse-Hinds Receptacle C9514, Clear Globe, Guard and Gaskets


#### Abstract

Type VS hand lamps are exceptionally well suited for use in garages, refineries, flour mills, for marine work, or wherever there is inflammable vapor, fine dust or moisture in the air.

Globes listed below can also be used on the V series of Condulets, and when so used take any lamp with dimensions not exceeding $21 / 2 \times 41 / 4$ inches. These dimensions permit the use of any lamp having a bulb that is no larger than an S14 or G181/2.

The globes listed below are smaller than those listed on other pages and when used on Condulets of the V series require a correspondingly smaller guard than that listed on another page. This smaller guard is listed below.


Guards VS095 and VS950, listed below for use with type VS hand


Type VS Hand Lamp lamps, have a hook and are provided with a locking cam, which is held closed by a knurled screw. Guards V950 and V95, listed below for use with Condulets of the V series, have no hook and are provided with a locking cam, which is arranged to take a padlock.


TYPE VS HAND LAMP-Brass

| Finish | Marine |
| :---: | :---: |
| Catalogue Number | VS10895 |
| Standard Package |  |
| Shipping Weight Std. I’kg. | 265 lbs. |
| List Price, each | $\$ 9.00$ |


|  | GLOBES-5 Inches in Overall Length <br> For Type VS Hand Lamns and Condulets of the V Series |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Color |  | Clear | Opal | Green | Blue | Orange | Ruby |
|  | Catalogue No. Standard Plkg. Wt. Std. Pkg. List Price, each |  | $\begin{aligned} & \text { V85 } \\ & 35 \\ & 40 \mathrm{lhs} . \\ & \$ .80 \end{aligned}$ | $\begin{aligned} & V 415 \\ & 35 \\ & 40 \mathrm{lhs} . \\ & \$ 1.10 \end{aligned}$ | $\begin{aligned} & \mathrm{V} 425 \\ & 35 \\ & 40 \mathrm{lbs} . \\ & \$ 1.70 \end{aligned}$ | V435 35 $40 \mathrm{lhs}$. $\$ 1.70$ | V445 <br> 35 <br> 40 lhs. <br> $\$ 1.70$ | $\begin{aligned} & V 455 \\ & 35 \\ & 40 \mathrm{lbs} \\ & 82.35 \end{aligned}$ |
| GUARDS-Brass <br> For Globes Listed on this Pare |  |  |  |  |  |  |  |  |
| For Type VS Hand Lamps |  |  |  | For Condulets of the V Series** |  |  |  |  |
|  | Galvan. ized | Marine | Finish |  | Marine | Black |  |  |
|  | $\begin{aligned} & \text { VS095 } \\ & 35 \\ & 40 \text { lbs. } \\ & \$ 2.00 \end{aligned}$ | $\begin{aligned} & \text { VS950 } \\ & 35 \\ & 40 \text { lbs. } \\ & \$ 2.00 \end{aligned}$ | Catalogue No... Standard Pkg... Wt. Std. Pkg... List Price, each |  | $\begin{aligned} & \text { Y950 } \\ & 35 \\ & 40 \text { lbs. } \\ & \$ 1.80 \end{aligned}$ | V05 <br> 35 <br> 40 lbs. <br> $\$ 1.80$ |  |  |

*These dimenslons permit the use of any lamy having a bulb that is no larger than an S19 or G181/2.
If specified on order, leather gaskets will be furnished with type VS hand lamp, instead of rubber gaskets, without extra charge.

# TYPES W, WC, WL, WT AND WX CONDULET BODIES FOR PLUG RECEPTACLES-HUBBELL, 5624; GENERAL ELECTRIC CO., 102700 

TYPE W CONDULET BODIES-Black Enamel Finish


| Size in inches | 1/2 | 3/1 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | WC:11 | WC22 | WC33 |
| Standard l'ackage | 100 |  |  |
| Shipping Weight Std. I'kg. | 140 lbs. | 110 lbs. | 55 lbs . |
| List Price, each | \$ . 60 | 8. 65 | 5.80 |

TYFE WL CONDULET BODIES-Black Enamel Finish


| Size in inches | 1/2 | 3/1 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Nurnber | VL11 | W1.22 | W Li̛3 |
| Standard Packame | 100 |  | 25 |
| Shipping Weirht Std. I'ky. | 141 lbs | 110 lbs . | 55 lbs . |
| List Price, each | \% . 60 | \$. 63 | \$.80 |

TYFE VTT COINDULET BODIES-Black Enamel Finish

| Size in inches . . | $1 / 2$ | 3/1 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Nimber | W'T111 | W T 222 | WT333 |
| Standard Package | 100 |  |  |
| Shipping Wreight Std. Pkg. | 150 lbs. | 120 lbs. | 60 lbs . |
| List Price, each | \$ . 70 | $\$ .80$ | \$1.00 |


TYPE WX CONDULET BODIES-Black Enamel Finish

| Size in inches | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Cutalogue Number | W. 11111 | WX2222 | WX:3333 |
| Standard Package | 100 |  | 25 |
| Shipping Weight Std. Pkg. | 160 lbs . | $150 \mathrm{lhs}$. | 75 lhs. |
| L, ist Price, each | \$ . 80 | \$.90 | \$1.15 |

## COVERS

For Types W, WC, WL, WT and WX Condulet Bodies-Black Enamel Finish For 1-2, 3-4 and 1-Inch Condulet Bodies


Proper fastening screws are furnished with covers, and are so held in serew holes that they can not fall out.
Finishes: Black enamel is the standard finish for both Condulet bodies and metal covers, and will be furnished unless another finish is specified on the order. Galvanized finish on exterior and black enamel finish on interior of Condulet bodies and all galvanized finish on covers will be furnished, at same price as all black enamel finish, when the order specifies galvanized finish. For special plated finishes on Condulet bodies and covers, cast brass and cast bronze Condulet bodies and brass and bronze covers with plain and special finishes, aluminum Condulet bodies and covers with plain and black enamel finish, see Manufacturer's Page No. 182.
Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package. No other assortment of Condulet bodies is allowed.
Black enameled and galvanized covers of both styles for Condulet bodies of the $W$ series may be assorted to make up a standard package.

## TYPES WD, WDC, WDL, WDT AND WDX CONDULET BODIES

For Clamp Receptacles

|  | TYPE WD COIIDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | $3 / 4$ | 1 |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pkg. <br> List Price, each | $\begin{aligned} & \text { WD1 } \\ & 75 \\ & 90 \mathrm{lbs} . \\ & \$ .60 \end{aligned}$ | $\begin{aligned} & \text { WD2 } \\ & 50 \\ & 75 \mathrm{lbs} . \\ & 8.70 \end{aligned}$ | $\begin{aligned} & \text { WD3 } \\ & 25 \\ & 50 \mathrm{lbs} . \\ & \$ .80 \end{aligned}$ |
|  | TYPE WDC CONDULET BODIES-Flack Enamel Finish |  |  |  |
|  | Size in inches | 1/2 | 3/4 | 1 |
| Broked-away 「iew, sbowing <br> Roxoptracle and Cover Instanled | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pl:g. <br> List Price, each | $\begin{array}{\|l} \hline \text { WDC11 } \\ 75 \\ 105 \mathrm{lbs} . \\ 1.70 \end{array}$ | WDC22 50 90 lbs . \$ . 75 | WDC33 ${ }_{60}^{25} \mathrm{lbs}$. \$. 90 |


|  | TYPE WDL CONDULET BODIES-Black Enamel Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | 1/2 | $3 / 4-1 / 2$ | 3/4 |
|  | Catalogie Number <br> Standard Package <br> Shipping Weight Stcl. IPl:g <br> List Price, each | $\begin{aligned} & \text { WDL11 } \\ & 75 \\ & 105 \mathrm{lbs} . \\ & \$^{2} .70 \end{aligned}$ | $\begin{aligned} & \text { WDL21 } \\ & 50 \\ & 90 \mathrm{lbs} . \\ & 6.75 \end{aligned}$ | $\begin{array}{\|l} \text { WDL22 } \\ 50 \\ 90 \mathrm{lbs} . \\ \$ .75 \end{array}$ |


|  | TYPE WDT CONDULET BODIES-Black Enamel Finlsh |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Size in inches | $1 / 2$ | 3/1-1/2-3/4* | 3/4 |
|  | Catalogue Number <br> Standard IPaclage <br> Shipping Weight Std. IPlg. <br> List lriee, each | ```MET111 75 120 lbs. $.80``` | $\begin{aligned} & \text { VDT212 } \\ & 50 \\ & 100 \mathrm{lbs} . \\ & \$ .90 \end{aligned}$ | WDT2ะ2 <br> 50 <br> 105 lbs. <br> \$ . 90 |



COVERS—For Condulet Bodies of the WD Series-Black Enamel Finish Furnished with Fastening Screws

|  | Style of Cover | 1116" Opening |  | 11/2" Opening $\ddagger$ |  | Black Metal |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | SheetSteel | Cast Iron | Sheet Steel | Cast Iron | SheetSteel | Cast Iron |
|  | Catalogue No. | WD054 | WI)0054 | WD048 | WD 0048 | 1100 | WD000 |
|  | Standard Pkg. | 75 | 75 | 75 |  |  |  |
|  | Wt. Std. Pkg. | 25 lbs . | 40 lbs . | 25 llss . | $40 \mathrm{lhs}$. | 25 lbs . | 45 lbs . |
|  | List, each . | \$ . 15 | \$. 30 | \% 15 | \$. 30 | \$ . 15 | 8. 30 |

Prices for Condulet bodies do not include receptacles or covers.
*Center hul) is the smallest one.
Proper fastening screws are furnished with covers, and are so held in screw holes that they can not fall out.
Condulet bodies listed above take the following:
$\dagger$ Cover with 1łt-inch opening: ARROW E-86, 440. BRYANT-4014, 4057. FEDERAL-303,304, 305. P. \& S.
\& Sovor with 1, 1 -inch opening: ARROW E-427, 439, 61577, 61578, 61877, 61988. BRYANT-4035, 4036, 61988. G. E. CO.-GEOO1, GEO60, GE079, GE118, GE153, GE2 17, GE209, GE271. PAISTE-47566, 59439, 61988, P. \& S. $427,436,437,439,61577,61578,61877,61988$, $102703,102704$.

# CONDULETS-Y SERIES-Continued <br> TYPE Y 

For Cartridge or Plug Fuse Cut-outs
Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws

TYPE Y CONDULETS—DEAD END-Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished


For 60 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished

| Style of Cut-out | Size in inches. | 3/4 | 1 | 11/4 | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-wire | Catalogue Number. Standard Package. Weight Std. Pkg... . List Price, each. | $\begin{aligned} & \text { Y2602 } \\ & 15 \\ & 170 \text { lbs. } \\ & \$ 2.40 \end{aligned}$ | $\begin{aligned} & Y 3602 \\ & 10 \\ & 120 \mathrm{lbs} . \\ & \$ 2.55 \end{aligned}$ | $\begin{aligned} & Y 4602 \\ & 10 \\ & 130 \mathrm{lbs} . \\ & \$ 2.75 \end{aligned}$ | $\begin{aligned} & Y \overline{6} 02 \\ & 5 \\ & 7.5 \mathrm{lbs} . \\ & \$ 2.90 \end{aligned}$ | $\begin{aligned} & Y 6602 \\ & 5 \\ & 80 \mathrm{lhs}- \\ & 83.00 \end{aligned}$ |
| Style of Cut-out | Size in inches...... | 3/4 | 1 | 11/4 | 11/2 | 2 |
| 3-wire | Catalogue Number. Standard Package. Weight Std. Pkg.... List Price, each.... | $\begin{aligned} & \text { Y2603 } \\ & 15 \\ & 220 \mathrm{lbs} . \\ & 83.15 \end{aligned}$ | $\begin{aligned} & Y 3603 \\ & 10 \\ & 150 \text { lbs. } \\ & 3.2 . \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 4603 \\ & 10 \\ & 160 \mathrm{lbs} . \\ & \$ 3.55 \end{aligned}$ | Y5603 5 90 lbs. $\$ 3.70$ | $\begin{aligned} & 16603 \\ & 5 \\ & 95 \mathrm{lbs}- \\ & \$ 3.85 \\ & \hline \end{aligned}$ |

The universal cut-out fastening plates, furnished with the above Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
2-Wire: BRYANT-(Cartridge) 1917, (Plug) 62965. D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge) 34367. (Plug) 62965. NOARK-(Cartridge) 3327. PAISTE-(Cartridge) 72965, (Plug) 2965. SHAWMUT-(Cartridge) 2077. TRUMBULL-(Cartridge) 29653, (Plug) 2965. WEBER-(Plug) 6296̄5. UNION-(Cartridge) 2010.

3-Wire: BRYANT-(Cartridge) 1924, (Plug) 62165. D. \& W.-(Cartridge) 91103. G. E. CO.-(Cartridge) 34372, (Pug) 62165. NOARK-(Cartridge) 3328. PAISTE-(Cartridge) 72165, (Plug) 2165. SHAWMUT-(Cartridge) 2079. TRUMBULi-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) 62165. UNION-(Cartridge) 2012.

## 60 Ampere, 250 Volt, Cut-outs

2-Wire: BRYANT-(Cartridge) 1918. D. \& W.-(Cartridge) 91108. G. E. CO.-(Cartridge) 34376. NOARK(Cartridge) 3329. PAISTE-(Cartridge) 82965. SHAWMUT-(Cartridge) 2078. TRUMBULL-(Cartridge) 29656. UNION-(Cartridge) 2011.

3-Wire: BRYANT-(Cartridge) 1925. D. \& W.-(Cartridge) 91109. G. E. CO.-(Cartridge) 34377. NOARK(Cartridge) 3330. PAISTE-(Cartridge) 82165. SHAWMUT-(Cartridge) 2080. TRUMBULL-(Cartridge) 21656. UNION-(Cartridge) 2013.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

# CONDULETS-Y SERIES-Continued <br> TYPES Y AND YC <br> For Cartridge or Plug Fuse Cut-outs <br> Furnished with Universal Cut-out Fastening Plate and all Necessary Bolts and Screws 

TYPE Y CONDULETS-DEAD END-Black Enamel Finish-Continued

| Style of Cut-out | Size in inches | 1 | $11 / 4$ | $11 / 2$ | 2 | 21/2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-wire | Catalogue Number Standard Package Weight Std. Pkg. List Price, each | $\begin{aligned} & 131002 \\ & 10 \\ & 220 \text { lhs. } \\ & \$ 5.20 \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 41002 \\ & 10 \\ & 230 \mathrm{lbs} . \\ & \$ 5.50 \end{aligned}$ | $\begin{aligned} & 151002 \\ & 5 \\ & 120 \mathrm{lbs} . \\ & \$ 5.65 \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 61002 \\ & 5 \\ & 130 \mathrm{lbs} \\ & \$ 5.75 \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 71002 \\ & 5 \\ & 140 \mathrm{lbs} . \\ & \$ 5.85 \end{aligned}$ |
| Style of Cut-out | Size in inches | 1 | $11 / 4$ | 11/2 | 2 | $21 / 2$ |
| 3-wire | Catalogue Number Standard Package Weight Std. Pkg.. List Price, each | $\begin{aligned} & Y 31003 \\ & 10 \\ & 230 \mathrm{lbs} . \\ & \$ 5.80 \end{aligned}$ | $\begin{aligned} & 141003 \\ & 10 \\ & 240 \mathrm{lbs} . \\ & \$ 6.25 \end{aligned}$ | $\begin{aligned} & 151003 \\ & 5 \\ & 140 \mathrm{lbs} . \\ & \$ 6.35 \end{aligned}$ | $\begin{aligned} & \mathrm{l} 61003 \\ & 5 \\ & 1 \overline{2} 0 \mathrm{lbs} . \\ & \$ 6.45 \end{aligned}$ | $\begin{aligned} & Y 71003 \\ & 5 \\ & 160 \mathrm{lbs} . \\ & \$ 6.55 \end{aligned}$ |

For 30 or 60 Ampere, 600 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished

| Style of Cutout | Size in inches | 1/2 | $3 / 4$ | 1 | $11 / 4$ | 11/2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-wire | Catalogue Number Standard I'ackage Weight Std. Pkg. List Price, each | $\begin{aligned} & \mathrm{Y} 16016 \\ & 15 \\ & 175 \mathrm{lbs} \\ & \$ 3.15 \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 26016 \\ & 15 \\ & 185 \mathrm{lbs} . \\ & \$ 3.25 \end{aligned}$ | $\begin{aligned} & \mathrm{Y} 36016 \\ & 10 \\ & 12.5 \mathrm{lbs} . \\ & \$ 3.35 \end{aligned}$ | $\begin{array}{\|l} \mathrm{Y} 46016 \\ 10 \\ 130 \mathrm{lbs} . \\ \$ 3.45 \end{array}$ | $\begin{aligned} & \text { Y56016 } \\ & 5 \\ & 70 \mathrm{lbs} . \\ & \$ 3.55 \end{aligned}$ |

The universal cut-out fastening plates, furnished with the above condulets, take the following: cut-outs:

100 Ampere, 250 Volt, Cut-outs
2-Wire: BRYANT-(Cartridge) 271. D. \& W.-(Cartridge) 91119. G. E. CO.-(Cartridge) 36801. NOARK(Cartridge) 3 331. SHAWMUT-(Cartridge) 2101. UNION-(Cartridge) 201.
3-Wire: BRYANT-(Cartridge) 272. D. \& W.-(Cartridge) 91120 . G. E. CO.-(Cartridge) 36800. NOARK(Cartridge) 3332. SHAWMUT-(Cartridge) 2102. UNION-(Cartridge) 2015. 30 and 60 Ampere, 600 Volt , Cut-outs
1-Wire, 30 Ampere: BRYANT-(Cartridge) 1937. D. \& W.-(Cartridge) 28076. G. E. CO.-(Cartridge) 34991. NOARK-(Cartridge) 5600 . SHAWMUT-(Cartridge) 20735. UNION-(Cartridge) 4003.
1-W ire, 60 Ampere: BRYANT-(Cartridge) 1938. D. \& W.-(Cartridge) 28077. G. E. CO.-(Cartridge) 35101 NOARK - (Cartridge) 5601. SHAWMUT-(Cartridge) 20745. UNION-(Cartridge) 4004.

TYPE YC CONDULETS-THROUGH FEED-Black Enamel Finish

|  | Style of Cut-out | Size in inches. | $1 / 2-1 / 2$ | $3 / 4-3 / 4$ | 1 -1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-wire | Catalogue Number... Standard Package. Weight sitd. Pkg. . ... List Price, each | $\begin{aligned} & \mathrm{Y} 111302 \\ & 1 \overline{7} \\ & 120 \mathrm{lbs} . \\ & \$ 1.70 \end{aligned}$ | YC 22302 15 130 lbs. $\$ 1.80$ | $\begin{aligned} & \mathrm{YC} 33302 \\ & 10 \\ & 100 \mathrm{lbs} . \\ & \$ 1.80 \end{aligned}$ |
|  | Style of Cut-out | Size in inches. | $11 / 4-11 / 4$ | $11 / 2-11 / 2$ | $2-2$ |
|  | 2-wire | Catalogue Number... Standard Package. Weight Std. Pkg. List Price, each . . . . . . | $\begin{aligned} & \mathrm{YC} 44302 \\ & 10 \\ & 110 \mathrm{lbs} . \\ & \$ 2.10 \end{aligned}$ | $\begin{aligned} & \text { YC55302 } \\ & 5 \\ & 65 \mathrm{lbs} . \\ & \$ 2.20 \end{aligned}$ | $\begin{array}{\|l} \mathrm{YC} 66302 \\ 5 \\ 70 \mathrm{lbs} . \\ \$ 2.40 \end{array}$ |

The universal cut-out fastening plates furnished with the above Condulets, take the following
cut-outs: $\quad$ 2-Wire, 30 Ampere Cut-outs: BRYANT-(Cartridge) 1917, (Plug) 62965. D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge) 34367, (Plug) 62965, NOARK-(Cartridge) 3327. PAISTE-(Cartridge) 72965, (Plug) 2965. SHAWMUT-(Cartridge) 2077. TRUMBULL-(Cartridge) 29653, (Plug) 2965. WEBER-(Plug) 62965. UNION-(Cartridge) 2010.

# CONDULETS-Y SERIES-Continued <br> TYPE YC-Continued <br> For Cartridge or Plug Fuse Cut-outs <br> Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws 

## TYPE YC CONDULETS-THROUGH FEED-Black Enamel Finish-Continued

For 30 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished

| Style of Cut-out | Size in inches | $1 / 2-$ | 4-3/4 | 1 | - $11 / 4$ | $11 / 2-11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3-wire | Catalogue No. Standard l'ackage. Weight Std. I'kg.. List Price, each.. | $\begin{aligned} & \mathrm{Y}(11303 \\ & 15 \\ & 140 \mathrm{lbs} . \\ & \$ 2.15 \end{aligned}$ | $\begin{aligned} & 1(22303 \\ & 15 \\ & 145 \mathrm{llbs} . \\ & 82.25 \end{aligned}$ | ```YC33303 10 120 lbs. 82.3.)``` | $\begin{aligned} & \mathrm{YC}+430: 3 \\ & 10 \\ & 130 \mathrm{lhs} . \\ & 82.60 \end{aligned}$ | $\begin{aligned} & \text { YC50303 } \\ & 5 \\ & 70 \mathrm{lbs} . \\ & \$ 2.70 \end{aligned}$ |


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Style of Cut-out | Si | $3 / 4-3 / 4$ |  | $11 / 4-11 /$ | $1 / 2-11 / 2$ | $2-2$ |
| 2-wire | Catalogue No..... Standard l'ackage Weight std. l’kg. List l'rice, each. | $\begin{aligned} & 1 C 22002 \\ & 1.5 \\ & 210 \mathrm{lbs} . \\ & 82.65 \end{aligned}$ | YC33(0) <br> 10 <br> 115 lhs. <br> \$2.75 | $\begin{aligned} & \mathrm{YC} 14602 \\ & 10 \\ & 1.50 \mathrm{lbs} . \\ & 82.8 .5 \end{aligned}$ | $1 \mathrm{CH} 5(6) 2$ <br> 5 <br> 8.5 lbs . <br> \$3.15 | $\begin{aligned} & \mathrm{y} C 66602 \\ & 5 \\ & 90 \mathrm{lbs} . \\ & \$ 3.25 \\ & \hline \end{aligned}$ |
| Style of Cut-out | Size in inche | -3/4 | 1 - 1 | $11 / 4-11 /$ | $11 / 2-11 / 2$ | $2-2$ |
| 3-wire | Catalogue No.... Standard l'ackage. Weight Stel. l'kg. List Price, ach.. | $\begin{aligned} & 1 \mathrm{C} 22603 \\ & 1.5 \\ & 260 \mathrm{lbs} . \\ & \$ 3.40 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 33 \mathrm{COB} \\ & 10 \\ & 170 \mathrm{lbs} . \\ & 83.50 \end{aligned}$ | $\begin{aligned} & \mathrm{CC}+1603 \\ & 10 \\ & 130 \mathrm{lbs} . \\ & 33.60 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 55603 \\ & 5 \\ & 100 \mathrm{lbs} . \\ & 83.95 \end{aligned}$ | $\begin{aligned} & \hline \mathrm{C} 66603 \\ & 5 \\ & 105 \mathrm{lbs} . \\ & 84.10 \end{aligned}$ |
| For 100 Ampere, 250 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished |  |  |  |  |  |  |
| Style of Cut-out | Size in inches | - 1 | $11 / 4-11 / 4$ | - $11 / 2$ | 2 - 2 | $21 / 2-21 / 2$ |
| 2-wire | Catalogue No. Standard Parkage Weight Std. Phg. List l'rice, each. . | $\begin{aligned} & 1(331002 \\ & 10 \\ & 2 \frac{70 \mathrm{lbs}}{85.45} \end{aligned}$ | $\begin{aligned} & \mathrm{YC} 441002 \\ & 10 \\ & 280 \mathrm{lbs} . \\ & \mathrm{s} .80 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 5.51002 \\ & 5 \\ & 110 \mathrm{lbs} . \\ & 8.5 .90 \end{aligned}$ | $\begin{aligned} & 1(661002 \\ & 5 \\ & 150 \mathrm{lbs} . \\ & 86.10 \end{aligned}$ | $\begin{aligned} & \text { yC771002 } \\ & 5 \\ & 160 \mathrm{lbs} . \\ & \$ 6.20 \end{aligned}$ |
| Style of Cut-out | Size in inches. | - 1 | $11 / 4-11 / 4$ | $1 / 2-11 / 2$ | 2 - 2 | $21 / 2-21 / 2$ |
| 3-wire | Catalogue No.... Standard Parkage. Weight Std. l'kg. List Price, each. | YC 331003 10 280 lhs 86.10 | $\begin{aligned} & \hline \mathrm{C} 441003 \\ & 10 \\ & 290 \mathrm{lbs} . \\ & 86.59 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C}^{\circ} \mathrm{C} 51003 \\ & 5 \\ & 14 \mathrm{j} \text { lbs. } \\ & 86.65 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 661003 \\ & 5 \\ & 150 \mathrm{lbs} . \\ & 86.75 \end{aligned}$ | $\begin{aligned} & \text { YC7i1003 } \\ & 5 \\ & 160 \mathrm{lbs} . \\ & 86.90 \end{aligned}$ |

For 30 or 60 Ampere, 600 Volt, N. E. C. Main Line Cut-outs-Cut-outs not Furnished

| Style of Cut-out | Si |  |  |  | $11 / 4$ | $11 / 2-11 / 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-wire | Catalogue No.... Standard Package. Weight Stal. l'kg. List Price, each.. | $\begin{aligned} & 1 \mathrm{C} 116016 \\ & 15 \\ & 180 \mathrm{lbs} \\ & 83.30 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 26016 \\ & 15 \\ & 190 \mathrm{lbs} . \\ & 13.45 \end{aligned}$ | $\begin{aligned} & \mathrm{lC} 336016 \\ & 10 \\ & 130 \mathrm{lhs} . \\ & 83.60 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{C} 446016 \\ & 10 \\ & 140 \mathrm{lbs} . \\ & 83.60 \end{aligned}$ | $\begin{array}{\|l} 1 \mathrm{C} 556016 \\ 5 \\ 80 \mathrm{lbs} . \\ 83.90 \\ \hline \end{array}$ |

The universal cut-out fastening plates, furnished wich the above Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3-Wire: BRYANT-(Cartrilg2) 1.2t, (Plug) 62lij. D. \& W.-(Cartridge) 91103. G. E. CO.-(Cartridge) 34372, (Plug) 62165. NOARK-(Cartridge) 3328. PAISTE-(Cartridge) 22165, (Plug) 2165. SHAWMUT -(Cartridge) 2079. TRUMBULL-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) 62165. UNION(Cartridge) 2012.

3-Wire: BRYANT-(Cartridge) 1925. D. \& W.-(Cartridge) 91109. G. E. CO.-(Cartridge) 34377. NOARK(Cartridge) 3.330. PAISTE-(Cartridge) 82165. SHAWMUT-(Cartridge) 2080. TRUMBULL-(Cartridge) 21656. UNION-(Cartridge) 2013.

2-Wire, 100 Ampere and 3-Wire, 100 Ampere, 250 Volt, Cut-outs $\}$ Sce enumeration of cut-outs under type Y
1 -Wire, 36 Ampere and 1-Wire, 60 Ampere, 600 Volt, Cut-outs $\}$ Condulets on preceding page.

## CONDULETS--Y SERIES-ContInued <br> TYPE YL

For Cartridge or Plug Fuse Cut-outs
Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws
TYPE YL CONDULETS-THROUGH FEED-Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs-Cut-outs not Furnished

| 03 | Style of Cut-out | Size in inches. | $1 / 2$ | $3 / 4$ | $1$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-wire | Catalogue Number. Standard Package. Weight Std. Pkg. List l'rice, each | $\begin{aligned} & \overline{Y L 11302} \\ & 15 \\ & 140 \mathrm{lbs} . \\ & \$ 1.75 \end{aligned}$ | $\begin{aligned} & \mathrm{YL} 22302 \\ & 15 \\ & 150 \mathrm{lbs} . \\ & \$ 1.85 \end{aligned}$ | YL33302 10 100 lbs. $\$ 1.9 \overline{5}$ |
|  | Style of Cut out | Size in inches. | $1 / 2$ | $3 / 4$ | $\stackrel{1}{L}$ |
|  | 3-wire | Catalogue Number Standard Package Weight Std. Pkg.. List Price, cach. | $\begin{aligned} & \mathrm{YLL1303} \\ & 15 \\ & 170 \mathrm{lbs} . \\ & 82.55 \end{aligned}$ | YL22303 15 175 lbs. $\$ 2.75$ | $\begin{aligned} & \mathrm{Y} \mathrm{~L} 33303 \\ & 10 \\ & 120 \mathrm{lbs} . \\ & \$ 2.85 \end{aligned}$ |

For 60 Ampere, 250 Volt, N. E. C. Main Line or Single Branch Cut-outs-Cut-outs not Furnished

| Style of Cut-out | $\begin{aligned} & 3 / 4 \\ & 1 \end{aligned}$ |  | ....Size in inches.... | Style of Cut-out | $3 / 4$ | $1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-wire | ```YL22602 15 200 Ibs. $2.60``` | $\begin{aligned} & \hline \text { YL33602 } \\ & 10 \\ & 140 \mathrm{lbs} . \\ & \mathbf{\$ 2 . 7 0} \end{aligned}$ | .Catalogue Number.. <br> ..Standard Package. . <br> ...Weight Std. Pkg... <br> ... List Price, each. | 3-wire | $\begin{aligned} & \hline \text { YL22603 } \\ & 15 \\ & 260 \mathrm{lbs} . \\ & \$ 4.20 \end{aligned}$ | $\begin{aligned} & \text { Y L33603 } \\ & 10 \\ & 190 \mathrm{lbs} . \\ & \$ 4.30 \end{aligned}$ |

The universal sut-out fastening plates, furnished with the above condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Main Line Cut-outs
2-Wire: BRYANT-(Cartridge) 1917, (Plug) 62965. D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge) 34367. (Plug) 62965. NOARK - (Cartridge) 3327. PAISTE-(Cartridge) 72965, (Plug) 2965. SHAWMUT (Cartridge) 2077. TRUMBULL-(Cartridge) 29653, (Plug) 2965. WEBER-(Plug) 62965. UNION(Cartridge) 2010.
3-Wire: BRYANT-(Cartridge) 1924, (Plug) 62165. D. \& W.-(Cartridge) 91103. G. E. CO.-(Cartridge) 34373, (Plug) 62165. NOARK-(Cartridge) 3328. PAISTE-(Cartridge) 72165, (Plug) 2165. SHAWMUT -(Cartridge) 2079. TRUMBULL-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) 62165. UNION(Cartridgel 2012.

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Single Branch Cut-outs
2 to 2-Wire: BRYANT-(Cartridge) 1919, (Plug) 6193 . D. \& W.-(Cartridge) 91104. G. E. CO.-(Cartridge) 34368, (Plug) 61935. NOARK-(Cartridge) 3345. PAISTE-(Cartridge) 71935, (Plug) 1935. SHAWMUT -(Cartridge) 2081. TRUMBULL-(Cartridge) 19353, (Plug) 1935. WEBER-(Plug) 61935. UNION-(Cartridg ${ }^{4}$ ) $2022^{2}$.
3 to 3-Wire: BRYANT-(Cartridge) 1926, (Plug) 8042. D. \& W.-(Cartridge) 91105. G. E. CO.-(Cartridge) $3437 \%$, (Plng) 8042. NOARK-(Cartridge) 3346. PAISTE-(Cartridge) 78042. (Plug) 8042. SHAWMUT(Cartridge) 2083. TRUMBULL-(Cartridge) 80423, (Plug) 8042. WEBER-(Plug) 8042. UNION-(Cartridge) 2622.

60 Ampere, 250 Volt, Main Line Cut-outs
2-Wire: BRYANT-(Cartridge) 1918. D. \& W.-(Cartridge) 91108. G. E. CO.-(Cartridge) 34376. NOARK -(Cartridye) 3329. PAISTE-(Cartridge) 82965. SHAWMUT-(Cartridge) 2078. TRUMBULL-(Cartridge) 23055 . UNION - (Cartridge) 2011.
3-Wire: BRYANT-(Cartriles) 1925. D. \& W.-(Cartridge) 91109. G. E. CO.-(Cartridge) 34377. NOARK(Cartridge) 3330 . PAISTE-(Cartridge) 82165. SHAWMUT-(Cartridge) 2080. TRUMBULL-(Cartridge) 21656. UNION-(Cartridge) 2013.

$$
60 \text { Ampere, } 250 \text { Volt, Single Branch Cut-outs }
$$

2 to 2-Wire: BRYANT-(Cartridge) 1920. D. \& W.-(Cartridge) 91110. G. E. CO.-(Cartridge) 34378. NO-ARK-(Cartridge) 3347. PAISTE-(Cartridge) 81935. SHAWMUT-(Cartridge) 2082. TRUMBULL(Cartridge) 19356. UNION -(Cartridge) 2021.
3 to 3-Wire: BRYANT-(Cartritg?) 1927. D. \& W.-(Cartridge) 91111. G. E. CO.-(Cartridge) 34379. NO-ARK-(Cartridge) 33!צ. PAISTE-(Cartridge) 88042. SHAWMUT-(Cartridge) 2084. TRUMBULL(Cartridge) S0 226 . UNION-(Cartridge) 2023.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-Y SERIES-Continued <br> TYPE YS

For Cartridge or Plug Fuse Cut-outs Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws

## TYPE YS CONDULETS-THROUGH FEED-Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Single Branch Cut-outs-Cut-outs not Furnished


The universal cut-out fastening plates furnished for above Condulets take 30 ampere cut-outs enumerated on following page.

# CONDULETS- $\mathbf{Y}$ SERIES-Continued <br> TYPE YD 

For Cartridge or Plug Fuse Cut-outs
Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws

TYPE YD CONDULETS-DEAD END-Black Enamel Finish

For 30 Ampere, 250 Volt, N. E. C. Double Branch Cut-outs-Cut-outs not Furnished


The universal cut-out fastening plates, furnished for above Condulets take 30 ampere cut-outs enumerated on the following page.

# CONDULETS-Y SERIES-Continued <br> TYPE YX 

## For Cartridge or Plug Fuse Cut-outs

Furnished with Unlversal Cut-out Fastening Plate and All Necessary Bolts and Screws

## TYPE YX CONDULETS-THROUGH FEED-Black Enamel Finlsh

For 30 Amperes, 250 Volt, N. E. C. Double Branch Cut-outs-Cut-outs not Furnished


## CONDULETS-YK SERIES

## TYPE YK

## For Knife Switches Arranged for Cartridge or Plug Fuses Furnished with Universal Fastening Plate and All Necessary Bolts and Screws



TYPE YK CONDULETS-DEAD END-Black Enamel Finish

For Knife Switches arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses


For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

| Style of Switch | Size in inches | 3/4 | 1 | $11 / 4$ | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue Number | Y12632 | 113602 | YK1602 | YK5602 | Yli6602 |
|  | Standard l'ackage. |  |  |  |  |  |
|  | Shipping Weight, std. Pkg | 170 lbs. | 175 lbs. | 180 lbs. | $190 \text { lhs. }$ | $200 \text { lbs. }$ |
|  | L |  |  |  |  |  |
| Style of Switch | Size in inches | 3/4 | 1 | 11/4 | 11/2 | 2 |
| 3-pole | Catalogue Number | YK2603 | YK3603 | YK4603 | 1'155603 | YK6603 |
|  | Standard l'ackage. |  |  |  | 10 | $10$ |
|  | Shipping Weight, Std. Pkg. | 230 lbs. | 235 lbs. | $240 \mathrm{lbs} .$ | $250 \mathrm{lbs} .$ | $260 \mathrm{lbs} .$ |
|  | List Price, each | $\$ 5.90$ | $\$ 6.10$ | $\$ 6.45$ |  | 86.95 |

[^73]
# CONDULETS-YK SERIES-Continued TYPE YKC 

For Knife Switches Arranged for Cartridge or Plug Fuses Furnished with Universal Fastening Plate and All Necessary Bolts and Screws

TYPE YKC CONDULETS-THROUGH FEED-Black Enamel Finish

For Knife Switches arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses


For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

| Style of Switch | Size in inches | $3 / 4$ | 1 | $11 / 4$ | $11 / 2$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue No Standard Pkg Weight Std. Pkg. List Price, each | $\begin{aligned} & \text { YKC22602 } \\ & 10 \\ & 180 \mathrm{lbs} . \\ & \$ 4.50 \end{aligned}$ | $\begin{aligned} & \text { YKC33602 } \\ & 10 \\ & 190 \mathrm{lbs} . \\ & \$ 4.70 \end{aligned}$ | $\begin{aligned} & \text { YKC44602 } \\ & 10 \\ & 200 \mathrm{lbs} . \\ & \$ 4.90 \end{aligned}$ | $\begin{aligned} & \text { YKC555602 } \\ & 10 \\ & 210 \mathrm{lbs} . \\ & \$ 5.15 \end{aligned}$ | $\begin{aligned} & \text { YKC66602 } \\ & 10 \\ & 220 \mathrm{lbs} . \\ & \$ 5.45 \end{aligned}$ |
| Style of Switch | Size in inches | 3/4 | 1 | $11 / 4$ | 11/2 | 2 |
| 3-pole | Catalogue No Standard Pkg Weight Std. Pkg. List Price, each | $\begin{aligned} & \text { YKC22603 } \\ & 10 \\ & 230 \mathrm{lbs} . \\ & \$ 6.0 \mathrm{a} \end{aligned}$ | $\begin{aligned} & \text { YKC33603 } \\ & 10 \\ & 240 \mathrm{lhs} . \\ & \$ 6.2 \bar{s} . \end{aligned}$ | $\begin{aligned} & \mathrm{YZC} 44603 \\ & 10 \\ & 250 \mathrm{lbs} . \\ & \$ 6.60 \end{aligned}$ | $\begin{aligned} & \text { YKC55603 } \\ & 10 \\ & 300 \mathrm{lbs} . \\ & \$ 6.85 \end{aligned}$ | $\begin{aligned} & \text { YKC66603 } \\ & 10 \\ & 310 \mathrm{lbs} . \\ & \$ 7.15 \end{aligned}$ |

Switches are not included in above list prices, but the universal fastening plates, furnished with Condulets of the YK series, take Crouse-Hinds type YKK knife switches or the knife switches of other manufacturers, as follows:
Switches Arranged for 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuses
2-Pole: CROUSE-HINDS-(Cartridge) Y'K302. BRYANT—(Plug) 1695, 1981. CONN. ELEC.-(Plug) 01502. D. \& W.-(Plug) 25028. G. E. CO.-(Plug) 42869. PAISTE-(Plug) 4014, 4016. TRUMBULL-(Cartridge) 704, 724, (llug) 701, 721.
3-Pole: CROUSE-HINDS-(Cartridge) YIKIK303. BRYANT-(Plug) 1986. PAISTE—(Cartridge) 4033, (Plug) 4025، 4029. TRUMBULL-(Cartridge) 725 , (Plug) 723.

## Switches Arranged for 60 Ampere, 250 Volt, Cartridge Fuses

2-Pole: CROUSE-HINDS-(Cartridge) YKK602. PAISTE-(Cartridge) 5151
3-Pole: CROUSE-HINDS-(Cartridge) YKIG603. PAISTE-(Cartridge) 5153.
Crouse-Hinds type YKK knife switches arranged for cartridge fuses are listed on Manufacturer's Page No. 135.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-YKW SERIES

 TYPE YKWWater-tight-For Knife Switches Arranged for Cartridge or Plug Fuses
Furnished with Universal Fastening Plate, Gasket and All Necessary Bolts and Screws


Type IIW with Type YKI Switch Installed


Type IXWC with Type B Switch, Arranged for Cartridge Fuses, Installed

TYPE YKW CONDULETS-DEAD END-Black Enamel Finish

For Knife Switches Arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses


For Knife Switches Arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

| Nityle of Switch | Size in inches | 3/4 | 1 | $11 / 4$ | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue Number....... Standard Package Shipping Weight std. Pkg. Inist Price, each. | $\begin{aligned} & \hline Y \mathrm{KW} 2602 \\ & 10 \\ & 270 \mathrm{lbs} . \\ & 88.80 \end{aligned}$ | $\begin{aligned} & \text { VKW3602 } \\ & 10 \\ & 275 \mathrm{lbs} . \\ & \$ 8.90 \end{aligned}$ | $\begin{aligned} & \text { YKW4602 } \\ & 10 \\ & 280 \mathrm{lbs} . \\ & 89.00 \end{aligned}$ | $\begin{aligned} & \hline \text { YKW5602 } \\ & 10 \\ & 290 \mathrm{lbs} . \\ & 89.10 \end{aligned}$ | $\begin{aligned} & \hline \text { YKW6602 } \\ & 10 \\ & 300 \mathrm{lbs} . \\ & 89.20 \\ & \hline \end{aligned}$ |
| Style of Switch | Size in inches. | $3 / 4$ | 1 | 11/4 | $11 / 2$ | 2 |
| 3 -pole | Catalogue Number. ...... standard Package. Shipping Weight Std. 1'kg. List Price, each. | $\begin{aligned} & \hline \text { YKW2603 } \\ & 10 \\ & 300 \mathrm{lbs} . \\ & \$ 9.40 \end{aligned}$ | $\begin{aligned} & \text { YK W3603 } \\ & 10 \\ & 30 \mathrm{j} \mathrm{lbs} . \\ & \$ 9.50 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { YW4603 } \\ & 10 \\ & 310 \mathrm{lbs} . \\ & 89.60 \\ & \hline \end{aligned}$ | ```YKW5603 10 315 lbs. 8.70``` | $\begin{array}{\|l} \hline \text { YKW6603 } \\ 10 \\ 320 \mathrm{lbs} . \\ \$ 9.80 \\ \hline \end{array}$ |

Switches are notincluded in above list prices, but the universal fastening plates, furnished with above Condulets, take Crouse-Hinds type YKK knife switches or the kife switches of other
manufacturers, enumerated on following pase.

# CONDULETS－YKW SERIES－－Continued TYPE YKW－Continued <br> Water－tight－for Knife Switches Arranged for Cartridge Fuses <br> Condulets Listed Below are not arranged for Universal Fastening Plates，but are furnished with All Necessary Screws to Fasten Switches direct to Condulets 

## TYPE YKW CONDULETS－DEAD END－Black Enamel Finish

| Style of Switch | Size in inches． | 1 | 11／4 | 11／2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2－pole | Catalogue Number Standard Paekage Shipping Weight Std．Ikg．．．．．． List Priee，each． | ```YK\131002 5 2.0 lhs. $16.60``` | ```YKW41002 5 25.5 lbs. 816.>0``` | $\begin{aligned} & \text { YKW51002 } \\ & 5 \\ & 260 \mathrm{lhs} \\ & 817.00 \end{aligned}$ | ```YKW61002 5 270 lbs. 817.20``` |
| Style of Switch | Size in inches | 11／4 | 11／2 | 2 | 21／2 |
| 3－pole | Catalogue Number <br> Standard Package <br> Shipping Weight Std．Pkg． <br> List Price，each． | $\begin{aligned} & \text { Y゙に } 1141003 \\ & 5 \\ & 340 \mathrm{lbs} \\ & 520.60 \end{aligned}$ | ```\K゙W51003 5 345 lbs. $20.80``` | ```YKW61003 5 350 lbs. 82!.00``` | ```Y゙\1771003 5 355 lbs. $21.20``` |

For Knife Switches arranged for 200 Ampere， 250 Volt，N．E．C．Fuses

| Style of Switeh | Size in inches． | 11／2 | 2 | 21／2 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2－pole | Cattalogue Number <br> Standard Package． <br> Shipping Weight Std．Pkg．．．．．． <br> List Price，each． | $\begin{aligned} & \text { YKW52002 } \\ & 5 \\ & 360 \mathrm{llss} \\ & 821.01 \end{aligned}$ | $\begin{aligned} & \text { Y K } 1162002 \\ & 5 \\ & 36.5 \mathrm{lbs} . \\ & 821.40 \end{aligned}$ | $\begin{aligned} & Y K W 72002 \\ & 5 \\ & 375 \mathrm{lbs} . \\ & 824.80 \end{aligned}$ | $\begin{aligned} & \text { YKIV82002 } \\ & 5 \\ & 380 \mathrm{lbs} . \\ & 825.20 \end{aligned}$ |
| Style of Switch | Size in inches． | $11 / 2$ | 2 | 21／2 | 3 |
| 3－pole | Catalogue Niumber ． <br> standard Package <br> Shipping W＇eight Std．Pkg． <br> List I＇rice，each． | $\begin{aligned} & \text { Ykin52003 } \\ & 5 \\ & 500 \mathrm{llis} . \\ & \$ 30.80 \end{aligned}$ | $\begin{aligned} & \text { YKW62003 } \\ & 5 \\ & 510 \mathrm{lbs} . \\ & 831.20 \end{aligned}$ | $\begin{aligned} & \text { Ykilt2003 } \\ & 520 \mathrm{lbs} \\ & \text { S31. (i) } \end{aligned}$ | $\begin{aligned} & \text { YKW82003 } \\ & 5 \\ & 530 \mathrm{lbs} . \\ & 832.00 \end{aligned}$ |

The universal fastening plates，furnished with Condulets listed on the preceding page，take Crouse－ Hinds type YKK knife switches or knife switches of other manufacturers，as follows：
Switches Arranged for 30 Ampere， 250 Volt，Cartridge and 30 Ampere， 125 Volt，Plug Fuses
 D．\＆W．－（Plug）25028．G．E．CO．－（Plug）42869．PAISTE－（1）lug） $4014,4016$. TRUMBULL－－（Cartridge） 704，721，（Plug）701， 721.
3－Pole：CROUSE－HINDS（Cartridge）YKK゙303．BRYAIIT－（Plug）1986．PAISTE—（Cartridge）4033，（Plug） 4025，4029．TRUMBULL－（Cartridge）725，（llug） 723.

Switches Arranged for 60 Ampere， 250 Volt，Cartridge Fuses
2－Pole：CROUSE－HINDS－（Cartridge）IKN゙G02．PAISTE－（Cartridge） 5151.
3－Pole：CROUSE－HINDS－（Cartridge）YKK603．PAISTE－（Cartridge） 5153.
Switches are not included in list prices on this page，but Condulets listed on this page take 100 or 200 ampere，Crouse－Hinds type $B$ knife switches with high clips or knife switches of other manu－ facturers，as follows：

Switches Arranged for 100 Ampere， 250 Volt，Cartridge Fuses
2－Pole：CROUSE－HINDS（Cartridge）31364－Snceify high clips．OTHER MANUFACTURERS—（Cartridge）
3－Pole：CROUSE－HINDS—（Cartridge）31484－Specify high clips．OTHER MANUFACTURERS－（Cartridge）
Switches Arranged for 200 Ampeze， 250 Volt，Cartridge Fuses
2－Pole：CROUSE－HINDS－（Cartridge）31366－Specify high clips．OTHER MANUFACTURERS－（Cartridge）
3－Pole：CROUSE－HINDS－（Cartridge）31486－Specify high clips．OTHER MANUFACTURERS－（Cartridge）

# CONDULETS-YKW SERIES-Continued <br> TYPE YKWC 

Water-tight-For Knife Switches Arranged for Cartridge or Plug Fuses<br>Furnished with Universal Fastening Plate, Gasket and All Necessary Bolts and Screws

## TYPE YKWC CONDULETS-THROUGH FEED-Black Enamel Finish

For Knife Switcies arranged for N. E. C. 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuses

|  |  | Style of switch | Size | in inches... | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2-pole | Cata Stan Wei List | alogue No... ndard Pkg... ight Std. Pkg. Price, cach. | $\begin{aligned} & \text { YKWC11302 } \\ & 10 \\ & 190 \mathrm{lbs} \\ & \hline 6.75 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { YKWC22302 } \\ & 10 \\ & 195 \mathrm{lbs} . \\ & \$ 6.85 \end{aligned}$ | $\begin{aligned} & \text { YKWC33302 } \\ & 10 \\ & 200 \mathrm{lbs} . \\ & \$ 6.95 \end{aligned}$ |
|  |  | Style of Switch | Size | in inches... | $11 / 4$ | $11 / 2$ | 2 |
|  |  | 2-pole | Cat <br> Stan <br> Wei <br> List | alogue Ňo... ndard Pkg... ight Std. Pkg. Price, each. | $\begin{array}{\|l} \hline \text { YKWC44302 } \\ 10 \\ 205 \mathrm{lbs} \\ \$ 7.05 \end{array}$ | $\begin{aligned} & \text { YKWC55302 } \\ & 10 \\ & 210 \mathrm{lbs} \\ & \$ 7.15 \end{aligned}$ | $\begin{aligned} & \text { YKWC66302 } \\ & 10 \\ & 215 \mathrm{lbs} . \\ & \$ 7.25 \end{aligned}$ |
| Style of Switch | Size in inches...... | $1 / 2$ |  | 3/4 | 1 | 11/4 | 11/2 |
| 3 -pole | Catalogue Number Standard Package. . Weight Std. Ikg. . List Price, each... | $\begin{aligned} & \text { YKWC1 } \\ & 10 \\ & 240 \mathrm{lbs} . \\ & \$ 8.60 \end{aligned}$ |  | $\begin{aligned} & \text { Y KWC22303 } \\ & 10 \\ & 245 \mathrm{lbs} \\ & 88.70 \end{aligned}$ | $\begin{aligned} & \text { YKWC33303 } \\ & 10 \\ & 250 \mathrm{lbs} . \\ & \$ 8.80 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { YKWC44303 } \\ & 10 \\ & 255 \mathrm{lbs} \\ & 88.90 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { YKWC55303 } \\ & 10 \\ & 260 \mathrm{Ibs} . \\ & \$ 9.00 \\ & \hline \end{aligned}$ |

For Knife Switches arranged for 60 Ampere, 250 Volt, N. E. C. Fuses

| Style of Switch | Size in inches. | 3/4 | 1 | 11/4 | $11 / 2$ | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue Ninmber. Standard Package. Weight Std. Pkg... List Price, each... | $\begin{aligned} & \hline \mathrm{YKWC} 22602 \\ & 10 \\ & 260 \mathrm{lbs} . \\ & 89.00 \end{aligned}$ | $\begin{aligned} & \text { Y KWC33602 } \\ & 10 \\ & 265 \mathrm{lbs} . \\ & 99.10 \end{aligned}$ | $\begin{aligned} & \hline \text { YKWC44602 } \\ & 10 \\ & 270 \mathrm{lbs} . \\ & \$ 9.20 \end{aligned}$ | $\begin{aligned} & \text { YKWC55602 } \\ & 10 \\ & 275 \mathrm{lbs} . \\ & \$ 9.30 \end{aligned}$ | $\begin{aligned} & \text { YKWC66602 } \\ & 10 \\ & 280 \text { lbs. } \\ & \$ 9.40 \end{aligned}$ |
| Style of Switch | Size in inches..... | 3/4 | 1 | 11/4 | $11 / 2$ | 2 |
| 3 -pole | Catalogue Nimber. Standard lackage. Weight Std. Pkg.. List Price, each.... | $\begin{aligned} & \text { YlWC22603 } \\ & 10 \\ & 285 \mathrm{lbs} . \\ & 89.60 \end{aligned}$ | $\begin{aligned} & \hline \text { YKWC33603 } \\ & 10 \\ & 290 \mathrm{lbs} . \\ & \$ 9.70 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { YIKWC44603 } \\ & 10 \\ & 295 \mathrm{lbs} . \\ & 89.80 \end{aligned}$ | $\begin{aligned} & \hline \text { YKWC55603 } \\ & 10 \\ & 300 \mathrm{lbs} . \\ & \$ 9.90 \end{aligned}$ | $\begin{aligned} & \text { Y KWC66603 } \\ & 10 \\ & 305 \mathrm{lbs} . \\ & \$ 10.00 \end{aligned}$ |

Switches are notincluded in above list prices, but the universal fastening plates, furnished with above Condulets, take Crouse-Hinds type YKK knife $s$ witches or knife switches of other manufacturers, as follows:
Switches Arranged for 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuses
2-Pole: CROUSE-HINDS-(Cartridgr) YKK302. BRYANT-(Plug) 1695, 1981. CONN. ELEC.-(Plug) 01502. D. \& W.-(Plug) 25023. G.E.CO.-(Plug) 42869. PAISTE-(Plug) 4014, 4016. TRUMBULL-(Cartridge) 704, 724, (Plug) 701, 721.
3-Pole: CROUSE-HINDS-(Cartridge) YKK303. BRYANT-(Plug) 1986. PAISTE-(Cartridge) 4033, (Plug) 4025, 4029. TRUMBULL-(Cartridge) $72 \overline{5}$, (Plug) 723.

Switches Arranged for 60 Ampere, 250 Volt, Cartridge Fuses
2-Pole: CROUSE-HINDS-(Cartridge) Ylik602. PAISTE—(Cartridge) 5151.
3-Pole: CROUSE-HINDS-(Cartridge) YkK603. PAISTE-(Cartridge) 5153.

Padlock is notincluded in above list prices.
Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-YKW SERIES--Continued <br> TYPE YKWC-Continued

Water-tight-For Knife Switches Arranged for Cartridge Fuses
Condulets Listed Below are not arranged for Universal Fastening Plates, but are furnished with Gasket and All Necessary Screws to Fasten Switches direct to Condulets

## TYPE YKWC CONDULETS-THROUGH FEED-Black Enamel Finish

For Knife Switches arcanged for 100 Ampere, 250 Volt, N. E. C. Fuses

| Style of Switch | Size in inches.. | 1 | 11/4 | 11/2 | 2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue No. Standard Pkg. Wt. Std. Pkg.. List Price, ea.. | ```YKWC331002 5 260 lbs. $17.00``` | ```YKWC441002 5 265 lbs. $17.40``` | ```YKWC551002 5 270 lbs. $17.80``` | $\begin{aligned} & \text { YKWC661002 } \\ & 5 \\ & 285 \text { lbs. } \\ & \$ 18.20 \end{aligned}$ |
| Style of Switch | Size in inches.. | 11/4 | 11/2 | 2 | 21/2 |
| 3-pole | Catalogue No.. Standard Pkg. . Wt. Std. Pkg. . List Price, ea. . | $\begin{aligned} & \text { YKWC441003 } \\ & 5 \\ & 340 \mathrm{lbs} . \\ & \$ 21.50 \\ & \hline \end{aligned}$ | ```YKWC551003 5 345 lbs. $21.c0``` | $\begin{aligned} & \text { YKWC661003 } \\ & 5 \\ & 360 \mathrm{lbs} . \\ & \$ 22.30 \end{aligned}$ | YKWC771003 5 <br> 375 lbs. <br> 822.70 |

For Knife Switches arranged for 200 Ampere, 200 Volt, N. E. C. Fuses

| Style of Switch | Size in inches.. | 11/2 | 2 | 21/2 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2-pole | Catalogue No.. Standard Pkg.. Wt. Std. Pkg.. List Price, ea.. | $\begin{aligned} & \hline \text { YKWC552002 } \\ & 5 \\ & 375 \text { lbs. } \\ & \$ 25.00 \\ & \hline \end{aligned}$ | ```YKWC662002 5 335 lbs. $25.50``` | ```l``` | $\begin{aligned} & \text { YKWC882002 } \\ & 510 \mathrm{lbs} \\ & 410 . \\ & \$ 26.50 \end{aligned}$ |
| Style of Switch | Size in inches . . | $11 / 2$ | 2 | 21/2 | 3 |
| 3-pole | Catalogue No. . Standard Pkg.. Wt. Std. Pkg.. List Price, ea.. | $\begin{aligned} & \text { YKWC552003 } \\ & 5 \\ & 490 \text { lbs. } \\ & \$ 32.50 \\ & \hline \end{aligned}$ | ```YKWC662003 5 500 lbs. $33.00``` | ```YKWC772003 5 510 lbs. $33.50``` | ```YKWC882003 5 520 lbs. $34.00``` |

Switches are not included in list prices, but Condulets listed on this page take Crouse-Hinds type B knife switches with high clips enumerated below, or other switches that conform with dimensions specified below

KNIFE SWITCHES FOR CONDULETS OF THE YK AND YKW SERIES Arranged for N. E. C. Cartridge Fuses-250 Volts


Yjpe YKK Switch


Type B Switch

| Crouse-Hinds Type YKK Knife Switches |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 30 Amp . | 60 Amp . | Capacity |  | 30 Amp . | 60 Amp . |
| $\begin{gathered} 2- \\ \text { pole } \end{gathered}$ | $\begin{array}{\|l\|} \hline \text { YKK302 } \\ 10 \\ \$ 2.25 \end{array}$ | $\begin{aligned} & \hline \text { YKK602 } \\ & 10 \\ & \$ 3.50 \\ & \hline \end{aligned}$ | Cat. No. <br> Strl. Pkg. <br> Price, ea. | $\begin{gathered} 3- \\ \text { pole } \end{gathered}$ | $\begin{aligned} & \hline \text { YKK303 } \\ & 10 \\ & \$ 3.75 \end{aligned}$ | YKK603 <br> 10 <br> 85. 25 |
| Crouse-Hinds Type B Knlfe Switches |  |  |  |  |  |  |
|  | 100 Amp . | 200Amp. | Capacity |  | 100 Amp . | 200Amp. |
| $\underset{\text { pole }}{2-}$ | 31364* | 31366* | Cat. No. List Price, ea. | $\begin{gathered} 3- \\ \text { pole } \end{gathered}$ | 31484* | 31486* |

*Specify high clips when ordering.
$\dagger$ From bottom of slate base to highest point of clip. from bottom of slate base to highest point of handle.

Anyswitch with dimensions not exceeding those specifed "maximum" and with dimensions the same as those specified "fixed," in above schedule, will fit Condulets of corresponding classification in the YKW series.

## TYPES ZGC AND ZGU CONDULETS

# FOR CARTRIDGE OR PLUG FUSE CUT-OUTS AND GENERAL ELECTRIC 2 H. P. 250-VOLT, THREE-PHASE, SNAP SWITCH 151394 WITH PROTECTIVE COVER FOR TEXTILE MILL INSTALLATIONS 

Furnished with Universal Cut-out Fastening Plate and All Necessary Bolts and Screws



TYPE ZGC CONDULETS-THROUGH FEED-Black Enamel Finish
For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug fuse N. E. C. Main Line Cut-outs and G. E. Switch 151394-Cut-out and Switch not Furnished


The universal cut-out fastening plates, furnished wish the Condulats, take the following cut-outs: 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3-Wire: BRYANT- (Cartridge) 1924, (Plug) 62165. D. \& W.-(Cartridge) 91103. G. E. CO.-(Cartridge) 34372, (Plug) $62165 . \quad$ NOARK-(Cartridge) 3:328. PAISTE-(Cariridge) $7216 \bar{y}^{2}$, (Plug) 2165. SHAWMUT-(Cartridge) 2079. TRUMBULL-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) ti2165. UNION -(Cartridige) 2012.

## TYPE ZGU CONDULETS-Black Enamel Einish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch Cut-outs and G. E. Switch $151394-C u t-0 u t$ and Switches not Furnished


The universal cut-out fastening plates, furnished with the Condulets, take the following cut-outs: 30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
3 to 3-Wire: BRYANT-(Cartridge) 1928, (Plug) 62135. D.\& W.-(Cartridge) 91100 . G. E. CO.-(Cartridge) 31374 , (Phug) 62135. NOARK-(Cartridge) 3353. PATSTE-(Cartridge) 7135, (Ping) 213 2. SHAWMUT(Cartridge) 20835. TRUMBULL-(Cartridge) 21353, (Plug) 2135. WEBER-(Plug) 62135. UNION-(Cartridge) ${ }^{2} 029$.
Types ZGC and ZGU Condulets have been referred to in previous literature as Types ZCG and ZUG, respectively.

## CONDULETS-Z SERIES

## TYPES Z, ZC, ZL, ZR, ZS, ZU, ZD, AND ZX

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches Furmshed with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Rings for Switches and All Necessary Bolts and Screws


Ty 102 LJ
With Snap Swith and Ping Fuse Cus-out: Installed


With snaji Switct and PIug Fuse Cux-out Installed


Type ZU
With Snap Switches and Cartridge Fuse Cut-ont Installed


Type ZC
With Suap Switch and Cartridge Fuse Cut-out Installed (Broken-away View, Showing Cut-out)


Type ZR
With Snap Switch and Cartridge Fase Con-put Installed


Typo 2
With Snap Squtch and Cartridge Fuse Cut-Girt Installed


Type 2D
With Snep Squitches and Cartridge Fuse Cut-out Installed


## TYPE Z CONDULETS-DEAD END-Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches-Cut-outs and Switches not Furnished

|  | Ntyle of Cut-out | Nize in inches | 1/2 | 3/4 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2-wire | Catalogue Number. | Z1302 | Z2302 | Z3302 |
|  |  | Standard Package |  |  |  |
|  |  | Ship. I't. Std. Pkg | $120 \text { lhs. }$ | 125 lks. | 85 lbs. |
|  |  |  |  |  |  |
|  | Style of Cut-out | Size in inches | 1/2 | $3 / 4$ | 1 |
|  |  | Catalogue Number.. | Z1303 | Z2303 | Z3303 |
|  |  | Standard Package.. |  |  |  |
|  | 3-wire | Ship. Wt. Std. Pkg | 145 lbs. \&3. 00 | $150 \text { lhs. }$ | 105 lbs. |

## CONDULETS-2 SERIES-Continued

## TYPE Z-Continued-AND TYPE ZC

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Rings for Switches and All Necessary Bolts and Screws

TYPE $Z$ CONDULETS-DEAD END-Black Enamel Finish-Continued
For 30 Ampere, 600 Volt, N. E. C. Main Line Cut-outs and 5, 10 or 20 Ampere Switches-Cut-outs and Switches not Furnished

|  | Style of Cut-out | $1 / 2$ | 3/4 | 1 | . . Size in inches . . | Style of Cut-out | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Z13016 | Z23016 | Z33016 | . . Catalogue |  | Z33036 |
|  | 1-wire | 15 |  |  | ...Standard Pkg... |  | 10 |
| D. $\mathrm{K}_{5}$ | 1-wire | 210 lbs . | 220 lbs . | 150 lbs . | . . Weight Std. Pkg. | 3-wire | 205 lbs. |
|  |  | \$4.30 | \$4. 40 | \$4.50 | .. List Price, each . . |  | \$5.90 |

TYPE ZC CONDULETS-THROUGH FEED—Black Enamel Finish
For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line Cut-outs and 5,10 or 20 Ampere Switches-Cut-outs and Switches not Furnished

|  |  | Style of Cut-out |  | ze in inches |  | $1 / 2-1 / 2$ | $3 / 4-3 / 4$ | $1-1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2-wire |  | talogue $N$ andard Pac cight Std. I t Price, eac | nber . ...... age. . . . . . . . | $\begin{aligned} & 7 \mathrm{C} 11302 \\ & 15 \\ & 125 \mathrm{lbs} . \\ & \$ 2.80 \end{aligned}$ | $\begin{aligned} & \text { ZC22302 } \\ & 15 \\ & 130 \mathrm{lbs} . \\ & \$ 2.90 \end{aligned}$ | $\begin{array}{\|l} \text { ZC33302 } \\ 10 \\ 90 \mathrm{lbs} . \\ \text { \$3.00 } \end{array}$ |
|  |  | Style of Cut-out |  | in inches |  | $11 / 4-11 / 4$ | $11 / 2-11 / 2$ | $2-2$ |
|  | - | 2-wire |  | andard Pae <br> ight Std. I <br> t l'rice, each | ber <br> ge $\qquad$ | $\begin{aligned} & \hline \mathrm{ZC} 44302 \\ & 10 \\ & 95 \text { lbs. } \\ & \$ 3.10 \end{aligned}$ | $\begin{aligned} & \hline \text { ZC55302 } \\ & 5 \\ & 55 \mathrm{lbs} . \\ & \$ 3.20 \end{aligned}$ | $\begin{aligned} & \hline \text { ZC66302 } \\ & 5 \\ & 60 \mathrm{lbs} . \\ & \$ 3.30 \end{aligned}$ |
| Style of Cut-out | Size in inches. | 1/2- |  | $3 / 4-3 / 4$ | 1-1 | $11 / 4-11 / 4$ | $11 / 2-11 / 2$ | $2-2$ |
| 3-wire | Catalogue No.. Standard Pkg... Weight Std. P'kg. List Price, each. | ZC1130 <br> 15 <br> 145 lbs <br> 83.25 |  | $\begin{aligned} & \hline \text { ZC22303 } \\ & 15 \\ & 150 \mathrm{lbs} . \\ & 83.35 \end{aligned}$ | $\begin{aligned} & \hline \text { ZC33303 } \\ & 10 \\ & 105 \mathrm{lbs} . \\ & \$ 3.45 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { ZC44303 } \\ & 10 \\ & 110 \mathrm{lbs} . \\ & \$ 3.5 \% \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \mathrm{ZC55303} \\ 5 \\ 60 \mathrm{lbs} \\ \$ 3.65 \\ \hline \end{array}$ | $\begin{array}{\|l} \hline \text { ZC66303 } \\ 5 \\ 65 \text { lbs. } \\ \$ 3.75 \\ \hline \end{array}$ |

For 30 Ampere, 600 Volt, N. E. C. Main Line Cut-outs and 5,10 or 20 Ampere Switches-Cut-outs and Switches not Furnished


[^74]
## CONDULETS-Z SERIES-Continued TYPES ZL AND ZR

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Ring for Switches and All Necessary Bolts and Screws

## TYPE ZL CONDULETS-THROUGH FEED-Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line or Single Branch Cut-outs and 5, 10 or 20 Ampere Switches-Cut-outs and Switches not Furnished


| Style of Cut-ont | Size in inches | $1 / 2$ | $3 / 4$ |  |
| :---: | :---: | :---: | :---: | :---: |
| 2-wire | Catalogue Number... Standard Package Weight Std. Pkg. List lrice, each...... | $\begin{aligned} & \hline \text { ZL11302 } \\ & 15 \\ & 1501 \mathrm{lbs} . \\ & 83.15 \end{aligned}$ | $\begin{aligned} & \text { ZL22302 } \\ & 15 \\ & 155 \mathrm{lbs} . \\ & \$ 3.25 \end{aligned}$ | $\begin{aligned} & \text { ZL_33302 } \\ & 10 \\ & 110 \mathrm{lbs} . \\ & \$ 3.35 \end{aligned}$ |
| Style of Cut-out | Size in | $-1 / 2$ | $-3 / 4$ |  |
| 3-wire | Catalogue Number. Standard l'ackage Weight sitd llkg..... List Price, each..... | $\begin{aligned} & \text { ZL11303 } \\ & 15 \\ & 170 \mathrm{lbs} . \\ & \$ 3.65 \end{aligned}$ | $\begin{aligned} & \hline 7122303 \\ & 15 \\ & 175 \mathrm{lbs.} \\ & \$ 3.75 \end{aligned}$ | $\begin{aligned} & 71.33303 \\ & 10 \\ & 125 \mathrm{lbs} . \\ & \$ 3.85 \end{aligned}$ |

TYPE ZR CONDULETS-THROUGH FEED—Black Enamel Finish
For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Main Line or Single Branch Cut-outs and 5, 10 or 20 Ampere Switches -Cut-outs and Switches not Furnished


The adjustable bar, furnished with each Condulet, permits the mounting of any snap or pull switch
Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.
The universal cut-out fastening plates, furnished with the above Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Main Line Cut-outs
2-Wire: BRYANT-(Cartridge) 1917, (Plug) 629\%\%, D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge)
 - (Cartridge) 2077. TRUMBULL-(Cartridge) 29653, (Plug) 2965. WEBER-(Ilug) 62965. UNION(Cartridge) 2010.
3-Wi:e: BRYANT-(Cartridge) 1924, (Plug) 62165. D. \& W.-(Cartridge 91103. G. E. CO.- (Cartridge) 34372, (!lug) 62165. NOARK-(Cartridge) 3328. PAISTE-(Cartridge) 2165 , (Plug) 2165. SHAWMUT-(Cartridge) 2079. TRUMBULL-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) 62165. UNION-(Cartridge) 2013.

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Single Branch Cut-outs
2 to 2 -Wire: ERYANT-(Cartridge) 1919, (Plug) 61935. D. \& W.-(Cartridge) 91104. G. E. CO.-(Cartridge) 34348 , 1 Plug ) 61935. NOARK-(Cartridge) 3345. PAISTE-(Cartridge) 71935 . (Plug) 1935. SHAWMUT -(Cartridge) 2081. TRUMBULL-(Cartridge) 19353, (Plug) 1935. WEBER-(Plug) 61935. UNION(Cartritge) 2020.
3 to 3 -Wire: BRYANT-(Cartridge) 1920, (Plug) 8042. D. \& W.-(Cartridge) 91105. G. E. CO.-(Cartridge) 8.43:3, (Plug) 8042. NOARK - (Cartridge) 3346. PAISTE-(Cartridge) 78042, (Plug) 8042. SHAWMUT©Cartidge) 2083. TRUMBULL-(Cartridge) 80423, (Plug) 8042. WEBER-(Plug) 8042. UNION-(Cartridge) 202 .

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

## CONDULETS-Z SERIES-Continued TYPE ZS

## For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches

 Furnished with Universal Cut-out Fastening Plate, Adjustable Bar and Adapting Ring for Switches and All Necessary Bolts and Screws
## TYPE ZS CONDULETS-THROUGH FEED-Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Single Pranch Cut-onts and 5, 10 or 20 Ampere Switches-Cut-outs and Switchos not Furnished

|  | $T$ | Style of Cut-vut | Size in inches ........ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2 to 2-wire | Catalugue Standard P Weight std List Price, | Package <br> l. lkg each | $\begin{aligned} & \text { Cs111302 } \\ & 15 \\ & 160 \mathrm{lbs} . \\ & 83.35 \end{aligned}$ | $\begin{aligned} & \mathrm{ZN} 212302 \\ & 15 \\ & 165 \mathrm{lbs} . \\ & 83.45 \end{aligned}$ | Zs 222302 15 170 lbs. $\$ 3.50$ |
| Style of Cut-out | Size in |  |  |  |  |  |  |
| $\begin{gathered} 2 \text { to } \\ 2 \text {-wire } \end{gathered}$ | Catalogue No... Standard 1Pkg.. Weight Std. P'kg. List Irice, each. | ZN 313302 10 120 ms. $\$ 3.55$ | $\begin{aligned} & \text { ZNB33302 } \\ & 10 \\ & 125 \mathrm{lbs} . \\ & \$ 3.60 \end{aligned}$ | $7 \mathrm{~S} 41+302$ 10 130 lbs. 83.65 | $\begin{aligned} & \text { Zs } 424 \overline{3} \mathrm{Z} \\ & 10 \\ & 13 \overline{5} \mathrm{lbs} . \\ & \$ 3.75 \end{aligned}$ | ```ZS515302 5 75 lbs. $3.85``` | ZS525302 5 80 lbs. $\$ 3.95$ |
| Style of Cut-out | Size in |  |  |  |  |  |  |
| $\begin{gathered} 3 \text { to } \\ \text { 3-wire } \end{gathered}$ | Catalogue No... standard Pkg.. Weight Sta. Pkg. List Price, each. | $\begin{aligned} & \mathrm{ZN} 111303 \\ & 15 \\ & 180 \mathrm{lhs} . \\ & \$ 3.70 \end{aligned}$ | $\begin{aligned} & \text { ZS } 212303 \\ & 15 \\ & 185 \mathrm{lbs} . \\ & 83.75 \end{aligned}$ | 7 Na 222303 15 190 lbs. 83.80 | 2NS313303 10 135 lbs. $\$ 3.85$ | $\begin{aligned} & \mathrm{ZN} 323303 \\ & 10 \\ & 1 \pm 0 \mathrm{lbs} . \\ & \$ 3.90 \end{aligned}$ | $\begin{aligned} & \overline{\mathrm{ZS}} 333303 \\ & 10 \\ & 145 \mathrm{lbs} . \\ & 84.00 \end{aligned}$ |
| Style of Cut-out | Size in | $\left\|\begin{array}{c} 1 / 2 \longrightarrow \\ 1_{\frac{1}{2}}^{1} \text { in. inains branch } \end{array}\right\|$ | $\left\lvert\, \begin{aligned} & 1 / 4 \longrightarrow \\ & 1 \frac{11 / 4}{3} \text { in.mains } \\ & \frac{3}{3} \text { in. branch } \end{aligned}\right.$ |  |  <br> $1 \frac{1}{2}$ in.mains ${ }_{4}^{3}$ in. branch |  |  |
| $\begin{gathered} 3 \text { to } \\ \text { 3-wire } \end{gathered}$ | Standard Pkg... Weight S'td. Pkg. List Price, each. | $\begin{aligned} & \text { ZS } 414303 \\ & 10 \\ & 150 \mathrm{llss} . \\ & \$ 4.00 \end{aligned}$ | $\begin{aligned} & \text { Zs } 42.4303 \\ & 10 \\ & 15 \overline{l b s} . \\ & \$ 4.10 \end{aligned}$ | $\begin{aligned} & \text { ZS515303 } \\ & 5 \\ & 80 \mathrm{lbs} . \\ & \$ 4.25 \end{aligned}$ | ```ZN5%5303 5 80 lbs. $4.35``` | $\begin{aligned} & \hline \text { ZN626303 } \\ & 5 \\ & 85 \mathrm{lbs} . \\ & \$ 4.45 \end{aligned}$ | $\begin{aligned} & \text { ZS646303 } \\ & 5 \\ & 90 \mathrm{lbs} . \\ & \$ 4.65 \end{aligned}$ |

The adjustable bar, furnished with each Condulet, permits the mounting of any snap or pull switch
Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.
The universal cut-out fastening plates, furnished with the above Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
2 to 2-Wire: BRYANT-(Cartridge) 1919, (Plug) 61935. D. \& W.-(Cartridge) 91104. G. E. CO.-(Cartridge) 34368, (Plug) 61935. NOARK-(Cartridge) 3345. PAISTE-(Cartridge) 71935 , (Plug) 1935. SHAWMUT(Cartridge) 2081. TRUMBULL-(Cartridge) 19353, (Plug) 1935. WEBER-(Plug) 61935. UNION-(Cartridge) 2020.
3 to 3-Wire: BRYANT-(Cartridge) 1926, (Plug) 8042, D. \& W.-(Cartridge) 91105. G. E. CO.-(Cartridge) 34373, (Plug) 8042. NOARK-(Cartridge) 3346. PAISTE-(Cartridge) 78042, (Plug) 8042. SHAWMUT(Cartridge) 2083. TRUMBULL-(Cartridge) 80423, (Plug) 8042. WEBER-(Plug) 8042. UNION-(Cartridge) 2022.

Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

# CONDULETS-Z SERIES-Continueũ 

TYPE ZU*

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches Furnished with Universal Cut-out Fastening Plate, Adjustable Bars and Adapting Rings for Switches and All Necessary Bolts and Screws

## TYPE ZU CONDULETS-Black Enamel Finish

For 30 Ampere, 250 Volt, Cartridge or 30 Ampere, 125 Volt, Plug N. E. C. Double Branch Cut-outs and 5, 10 or 20 Ampere Switches-Cut-outs and Switches not Furnished

*These Condulets can be furnished with covers hinged on side opposite switches, and then have the letter E inserted after U in catalogue number, as ZUE111302.
The adjustable bars, furnished with each Condulet, permit the proper mounting of any snap or pull switch
Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.
The universal cut-out fastening plates, furnished with the above Condulets, take the following cut-outs:

30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
2 to 2-Wire: BRYANT-(Cartridgg) 1922, (Plug) 62587. D. \& W.- (Cartridge) 91196. G. E. CO.-(Cartridge) 34369, (Plug) 62587. NOARK-(Cartridge) 3349. PAISTE-(Cartridge) 72.587, (Plug) 2587. SHAWMUT -(Cartridge) 2085. TRUMBULL-(Cartridge) 25873, (Plug) 2587. WEBER-(Plug) 62587. UNION(Cartridge) 2025.
3 to 2-Wire: BRYANT-(Cartridge) 1923, (Plug) 62199. D. \& W.-(Cartridge) 91191, G. E. CO.-(Cartridge) 34370, (Plug) 62109. NO RK-(Cartridge) 3351. PAISTE-(Cartridge) 72199 , (Plug) 2199. SHAWMOT (Cartridge) 2087. TRUMBULL-(Cartridge) 21993, (Plug) 2199. WEBER-(Plug) 62199. UNION(Cartridge) 2027.

## CONDULETS-Z SERIES-Continued <br> TYPE ZX

For Cartridge or Plug Fuse Cut-outs and Snap or Pull Switches
Furnished with Universal Cut-out Fastening Plate, Adjustable Bars and Adapting Rings for Switches and All Necessary Bolts and Screws

## TYPE ZX CONDULETS-THROUGH FEED-Black Enamel Finish

For 30 Ampere, 250 Voit, Cartridge or 30 Ampere, 125 Volt, Plug Fuse N. E. C. Double Branch Cut-outs and 5,10 or 20 Ampere Switches-Cut-outs and Switches not Furnished


The adjustable bars, furnished with each Condulet, permit the mounting of any snap or pull switch Adapting rings, furnished with the Condulets, are requiredin mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch
The universal cut-out fastening plates, furnished with the above condulets, take cut-outs enumerated on preceding page.

## CONDULET BODIES

 TYPES UGC AND UGX
## Inside Dimensions: $67 / 8 \times 67 / 8 \times 3$ Inches



Type JGC Condulet Bodje with Blank Cover CX00 Attached

Types l'GC and IGX Condulets, being extra heavy, are particularly suited for use in railroad yards, manholes, subways, around coast defense fortifications and whorever a rugced water-tight Condulet is desired.

They can be used in combination with the yard charging Condulets, illustrated and listed on the two preceding pares, either for surface or underground conduit installations.

The covor is firmly held in place by brass cap serews and a heavy gasket of high grade rubber securely seals the opening. The use of brass cap screws and a high grade rubber gasket makes it easy to take ofi and replace the cover.



TYPE UGX CONDULET BODIES—For Four Conduits

| Size in inches. | 1 | $11 / 4$ | $11 / 2$ | 2 |
| :---: | :---: | :---: | :---: | :---: |
| Catalogue Number.. | UGX3333 | ['6.14444 | VGX5555 | UGX6666 |
| Standard l'arkage... |  |  |  |  |
| Weight Std. Pkg. | $115 \mathrm{lhs}$. | 120 lbs. | 125 lbs. | 130 lbs . |
| List l'rice, mach. | 85.80 | 86.90 | 86.60 | 87.00 |

BLANK CAST COVER

## EXTENSION COVER-For Two-Inch Conduit Stem

FOR TYPES UGC AND UCX CONDULET BODIES




## EXTENSION PLATE

For Two-Inch Conduit Stem For Receptacle Housing CHXS100


CILXS100
5
140 lbs.
$\$ 29.00$

| Cat. No. | C |
| :---: | :---: |
| .std. Pk |  |
| Ship. Wt.Stc. Pkg. . List Jrice, mach.. |  |


*Receptacle housing listed above is regularly furnished with two rectangular recoptackes 1312100 , requiring the use of rectangulan plugs $13 I^{2} 1^{1} 100$ or $13 P 13100$, but if specifically ordered, two round receptacles 1312 A 100 , requiring the use of round phags I3PFA 100 or M.C. 13. standard phuse, will be furnished, at an advance of 85.50 in the list price. Spring doors are regularly furnished on receptacle housings, but if specifically ordered, removable doors will be furnished at the same price.
Finishes: Black enanel is the standard finish for Condulet bodies, and will be furnished unless another finish is specified on the order. (halvanized finish on exterior and black enamel finish on interior of Conduket bodies will be furnished, at same price as all black enamel finish, when the oreler specifies galvanized finish. Black enameled and galvanized Condulet bodies of the same type and size may be assorted to make up a standard package.

## TYPE YQ CONDULETS

For 2 or 3 -pole Plug Receptacles and 2 or 3 -wire Cartridge or Plug Fuse Cut-outs
Furnished Complete with Crouse-Hinds Plug Receptacle and Crouse-Hinds Cut-out, but without Plug or Fuses


Type Ye
Broken-a way View)
Showing Cut-out PE53E and Receptacle RYQ303 Mounted, also Plug RQ303 and Padlock
Plag and Padlock are not included in List Prices for Condalets

These Condulets provide a housing for a combination of plug receptacle and cut-out.

They are particularly suited for use in shops having portable tools, also in garages, laundries, railroad yards, etc. They are weather-proof and, therefore, can be installed either indoors or outdoors.

Two types of N. E. C. cut-outs are furnishedeartridge and plug. The cartridge type can be used on circuits up to 30 amperes, 250 volts, and the plug type on eircuits up to 30 amperes, 125 volts.

The door over the cut-out is provided with a spring eatch and can be locked with a padlock if desired. The door covering the plug opening is rabbetted and is kept closed by a plunger spring, when the plug is not in place, thus preventing the entrance of dust, moisture and insects.

TYPE YQ CONDULETS-Black Enamel Finish

guards, globes, sealing plates and reflector holders


Above holders take the following reflectors which are not included in list prices.
Holders V61, V610, V71 and V710 take HOLOPHANE-626, 627 and OVERBAUGH \& AYERS-769, 771. Holders VH61, VH610, VH71 and VH710 take HOLOPHANE - 629 , 629 and OVERBAUGH \& AYERS-7.0, 772.
Finishes: Galvanized finish will be furnished at the same price as black finish, when order specifies galvanized finish.
Black, marine and galvanized guards of the same size may be assorted to make up a standard packuge. The same assortment applies to reflector holders and reflector holders with guards.

## GASKETS

GASKETS FOR OBROUND COVERS AND OBROUND CONDULETTO FITTINGS
For use between Condulet Bodies and Covers or Fittings

|  | Nize in inches <br> Catalogue N Standard Pat List I'rice, ea | $\begin{aligned} & \text { ber . . . . } \\ & \text {. . . . . . . . } \\ & \hline \end{aligned}$ | $$ | $$ | $\begin{aligned} & \frac{1}{\text { Ciask } 3} \\ & 50 \\ & \$ .15 \end{aligned}$ | $\begin{aligned} & 11 / 4 \\ & \text { Ciask } 4 \\ & 25 \\ & \$ .20 \end{aligned}$ | $\begin{aligned} & \frac{11 / 2}{\text { Gask } 5} \\ & 25 \\ & \$ .20 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $21 / 2$ | 3 | 31/2 |  | 5 and 6 |
|  |  |  | $\begin{aligned} & \text { Ciask } 7 \\ & 25 \\ & 8.40 \end{aligned}$ | $\begin{aligned} & \text { Gask } 8 \\ & 25 \\ & 3.40 \end{aligned}$ | $\begin{aligned} & \hline \text { Gask } 9 \\ & 25 \\ & \$ .50 \end{aligned}$ | $\begin{aligned} & \text { Ciask } 10 \\ & 25 \\ & 5.60 \end{aligned}$ | $\begin{aligned} & \text { Gask } 86 \\ & 25 \\ & 8.70 \end{aligned}$ |
| GASKETS FOR OBROUND CONDULETTO FITTINGS For use between Cap and Base |  |  |  |  | ```GASKET FOR FD AND FS CONDULET BODIES``` |  |  |
| - | Cat. No. Nitd. Plkg. list Irice, ea | $\begin{aligned} & \frac{1}{2} \\ & \frac{\operatorname{Citisk} 31}{2} \\ & 2.0 \\ & \$ .10 \end{aligned}$ | $\begin{aligned} & \frac{3 / 4}{\text { Gask } 32} \\ & 100 \\ & \$ .10 \end{aligned}$ | $\begin{aligned} & \frac{1}{\text { Giask } 33} \\ & 50 \\ & \$ .15 \end{aligned}$ | $\begin{aligned} & \text { Ciask !1 } \\ & 30 \\ & 3.25 \end{aligned}$ |  |  |

GASKETS FOR TYPE F CONDULET COUPLINGS


GASKETS FOR RJ AND RK SERIES OF CONDULET BODIES

For use between Bodies and Metal Covers

GASKETS FOR ELLIPTICAL CONDULETTO FITTINGS

For nse between RJ and RK Series of Condulet Bodies and Fittings or Porcelain Covers


GASKETS FOR V SERIES OF CONDULETS GASKETS FOR VH SERIES OF CONDULETS

|  | Sealing Plate Gasket | $\begin{aligned} & \text { Globe } \\ & \text { Gasket } \end{aligned}$ | Description | Sealing Plate Gasket | $\begin{aligned} & \text { Globe } \\ & \text { Gasket } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { (iask } 26 \\ & 35 \\ & \$ .15 \end{aligned}$ | $\begin{aligned} & \text { Gask 24 } \\ & 35 \\ & 8.15 \end{aligned}$ | $\begin{aligned} & \text {. Cat. No. } \\ & \cdots \text {.Ntd. Ikg. } \\ & \text {. ... List, each. } \end{aligned}$ | $\begin{aligned} & \text { Ciask } 27 \\ & 3 \overline{3} \\ & \$ .20 \end{aligned}$ | $\begin{aligned} & \text { Ciask } 25 \\ & 35 \\ & 8.20 \\ & \hline \end{aligned}$ |  |

OBROUND CONDULETTO FITTINGS
For Types A, B, C, CO, D, E, LB, LBA, LBB, LBL, LBV, LF, LFB, LFM, LL, LLB, LR, LRB, LU, T, TB, TL, TR, U, UB and X Condulet Bodies
Furnished with Gasket between Base and Cap, and all necessary Fastening Screws



| Size of Condulet Body | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | JF19 | J129 | J1:39 |
| Standard Package | 100 | 100 |  |
| Shipping Weight Std. Plg. | 80 lbs . | 90 lhs. | 60 lbs . |
| I, ist Price, cach . ........ | 5.30 | \$ . 35 | \% ${ }^{8} .40$ |

## FLXTURE ROSETTES WITH $1 / 8$ FEMALE NIPPLE



| Size of Condulet l Sody | 1/2 | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | JF1 | J12 | JF3 |
| Standard Package | 100 | 100 |  |
| Shipping Weight Std. Pkg. | 80 ths. | 90 lbs . | $60 \mathrm{lbs} .$ |
| List Price, each . . . . . . . | \$ . 30 | \$. 35 | \% . 40 |



HUBBELL ATTACHMENT PLUG RECEPTACLES—10 AMPERE

| Size of Condulet Body | $1 / 2$ | 3/4 | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | JR15 | JR25 | JI235 |
| Standard Package | 100 | 100 | 50 |
| Shipping Weight Std. Pkg. | 70 lbs . | 80 lbs. | 55 lbs . |
| List Frice, each . . . . . . . . | 8.40 | \% 45 | \$ . 50 |

HUBBELL POLARITY PLUG RECEPTACLES-20 AMPERE

| Size of Condulet Body | $1 / 2$ | $3 / 4$ | 1 |
| :---: | :---: | :---: | :---: |
| Catalogue Number | JR12 | JR22 | J1232 |
| Standard Package | 100 | 10 C |  |
| Shipping Weight Std. Pkg. | 70 lbs. | 80 lbs . | 55 lbs. |
| List Price, earh | \$ .55 | \$. 60 | \$ . 65 |

Obround Conduletto fittings are made in sizes for $1 / 2,3 / 4$ and 1 -inch Obround Condulet bodies. Proper fastening serews are furnished with Obround Conduletto fittings, and are so held in serew holes that they can not fall out.

# NORBITT CONDULETTO FITTINGS 

For Condulet Bodies of the $J$ and $K$ Series
Furnished with Gasket and Fastening Screw

|  | RECEPTACLE WITH SHADE HOLDER GROOVE |  |
| :---: | :---: | :---: |
|  | Complete Fitting |  |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pkg. <br> List Price, each | $\begin{aligned} & \mathrm{CC} 227 \mathrm{G} \\ & 200 \\ & 130 \text { lbs. } \\ & \$ .45 \end{aligned}$ |
|  | RECEPTACL ${ }^{*}$ WITHOUT SHADE HOLDER GROOVE |  |
|  | Complete Fitting |  |
| $\square$ | Catalogue Numbe <br> Standard Package <br> Shipping Weight Std. Pkg. <br> List Price, each | $\begin{array}{\|l} \hline \text { CC227 } \\ 200 \\ 130 \mathrm{lbs} . \\ 8.40 \end{array}$ |
|  | CORD ROSETTE |  |
|  | Complete Fitting |  |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Mög. <br> List Price, eacla | $\begin{aligned} & \text { CC332 } \\ & 200 \\ & 140 \mathrm{lbs} . \\ & \$ .30 \end{aligned}$ |
|  | FIXTURE ROSETTE WITH $1 / 8$ MALE NIPPLE |  |
|  | Complete Fitting |  |
|  | Catalogu Number <br> Standard Package <br> Shipping Weight Std. Pkg <br> List Price, each | $\begin{array}{\|l} \text { CC339 } \\ 100 \\ 80 \mathrm{lbs} \\ 8 . \end{array}$ |
|  | FIXTURE ROSETTE WITH 1/8 FEMALE NLPPLE |  |
| $\cdots$ | Complete Fitting |  |
|  | Catalogue Number <br> Ntandard Package <br> Shipping Weight Std. Pkg. <br> List l'rice, each | $\begin{array}{\|l\|} \hline \text { CC338 } \\ 100 \\ 80 \mathrm{lbs} . \\ \$ .35 \\ \hline \end{array}$ |
|  | HUBBELL ATTACHMENT PLUG RECEPTACLE-10 | AMPERE |
|  | Complete Fitting |  |
|  | Catalogue Number <br> Standard Package <br> Shipping Weight Std. Pkg <br> List Price, each | $\begin{array}{\|l\|} \text { CC5 } \\ 100 \\ 70 \mathrm{lbs} . \\ 8.50 \\ \hline \end{array}$ |
|  | HUBBELL POLARITY PLUG RECEPTACLE-20 AMPERE |  |
| $12+3$ | Complete Fitting |  |
|  | Catalogue Number <br> Standard I'ackage <br> Shipping Weight Std. Pkg <br> List Price, each | CC20 100 70 lhs. $\$ .65$ |

Norbitt Conduletto fittings are made in one size only and are interchangeable on Condulet bodies of the J and K series.
Proper fastening screw is furnished with each Norbitt Conduletto fitting, and is so held in screw hole that it can not fall out.

# ELLIPTICAL CONDULETTO FITTINGS 

For Condulet Bodies of the RJ and RK Series Furnished with Gasket and Fastening Screws

| RECEPTACLE WITH SHADE HOLDER GROOVE |
| :--- |
| Complete Fitting |

Elliptical Conduletto fittings are made in one size only and are interchangeable on all Condulet bodies of the RJ and RK series.
Proper fastening screws are furnished with Elliptical Conduletto fittings, and are so held in screw holes that they can not fall out.

## NORBITT CONDULETTO CLAMP FITTINGS

For Condulets of the S Series
Norbitt Conduletto Clamp Receptacle C337 is used with the following: Equipments VGDE1 and VGDE2; Crouse-Hinds Reflector and Receptacle Holder SRH2, and Receptacle Mounting Plate RMP1. Furnished with Gasket


Norbitt Condulet to Clamp fittings eliminate soldered and taped joints, and have the additional advantage of enclosed contacts.

These fittings are made in two parts-base and cap. Circuit wires connect direct to the hase, and two screws through the cap complete the electrical connection and clamp fitting in position.

Norbitt Conduletto Clamp fittings have a base common to all. This construction permits the substitution of one style of eap for another, without disconnecting circuit wires.


Norbitt Condaletto Clamp Cord Rosette (Exploded View)

| RECEPTACLE WITH SHADE HOLDER GROOVE |
| :--- |

"PAISTE" STANDARD OBLONG PIPE TAPLETS

TYPE A


Type (:


Type 1)


Type E


Tรре LBL


Type LF


Type LL


$$
\begin{gathered}
\text { Carton } \\
10 \\
5 \\
5 \\
1 \\
1 \\
1 \\
1 \\
1 \\
1 \\
1
\end{gathered}
$$



$$
\begin{gathered}
\text { Size. Pip } \\
\text { lnehes } \\
1 / 2 \\
1^{3 / 4} \\
11 / 4 \\
11 / 2 \\
2 \\
21 / 2 \\
3 \\
31 / 2 \\
4 \\
\\
\\
1 / 2 \\
3 / 12 \\
11 / 2 \\
11 / 2 \\
12
\end{gathered}
$$

| 4110 | ( ${ }^{1}$ |
| :---: | :---: |
| 4120 | (2) |
| .11:36 | (\%3 |
| 41.4 | 14 |
| 4150 | ('i) |
| 42tic) | ( $\%$ |
| 4270 | 17 |
| 4280 | ('8 |
| 4290 | (1) |
| 4.300 | ( 110 |

3912 3922
3932
3942
3952 3052

4111
4121
4121
41.
41.

42
$42 \times 1$
42.1
4301

3910
3920
3930
3910
3950
3960

3919
3929
3939


$$
\begin{aligned}
& 1 / 2 \\
& 1^{3 / 4} \\
& 11 / 1 \\
& 11 / 2
\end{aligned}
$$

$$
\begin{array}{ccr}
1 / 2 & 10 & 200 \\
3 / 2 & 5 & 100 \\
111 / 2 & 5 & 50 \\
111 / 2 & 1 & 20 \\
11 / 2 & 1 & 10 \\
2 & 1 & 5 \\
21 / 2 & 1 & 5 \\
3 & 1 & 5 \\
31 / 2 & 1 & 5 \\
4 & 1 & 5
\end{array}
$$

TYPE R 2010
100
50
20
10
5
5
5
5
5
5

TYPE C

TYPE
75
50
25
25
15
10
TYPE E
200
100
50
50
20
10
5
5
5
5
5
5

TYPE LB 200

| $1 / 2$ | 10 | 200 |
| ---: | ---: | ---: |
| $3 / 4$ | 5 | 100 |
| 1 | 5 | 50 |
| $11 / 4$ | 1 | 20 |
| $11 / 2$ | 1 | 10 |
| 2 | 1 | 5 |

TYPE LBL

$\begin{array}{ll}\text { O } & 50 \\ \because & 35 \\ \ldots & 25\end{array}$
TYPE LF
$\square$
10

200
200
100
50
20
10

TYPE LL



Mfrs
List
Farh
$\$ 0.24$
.36
.43
.73
.80
1.78
4.95
5.45
10.40
11.70
W. E.
List
liach
$\$ 0.43$
.65
.77
1.31
1.44
3.20
8.91
6.81
18.72
21.06
 $\$ 0.65$
.85 $\$ 1.17$
1.53
1.71

$\$ 0.40$
$\$ 0.72$
.90
.17
.07
.47



## "PAISTE" STANDARD OBLONG PIPE TAPLETS <br> SCHEDULE "T"



Type LR


Type TB


Type T


Switch Holder


Type F with Cover


Type FH on A

TYPE LR

| I.ist <br> No. | Symbol | Size Pipe luches | Carton | Std. Pkg. | Wt. T.bs. Std. Pkg. | Mfrs. <br> List <br> Each | $\begin{gathered} \text { W. E. } \\ \text { List } \\ \text { Each } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4118 | T.R1 | 1/2 | 10 | 200 | 170 | \$0.40 | \$0.72 |
| 4128 | 1.R2 | $3 / 4$ | 5 | 100 | 117 | \$0.40 | \$0.72 |
| 4138 | L. 123 | 1 | 5 | 50 | 95 | . 65 | 1.17 |
| 4148 | IR4 | $11 / 4$ | 1 | 20 | 40 | 1.15 | 2.07 |
| 4158 4268 | IRS | $11 / 2$ | 1 | 10 | 32 | 1.37 | 2.47 |
| 4278 | L.177 | $2{ }_{2} 16$ | 1 | 5 | 28 | 2. 77 | 4.99 |
| 4288 | LIR8 | $3{ }^{2}$ | 1 | 5 | 70 90 | 6.55 7 | 11.79 13.86 |
| 4298 | L 139 | $31 / 2$ | 1 | 5 | 98 | 17. 10 | 13.86 30.78 |
| 4308 | LR10 | 4 | 1 | 5 | 110 | 19.10 | 34.38 |
| TYPE TB |  |  |  |  |  |  |  |
| 3914 | TB1 | 1/2 | 10 | 200 | 200 | \$0. 48 | \$0.86 |
| 3924 | TB2 | $8 / 4$ | 5 | 100 | 110 | . 62 | 1.12 |
| 3934 | TB3 | - | 5 | 50 | 87 | . 80 | 1.44 |
| TYPE T |  |  |  |  |  |  |  |
| 41.4 | T1 | 1/3 | 10 | 100 | 100 | \$0.48 | \$0.86 |
| 4124 | T2 | 8/8 | 5 | 75 | 98 | . 62 | 1.12 |
| 4134 4144 | T3 | 1 | 5 | 50 | 90 | . 80 | $1.44^{\circ}$ |
| 4154 | T5 | $11 / 1 / 2$ | 1 | 20 | 50 | 1.33 | 2.39 |
| 4264 | T6 | $2^{1 / 2}$ | 1 | 10 | 30 | 1.69 | 3.04 |
| 4274 | T7 | $21 / 2$ | 1 | 5 | 95 | \%, 7.45 | 4.81 13.41 |
| 428. | T8 | 3 | 1 | 5 | 110 | 8.15 | 14.67 |
| 4294 | T9 | 31/2 | 1 | 5 | 113 | 22.60 | 40.68 |
| 4304 | T10 | 4 | 1 | 5 | 128 | 24.60 | 44.28 |
| 4170 | $\frac{1}{2} \%^{\prime \prime}$ mains |  | ranch | 100 | 155 | . 56 | 1,01 |
| 4171 | $1^{3 / 41} 4^{\prime \prime}$ mains |  | ranch | 75 | 95 | . 62 | 1.12 |
| 172 | 1 I', mains | $13 \%^{\prime \prime}$ | ranch | 50 | 86 | . 80 | 1.44 |
| 173 | 1 "mains | $1 / 2{ }^{\prime \prime}$ | ranch | 50 | 90 | . 80 | 1.44 |
| TYPE X |  |  |  |  |  |  |  |
| 4116 | X1 |  | 10 | 75 | 108 | \$0.60 | \$1.08 |
| 4126 | X2 | $8 / 4$ | 5 | 50 | 95 | . 82 | 1.48 |
| 4136 | $\times 3$ | 1 | 5 | 35 | 125 | 1.05 | 1.89 |
| 4146 | $\times 1$ | $11 / 4$ | 1 | 20 | 95 | 1.35 | 2.43 |
| 4156 | X5 | $11 / 2$ | 1 | 10 | 60 | 1.78 | 3.20 |
| 4190 4191 | 3/4" ${ }^{\prime \prime}$ mains | $1 /{ }^{\prime \prime}$ | branch | 50 | 85 | . 82 | 1.48 |
| 4192 | 1 "mains |  | branch | 35 | 100 | 1.05 | 1.89 |
| 4193 | 1 "mains |  | exten- | 35 | 105 | 1.05 | 1.89 |
| 4194 | '" sis | sion, $1 / 2^{\prime \prime}$ | anches | 35 | 110 | 1.05 | 1.89 |
|  |  | sion, $8 / 4^{\prime \prime} \mathrm{b}$ | nches | 20 | 60 | 1.35 | 2.43 |

TYPE SE-PULL ELBOWS WITH COVERS

| 4238 | SE1 | 1/2 | 5 | 100 | 140 | \%0. 60 | \$1.08 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4239 | SE2 | $3 / 4$ | 5 | 100 | 140 | \$0. 70 | ${ }_{1} 1.08$ |
| 4230 | SE3 | 1 | 2 | 50 | 120 | . 90 | 1.62 |
| 4231 | SE4 | $11 / 1$ | 1 | 24 | 93 | 1.35 | 2.43 |
| 4232 | SE5 | $11 / 2$ | 1 | 20 | 65 | 1.80 | 3.24 |
| 4233 | SE6 | 2 | 1 | 10 | 99 | 3.00 | 5.40 |
| 4234 | SL7 | $21 / 2$ | 1 | 4 | 85 | 6.00 | 10.80 |
| 4235 | SE8 | 3 | 1 | 4 | 85 | 7.00 | 12.60 |
| 4236 | SE9 | 31/2 | 1 | 4 | 91 | 17.00 | 30.60 |
| 4237 | SE10 | 4 | 1 | 4 | 78 | 19.00 | 34.20 |

## SWITCH HOLDERS FOR PIPE TAPLETS

| 5263 | For | 5 | Amp. | 20 | 200 | 70 | 80.20 | $\$ 0.36$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: |
| 5264 | 4 | 10 | $\because$ | 20 | 200 | 72 | .20 | .36 |
| 5268 | 4 | 20 | 4 | 20 | 100 | 40 | .28 | .50 |

## TYPE F OUTLET HOODS

| 4180 | F1 | $1 / 2$ | 5. | 100 | 127 | $\$ 0.50$ | 80.90 |
| ---: | :--- | ---: | :--- | ---: | ---: | ---: | ---: |
| 4181 | F2 | $1 / 4$ | 5 | 100 | 140 | .70 | 1.26 |
| 4182 | F3 | $11 / 20$ | 5 | 50 | 110 | 1.05 | 1.89 |
| 4183 | F4 | $111 / 2$ | 1 | 20 | 71 | 1.75 | 3.15 |
| 4184 | F5 | $11 / 2$ | 1 | 10 | 75 | 2.52 | 4.54 |
| 4185 | F6 | 2 | 1 | 5 | 37 | 4.52 | 8.14 |
| 4186 | F7 | $21 / 2$ | 1 | 5 | 76 | 11.70 | 21.06 |
| 4187 | F8 | 3 | 1 | 5 | 72 | 12.70 | 22.86 |
| 4188 | F9 | $31 / 2$ | 1 | 5 | 85 | 26.00 | 47.88 |
| 4189 | F10 | 4 | 1 | 5 | 107 | 31.60 | 56.88 |

TYPE FH OUTLET HOOD FITTINGS
U'sed on Type A to make complete Outlet Hood. One size fits two sizes of A.

| 5267 | $1 / 2$ and $8 / 4$ | 5 | 100 | 115 | 80.34 | \$0.61 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5298 | 1 and 11/4 | 1 | 20 | 60 | 80.34 | 1.12 |
| 5225 | $11 / 2$ and 2 | 1 | 5 | 0 | 1.72 | 1.12 |
| 5226 | $21 / 2$ and 3 | 1 | 5 | . | 6.75 | 12.15 |
| 5227 | $31 / 2$ and 4 | 1 | 5 |  | 16.20 | 29.16 |

## ＂PAISTE＂ROUND OPENING PIPE TAPLETS

## SCHEDULE＂T＂



Type $\mathbf{G}$


Type GX


Type 11


Type IIA


Type 1 III


Type HLA

Form
Form 10
Form 20


Ist
No．
4310
4244
4320
4330
4340
4382
4383
4384

## 4313 4246 4323 4333 3973 4385 4386 4387

4318
4247
4328
4338
3978
4388
4389
4390



| 心出忒些点出出 NNNOOU心， |  |  | 出出出出出出出 <br>  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  | 気気っこったい |  |  | ペ゙ったご気い |

－Dimension All Types


TYPE G

| Form | Size Pipe Inches | Std． <br> 1＇kg． | Iks．Wit． I．low． |  | W．E． list Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | $1 / 2$ | 100 | 100 | \＄0．55 | \＄0．99 |
| 5 | 3 | 50 | 73 | ． 65 | 1.17 |
| 10 | 1／2 | 75 | 125 | ． 65 | 1.17 |
| 10 | $8 / 4$ | 25 | 107 | ． 80 | 1.44 |
| 10） | 1 | 25 | 45 | 1.00 | 1.80 |
| 20 | 1／2 | 50 |  | ． 90 | 1.62 |
| 20 | $3 / 4$ | 25 |  | ． 95 | 1.71 |
| 20 | 1 | 25 |  | 1.20 | 2.16 |

$\$ 1.35$
.35
.53

| 107 | $\$ 0.75$ | $\$ 1.35$ |
| ---: | ---: | ---: |
| 80 | .85 | 1.53 |
| 102 | .85 | 1.53 |
| 35 | 1.00 | 1.80 |
| $\cdots$ | 1.20 | 2.16 |
| $\cdots$ | 1.10 | 1.98 |
| $\cdots$ | 1.20 | 2.16 |
| $\cdots$ | 1.50 | 2.70 |


| 107 | $\$ 0.75$ | $\$ 1.35$ |
| ---: | ---: | ---: |
| 80 | .85 | 1.53 |
| 102 | .85 | 1.53 |
| 35 | 1.00 | 1.80 |
| $\cdots$ | 1.20 | 2.16 |
| $\cdots$ | 1.10 | 1.98 |
| $\cdots$ | 1.20 | 2.16 |
| $\cdots$ | 1.50 | 2.70 |

ジーが，
$\underset{1 / 2}{\text { TYPE GA }} \underset{100}{\text { G }}$


| 85 | $\$ 0.60$ |
| ---: | ---: |
| 70 | .70 |
| 136 | .70 |
| 31 | .85 |
| $\cdots$ | 1.05 |
| $\cdots$ | .95 |
| $\cdots$ | 1.05 |
| $\cdots$ | 1.35 |

$\$ 1.08$
1.26
1.26
1.53
1.89
1.71
1.89
2.43

117 80
80.75
.85
.85
1.00
1.20
1.10
1.20
1.50
$\$ 1.35$ $\begin{array}{cc}\text { TYPE GT } \\ 1 / 2 & 100 \\ 3 / 4 & 50 \\ 1 / 2 & 75 \\ 3 / 4 & 25 \\ 1 & 25 \\ 1 / 2 & 50 \\ 3 / 4 & 25 \\ 1 & 25 \\ & 2\end{array}$
$\underset{\infty}{\infty}$
1.35
1.53
1.53
1.80
2.16
1.98
2.10
2.70
$\$ 1.62$

| $1 / 2$ | 100 |
| :---: | ---: |
| $3 / 1 / 2$ | 50 |
| $11 / 2$ | 75 |
| $3 / 4$ | 25 |
| $1 / 2$ | 50 |
| $3 / 4$ | 25 |
| 1 | 25 |
|  | TYPE | 100

50
75
25
25
50
25
25 148
$\$ 0.90$
1.00
1.00
1.15
1.45
1.25
1.40
1.80 101
1.80
1.80
2.07
2.61
2.25
2.52
3.24

30.81
.99
.99
1.26
1.62
1.44
1.53
1.98

TYPE HA

| 1\％${ }^{\text {T }}$（ | 100） |
| :---: | :---: |
| 8 | 50 |
| $1 / 2$ | 75 |
| $3 / 4$ | 25 |
| 1 | 25 |
| 1／2 | 50 |
| $8 / 4$ | 25 |
| 1 | 25 |
| TYPE | HH |
| 1／2 | 100 |
| $8 / 4$ | 50 |
| 1／2 | 75 |
| $3 / 4$ | 25 |
| 1 | 25 |
| 1／2 | 50 |
| 3／4 | 25 |
| 1 | 25 |
| TYPE | HLA |
| 1 | 100 |
| $3 / 4$ | 50 |
| 1／2 | 75 |
| 8／4 | 25 |
| 1 | 25 |
| 1／2 | 50 |
| $8 / 4$ | 25 |
|  | 25 |



[^75]
## COVER FOR STANDARD OBLONG PIPE TAPLETS



No． 601

| Std．Pkg．Asstd． |  |
| :---: | :---: |
|  | 1 Hole Special <br> 1 Hole Regular |
| niby | 2 Hole |
|  | 4 Hole |
| 覓 | 5 Hole |
|  | 6 Hole |
|  | 7 Hole |
|  | 8 Hole |
|  | 1 Hole Large |
|  | 2 Hole Large |
|  | 3 Hole large |
| Blank Metal Cover |  |
|  | 1／8 inch Male |
|  | 1／8，inch Female |
|  | $1 /$ inch Malc |
|  | $1 /$ inch Female |
|  | $3 / 8$ inch Malc |
|  | $3 / 8$ inch Female |
|  | $1 / 2$ inch Male |
|  | $1 / 2$ inch Female |
|  | $1 / 8$ inch Female |
|  | $1 / 4$ inch Male |
|  | $1 / 4$ inch Female |
|  | \％／8 inch Male |
| 気㑒 | $3 / 8$ inch Frmale |
|  | 1／3inch Male |
|  | For W．P．S | For W．P．Sockets



No． 603
For $1 / 2$ inch
and $\frac{3}{4}$ inch
Pipe Taplets 200

| 601 | .18 |
| :--- | :--- |
| 602 | .18 |
| 603 | .18 |
| 60. | .18 |
| 605 | .18 |
| 606 | .18 |
|  |  |
| 611 | 18 |


| 611 | .18 |
| :--- | :--- |
| 612 | .18 |

Blank Metal Cover


| 629 | ． 41 | （i4） | 81 |
| :---: | :---: | :---: | :---: |
| $6: 37$ | ． 63 | （i）7 | 1.04 |
| 0.38 | ． 63 | （i）${ }^{\text {d }}$ | 1.104 |
| 6336 | ． 68 | 6 Cig | 1.10 |
| 639 | ． 68 | 609 | 1.10 |
| 6i34 | ． 72 | 654 | 1.13 |
| 635 | ． 72 | （1in） | 1.13 |
| 692 | ． 81 | $71) 2$ | 1.22 |
| 693 | ． 81 | 70\％ | 1.22 |

No． 616
For 1 inch

| For 1 inch and $11 / 4$ inches |  |
| :---: | :---: |
|  | Taplets |
| 50 |  |
|  | W．E． |
| ist | List |
| No． | Irice |
| 620 | \＄0．45 |
| 621 | ． 45 |
| 622 | 45 |
| 62：3 | .45 |
| 62.1 | ． 45 |
| 625 | ． 45 |
| 626 | ． 45 |
| 027 | 45 |
| 628 | 45 |



No． 615

| ```For 11g inches and 2inches I'ipe 'T:aplets 10``` |  | For $21 / 2$ inches |  |
| :---: | :---: | :---: | :---: |
|  |  | and ：3 inches |  |
|  |  |  | Taplets |
|  |  |  |  |
|  | W．W． |  | W，E． |
| List | List | List | list |
| No． | lrice | No． | I＇rice |
| （i）4） | \＄0．86 | （6i0） | \＄1．44 |
| 6i41 | ． 86 | $6 \% 1$ | 1． 44 |
| 1i13 | ． 86 | titiz | 1． 1.1 |
| 1i13 | ． 86 | 60\％ | 1.4 .4 |
| 1 i 4.4 | ． 86 | （ii） 4 | 1.44 |
| （195 | ． 86 | 6ii． | 1.44 |
| 6， 110 | ． 86 | 666 | 1.44 |
| 10.47 | ． 80 | 667 | 1． 4.4 |
| 6－18 | .86 | 668 | 1.44 |



No． 619
For 31／pinches and 4 inches Pipe Taplets

|  | W．W |
| :---: | ---: |
| List | List |
| No． | $j^{3}$ riee |
| 680 | $\$ 1.62$ |
| 681 | 1.62 |
| 682 | $1.1 i 2$ |
| 683 | 1.62 |
| 684 | 1.62 |
| 685 | 1.62 |
| 686 | 1.62 |
| 687 | 1.62 |
| 688 | 1.62 |

$689 \quad 1.44$

| 674 | 1.71 | 69.4 | 1.89 |
| :--- | :--- | :--- | :--- |
| 675 | 1.711 | 605 |  |


| 675 | 1.71 | 695 | 1.89 |
| :--- | :--- | :--- | :--- |


No． 610 Rubber Gasket

| For ${ }^{\frac{1}{2} \text { in．}}$ | For 1 in ． | For $11 / 2 \mathrm{ins}$ ． |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Pine Taplets | and $11 / 4$ ins． | an 12 ins． | For 2,2 ins． <br> anci 3 ins． | or $31 / 2 \mathrm{ins}$ ． and 4 ins． |
| Pipe Taplets <br> （i10） | Pipe＇Tuplets | Pipe Taplets | Pipe Taplets | Pipe Taplets |
| 200 | 50 | ${ }^{6} 10$ | 670 | 600 |
| \＄0．18 | 80.27 | \＄0．36 | \＄0．7\％ | \＄0．90 |

## COVERS FOR ROUND OPENING PIPE TAPLETS

PORCELAIN COVERS

| List <br> No． | Description | FOR FORM 5 AND 10 PIPE TAPLETS |  | ＊Std． | W．E．Jisit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1601 | With one $1 / 2$ inch hole．． |  |  | Pkg． | Price |
| 1602 | With two $1 / 2$ inch holes |  |  | 100 | \＄0． 18 |
| 1603 | With three $1 / 2$ inch holes |  |  | 100 | ． 18 |
| 1604 | With four $1 / 2$ inch holes． |  |  | 100 | ． 18 |
| 1605 | With $1 / 8$ inch male nipplo | PORCELAIN COVERS WITH NIPPLES |  |  |  |
| 1606 | With $1 / 8$ inch female nipple |  |  | 100 | \＄0．45 |
| 1607 | With $1 / 4$ inch male nipple． |  |  | 100 | ． 45 |
| 1608 | With $1 / 1$ inch female nipple． |  |  | 100 | ． 54 |
| 1609 | With $1 / 8$ inch male nipple． |  |  | 100 | ． 54 |
| 1610 | With $3 / 8$ inch female nipple． |  |  | 100 | ． 63 |
| 1611 | Wit 㡒 inch male nipple． |  |  | 100 | 72 |
| 1612 | With ta inch female nipple． |  |  | 100 | ． 72 |
|  |  | METAL COVERS，RUBBER GASKETS |  |  | W．E． |
|  |  |  | Por | ＊Std． | List |
| 651 | Receptacle Cover and Strap |  | Form | Pkg． | Price |
| 671 | Switch Ring 3．．．．．．．．．．． |  | 10 | 100 | \＄0． 18 |
| 691 | Switch Rink 3. |  | 10 | 100 | ． 09 |
| 632 | Rubber Gasket． |  | 20 | 50 | ． 36 |
| 652 | Rubber Gasket． |  | 10 | 100 | ． 18 |
| 653 1600 | Rubber Gasket． |  | 20 | 100 | ． 18 |
| 1600 1622 | Blank metal cover． |  | 5 and 10 | 100 | －27 |
| 1622 | Wlank metal cover． |  | $5{ }^{50} 10$ | 100 50 | ． 141 |
| 1614 | With $1 / 8$ inch male nipple． |  | 5 and 10 | 100 | ． 36 |
| 1615 | With 14 inch male nipple． |  | 5 and 10 | 100 | ． 36 |
| 1616 | With $1 / 4$ inch female nipple |  | 5 and 10 | 100 | ． 41 |
| 1617 | With $8 / 8$ inch male nipple． |  | 5 and 10 | 100 | ． 41 |
| 1618 | With $8 / 8$ inch female nipple． |  | 5 and 10 | 100 | .45 |
| 1619 | With $1 / 2$ inch male nipple．． |  | 5）and 10 | 100 | ． 45 |
| 1620 | With $1 / 2$ inch female nipple． |  | 5 amd 10 | 100 | ． 54 |

[^76] number of covers for them，standard package discount is allow on andard pacace of Pipe Tapleta is ordered and an equal

## WEATHERPROOF COPPER WIRES



No． 4 Solid Weatherproof


No． 2 Stranded Weatherproof
These wires have three closely woven braids of cotton，all thoroughly saturated with a black weather－ proof compound，which shows no signs of softening under ordinary temperature．The outer braid is smoothly polished．Stranded wires，including larger sizes of feeder cable，are braided with standard cotton yarn．The style of stranding shown in table below is a regular product of the factory but the conductor can be specially stranded of a greater or less number of wires if desired．Concentric strands are used entirely as that gives the smallest diameter conductor for the carrying capacity．

Triple Braid—Solid Conductor

| List No． | Size B．\＆S． Cauge | Approximate：Wgt． Liss． |  | Approx． Diameter over Insulation Inches | Plet Up for Shipment |  |  |  | Coils Approx． Weight Libs． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Reels | Cases containing Approx． 200 Lbs． |  |  |
|  |  | Per | ler |  |  |  | Approx． | Approx． |  |
|  |  | 1000 Ft ． | Mile |  | Length Ft ． | WeightLbs． | Coils | Weight |  |
| 660000 | （）000 | 767 | 4050 |  | $\frac{25}{3}$ | 2640 | 2025 |  |  |  |
| 660001 | 000 | 630 | 3320 | $\frac{17}{6}$ | 2640 | 1660 |  |  |  |
| 660002 | （）0 | 502 | 2650 | 需 9 | 2640 | 1325 |  |  |  |
| 660003 | 0 | 407 | 2150 | $\frac{9}{16}$ | 2640 | 1075 |  |  |  |
| 660004 | 1 | 316 | 1670 | $1 / 2$ | 800 | 250 |  |  | 125 |
| 660005 | 2 | 260 | 1370 | $\frac{1}{3} \frac{5}{2}$ | 1000 | 260 |  |  | 130 |
| 660006 | 3 | 200 | 10.50 | $\frac{27}{68}$ | 1250 | 250 |  |  | 125 |
| 660007 | 4 | 164 | 865 | ${ }_{6}^{6} \frac{5}{6}$ | 1600 | 260 |  |  | 130 |
| 660008 | 5 | 134 | 710 | $\frac{11}{32}$ | 2000 | 270 |  |  | 135 |
| 660009 | 6 | 112 | 590 | ${ }^{5}$ | 2500 | 280 |  |  | 140 |
| 660010 | 8 | 75 | 395 | $\frac{17}{64}$ | 2700 | 200 |  |  | 100 |
| 660011 | 10 | 53 | 280 | $1 / 4$ | 3300 | 170 | 8 | 25 | 85 |
| 660012 | 12 | 35 | 185 | $\frac{7}{32}$ |  |  | 8 | 25 |  |
| 660013 | 14 | 25 | 130 | ${ }^{3} 6$ |  |  | 8 | 25 |  |
| 660014 | 16 | 14 | 75 | $\frac{5}{31}$ |  |  | 12 | 17 |  |
| 660015 | 18 | 11 | 58 | 1／8 |  |  | 12 | 17 |  |

Triple Braid－Stranded Conductor

| List No． | Capacity Circular Nils | Approximate Weight in Pounds |  | Approx． <br> Diameter over Insulation Inches | Concentric Strands |  | Put up for Shipment |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Reels |  |
|  |  | $\begin{gathered} \text { Per } \\ 1000 \mathrm{Ft} . \end{gathered}$ | Per Mile |  | Number of Wires | Diameter each <br> in Inches | Diameter Reels Inches | Approx． <br> Length Feet | Approx． <br> Weight <br> Pounds |
| 6600016 | 20000000 | 7000 | 37000 |  | 21／8 | 91 | ． 148 | 48 | 400 | 2800 |
| 6600017 | 1750000 | 6200 | 32750 | 2 | 91 | ． 139 | 48 | 400 | 2500 |
| 6660018 | 1500000 | 5400 | 28500 | 17／8 | 91 | ． 128 | 48 | 500 | 2700 |
| 660019 | 1250000 | 4500 | 23800 | $13 \%$ | 91 | ． 117 | 48 | 600 | 2700 |
| 660020 | 1000000 | 3675 | 19400 | $1{ }^{\frac{21}{3}}$ | 61 | ． 128 | 45 | 660 | 2425 |
| 660021 | 900000 | 3330 | 17600 | $1{ }^{\frac{3}{64}}$ | 61 | ． 121 | 45 | 720 | 2400 |
| 660022 | 800000 | 3000 | 15800 | $1 \frac{9}{16}$ | 61 | ． 114 | 45 | 800 | 2400 |
| 660023 | 700000 | 2650 | 14000 | $1{ }^{\frac{1}{3} \frac{5}{2}}$ | 61 | ． 107 | 45 | 900 | 2385 |
| 660024 | 600000 | 2235 | 11800 | $1{ }^{21}$ | 61 | ． 099 | 45 | 1000 | 2235 |
| 660025 | 500000 | 1900 | 10000 | 11／4 | 37 | ． 116 | 48 | 1320 | 2560 |
| 660026 | 450000 | 1725 | 9100 | $1 \frac{3}{18}$ | 37 | ． 110 | 45 | 1320 | 2280 |
| 660027 | 400000 | 1550 | 8200 | 19 | 37 | ． 104 | 45 | 1320 | 2020 |
| 660028 | 350000 | 1345 | 7100 | 1 | 27 | ． 114 | 42 | 1500 | 2010 |
| 660029 | 300000 | 1175 | 6200 | ${ }^{\frac{31}{3}}$ | 27 | ． 105 | 42 | 1500 | 1760 |
| 660030 | 250000 | 985 | 5200 | 䜃 | 19 | ． 115 | 42 | 2000 | 1970 |
| 660031 | 0000 | 800 | 4220 | $\frac{35}{64}$ | 19 | ． 105 | 45 | 2640 | 2110 |
| 660032 | 000 | 653 | 3450 | $\frac{32}{64}$ | 12 | ． 118 | 42 | 2640 | 1725 |
| ＇660033 | 00 | 522 | 2760 | ${ }^{\frac{13}{61}}$ | 12 | ． 105 | 36 | 2640 | 1380 |
| 660034 | 0 | 424 | 2240 | $\frac{39}{60}$ | 7 | ． 123 | 36 | 2640 | 1120 |
| 660035 | 1 | 328 | 1735 | $\frac{35}{6}$ | 7 | ． 109 | 28 | 800 | 260 |
| 660036 | 2 | 270 | 1425 | $\frac{33}{64}$ | 7 | ． 098 | 28 | 1000 | 270 |
| 660037 | 3 | 206 | 1090 | 颜 | 7 | ． 086 | 28 | 1200 | 250 |
| 660038 | 4 | 170 | 900 | $\frac{7}{16}$ | 7 | ． 077 | 28 | 1500 | 255 |
| 660039 | 5 | 140 | 740 | 3／8 | 7 | ． 068 | 28 | 2000 | 280 |
| 660040 | 6 | 115 | 610 | $\frac{11}{3}$ | 7 | ． 061 | 28 | 2500 | 285 |
| 660041 | 8 | 78 | 410 | $\frac{9}{32}$ | 7 | ． 048 | 28 | 2500 | 195 |

Prices on application．

No. 10 Solid Single Braid Wire

## Solid Copper Conductors

These rubber-covered wires are made according to the specifications of the National Board of Fire Underwriters, and each coil is tested and stamped by the Wire Inspection Bureau before leaving the factory. The conductors are thoroughly tinned and are covered with two thicknesses of high-grade rubber compound, which is thoroughly vulcanized. The wires are braided with a standard cotton yarn, the braids being thoroughly saturated with a pure wax compound having a high melting point, and are smoothly and evenly finished. The smooth, hard finish given these wires enables them to be handled readily and makes them especially desirable for conduit work. The single braided wires can also be finished with a white-fireproof compound over the braid.

SINGLE BRAID

| List <br> No. | Size B. \& S. <br> Gauge | Diam. of Copper <br> Mils | Capacity Circular <br> Nils | Rubber Wall <br> Znches | Diam. Over All <br> Inches | Weight Lbs. <br> per 1000 Ft. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 660097 | 8 | 1285 | 16509 |  |  |  |
| 660098 | 10 | 1019 | 10381 | $3 / 64$ | $19 / 64$ |  |
| 660099 | 12 | 0808 | 6530 | $3 / 64$ | $17 / 64$ | 85 |
| 660100 | 14 | 0640 | 4107 | $3 / 64$ | $16 / 64$ | 60 |
| 660101 | 16 | 0508 | 2583 | $1 / 32$ | $14 / 64$ | $3 / 16$ |
| 660102 | 18 | 0403 | 1624 | $1 / 32$ | 34 |  |
| 660103 | 19 | 0354 | 1252 | $1 / 32$ | 20 |  |
| 660104 | 20 | 0319 | 1021 | $1 / 32$ | $5 / 32$ | 16 |

DOUBLE BRAID

| List <br> No. | Size B. \& S. <br> Gauge | Diam. of Copper <br> Mils | Capacity Circular <br> Mils | Rubber Wall <br> Inches | Diam. Over All <br> Inches | Weight, Lbs. <br> per 1000 Ft. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 660105 | 0000 | 4600 | 211600 |  |  |  |
| 660106 | 000 | 4096 | 167805 | $5 / 64$ | $52 / 64$ | 832 |
| 660107 | 00 | 3648 | 133079 | $5 / 64$ | $48 / 64$ | 690 |
| 660108 | 0 | 3249 | 105512 | $5 / 64$ | $47 / 64$ | 568 |
| 660109 | 1 | 2893 | 83694 | $5 / 64$ | $35 / 64$ | 476 |
| 660110 | 2 | 2576 | 66373 | $1 / 16$ | $35 / 64$ | 376 |
| 660111 | 3 | 2294 | 52634 | $1 / 16$ | $17 / 32$ | 297 |
| 660112 | 4 | 2043 | 41742 | $1 / 16$ | $1 / 2$ | 245 |
| 660113 | 5 | 1819 | 33102 | $1 / 16$ | $15 / 32$ | 204 |
| 660114 | 6 | 1620 | 26250 | $1 / 16$ | $28 / 64$ | 174 |
| 660115 | 8 | 1285 | 16509 | $3 / 64$ | $3 / 8$ | 147 |
| 660116 | 10 | 1019 | 10381 | $3 / 64$ | $21 / 64$ | 95 |
| 660117 | 12 | 0808 | 6530 | $3 / 64$ | $20 / 64$ | 68 |
| 660118 | 14 | 0640 | 4107 | $3 / 64$ | $9 / 32$ | 50 |
|  |  |  |  |  | 40 |  |



## No. 14 Solid Duplex Wire <br> Duplex Copper Conductors

Duplex Rubber Covered Wire consists of two National Electrical Code, single braided wires laid parallel, with a braid over all. Wire of this construction is approved by the National Board of Fire Underwriters for use in unlined conduits while single conductor wires are required double braided when placed in unlined conduits.

DUPLEX, SOLID


## Fixture Wire

No. 18 Solid Conductor Fixture Wire


A single conductor wire, designed for wiring fixtures, show cases, etc., and furnished in solid or stranded conductor as wanted.

Solid conductor wires are timned. This is not required, however, for stranded conductor, which takes a cotton wind in its place.

Conductors are insulated with new code compound and then covered with a saturated cotton braid or silk. Dry cotton can also be furnished, but is not generally required.

## SOLID FIXTURE WIRE-N. E. C. STANDARD-TYPE F-32

The standard approved sizes are Nos. 16 and 18 R. \&S. Can be used for wiring fixtures, without restriction, except where special forms of wire are required on account of temperature conditions.

| List No. | Size B. \& S. <br> Gauge | Rubber Wall <br> Inches | Diameter Over All <br> Inches | Weight, Lbs. <br> per 1000 Feet |
| :---: | :---: | :---: | :---: | :---: |
| 660133 | 12 | $3 / 64$ | $14 / 64$ | 40 |
| 660134 | 14 | $3 / 64$ | $12 / 64$ | 34 |
| 660135 | 16 | $1 / 32$ | $10 / 64$ | 20 |
| 660136 | 18 | $1 / 32$ | $9 / 64$ | 16 |

SOLID FIXTURE WIRE-LIGHT INSULATION-TYPE F-64
Used for wiring fixtures, except for the wiring of chains and where special forms of wire are required, because of temperature conditions. Size No. 18 13. \&S. is the only size permitted by the Underwriters.

Silk-covered light fixture wire is recommended for use with especially small fixture stems, where the regular is too large.

Stranded fixture wire is recommended for use in movable stems.

| 660137 | 14 | $1 / 32$ | $10 / 64$ | 27 |
| :--- | :--- | :--- | :--- | :--- |
| 660138 | 16 | $1 / 64$ | $9 / 64$ | 16 |
| 660139 | 18 | $1 / 64$ | $8 / 64$ | 13 |
| 660140 | 20 | $1 / 64$ | $7 / 64$ | 11 |

[^77]
## RUBBER-COVERED WIRES



No. 00 Stranded Double Braid Wire

## Stranded Copper Conductors

Rubber-covered Stranded Conductors are made according to the specifications of the National Board of Fire Underwriters and each length is tested and stamped by the Wire Inspection Bureau before leaving the factory. The wires composing the conductors are thoroughly tinned and then laid up concentrically, giving the smallest diameter of any certain capacity. These conductors are pliable and are braided with cotton and saturated with a smooth and lasting compound, insuring their being readily handled in conduit work. The single braided conductors can also be finished with a white fireproof compound over the braid.

SINGLE BRAID

| List No. | Size B. \& S. <br> Gauge | No. of Wires | Diameter of <br> Each | Rubber Wall <br> Inches | Diam. Over All <br> Inches | Weight, Lbs, <br> per 1000 Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660151 | 8 | 7 | 048 | $3 / 64$ | $21 / 64$ |  |
| 660152 | 10 | 7 | 038 | $3 / 64$ | $19 / 64$ | 93 |
| 660153 | 12 | 7 | 032 | $3 / 64$ | $17 / 64$ | 64 |
| 660154 | 14 | 7 | 025 | $3 / 64$ | $15 / 64$ | 48 |
| 660155 | 16 | 7 | 018 | $1 / 32$ | $14 / 64$ | 36 |
| 660156 | 18 | 3 | 023 | $1 / 32$ | $13 / 64$ | 29 |
| 660157 | 20 | 3 | 018 | $1 / 32$ | $12 / 64$ | 23 |

DOUBLE BRAID

| List No. | Size B. \& S. Gauge | No. of Wires | Diameter of Each | Rubber Wall Inches | Diam. Over All Inches | Weight, Lbs. per 1000 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660158 | 0000 | 19 | 105 | 5/64 | 30/32 | 942 |
| 660159 | 000 | 19 | 094 | 5/64 | 56/64 | 942 |
| 660160 | 00 | 19 | 084 | 5/64 | $56 / 64$ $52 / 64$ | 647 |
| 660161 | 0 | 19 | 074 | 5/64 | 47/64 | 526 |
| 660162 | 1 | 19 | 067 | 5/64 | 43/64 | 417 |
| 660163 | 2 | 19 | 059 | 1/16 | 39/64 | 329 |
| 660164 | 3 | 19 | 052 | 1/16 | 36/64 | 272 |
| 660165 660166 | 4 | 7 | 077 | 1/16 | 34/64 | 227 |
| 660166 660167 | 5 | 7 | 069 | 1/16 | 32/64 | 192 |
| 660167 660168 | 6 | 7 | 062 | 1/16 | 29/64 | 164 |
| 660168 660169 | 8 | 7 | 048 | 3/64 | 26/64 | 105 |
| 660169 660170 | 10 | 7 | 038 | 3/64 | 24/64 | 72 |
| 660170 660171 | 12 | 7 | 032 | 3/64 | 21/64 | 55 |
| 660171 | 14 | 7 | 025 | 3/64 | 19/64 | 41 |

Prices on application.

Quantity Prices
Quoted on Request


250000 C. M. Stranded Double Braid Cable
These stranded conductors are made according to the specifications of the National Board of Fire Underwriters and each length is tested and stamped before leaving the factory.

Circular Mils Cables
SINGLE BRAID

| List No. | Size Cir. Mils | Concentric Strands |  | Rubber Wall Inches | Diam, Over All Inches | Weight, Lbs. per 1000 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | No. of Wires | Diam. of Each |  |  |  |
| 660172 | 2000000 | 91 | 1485 | 1/8 | $160 / 64$ | 7246 |
| 660173 | 1750000 | 92 | 138 | 1/8 | $156 / 64$ | 6394 |
| 660174 | 1500000 | 91 | 1285 | 1/8 | $151 / 64$ | 5539 |
| 660175 | 1250000 | 91 | 1175 | 1/8 | $143 / 64$ | 4678 |
| 660176 | 1000000 | 61 | 128 | 7/64 | $11 / 2$ | 3754 |
| 660177 | 950000 | 61 | 125 | 7/64 | $131 / 64$ | 3581 |
| 660178 | 900000 | 61 | 122 | 7/64 | $128 / 64$ | 3404 |
| 660179 | 850000 | 61 | 118 | 7/64 | $126 / 64$ | 3233 |
| 660180 | 800000 | 61 | 115 | 7/64 | $124 / 64$ | 3058 |
| 660181 | 750000 | 61 | 111. | '7/64 | $122 / 64$ | 2881 |
| 660182 | 700000 | 61 | $107{ }^{\text {a }}$ | 7/64 | $120 / 64$ | 2709 |
| 660183 | 650000 | 61 | 104 | 7/64 | $118 / 64$ | 2534 |
| 660184 | 600000 | 61 | 0905 | 7/64 | $116 / 64$ | 2355 |
| 660185 | 550000 | 37 | 122 | '7/64 | 1 14/64 | 2182 |
| 660186 | 500000 | 38 | 115 | 3/32 | $110 / 64$ | 1959 |
| 660187 | 450000 | 37 | 111 | 3/32 | 1 7/64 | 1791 |
| 660188 | 400000 | 37 | 105 | 3/32 | $13 / 64$ | 1608 |
| 660189 | 350000 | 37 | 098 | 3/32 | 1 | 1431 |
| 660190 | 300000 | 37 | 090 | 3/32 | 60/64 | 1250 |
| 660191 | 250000 | 37 | 083 | 3/32 | 56/64 | 1071 |

DOUBLE BRAID

| 660193 | 2000000 | 91 | 1485 | 1/8 | $25 / 64$ | 7365 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660194 | 1750000 | 92 | 138 | 1/8 | $159 / 64$ | 6513 |
| -660195 | 1500000 | 91 | 1285 | 1/8 | $156 / 64$ | 5658 |
| 660196 | 1250000 | 91 | 1175 | 1/8 | $152 / 64$ | 4783 |
| 660197 | 1000000 | 61 | 128 | 7/64 | $140 / 64$ | 3849 |
| 660198 | 950000 | 61 | 125 | 7/64 | $136 / 64$ | 3676 |
| 660199 | 900000 | 61 | 122 | 7/64 | $134 / 64$ | 3491 |
| 660200 | 850000 | 61 | 118 | 7/64 | $130 / 64$ | 3310 |
| 660201 | 800000 | 61 | 115 | 7/64 | $132 / 64$ | 3138 |
| 660202 | 750000 | 61 | 111 | 7/64 | $130 / 64$ | 2956 |
| 660203 | 700000 | 61 | 107 | 7/64 | $128 / 64$ | 2880 |
| 660204 | 650000 | 61 | 104 | 7/64 | $126 / 64$ | 2600 |
| 660205 | 600000 | 61 | 0995 | 7/64 | $124 / 64$ | 2418 |
| 660206 | 550000 | 37 | 122 | 7/64 | $122 / 64$ | 2210 |
| 660207 | 500000 | 38 | 115 | 3/32 | 1 16/64 | 2010 |
| 660208 | 450000 | 37 | 111 | 3/32 | 1 12/64 | 1840 |
| 660209 | 400000 | 37 | 105 | 3/32 | $111 / 64$ | 1650 |
| 660210 | 350000 | 37 | 098 | 3/32 | 1 8/64 | 1468 |
| 660211 | 300000 | 37 | 090 | 3/32 | $14 / 64$ | 1285 |
| 660212 | 250000 | 37 | 083 | 3/32 | 1 | 1103 |

Prices on application.


No. 1 Flexible Double Braid Switchboard Cable

## Flexible Switchboard Cables

These wires are all National Electrical Code Standard and are especially designed for switchboard, dynamo and motor connections.

| List No. | Size B. \& S. Gauge | $\begin{gathered} \text { Size } \\ \text { in C. M. } \end{gathered}$ | Rubber Wall $\qquad$ | No. of Wires | Size of Wires | Diam. Over All, Ins. | Weight, Lbs. per 1000 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660214 | 0000 | 211600 | 5/64 | 133 | No. 18 B. \& S. | 53/64 | 791 |
| 660215 | 000 | 167805 | 5/64 | 134 | No. 19 B. \& S. | 51/64 | 655 |
| 660216 | 00 | 133079 | 5/64 | 131 | No. 20 B. \& S. | 46/64 | 541 |
| 660217 | 0 | 105592 | 5/64 | 133 | No. 21 B. \& S. | 42/64 | 444 |
| 660218 | 1 | 83694 | 5/64 | 133 | No. 22 B. \& S. | 40/64 | 366 |
| 660219 | 2 | 66373 | 1/16 | 133 | No. 23 B. \& S. | 37/64 | 274 |
| 660220 660221 | 3 | 52634 | 1/16 | 52 | No. 20 B. \& S. | 32/64 | 225 |
| 660221 660222 | 4 | 41742 | 1/16 | 52 | No. 21 B. \& S. | 30/64 | 194 |
| 660222 660223 | 5 | 33102 | 1/16 | 52 | No. 22 B .8 S . | 28/64 | 159 |
| 660223 660224 | 6 | 26250 | 1/16 | 50 | No. 23 B. \& S. | 26/64 | 141 |
| 660224 | 8 | 16509 | 3/64 | 52 | No. 25 B. \& S. | 24/64 | 86 |
| 660226 | 12 | 10381 6530 | $3 / 64$ $3 / 64$ | 33 | No. 25 B. \& S. | 20/64 | 44 |
| 660227 | 14 | 6530 4107 | $3 / 64$ $3 / 64$ | $\stackrel{14}{14}$ | No. 25 No. 25 B. | $18 / 64$ $16 / 64$ | 36 26 |

Stranding
Standard, Flexible, and C. M. Conductors
When Strands are not Specified the Following will be Furnished:

| Standard Strands |  |  |  | Flexible Strands |  |  | Stand. Strands |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size <br> B. \& S. <br> Gauge. | Strands | Stran'd Diam. | Wt.Lbs. per 1000 Ft. | Strands | Stran'd Diam. | Wt.Lbs. per 1000 Ft. | $\begin{gathered} \text { Size } \\ \text { C. M. } \end{gathered}$ | Strands | Stran'd Diam. | Wt.Lbs. per 1000 Ft. |
| 0000 | 19-. 105 | . 525 | 655 | 133-. 040 | . 600 | 712 | 250000 | 37-.082 | . 574 | 770 |
| 000 | 19-. 094 | . 470 | 525 | 133-. 035 | . 525 | 550 | 300000 | 37-.090 | . 630 | 915 |
| 00 | 19-. 084 | . 420 | 420 | 133-. 032 | . 480 | 440 | 350000 | 37-. 098 | . 686 | 1100 |
| 0 | $19-.074$ $19-.067$ | . 370 | 325 | 133-. 028 | . 420 | 355 | 400000 | 37-. 104 | . 728 | 1260 |
| 1 | 19-. 067 | . 335 | 266 | 133-. 025 | . 375 | 284 | 450000 | 37-. 110 | . 770 | 1390 |
| 2 | 19-.059 | . 295 | 206 | 133-. 023 | . 345 | 225 | 500000 | 37-. 116 | . 812 | 1540 |
| 4 | 19-.052 | . 260 | 160 130 | 105-.023 | . 325 | 176 | 550000 | 42-. 116 | . 893 | 1710 |
| 5 | 7-. 069 | . 207 | 104 | 49-. 028 | . 252 | 138 | 600000 | 61-. 099 | . 891 | 1840 |
| 6 | 7-. 062 | . 186 | 84 | 49-. 023 | . 207 | 1105 | 700000 | 68-. 098 | . 9580 | 2010 |
| 8 | 7-. 048 | . 144 | 51 | 52-. 018 | . 162 | 55 | 750000 | 56-. 116 | 1.010 | 2330 |
| 10 | 7-. 038 | . 114 | 32 | 33-. 018 | . 120 | 35 | 800000 | 60-. 116 | 1.044 | 2500 |
| 12 | 7-. 032 | . 096 | 23 | 21-. 018 | . 097 | 23 | 850000 | 63-. 116 | 1.090 | 2620 |
| 14 | 7-. 025 | . 075 | $131 / 2$ | 30-. 012 | 080 | 151/2 | 900000 | $67-.116$ | 1.125 | 2790 |
| 16 | 7-. 018 | . 054 | $71 / 2$ | 20-. 012 | . 064 | 9 | 950000 | 71-. 116 | 1.16 | 2950 |
| 18 | 5-. 018 | . 050 | $51 / 2$ | 12-. 012 | . 052 | 6 | 1000000 | 61-. 128 | 1.152 | 3150 |
| 20 | 3-. 018 | . 041 | $31 / 2$ | 7-. 012 | . 036 | 4 | 1250000 | 76-. 128 | 1.330 | 3910 |
|  |  |  |  |  |  |  | 1500000 | 91-. 128 | 1.408 | 4650 |
|  |  |  |  |  |  |  | 1750000 | 107-. 128 | 1.557 | 5500 |
|  |  |  |  |  |  |  | 2000000 | 122-. 128 | 1.664 | 6280 |

## Special Stranding

C. M. desired $\div$ by C. M. in wire to be used equals number of wires in strand.

## Example:

How many 18 B. \& S. will be required to make 250,000 C. M. cable? $\quad 18$ B. \& S. $=1624 \mathrm{C} . \mathrm{M} .250,000$ C. M. $\div 1624$ C. M. $=154$, the number of 18 B. \& S. in 250,000 C. M.

When the number of wires in a strand is given, but not their size, this can be determined as follows: The $C$. M. required $\div$ by the number of wires required $=$ mileage of each wire in strand. The square root of the mileage will give the diameter of wire to be used in stranding.

## Example:

What is the diameter of a wire necessary to make $1,000,000$ C. M. of 427 strands? $1,000,000 \mathrm{C} . \mathrm{M} . \div$ $427=2342$ C. M. of each wire. Square root of 2342 C. M. $=.0484$, the diameter of each wire in strand.

Prices on application.

# MINING AND PARK CABLES <br> Mining Machine Cable 



No. 4 Duplex Mining Machine Cable-Triple Braid

## DUPLEX

Duplex Mining Machine Cable consists of flexible strands, rubber insulated to N. E. C. standard thickness. Each conductor is finished with a weatherproof braid and two conductors are then laid parallel and covered with two or three braids of hard cotton, whioh is then saturated with a weatherproof compound.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{gathered} \text { Size } \\ \text { B. \& S. } \end{gathered}$ | Diameter Inches | Aprx. Wt. I.bs. per 1000 Ft . |  |
| :---: | :---: | :---: | :---: | :---: |
| 660228. | 8 | . 85 | 186 |  |
| 660229. | 6 | . 95 | 284 | P'rices |
| 660230 | 4 | 1.10 | 417 | on |
| 660231. | 3 | 1.20 | 498 | pication |
| 660232. | 2 | 1.30 | 606 | ppication |

## Park and Suburban Cables



## For Underground Work

These cables are composed of conductors of any size required. High grade rubber insulation of whatever thickness necessary for the operating voltage. The insulation is covered with a rubber filled tape, then a lead jacket varying with the size of the cable. Over the lead is first a heavy bed of jute and tar, then two steel tapes covered with jute and asphalt. The cables are made single, duplex or triple conductor, as required.

These cables are laid directly in the ground. All that is necessary for installing is a trench wide enough to hold the cable and deep enough so that the cable is from twelve to fifteen inches under ground. They are a cheap and reliable substitute for the duct system, where the expense of ducts is not justified.

This method is not an experiment. It has been in successful operation for many years, and has proved as efficient, and much less expensive, than the duct system.

As prices will vary widely with cost of raw materials, and thickness of insulation required by operating voltage, no permanent price list can be prepared. Full information given on application. In writing please specify clearly all conditions of service.

Prices on application.

# LEAD ENCASED COPPER WIRES 



Duples Conductor

## Leaded Wires and Cables

## Rubber Covered-For 600 Volts or Less

These lead cables have walls of rubber; black corc of National Code specifications. All conductors are taped and the stranded cables are of regular standard strand. The lead used is commercially pure, of thickness as shown in each case.

In the two conductor cables the two taped cores are laid flat and leaded. The three conductor cables have taped cores twisted with fillers to make them round. Over all there is placed tape and lead.

SINGLE SOLID

| List <br> No. | Gauge <br> B \& S | Lead | Diam- <br> eter | Lbs. <br> ent. |
| :--- | ---: | ---: | ---: | ---: |
| 660939 | 20 | $1 / 32$ | .220 | 155 |
| 660940 | 19 | $1 / 32$ | .225 | 160 |
| 660941 | 18 | $1 / 32$ | .230 | 165 |
| 660942 | 16 | $1 / 32$ | .250 | 180 |
| 660248 | 14 | $3 / 64$ | .280 | 221 |
| 660249 | 12 | $3 / 64$ | .300 | 245 |
| 660250 | 10 | $3 / 64$ | .330 | 286 |
| 660251 | 8 | $3 / 64$ | .350 | 330 |
| 660252 | 6 | $1 / 16$ | .470 | 455 |
| 660253 | 5 | $1 / 16$ | .500 | 600 |
| 660254 | 4 | $1 / 16$ | .520 | 646 |

DUPLEX SOLID

| List <br> No. | Gauge B \& S | Lead | Diameter | $\left\lvert\, \begin{array}{r} \text { Lbs. } \\ 1000 \mathrm{ft} . \end{array}\right.$ |
| :---: | :---: | :---: | :---: | :---: |
| 660969 | 20 | 1/32 | . 372 | 230 |
| 660970 | 19 | .1/32 | . 375 | 240 |
| 660971 | 18 | 1/32 | . 380 | 250 |
| 660972 | 16 | 1/32 | . 410 | 280 |
| 660973 | 14 | 3/64 | . 470 | 350 |
| 660974 | 12 | 3/64 | . 510 | 390 |
| 660975 | 10 | 3/64 | . 570 | 466 |
| 660976 | 8 | 1/16 | . 660 | 672 |
| 660977 | 6 | 1/16 | . 780 | 900 |
| 660978 | 5 | 1/16 | . 810 | 992 |
| 660979 | 4 | 1/16 | . 840 | 1085 |

THREE CONDUCTOR SOLID

| List <br> No. | Gauge <br> B \& S | Lead | Diam- <br> eter | Lbs. <br> (000 ft. |
| :---: | ---: | ---: | ---: | ---: |
| 660946 | 20 | $3 / 64$ | .450 | 430 |
| 660947 | 19 | $3 / 64$ | .460 | 445 |
| 660948 | 18 | $3 / 64$ | .470 | 450 |
| 660949 | 16 | $1 / 16$ | .530 | 500 |
| 660950 | 14 | $1 / 16$ | .560 | 658 |
| 660951 | 12 | $1 / 16$ | .590 | 730 |
| 660952 | 10 | $1 / 16$ | .660 | 850 |
| 660953 | 8 | $1 / 16$ | .730 | 1150 |
| 660954 | 6 | $5 / 64$ | .910 | 1550 |
|  |  |  |  |  |

THREE CONDUCTOR
SINGLE STRANDED

| 660943 | 14 | $3 / 64$ | .300 | 230 |
| :--- | ---: | ---: | ---: | ---: |
| 660944 | 12 | $3 / 64$ | .310 | 262 |
| 660945 | 10 | $3 / 64$ | .340 | 305 |
| 660255 | 8 | $3 / 64$ | .380 | 350 |
| 660256 | 6 | $1 / 16$ | .470 | 580 |
| 660257 | 5 | $1 / 16$ | .500 | 630 |
| 660258 | 4 | $1 / 16$ | .520 | 690 |
| 660259 | 3 | $1 / 16$ | .550 | 768 |
| 660260 | 2 | $1 / 16$ | .580 | 845 |
| 660261 | 1 | $1 / 16$ | .660 | 1010 |
| 660262 | 0 | $1 / 16$ | .690 | 1150 |
| 660263 | 00 | $1 / 16$ | .730 | 1300 |
| 660264 | 000 | $1 / 16$ | .780 | 1480 |
| 660265 | 0000 | $1 / 16$ | .840 | 1710 |


| 660980 | 14 | $3 / 64$ | .500 | 376 | 660955 | 14 | $1 / 16$ | .590 | 680 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 660981 | 12 | $3 / 64$ | .530 | 423 | 660956 | 12 | $1 / 16$ | .630 | 780 |
| 660982 | 10 | $3 / 64$ | .590 | 500 | 660957 | 10 | $1 / 16$ | .700 | 850 |
| 660983 | 8 | $1 / 16$ | .690 | 715 | 660958 | 8 | $1 / 16$ | .770 | 1075 |
| 660984 | 6 | $1 / 16$ | .810 | 960 | 660959 | 0 | $5 / 64$ | .940 | 1635 |
| 660985 | 5 | $1 / 16$ | .880 | 1060 | 660960 | 5 | $5 / 64$ | 1.00 | 1800 |
| 660986 | 4 | $1 / 16$ | .810 | 1165 | 660961 | 4 | $5 / 64$ | 1.03 | 1970 |
| 660987 | 3 | $1 / 16$ | .970 | 1300 | 660962 | 3 | $5 / 64$ | 1.09 | 2200 |
| 660988 | 2 | $5 / 64$ | 1.06 | 1650 | 660963 | 2 | $5 / 64$ | 1.16 | 2480 |
| 660989 | 1 | $5 / 64$ | 1.22 | 2050 | 660964 | 1 | $3 / 32$ | 1.34 | 3330 |
| 660990 | 0 | $5 / 64$ | 1.28 | 2290 | 660965 | 0 | $3 / 32$ | 1.44 | 3760 |
| 660991 | 00 | $5 / 64$ | 1.38 | 2600 | 660966 | 00 | $3 / 32$ | 1.53 | 4260 |
| 660992 | 000 | $5 / 64$ | 1.47 | 2980 | 660967 | 000 | $3 / 32$ | 1.66 | 4900 |
| 660993 | 0000 | $5 / 64$ | 1.59 | 3450 | 660968 | 0000 | $3 / 32$ | 1.80 | 6085 |

CIRCULAR MILS

| List No. | Gauge B \& S | Lead | Diameter | Lbs. 1000 ft . | List No. | Gauge B \& S | Lead | Diameter | Lbs. 1000 ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660266 | 250000 C.M. | 5/64 | . 950 | 2220 | 660278 | 850000 C.M. | 3/32 | 1.500 | 5560 |
| 660267 | 300000 C.M. | 5/64 | 1.020 | 2480 | 660279 | 900000 C.M. | 3/32 | 1.530 | 5800 |
| 660268 | 350000 C.M. | 5/64 | 1.080 | 2760 | 660280 | 950000 C.M. | 3/32 | 1.560 | 6040 |
| 560269 | 400000 C.M. | 5/64 | 1.110 | 3000 | 660281 | 1000000 C.M. | 3/32 | 1.590 | 6270 |
| . 660270 | 450000 C.M. | 5/64 | 1.190 | 3280 | 660282 | 1250000 C.M. | 7/64 | 1.780 | 7960 |
| 660271 | $500000 \mathrm{C} . \mathrm{M}$. | 5/64 | 1.200 | 3480 | 660283 | 1500000 C.M. | 7/64 | 1.910 | 9100 |
| -660272 | 550000 C.M. | 3/32 | 1.330 | 4160 | 660284 | 1750000 C.M. | 7/64 | 2.030 | 10220 |
| 660273 | 600000 C.M. | 3/32 | 1.340 | 4400 | 660285 | 2000000 C.M. | 7/64 | 2.120 | 11300 |
| 660274 | 650000 C.M. | 3/32 | 1.380 | 4650 |  |  |  |  |  |
| 660275 | 700000 C.M. | 3/32 | 1.410 | 4870 |  |  |  |  |  |
| 660276 | 750000 C.M. | 3/32 | 1.440 | 5100 |  |  |  |  |  |
| ،660277 | 800000 C.M. | 3/32 | 1.470 | 5330 |  |  |  |  |  |

Prices on application.

## Western Electric

## Flexible Cords

Flexibility is the predominating feature of our standarl and special flexible cords and cables, as listed hereinafter. Every step in the manufacture of our products is carefully inspected and no expense is spared to produce the best obtainable flexible cords and cables.

Our aim is not only to meet the requirements, as set forth by the National Board of Fire Underwriters, but surpass them. A sample of Western Electrie Flexible Cord, which we will gladly furnish, will firmly convince you that it is a quality product.

A large stock of all standard cords is always available so as to give prompt and satisfactory service


Method of Packing No. 18 Lamp and Parallel Cords Other Cords and Sizes Packed in Coils PACKING-Lamp Cord
Lamp Cord is sealed in watertight and airtight packages, light, easy to handle and convenient to store in small spaces. Study the accompanying illustration.

The cartons are strong reinforced pastehoard boxcs, each one bearing a full description of its contents.
Capacity-250 feet in coil form, uncoiling from center
Four cartons are placed in one strong corrugated container, which is sealed with a heavy gummed stri bearing our trademark at short intervals. This forms our standard package, as illustrated.

Special Flexible Cords
Special flexible cords are packed in coil form, securely wrapped with burlap. Each coil is clearly labeled.

## Flexible Lamp and Reinforced Cords <br> Description

The conductor consists of a number of small, annealed copper strands, each No. 30 B. \& S. gauge, grouped into a cable of the required capacity. This conductor is then covered with a tight close wind of fine cotton, after which it is insulated with seamless rubber, and then covered with an ornamental braid of silk or cotton. 'Two of these finished conduetors are then twistell around each other, or laid parallel, and braided over all with silk or cotton. Lamp cord is sold in three grades as designated, "New Code," "1909 Code," and "Commercial," which vary only in the thickness and quality of the rubber insulation enclosing
the conductor.

## NEW CODE CORD

This cord is made to conform to the latest National Electrical Code Standard which requires that a vulcanized rubber insulation conforming to stretch, breaking weight, electrical and chemical test be placed around each conductor, over which is placed the usual cotton or silk outer braid, and differs from the " 1909 Code" only in the fact that the insulation is of a higher quality of rubber.

National Electrical Code Standard (New Code) requires 1-32 inch wall of rubber insulation on Nos. 18 and 16 cords, and $3-64$ inch wall on No. 14 and larger cords. Three threads, two green and one red thread, cabled with copper strands.

This cord was 1909 CODE CORD writers specified the use of a higher colle before the 1911 requirement of the National Board of Fire UnderThe construction of the cord is ider quality of rubber in making up the insulation surrounding the conductor. tion is of a lower quality. It is no longer approved by the Natinnal Board exception that the rubber insula-

COMMERCIAL LAMP CORD
Commercial lamp cord has a seamless insulation of 1-64 inch rubber placed over a tight close wind of fine cotton over which is placed the usual cotton or silk outer braid. This cord is not approved by the
National Board of Fire Underwriters.

## Western Electric Flexible Cords

The conductors of our regular cords are composed of a number of $30 \mathrm{~B} . \& \mathrm{~S}$. bare annealed copper strands, grouped into a cable of the required capacity, as follows: No. $813 . \& \mathrm{~S} ., 165$ strands; No. 10 B. \&S., 104 strands; No. 12 B.\&S., 65 strands; No. 14 B.\&S., 41 strands; No. 16 B.\&S., 26 strands; No. 18 B. $\& \mathrm{~S} ., 16$ strands; No. 20 B.\&S., 10 strands; No. 22 B.\&S., 7 strands. Sizes smaller than No. 18 are not approved by the Underwriters.

## Seven Points to Cover When Ordering W. E. Flexcords

| Amount | Size | Insulation | Conductors | Style | Finish | Color |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Feet | B.\&S. Gauge | New Code 1909 Code Commercial | Single <br> Pair <br> Triple | Lamp Cord <br> Parallel Cord Reinforced Cord Special Rein. Cord Special Cords | Silk <br> Cotton <br> Weatherprooied | Use Standard Colors as per Our 1 3raid Color Card |
|  | 18 20 16 14 16 | New Code Commercial 190!) Ccde New Corle 1909 Corle | 'Twisted I'air single | lamp Cord <br> Lamp Cord <br> l'arallel Cord <br> Reinforced Cord Reinforced Cord | Silk Cotton Silk Cotton Weatherproofed | (ircen <br> Black <br> Brown <br> Biack $\qquad$ |

*lair Conductor is always understood (unless otherwise specified) for parallel and reinforced cords.
$\dagger$ Weatherproof finish is always black and need not be specified.

## LIST OF COLORS

Cotton covered cords may be furnished in any of the following colors. Standard green and yellow. White, Yellow, Blue, Maroon, Green, Oak, Brown, Red, Black, Gray, Old Gold Silk covered cords may be furnished in any of the following colors.
White, Silver, Gilt, Old Gold, Copper, Bronze, Tiffany Green, Dark Green, Red, Maroon Yellow, Gold, Brass, Old Brass, Green, Olive Green, Light Green, Brown, Navy Blue, Black

| Size | Insulation | -Lamp Cords |  | Cotton $\underset{\text { Silk }}{ }$ |  | Cotton Reinforced Cords— Silk Wp. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | New Code | ${ }_{83}$ | 79 | 85 | 82 | 178 | 172 | 187 |
| 12 B \&S. | I in. Wiall | (6) | 52 | 6.4 | 5 | 108 | 104 | 114 |
|  | New Code | 63 | 59 | (i) | (i2 | 133 | 128 | 141 |
| 14 B. 8 S. | $\left\{\begin{array}{l}1 \\ \frac{1}{64} \\ \text { in. Wall }\end{array}\right.$ | 37 | 35 | 40 | 3 | 79 | 75.5 | 8 |
|  | New Corle | 37 | 34 | 38 | 36 | 75 | 70.5 | 80 |
| 16 B.dis. | $\frac{7}{64}$ in. Wall | 24 | 24 | 27 | 25. | 52 | 49 | 57 |
|  | New Code | 27 | 25 | 29 | 27 | 64 | 60 | 69 |
| 18 B.\&S. | $\frac{1}{64}$ in. Wall | 19 | 17 | 20 | 18 | 43 | 40 | 47 |
|  | New Code | 22 | 19 | 23 | 21 | 51 | 47.5 | 56 |
| 20 B .8 S . | ${ }_{\frac{1}{6}}{ }^{\frac{1}{4}} \mathrm{in}$. Wall | 13.5 | 12 | 14.5 | 13 | 32 | 29.5 | 36 |
|  | ${ }^{\text {Na }}$ ¢ ${ }^{\text {a }}$ Corle | 18 | 16 | 19 | 17 | 43 | 39 | 48 |
| 22 B. ©S. | $\left\{\frac{1}{64}\right.$ in. Wall | 10.5 | 9 | 11 | 10) | 26.5 | 24 |  |

Note: 1909 Corle Cords, weight the same as New Code. Conmercial Cords, weight the same as $\frac{1}{64}$ inch Wall. The above weights are all based on pair conductors.


Lamp Cord-Type C. Single or twisted pair with cotton or silk braid over each conductor.


Parallel Cord-Type PO. Ilas cotton braid over each of two conductors laid parallel under cotton or silk outer braid.


Reinforced Cord-Type P. Has cotton braid over each conductor twisted together and covered with a rubber jacket, then braided over all with a hard glazed cotton.

Reinforced Cord WP.-Type PWP. Same as Type P except outer braid is saturated and finished with a weatherproofed compound.

Special Reinforced Cord-Type PS. Underwriters only permit this cord in sizes Nos. 18 and 16 for office and dwelling only where appearance is essential
$\frac{1}{64}$ inch wall of New Code insulation with cotton braid over each conductor, twisted together and covered with a rubber jacket to make round, then braided over all with either silk or hard glazed eotton.


## Annunciator Wire

## Regular

Insulated with two winds of cotton yarn applied in opposite directions, saturated with a special wax compound and highly polished. This makes a very compact insulation. Furnished either on spools containing about 8 lbs., or exactly 1 lb . and in 1 lb . coils, and packed in cases containing 'approximately 200 lbs . Furnished in colors and styles as follows-either plain copper or tinned; plain copper furnished unless otherwise ordared; red, blue, red and white, hrown, white, olive, yellow, blue and white.

| Single Conductor |  |  |  | Weight |  | Twisted Pairs |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | Size B. \& S. | Lbs. per 1000 Ft. | List No. | Size B. \& S. | Wbs. per 1000 Ft. |  |
| 660422 | 14 | 15 | 6.50126 | 14 | 30 |  |
| 660423 | 10 | 9.5 | 6660427 | 16 | 19 |  |
| 660424 | 18 | 6.5 | 660428 | 18 | 13 |  |
| 660425 | 20 | 4.5 | 660429 | 20 | 9 |  |

## Weatherproof Annunciator Wire

The construction of this wire is the same as regular annunciator wire except that the cotton wrapping is saturated with black weatherproof compound.

| List No. | Weight <br> Size B. \& S. |  |  |  | Lbs. per 1000 Ft. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 660430 | 14 | 166 | List No. | Size B. \& S. | Lbs. per 1000 Ft. |
| 660431 | 16 | 11.1 | 660433 | 20 | 5.0 |
| 660432 | 18 | 7.7 | 660434 | 22 | 3.1 |

## Damp-proof Office Wire



No. 18-Single Condnctor Iamp-proof Office Wire
This wire is double wound and braided, the two winds of cotton yarn applied in opposite directions, saturated with black weatherproof compound.

The braid is specially treated with wax, highly polished, and will not collect dust. Office wire is carried regularly in the following colors: red, red and white, blue, blue and white. It is put up in coils of about 17 lbs . each. and packed in cases of approximately 200 lbs . each.

Single Conductor

| List No. | Size B. \& S. | Weight <br> Lbs. per 1000 Ft . | List No. | Size B. \& S. | Weight <br> Lbs. per 1000 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 660435 | 14 | 24 | 660437 | 18 | 10 |
| 660436 | 16 | 13.5 | 660438 | 20 | 8 |
| Double Conductor |  |  |  |  |  |
| 660439 | 14 | 55 | 660441 | 18 | 25 |
| 660440 | 16 | 34 | 660442 | 20 | 20 |

This cable is designed for connecting the annunciator in an elevator car with the push buttons on the different floors.

Each conductor is composed of 16 strands of No. $30 \mathrm{~B} . \& \mathrm{~S}$. gauge soft untinned copper wire and insulated with two reverse wrappings of cotton and one cotton braid. The insulated conductors are then cabled with a steel supporting strand, where necessary to give extra tensile strength, then covered with two cotton braids. This is a dry cable and the outer braids are flameproof.

Prices on application.

Concentric Strands

## Bare Copper Concentric Strand Wire

All strands are concentric laid, giving the smallest outside diameter for any certain capacity. Unless otherwise specified, cables will be furnished according to regular style of stranding. The table shows the diameter in mils of wire used according to the number of wires of which the strand is composed.

| Capacity Circular Mils | Weight |  | Regular Style of Stranding |  | Diam. of Strand, Mils | Capacity Circular Mils | Weight |  | Regular Style of Stranding |  | Dism. of Strand, Mils |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { Per } \\ 1000 \mathrm{ft} \text {. } \end{gathered}$ | Per <br> Mile | $\begin{gathered} \hline \text { No. } \\ \text { Wires } \end{gathered}$ | Diam. Each |  |  | $\begin{gathered} \text { Per } \\ 1000 \mathrm{ft} . \end{gathered}$ | $\begin{gathered} \text { Per } \\ \text { Mile } \end{gathered}$ | $\begin{aligned} & \hline \text { No. } \\ & \text { Wires } \end{aligned}$ | Diam. Each |  |
| 2000000 | 6180 | 32640 | 91 | 148 | 1630 | 300000 | 927 | 4896 | 37 | 90 | 630 |
| 1750000 | 5409 | 28560 | 91 | 139 | 1530 | 250000 | 772 | 4080 | 37 | 82 | 574 |
| 1500000 | 4635 | 24480 | 91 | 128 | 1410 | 4/0 B. \& S. | 652 | 3442 | 19 | 105 | 525 |
| 1250000 | 3864 | 20400 | 91 | 117 | 1288 | $3 / 0 \mathrm{~B} .8 \mathrm{~S}$. | 517 | 2730 | 19 | 94 | 470 |
| 1000000 | 3090 | 16320 | 61 | 128 | 1151 | $2 / 0 \mathrm{~B} . \& \mathrm{~S}$. | 410 | 2165 | 19 | 84 | 420 |
| 950000 | 2936 | 15504 | 61 | 125 | 1125 | $1 / 0 \mathrm{~B} . \& \mathrm{~S}$. | 325 | 1717 | 19 | 75 | 375 |
| 900000 | 2780 | 14688 | 61 | 121 | 1089 | $1 \mathrm{~B} . \& \mathrm{~S}$. | 258 | 1361 | 7 | 109 | 327 |
| 850000 | 2627 | 13872 | 61 | 118 | 1061 | $2 \mathrm{~B} . \& \mathrm{~S}$. | 204 | 1079 | 7 | 98 | 294 |
| 800000 | 2472 | 13056 | 61 | 115 | 1034 | $3 \mathrm{~B} . \& \mathrm{~S}$. | 162 | 855 | 7 | 87 | 261 |
| 750000 | 2318 | 12240 | 61 | 111 | 998 | $4 \mathrm{~B} . \& \mathrm{~S}$. | 128 | 680 | 7 | 77 | 231 |
| 700000 | 2164 | 11424 | 61 | 107 | 963 | 5 B. \& S. | 102 | 538 | 7 | 69 | 207 |
| 650000 | 2010 | 10608 | 61 | 103 | 928 | 6 B. \& S. | 80 | 427 | 7 | 61.2 | 183 |
| 600000 | 1854 | 9792 | 61 | 99 | 891 | 8 B. \& S. | 51 | 268 | 7 | 48.4 | 145 |
| 550000 | 1700 | 8976 | 61 | 95 | 855 | $10 \mathrm{~B} . \&$ S. | 32 | 169 | 7 | 38.6 | 116 |
| 500000 | 1545 | 8160 | 37 | 116 | 812 | $12 \mathrm{~B} . \&$ S. | 20 | 106 | 7 | 30.6 | 91.8 |
| 450000 | 1390 | 7344 | 37 | 110 | 770 | 14 B. \& S. | 13 | 67 | 7 | 24.2 | 72.6 |
| 400000 | 1236 | 6528 | 37 | 104 | 729 | $16 \mathrm{~B} .8{ }^{\circ} \mathrm{S}$. |  | 42 | 7 | 19.3 | $\overline{57} . \overline{9}$ |
| 350000 | 1082 | 5712 | 37 | 97 | 679 | 18 B. \& S. | 5 | 26 | 7 | 15.1 | 45.3 |


| Capacity Circular Mils | Various Methods of Stranding |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Diameter in Mils When Composed of |  |  |  |  |  |  |  |
|  | $\begin{gathered} 7 \\ \text { Wires } \end{gathered}$ | 12 Wires | $\begin{gathered} 19 \\ \text { Wires } \end{gathered}$ | $27$ <br> Wires | $37$ <br> Wires | $\begin{gathered} 61 \\ \text { Wires } \end{gathered}$ | $\begin{gathered} \hline 91 \\ \text { Wires } \end{gathered}$ | $\frac{127}{\text { Wirasag }^{2}}$ |
| 2000000 |  |  |  |  |  |  | 148 | 126 |
| 1750000 |  |  |  |  |  |  | 139 | 117 |
| 1500000 |  |  |  |  |  | 157 | 128 | 109 |
| 1250000 |  |  |  |  |  | 142 | 117 | 99 |
| 1000000 |  |  |  |  |  | 128 | 105 | 89 |
| 950000 |  |  |  |  |  | 125 | 102 | 88 |
| 900000 |  |  |  |  |  | 121 | 100 | 84 |
| 850000 |  |  |  |  |  | 118 | 97 | 82 |
| 800000 |  |  |  |  |  | 115 | 94 | 79 |
| 750000 |  |  |  |  | 143 | 111 | 91 | 77 |
| 700000 |  |  |  |  | 138 | 107 | 88 | 74 |
| 650000 |  |  |  |  | 133 | 103 | 84 | 72 |
| 600000 |  |  |  |  | 127 | 99 | 81 | 69 |
| 650000 |  |  |  |  | 122 | 95 | 78 | 68 |
| 500000 |  |  |  | 136 | 116 | 91 | 74 | 62.7 |
| 450000 |  |  |  | 129 | 110 | 86 | 70 | 59.5 |
| 400000 |  |  |  | 122 | 104 | 81 | 66 | 56.1 |
| 350000 |  |  |  | 114 | 97 | 76 | 62 | 52.6 |
| 300000 |  |  | 126 | 105 | 90 | 70 | 57.4 | 48.6 |
| 250000 |  |  | 115 | 96 | 82 | 64 | 52.4 | 44.3 |
| 4/0 B. \& S |  |  | 105 | 86 | 76 | 58.9 | 48.2 | 40.8 |
| 3/0 B. \& S |  | 118 | 94 | 79 | 67 | 52.5 | 43 | 36.4 |
| 1/0 B. \& S |  | 105 | 84 | 70 | 60 | 46.7 | 38.3 | 32.4 |
| 2/0 B. \& S. | 123 | 94 | 75 | 62.6 | 53.4 | 41.6 | 34.1 | 28.8 |
| 1 B \& S. | 109 | 83 | 66 | 55.6 | 47.5 | 37 | 30.3 | 25.6 |
| 2 B. \& S. | 98 | 75 | 59.2 | 49.7 | 42.4 | 33 | 27.1 | 22.9 |
| $3 \mathrm{~B} . \& 5$. | 87 | 66 | 52.5 | 44.1 | 37.7 | 29.3 | 24 | 20.3 |
| $4 \mathrm{~B} . \& S$. | 77 | 59 | 46.8 | 39.3 | 33.5 | 26.1 | 21.4 | 18.1 |
| 5 B. \& S. | 69 | 52.5 | 41.8 | 35 | 29.9 | 23.3 | 19.1 | 16.2 |
| $6 \mathrm{~B} . \& \mathrm{~S}$. | 61.2 | 46.8 | 37.2 | 31.2 | 26.6 | 20.7 | 17 | 14.4 |
| 8 B. \& S. | 48.4 | 37 | 29.4 | 24.6 | 21.1 | 16.4 | 13.4 | 11.4 |
| 10 B. \& S. | 38.6 | 29.4 | 23.4 | 19.6 | 16.8 | 13.1 | 10.7 | 9.1 |
| $12 \mathrm{~B} . \& \mathrm{~S}$. | 30.6 | 23.4 | 18.6 | 15.6 | 13.3 | 10.4 | 8.5 | 7.2 |
| 14 B. \&S. | 24.2 | 18.5 | 14.7 | 12.3 | 10.5 | 8.2 | 6.7 | 5.7 |
| $16 \mathrm{~B} . \& \mathrm{~S}$. | 19.3 | 14.7 | 11.7 | 9.8 | 8.4 | 6.5 | 5.3 | 4.5 |
| 18 B. \& 8. | 15.1 | 11.6 | 9.2 | 7.7 | 6.6 | 5.1 | 4.2 | 3.5 |

## BARE COPPER WIRE

## Trolley Wire



Round


Grooved


Figure 8

Hard drawn trolley wires are furnished in any of the standard styles, round, grooved or figure 8. Sizes $4 / 0$ and $3 / 0$ are put up in $1 / 2$ nile lengths, $2 / 0$ and $1 / 0$ are furnished in $1 / 2$ or 1 mile lengths. The cross sections of the various styles and sizes are shown above. The grooved shown is American Standard.

| Size B. \& S. | List No. <br> Round | List No. Grooved | List No. <br> Figure 8 | Approximate Wgt., Pounds |  | Electrical Conductivity (Minimum) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Per Mile | Per 1000 Feet |  |
| 0 | 660774 | 660778 | 660782 | 1685 | 319 | Mile-ohm (a) 68 de- |
| 00 | 660775 | 660779 | 660783 | 2132 | 404 | grees Fahr., not to ex- |
| 000 | 660776 | 660780 | 660784 | 2690 | 509 | ceed 890.1 equals $98 \%$ |
| 0000 | 660777 | 660781 | 660785 | 3386 | 641 | Matthiessen's Standard. |

## Copper Line Wire

## Hard Drawn or Annealed

These wires are drawn accurately to gauge according to specification. They are of high conductivity and tensile strength.

All copper wires are regularly drawn to I3. \& S. gauge and annealed, and all orders will be filled accordingly, unless otherwise stated.

| List No. | Size <br> B. \& S. Gauge | Diameter in Mils | Capacity Circular Mils | Per 1000 Feet Lbs. | pounds per Mile | Put up in |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660786 | 0000 | 460 | 211600 | 639 | 3376 | 200-lb. Coils. |
| 660787 | 000 | 410 | 167803 | 507 | 2677 |  |
| 660788 | 00 | 365 | 133079 | 402 | 2123 |  |
| 660789 | 0 | 325 | 105534 | 319 | 1684 |  |
| 660790 | 1 | 289 | 83694 | 253 | 1335 |  |
| 660791 | 2 | 258 | 66373 | 201 | 1059 |  |
| 660792 | 3 | 229 | 52634 | 159 | 840 |  |
| 660793 | 4 | 204 | 41743 | 126 | 666 |  |
| 660794 | 5 | 182 | 33102 | 100 | 528 |  |
| 660795 | 6 | 162 | 26251 | 79 | 419 |  |
| 660796 | 7 | 144 | 20817 | 63 | 332 |  |
| 660797 | 8 | 128 | 16510 | 50 | 263 |  |
| 660798 | 9 | 114 | 13094 | 40 | 209 |  |
| 660799 | 10 | 102 | 10382 | 31 | 166 |  |
| 660800 | 11 | 91 | 8234 | 25 | 131 |  |
| 660801 | 12 | 81 | 6530 | 20 | 104 |  |
| 660802 | 13 | 72 | 5178 | 16 | 83 |  |
| 660803 | 14 | 64 | 4107 | 13 | 66 |  |
| 660804 | 15 | 57 | 3257 | 10 | 52 |  |
| 660805 | 16 | 51 | 2583 | 8 | 41 |  |
| 660806 | 17 | 45 | 2048 | 6 | 33 | $50-\mathrm{lb}$. Coilb. |
| 660807 | 18 | 40 | 1624 | 5 | 26 |  |
| 660808 | 19 | 36 | 1288 | 4 | 21 |  |
| 660809 | 20 | 32 | 1022 | 3 | 16 |  |

Also put up in long lengths on reels, as desired. Prices on application.

## GALVANIZED WIRE STRANDS



Galvanized Wire Strand

## Uses of Strand

## Guy Strand

Extra Galvanized Siemens-Martin Strand is frequently employed to guy electric railway, telegraph and telcphone poles.

## Messenger Strand

$\frac{8}{16}$-inch diameter extra galvanized Siemens-Martin Strand, $3 / 8$-inch or $\frac{7}{16}$-inch diameter extra galvanized high strength strand is stretched from pole to pole, and from this messenger strand, so called, the heavy leadencased telephone cable is suspended by means of clips, wire or cord at short intervals. A messenger strand thus sustains the stress due to weight of cable, wind or ice load. Common galvanized strand should never be used for this purpose, as it does not possess the requisite strength.

## Catenary Method of Supporting Trolley Wires

One or more messenger strands are stretchel from the center of the tracks. Every few feet along this messenger strand are pendent hangers that clamp on to the trolley wire, retaining it in a rigid, straight, horizontal line. For a single messenger strand carrying 4/0 Copper Trolley Wire, in spans of 125 to 150 feet, $3 / 8$-inch or $1_{1}^{7}$-inch diameter, extra galvanized Siemens-Martin Strand is frequently used. For longer spans, up to 225 feet, the $3 / 8$-inch or ${ }_{10}^{7}$-inch extra galvanized high strength strand is preferable.

## Lightning Arrester for Transmission Lines

To protect high-tension current transmission lines from destructive lightning a $3 / 8$-inch diameter extra galvanized Siemens-Martin Strand, known as an "overhead ground strand," is strung at the highest point on the supporting towers, this "overhearl ground strand" being connected at frequent intervals with the ground. The extra galvanizel Siemens-Martin Strand, because of its great conductivity, is employed almost exclusively for the "overheal ground strand."

## EXTRA GALVANIZED SIEMENS-MARTIN STRAND

| Diameter Inches | Tensile Strength | Wgt. Lbs. per 1000 Ft . | *List Price per 100 Ft . | Diameter Inches | Tensile Strength in l'ounds | Wgt. Lbs. per 1000 Ft | *List Price per 100 Ft . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $5 / 8$ | 19,000 | 800 |  | ${ }^{3}$ | 4,380 | 160 |  |
| $1 / 2$ | 11,000 | 510 |  | 1/4 | 3,050 | 125 |  |
|  | 9,000 | 415 | Application | 年 | 2,000 | ${ }_{7} 75$ | Application |
| 8/8 | 6,800 | 295 | Applation | 1/8 | 900 | 32 |  |
| ${ }_{1}{ }^{3} 8$ | 4,860 | 210 |  |  |  |  |  |


*Delivery F. O. B. Factories, Trenton, N. J., Worcester, Mass., or Phillipsdale, R. I. For warehouse deliveries write nearest house.

## GALVANIZED WIRE



## Telephone and Telegraph Wire

There are three grades of galvanized wire, classified as follows: Extra Best Best (E. B. B.), Best Best (B. B.) and Steel. Specify grade desired.

Extra Best Best (E. B. B.) wire is made from a special stock of great purity, producing wire of absolutely uniform quality, in which the elements of softness and elongation are combined with low electrical resistance to a marked degree. It is largely employed in long lines or service where low electrical resistance is both desirable and necessary.

Best Best (B. B.) wire is made from a stock of high quality, producing a wire somewhat less uniform and of higher resistance than E. B. B., but of greater tensile strength. 'This grade is used almost exclusively for the construction of subscribers' lines in exchanges, and on account of its great tensile strength is best adapted for rural or farmer lines.

Steel wire has a greater tensile strength than either E. I3. B. or B. B., but on account of its greater electrical resistance is not very generally used.

The different grades of wire are Extra Galvanized, i.e., the wire is protected from atmospheric action by a heavy uniform coating of spelter.

| List No. | B. W. G. Gauge | Diameter in Inches | Approximate breaking strain (pounds.) |  |  | Weight in <br> Lbs. per Mile | Bundles Mile |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | E. B. B. | B. B. | Steel |  |  |
| 660810 | 4 | . 238 | 2028 | 227 | 2433 | 811 |  |
| 6 60811 | 6 | . 203 | 1475 | 1652 | 1770 | 590 | $1 / 3$ |
| 660812 | 8 | . 165 | 975 | 1092 | 1170 | 390 | $1 / 2$ |
| 660813 | 9 | . 148 | 785 | 879 | . 942 | 314 | $1 / 2$ |
| 660814 | 10 | . 134 | 645 | $\bigcirc 22$ | 774 | 258 | $1 / 2$ |
| 660815 | 11 | . 120 | 51.5 | 577 | 618 | 206 | $1 / 3$ |
| 660816 | 12 | . 109 | 425 | 476 | 510 | 170 | $1 / 2$ |
| 660817 | 14 | . 083 | 247 | 278 | 297 | 99 | $1 / 2$ |

Prices on application.

## Standard Galvanized Steel Strand



Steel Strand
For guys, signal strand, trolley line span wire and other purposes. Composed of seven wires twisted together.

| List No. | Diameter | Wgt. per 1000 Ft . in Lbs. | Approx. Breaking Strain in Lbs. | List Price per 100 Ft . |
| :---: | :---: | :---: | :---: | :---: |
| 660818 | 1/2-inch | 510 | 8,500 |  |
| 660819 | $\frac{7}{18}$-inch | 415 | 6,500 |  |
| 660820 | $3 / 8$-inch | 295 | 5,000 |  |
| 660821 | $\frac{5}{16}$-inch | 210 | 3,800 |  |
| 660822 | $1 / 4$-inch | 125 | 2,300 |  |
| 660823 | $\frac{7}{\frac{7}{32}}$-inch | 95 | 1,800 | Application |
| $660824$ | $\frac{5}{16}$-inch | 75 | 1,400 |  |
| $660825$ |  | 55 | -900 |  |
| $660937$ | 1/8-inch | 32 | 500 |  |
| 660938 | $\frac{3}{32}$-inch | 20 | 400 |  |

Intermediate sizes take next higher list.
Galvanized strand is furnished both single and double galvanized. In ordering, state which is required.
Norm: Add $10 \%$ for double strand.


No. 00 Double Cotton Covered Magnet Wlre

## Western Electric

## Cotton Covered Magnet Wire

Sizes No. 0000 to 19 Inc.

Single and Double Cotton
To obtain prices add to latest market copper wire hase net additions as follors:

| Size | Round |  |  | Asbestos and <br> S.C.C. | Square |  | Rectangular |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B. \& S. Gauge | S.C.C. | I.C.C. | T.C.C. |  | D.C.C. | T.C.C. | $\ddagger$ Square Mils. | D.C.C. | 'l'.C.C. |
| $\begin{gathered} 4 / 0 \text { to } 6 \\ 7 \\ 8 \end{gathered}$ | Basc $.001 / 4$ $.001 / 2$ | $\begin{aligned} & .001 / 4 \\ & .001 / 2 \\ & .01 \end{aligned}$ | $\begin{aligned} & .011 / 1 / 4 \\ & .011 / 2 \\ & .02 \end{aligned}$ | $\begin{aligned} & .003 / 4 \\ & .011 / 2 \end{aligned}$ | $\begin{aligned} & .011 / 4 \\ & .011 / 2 \\ & .02^{2} \end{aligned}$ | $\begin{aligned} & 023 / 4 \\ & .03 \\ & .031 / 2 \end{aligned}$ | 3001 asd over <br> 25001 to 30000 <br> 20001 to 25050 <br> 15001 to 20000 | $\begin{aligned} & .02 \\ & .021 / 4 \\ & .02 \frac{1}{4} \end{aligned}$ | $\begin{aligned} & .031 / 4 \\ & .031 / 2 \\ & .041 / 4 \\ & .051 / 4 \end{aligned}$ |
| 9 10 11 | $\begin{aligned} & .00^{3} \\ & .01 \\ & .01! \end{aligned}$ | $\begin{aligned} & .011 / 2 \\ & .02^{1 / 2} \end{aligned}$ | $\begin{aligned} & .021 / 2 \\ & .031 / 4 \\ & .04 \end{aligned}$ | . $0221 / 2$ | $\begin{aligned} & .021 / 2 \\ & .031 / 2 \end{aligned}$ | $\begin{aligned} & .04 \\ & .043 / 4 \\ & .051 / 2 \end{aligned}$ | 10001 to 15000 <br> 0001 to 10000 <br> s001 to 9000 <br> 7001 to 8000 | $\begin{aligned} & .04 \frac{3}{4} \\ & .05 \frac{3}{4} \\ & .06 \frac{3}{4} \end{aligned}$ | $\begin{aligned} & .061 / 3 \\ & .071 / 2 \\ & .083 / 4 \\ & .10 \end{aligned}$ |
| $\begin{aligned} & 12 \\ & 13 \\ & 14 \end{aligned}$ | $\begin{aligned} & .02 \\ & .021 / 2 \\ & .03 \end{aligned}$ | $\begin{aligned} & .03 \\ & .038 \\ & .041 / 2 \end{aligned}$ | $\begin{aligned} & .043 / 4 \\ & .06 \\ & .071 / 4 \end{aligned}$ |  | $\begin{aligned} & .04 \\ & .051 / 4 \\ & .06 \end{aligned}$ | $\begin{aligned} & .061 / 4 \\ & .08 \\ & \hline \end{aligned}$ | 6001 to <br> 8001 <br> 8000 <br> 4001 <br> 0000 <br> 3001 <br> to <br> 50000 <br> 4000 | .083/4 <br> . 10\% <br> .12\%/4 <br> .1524 | $\begin{aligned} & .11 \\ & .131 / 2 \\ & .16 \end{aligned}$ |
| $\begin{aligned} & 15 \\ & 16 \\ & 17 \end{aligned}$ | $\begin{aligned} & .031 / 2 \\ & .04 \\ & .041 / 2 \end{aligned}$ | $\begin{aligned} & .051 / 4 \\ & .06 \end{aligned}$ | $\begin{aligned} & .081 / 2 \\ & .093 / 4 \\ & .111 / 4 \end{aligned}$ | Asbestos and <br> I).C.C. Same <br> Price as T.C.C. |  |  | $\begin{array}{lll}2501 & \text { to } & 3000 \\ 2001 & \text { to } & 2510 \\ 1501 & 2000 \\ 1001 & \text { to } & 1500\end{array}$ | $\begin{aligned} & .18 \frac{8}{4} \\ & .23 \frac{1}{4} \\ & .30 \frac{8}{4} \\ & .45 \frac{1}{4} \end{aligned}$ | $\therefore$. |
| 18 | . $051 / 4$ | $\begin{array}{r} .08 \\ .09 \\ \hline \end{array}$ | $\begin{aligned} & .128 / 4 \\ & .141 / 4 \\ & \hline \end{aligned}$ |  |  |  | 501 to 1000 500 and under | $\begin{aligned} & .6584 \\ & .9084 \\ & \hline \end{aligned}$ | ...... |

+The width multiplied by the thickness equals square mils.
Freight Additions for Above Sizes


HIn the States of Colorado. Texas and Utah freight rates shall eover so-called common point only, or those takinga lower rate. Toall other points in Colorado, Texas and U'tah which take a higher rate than to common points the delivery price shall he made by adding to the freight rate for common points the local ratc from the nearest common point to the point of delivery. Ogden, Salt Jake City and Provost are arbitrarily made the only common points in l'tah.
*Coast terminal points arc:

| San Francisco | San Diego | Portland |
| :--- | :--- | :--- |
| Saeramento | Tacoma | Mt. Vernon |
| Los Angeles | Stockton | Oakland |
| Astoria | Seattlc | Olympia |

On sales to other than coast terminal points local frcight must be naid by the purchaser.
Note: Frcight will be allowed on all shipments of 100 lbs . or over, east of the Missisaipri River; west of the Mississippi River on 200 lbs , or over. Shipments less than 100 lbs . are $\mathrm{F}, \mathrm{O}, \mathrm{B}$, cars Ansonia and carry the Connecticut delivery charge as noted above.

Boxing and Reel Charges and Allowances. On all shipments of maguet wire from factory an extra charge of $\$ 1.50$ Net is made for a recl, 75 cents Net for a 50 lb . spool and 50 cents Net for a 25 lb . spool; and in addition a boxing charge of from 50 cents to $\$ 1.50$ is made; both of which charges are refunded when the reel or spool is received at factory in good condition,

# MAGNET AND BINDING WIRE <br> "Deltabeston" Magnet Wire 

Round and Rectangular

 is This wire is particularly adapted to field and armature coil winding. The insulation ly adapts ly adapts it to street railway and similar use, where motors and generators experience very severe overloads. Attempts at imitation of this wire have been made without success. The trade name, "Deltabeston," represents the wire of this character that has proven its merit.

Deltabeston magnet wire, while generally used in the round type, is also manufactured in wire of a rectangular cross-section. The advantages of square or flat wires are numerous. Much greater copper section can be put into a given winding space by the use of rectangular wires, than by employing round conductors. This is due to the fact that the small interstices necessarily occurring between adjacent round wires are practically eliminated when flat-sided wire is used.

| Size B. \& S. Gauge | Approx. Feet per Lb. | List No. Round | Size B. \& S. Gauge | Approx. Feet per Lb. | List No. Round |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 3.078 | 660613 | 13 | 61.07 | 660639 |
| 1 | 3.880 | 660614 | 14 | 76.62 | 660640 |
| 2 | 4.873 | 660615 | 15 | 95.99 | 660641 |
| 3 | 6.136 | 660616 | 16 | 120.0 | 660642 |
| 4 | 7.731 | 660617 | 17 | 150.4 | 660643 |
| 5 | 9.719 | 660618 | 18 | 188.0 | 660644 |
| 6 | 12.22 | 660619 | 19 | 233.5 | 660645 |
| 7 | 15.35 | 660620 | 20 | 290.8 | 660646 |
| 8 | 19.38 | 660621 | 21 | 363.5 | 660647 |
| 9 | 24.34 | 660622 | 22 | 449.9 | 660648 |
| 10 | 30.49 | 660623 | 23 | 549.1 | 660649 |
| 11 | 38.47 | 660624 | 24 | 682.7 | 660650 |
| 12 | 48.27 | 660625 | 25 | 834.4 | 660651 |

Note: Square, flat and stranded "Deltabeston" wire is also manufactured. Prices on application.

## Tinned Steel Binding Wire

This is a tinned steel wire which has no equal for armature binding. Its tensile strength is over 200,000 lbs. per sq. in. It is heavily and evenly tinned and true gauge.

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | B \& S Gauge | List Irice per 100 I bs. | List <br> No. | B \& S Gauge | List Price per 100 Lbs. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 660665 | No. 10 |  | 660668 | No. 19 |  |
| 660933 | No. 11 |  | 660669 | No. 20 |  |
| 660934 | No. 12 |  | 660670 | No. 21 |  |
| 660935 660936 | No. 13 No. 14 |  | 660671 | No. 22 |  |
| 660936 660994 | No. 14 | Prices on Application | 660672 | No. 23 | Prices on Application |
| 660995 | No. 16 |  | 660674 | No. ${ }^{\text {No. }} \mathbf{}$ |  |
| 660666 | No. 17 |  | 660675 | No. 26 |  |
| 660667 | No. 18 |  |  |  |  |

## Phosphor Bronze Binding Wire

This wire is tinned for use in binding armatures and is finished smooth to gauge and ready to take solder with acid. It has high elastic limit and tensile strength.

| List No. | $\begin{aligned} & \text { Gauge } \\ & \text { B. \& S } \end{aligned}$ | Diam. | List Price per Lb. | List No. | $\begin{aligned} & \text { Gauge } \\ & \text { B.\&S. } \end{aligned}$ | Diam. | List Price per Lb. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 660678 | 10 | . 101890 | Prices on Application | 660684 | 16 | . 050820 | $\begin{gathered} \text { Prices } \\ \text { on } \\ \text { Application } \end{gathered}$ |
| 660679 | 11 | . 0900743 |  | 660685 | 17 | . 045257 |  |
| 660680 660681 | 12 | . 080808 |  | 660686 | 18 | . 040303 |  |
| 660682 | 14 | . 064084 |  | 660687 660688 | 18 20 | . 035890 |  |
| 660683 | 15 | . 057068 |  | 660688 | 20 | . 031961 |  |

## DELTABESTON WIRES



## Deltabeston Stove Wire

## Solid Conductor

This wire is insulated with a wall of especially treated asbestos fiber over which is woven an asbestos hraided covering.
'This wire is approved by the I'nclerwriters' Laboratories, Inc. for the wiring of electric stoves and ranges in and around ovens, in boiler rooms and similar places where excessive moisture is not present.

| Size | Approx. Thickness | Approx. Diameter | Approx. Weight | W. E. List |
| :---: | :---: | :---: | :---: | :---: |
| B. 2 S. | Asbestos | Overall | per 1000 Feet | Price per |
| Gauge | Wall Mils. | Inches | Lbs. | 100 Feet |
| 6 | . 029 | 19/64 | 105 |  |
| 8 | . 027 | 1/4 | 70 |  |
| 10 | .02\% | 7/32 | 45 | On application |
| 12 | (1)2? | $13^{\prime} 64$ | 30 |  |
| 14 | (0) ${ }^{(1)}$ | 3/16 | 20 |  |

All sizes put up in 1000 foot coils.

## Deltabeston Fixture Wire

## Stranded Conductor

This wire is insulated with an .025 inch wall of the best grade of asbestos fiber, purified by a special process.

Deltabesion fixture wire is recommended for all classes of fixture wiring including fixtures for gas filled incandesent lamps, car fixtures, and is especially adapted for fixtures in which the temperatures liable to be attained by some parts are such as to render the use of rubber covered wires or cords either undesirable or impracticable.

Deltabeston fixture wire is smooth and flexible so that it may" be "fished" through fixtures with the utmost ease.

This wiring is approved by the I'nderwriters' Laboratories, Inc., for wiring fixtures.

| Size | No. | B.dS. Gauge | Over | Approx. Weight | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B.dS. | of | of Each | Insulation | labs. per | Price per |
| Gauge | Wires | Wire | Inches | 1000 Feet | 100 Feet |
| 14 | 41 | No. 30 | . 125 | 18 |  |
| 16 | 26 | No. 30 | . 110 | 12 | On application |
| 18 | 16 | No. 30 | 100 | , |  |

All sizes put up on 250 foot spool.

## Deltabeston Fixture Wire with Silk Covering

## Stranded Conductor

This wire is supplied in single and parallel or twisted twin conductors. The latter is manufactured in two forms. One style has cach conductor braided separately with a silk covering and the two then twisted together. The other has the two ashestos insulated conductors first twisted together and finally braided with the silk covering. In ordering, the style should be specified.

If it is desired, an outer covering of cotton may be substituted for the silk.
These wires are approved by the T'nderwriters ${ }^{\text {F }}$ Laboratories, lnc., for wiring fixtures.

## Single Conductor

| Size | No. | B.dS. Gauge |
| :---: | :---: | :---: |
| B.\&S. | of | of Each |
| Gauge | Wires | Wire |
| 14 | 41 | No. 30 |
| 16 | 26 | No. 30 |
| 18 | 16 | No. 30 |

Approx. Diameter
Over
Insulation
Inches
.145
.130
.120

| Approx. Wt., | W. E. List |
| :---: | ---: |
| Lhs. per | Price per |
| 1000 Feet | 100 Feet |

[^78]On application
All sizes put up on 250 foot spools.
Parallel and Twisted Pair Conductors
W. E. List Price

Size B.\&S.
Approx. Weight Lbs. per 1000 Feet
wisted
Parallel

| 38 | 40 |
| :--- | :--- |
| 26 | 28 |
| 20 | 21 |

26
20

40
21
per 100 Feet Twisted

On application

All sizes put up on 250 foot spools.
Delivery F. O. B. Factory Providence, R. 1. For warehouse deliveries write nearest house.

# Western Electric 



## Deltabeston Heater Cord

## Stranded Conductor

For service where rubber is not necessary Deltabeston heater cord is manuftifured wherein each conductor is insulated with a 02.5 inch wall of pure asbestos fiber. This is thoroughly filled with a compound which gives it high dielectrie strength and mowides a very tough and pliable insulation

Fror an all fireprof cord the twisted conductors are covered with an asbestos braid, but where this is not essential, cotton braid is supplied in any colors required.

Approved by the Underwriters' Laboratories, Inc.

## With Asbestos Braid

| With Asbestos Braid |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size |  | Approx. Weight | Mifrs. | W. E. List | Size |  |
| B. \&S. |  | per 1000 lieet | List | l'rice per | 13.\&S. |  |
| Gauge | Style | Lbs. | 100 Ft . | 100 Ft . | Gauge | Stylo |
| 12 | A | 82 | \$14.00 | \$28.00 | 12 | C |
| 14 | A | ${ }_{60}$ | 10.50 | 21.00 | 14 | C |
| 16 | A | 43 | 7.80 | 15.00 | 16 | C |
| 18 | d | 34 | 6.00 | 12.00 | 18 | C |
| All sizes put up on 250 foot spools. In ordering specify the style required. |  |  |  |  |  |  |

## Deltabeston Switchboard Wire

## Solid Conductor

The insulation on this wire consists of a .025 inch wall of standard high-grade pure asbestos fiber, thoroughly filled with a moisture-proof compound whichgives it very high dielect ric strength and an exceptionally tough finish. Over this is braided an asbestos covering which can be furnished in either black or white finish.

Approved by the ['nderwriters' Laboratories, Inc.

| Size | Approx. Thickness | Appros. Diameter | Approx. Weight | IIfrs. | W.E. List |
| :--- | :---: | :---: | :---: | :---: | :---: |
| B.\&S. | Ashestos | Overall | per 1000 Feet | lisit | Price per |
| Gauge | Wall Mils. | Inches | Lbs. | 100 Feet | 100 Feet |
| 6 | .029 | $19 / 64$ | 110 | $\$ 10.00$ | $\$ 20.00$ |
| 8 | .027 | $1 / 4$ | 75 | 7.50 | 15.00 |
| 10 | .025 | 732 | 50 | 5.50 | 11.00 |
| 12 | .022 | 1314 | 35 | 4.50 | 0.00 |
| 14 | 020 | 316 | 25 | 3.80 | 7.60 |

All sizes put up in 1000 foot coils.
In ordering specif: whether black or white finish is desired.


## Deltabeston Moving Picture Machine Cable <br> Stranded Conductor

The stranded conductor is insulated with a wall of compactls applied asbestos fiber over which is woven an ashestos braded covering. The out or covering is treated with a compound which completely saturates the braid producing a smooth finish and rendering it moisture-proof.

This cable is widely used for the wiring of moving picture projectors, search lights, railway controllers, cranes and other devices in which the wires are subjected to high temperatures. Approved by the Inderwriters' Laboratories, Inc.

|  | Con |  | Approx. | Approx. | Approx. |  | W. E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size | No. | B. \&S. Cauge | Thickness | Diameter | Weight per | Mirs. | 1. Price |
| 13.\&S. | of | of Each | Asbestos | Over All | 1000 l'eet |  | per: 100 |
| Gange | Wires | Wire | Wall Mils. | Inches | Lbs. | 100 Feet | Feet |
| 1 | 133 | No. 22 | 035 | 17/32 | 310 | \$27.50 | \$55.00 |
| 2 | 133 | No. 23 | 0:34 | 31/6.4 | 25.5 | 24.00 | 48.00 |
| 4 | 82 | No. 23 | 032 | 13/32 | 170 | 17.00 | 34.00 |
| 6 | 84 | No. 25 | 029 | 11/32 | 115 | 12.50 | 25.00 |
| 8 | 52 | No. 25 | . 027 | 19/64 | 75 | 10.00 | 20.50 |
| 10 | 104 | No. 30 | 025 | 15/64 | 50 | 8.00 | 16.00 |
| 12 | 65 | No. 30 | 022 | 13/64 | 35 | 6.00 | 12.00 |
| 14 | 41 | No. 30 | 020 | 7/32 | 25 | 4.50 | 9.00 |

The cables listed above are flexible and are furnished with the strandings indicuted unless otherwise specified. Prices on special stranding quoted upon request.

Delivery F. O. 13. Providence, IR. I. For warchouse deliveries write nearest house.

## Western Electric

## Special Flexible Cords



## Deck Cable

A watertight flexible cord, made to stand severe abrasion. It is especially designed for use on boat decks and is made as follows: Two conductors of new code cotton braided cord, twisted together, reinforced by jute, and a rubber jacket, over which is then placed one cotton braid thoroughly saturated and weatherproofed.


## Border Light Cable

A stage cable made up of usually more than two conductors.


## Elevator Cable

An extremely flexible and durable cord, especially constructed for elevator control and lighting. The conductors of this cable (usually more than two) are constructed in the usual way of New Code cord. These conductors are then grouped together and covered with three cotton braids, the outer one weatherproofed. A steel supporting strand running through the center is usually required. and this adds materially to the strength of the cable.


## Heater Cord

The conductor consists of a number of small copper strands grouped into a cable of the required capacity, cotton wrapped, insulated with a thin wall of rubber compound, asbestos braided. Two of these finished conductors are then twisted together and braided over all with cotton of any desired color combination. Standard color is black and brown. This cord can also be furnished in parallel form.


## Western Electric

## Special Flexible Cords



## Brewery Cord

A weatherproof lamp cord which conforms in all respects with the requirements of the National Board of Fire Inderwriters. This is a specially designed cord for use in breweries and other places where dampness is prevalent.

| Size | Diameter | Approx. Weight | Sizo |  | Approx. Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B. \& S. | Inches | 1000 Ft . | B. \& S. | Diameter | Lbs. per <br> 1000 Ft |
| 10 | . 540 | 130 | 16 | . 300 | 46 |
| 12 | .480 | 95 | 18 | . 340 | 35 |
| 14 | . 460 | 72 |  |  |  |



## Canvasite Cord

An acidproof flexible cord, unusually tough and durable. This is especially designed for use in dyeing establishments, cold storage plants, tanneries and other places where mechanical and chemical conditions are severe. It is made up similar to l3rewery Cord except that it has an extra weatherproof braid over the twisted conductors.

| Size | Diameter | Approx. Weight Lbs. per |  |  | Approx. Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B. \& S. | Inches | $\begin{aligned} & \text { Lhs. per } \\ & 1000 \text { Ft. } \end{aligned}$ | B. \& S. | Diameter Inches | Lbs. per |
| 10 | . 600 | 144 | 16 | . 400 |  |
| 12 | . 540 | 98 | 18 | . 380 | 38 |
| 14 | . 520 |  | . | . 8 |  |
|  |  | W |  |  |  |

An extremely durable and flexible cord, constructed to withstand severe abrasion such as is found on theater stages and similar places. The conductors of this cord are constructed in the usual manner of New Code cord. They are then reinforced with jute and a rubber jacket. It is then covered with an outer weatherproof braid.

| Size | Diameter | Approx. Weight | Size | Diameter | Approx. Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B \& S | Inches | 1000 Fit. | B. \& S | Diameter | Lbs, per |
| 2 | 1.110 | 620 | 8 | . 740 |  |
| 3 | 1.000 | 525 | 10 | . 665 | 195 |
| 4 | . 925 | 435 | 12 | . 600 | 106 |
| 5 | . 870 | 395 | 14 | . 585 | 80 |
| 6 | . 830 | 310 | . |  |  |

## Packing House Cord

Especially constructed for use in packing houses. The conductors of this cord are constructed in the usual way for New Code cord. The twisted conductors are then reinforced with jute and a cotton outer braid weatherproofed.

| Size | Diameter | Approx. Weight | Size | Diameter | Approx. Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B. \& S. | Inches | 1000 Ft . | B. \& S. | Inches | Lhs. per |
| 10 | . 665 | 140 | 16 | . 440 | 49 |
| 12 | . 600 | 106 | 18 | . 420 | 38 |
| 14 | . 585 | 80 |  |  |  |

# Western Electric 

Special Flexible Cords

## Vacuum Cleaner Cord

As the result of careful study and observation, we offer to the trade this especially constructed cord for vacuum cleaners. It has all the strength desired and yet is small in size and extremely fiexible. A cord better adapted for this purpose cannot be made.

The conductors of this cord are composed of a number of flexible copper strands, assembled into a cable having extreme flexibility. Cotton wrapped, insulated with $1 / 64$ inch wall of New Code rubber compound and cotton braided. A rubber jacket of New Code insulation is then placed over the twisted conductors, after which it is braided with a close non-fraying braid of fast black cotton.

| Size | Diameter |
| :--- | :---: |
| B. \& S. | Inches |
| 18 | .280 |


| Approx. Weight |  |
| ---: | :---: |
| Lbs. per | Size |
| 1000 Ft. | B. \& S. |
| 44 | 16 |

Diameter
Inches
.300

Approx. Weight
Lbs, per
1000 Ft .
65


No. 2-49 Strand Flexible Car Wire

## Car Wire

This wire is made in two styles, stranded or 7 wire, and flexible or 49 wire. The strand is covered with a wrap of cotton or paper, after which a coating of rubber is applied conforming to N. E. C. specifications. It is then covered with one, two or three braids, as specified.

| Size | Diameter | Approx. Weight | Size | Diameter | Approx. Weight Lbs. per |
| :---: | :---: | :---: | :---: | :---: | :---: |
| B. \& S | Inches | 1000 Ft . | B. \& S. | Inches | 1000 Ft . |
| 1 | . 560 | 387 ' | 5 | . 400 | 173 |
| 2 | . 490 | 303 | 6 | . 380 | 147 |
| 3 | . 460 | 249 | 8 | . 320 | 93 |
| 4 | . 430 | 207 |  |  |  |

## Bell Cord

Is designed for small bell and battery use. The conductors are composed of a few strands of soft copper assembled into a small cable. A cotton braid is then applied over each conductor. These are then twisted together and a silk braid placed over all. This cord can be furnished in any of our standard silk shades. (Standard green.)

Prices on anplication.


## ARC LAMP SUPPLIES

## Sash Cord

## GALVANIZED SASH CORD

lised for window weights, bell cords, automobile brakes, and whistles. $\frac{3}{3}$ inch diameter is used on electric open ear curtain fixtures. $1_{16}^{1}$ inch diameter is used un steam car eurtain fixtures.

| List | Approx. <br> Wiameter <br> Wer Figt. | Approx. <br> Strength <br> in Ins. | List <br> in Lbs. |
| :--- | :---: | :---: | :---: | ---: |
| In Lbs. | per Ft. |  |  |

## CUTTER'S EBONY WIRE ROPE

## GALVANIZED MAST ARM OR ARC LIGHT ROPE

Standard strengths, adopted May 1, 1910
Used for arc lights, mast arms or other purposes where exposed to moisture. This rope is more durable than manila rope and does not shrink.

|  |  | Weight | Approx. <br> Breaking |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. | Diameter | per F't. | Stress | ${ }_{\text {Con- }}$ | Price |
| 230219 | in | n Lbs. | in Lb | struction | per Ft. |
| 230220 | 16 | 245 | 3400 | $9 \times 7$ | \$0.17 |
| 230221 | $3 / 8$ | 163 | 2200 | $9 \times 7$ | 1.5 |
| 230222 | ${ }^{5}$ | . 107 | 1530 | $9 \times 4$ | OS |
| 230223 | $1 / 4$ | . 077 | 1125 | $9 \times 4$ | ( |



## Seamless Splicing Sleeves <br> Single Tube Seamless Splicing Sleeves

For Copper and Steel Cable
These sleeves are of pure seamless copper tube, specially annealed, and when encasing a steel cable it is tinned inside and out. The splice is made by simply placing the two conductor ends into the oval sleeve and twisting at either end in opposite directions with specially designed wrenches as listed below. The resulting joint is stronger than the encased conductor (up to $1 / 2$ inch stranded Siemens Martin steel cable) and the line is guaranteed, with the splice in place, to develop in excess of 96 per cent. of its ultimate tensile strength. The joint has a conductivity about $21 / 2$ times that of the copper conductor encased.

| For Solid Copper Conductor |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size Conductor | Wgt. per 100 | List Price | List | Size | Wgt. | List Price |
| 660996 | 14 B. \& S | 1.5 lbs . | Special | 661003 |  |  | per 100 |
| 660997 | $12 \mathrm{~B} . \& 5$ | 2.5 lbs . | Special | 661003 661004 | $2 \mathrm{~B} . \& \mathrm{~S}$. | 28 lbs . | Special |
| 660998 | 10 B .8 S | 3 lbs . | Special | 661004 | 1/B. \& S. | 35 lbs . | Special |
| 660999 | 8 IS. \& S | 5 lbs. | Special | 661005 661006 | 1/0 B. \& S | 51 lbs . | Special |
| 661000 | 6 B. \& S | 9 lbs. | Special | 661006 661007 | 2/0 B. \& S | 59 lbs. | Special |
| 661001 | 4 B .8 S . | 15 lbs. | Special | 661008 | 4/0 B. \& S. | 100 lbs . | Special Special |
| Seven Strand and Standard Strand Cable |  |  |  |  |  |  |  |
| 661009 | $4 \mathrm{~B} . \& 5$. | 23 lbs . | Special | 661013 | 1/0 B. \& S | 66 lbs . |  |
| 661010 | $3 \mathrm{~B} . \& 5$. | 28 lbs. | Special | 661014 | 2/0 13. \& S. | 77 lbs . | Special |
| 661011 | $2 \mathrm{~B} . \& \mathrm{~S}$. | 35 lbs. | Special | 661015 | 3/0 B. \& S. | 110 lbs . | Special |
| 661012 | $1 \mathrm{~B} . \& \mathrm{~S}$. | 51 lbs . | Special | 661016 | 4/0 B. \& S. | 120 lbs . | Special |
| Tinned Copper Splicing Sleeves |  |  |  |  |  |  |  |
| 1017 For Steel Cable |  |  |  |  |  |  |  |
|  | $1 / 4 \mathrm{in}$. | 35 lbs . | Special | 661020 | $\frac{7}{16} \mathrm{in}$. | 155 lbs. | Special |
| 661018 <br> 661019 | 年 $\frac{16}{16} \mathrm{in}$. | 85 lbs. | Special | 661021 | $1 / 2 \mathrm{in}$. | 185 lbs. | Special |
|  | 88 m . | 125 lbs . | Specia |  |  |  |  |
| Steel Twisting Wrenches |  |  |  |  |  |  |  |
| List For Use with Seamless Copper Splicing Sleeves |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  |  |  |  |  |  |  |
| 661022 | Twisting wrenches. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Price on Applicatio |  |  |  |  |  |  |



Split Tinned Connector

## Split Tinned Copper Connectors

## For Splicing Underground Cable Lines

These connectors are made of soft copper and the entire surface is tinned. They are especially adapted for use on underground cables.

| List |  |  |  |
| :---: | :---: | :---: | :---: |
| No. | Size | Approx. | List Price |
| 660888 | 2 B. \& S. Gauge Stranded |  | per 100 |
| 660889 | 1/0 B. \& S. Gauge Stranded | 2 ins. | $\$ 9.84$ |
| 660890 | 4/0 B. \& S. Gauge Stranded | ${ }_{21}^{2}$ ins. | 18.96 |
| 660891 | 500,000 B. \& S. Gauge Stranded. | $21 / 4$ ins. | 31.92 |
| 660892 | 1,000,000 B. \& S. Gauge Stranded. | $23 / 4$ ins. | 86.40 |
| 660893 | 2,000,000 B. \& S. Gauge Stranded. | 4 6 ins. ins. | $\begin{aligned} & 162.00 \\ & 470.06 \end{aligned}$ |
|  | ces on Application. |  | 470.96 |

## PORCELAIN KNOBS



No. 9419 Solid

| No. 9419 Solid |  | No. 51/2 Old Code |  | Midway |  |  | No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List No. | lleight Inches | Diam. <br> Inches | Groove Inches | Hole Inches | Std. Pkg. | Pks. Wt. L.bs. | Mfrs. <br> list l'riee per 1000 | $\begin{array}{r} \text { W. E. } \\ \text { per wow } \end{array}$ |
| 9419 <br> $51 / 2$ Old <br> $51 / 2$ New <br> 5 <br> Midway <br> 4 <br> $41 / 2$ <br> 10 <br> $101 / 2$ <br> 7 <br> 6 <br> 8 <br> 14. |  | $\begin{aligned} & 11 / 2 \\ & 1 \\ & 11 / 8 \\ & 1 \\ & 13 / 8 \\ & 11 / 8 \\ & 11 / 2 \\ & 15 / 8 \\ & 11 / 1 / 2 \\ & 7 / 8 \\ & 148 \\ & 18 / 8 \\ & 7 \end{aligned}$ | $1 / 4$ $1 / 6$ 18 16 $\frac{6}{16}$ $\frac{1}{8}$ $3 / 8$ 7 $\frac{1}{16}$ $3 / 2$ $3 / 8$ 7 10 $1 / 4$ 10 |  | 1500 4500 3500 6000 2000 1900 1700 1500 1500 15000 13500 8000 12500 | $\begin{aligned} & 415 \\ & 400 \\ & 410 \\ & 430 \\ & 390 \\ & 415 \\ & 410 \\ & 4010 \\ & 115 \\ & 370 \\ & 465 \\ & 375 \\ & 450 \end{aligned}$ | $\$ 41.00$ 13.00 16.00 13.00 22.00 22.00 25.00 30.00 30.00 13.00 11.00 13.00 11.00 | $\begin{array}{r} \$ 63.98 \\ 20.28 \\ 24.96 \\ 23.40 \\ 34.32 \\ 34.32 \\ 39.00 \\ 46.80 \\ 46.80 \\ 23.40 \\ 17.16 \\ 20.28 \\ 17.16 \\ \hline \end{array}$ |

[^79]
## PORCELAIN KNOBS



No. 36

| List Height | Diam. |  |
| :--- | :---: | :---: |
| No. | Inches | Inches |
| 36 | $13 / 4$ | $13 / 4$ |
| 20 | 2 | 2 |
| 15 | $1 \frac{5}{16}$ | $13 / 4$ |
| 41 | $11 / 4$ | 2 |
| 47 | $11 / 4$ | $13 / 4$ |
| 48 | $11 / 2$ | $21 / 2$ |



No. 23



No. 6061


No. 20

$$
\begin{aligned}
& \text { Hole } \\
& \text { Inches } \\
& 1 / 2
\end{aligned}
$$

Std.
Pkg.
1500
1000
1900
1300
1400
850


No. 15

Ike. Wt.
Lbs.
250
250
455
375
250
200
225
275


No. 402. Full Slze
Mfrs.
W. E.

| List Price | List |
| ---: | ---: |
| per 1000 | per 1000 |
| $\$ 31.00$ | $\$ 48.36$ |
| 36.00 | 56.16 |
| 60.00 | 75.60 |
| 26.00 | 46.80 |
| 22.00 | 39.60 |
| 26.00 | 46.80 |
| 34.00 | 53.04 |

Mine and Pony Duplex Insulators


No. 364

| List | Height | Diam. |
| :--- | :---: | :---: |
| No. | Inches | Inches |
| 364 Pony | $21 / 4$ | $21 / 2$ |
| 363 Pony | $21 / 2$ | $27 / 8$ |
| 367 Mine | 35 | 3 |
|  | Delivery | O B |



No. 363


No. 367

|  | Mirs. | W. E. |
| :---: | :---: | ---: |
| Wt., Lbs. | List Price | List |
| per 100 | per 100 | per 100 |
| 94 | $\$ 4.50$ | $\$ 9.00$ |
| $1071 / 2$ | 5.00 | 10.00 |
| 155 | 9.00 | 18.00 |



No. 24

| List | Height | Diam. | Groove |
| :---: | :---: | :---: | :---: |
| No. | Inches | Inches | Inches |
| 24 | $13 / 4$ | $17 / 8$ | 5/8 |
| 26 | 2 | $21 / 4$ | $1{ }^{6}$ |
| 11 | 11. | $11 / 8$ | $1 / 2$ |
| 12 | 18 | 138 | $\frac{9}{6}$ |
| 13 | 34 | $1 \frac{3}{16}$ | 58 |
| 45 | $3 / 4$ | $11 / 4$ | $\frac{3}{16}$ |
| 46 | 1 | $11 / 4$ | $\frac{9}{16}$ |
| 2 | 2 | 2 | 1/2 |



No. 22

| List | Height | Diam. | Groove |
| :---: | :---: | :---: | :---: |
| No. | Inches | Inches | Inches |
| 31VG | $13 / 4$ | 2 | $3{ }^{3}$ |
| 22 | 15/8 | $21 / 8$ | ${ }^{16}$ |
| 1. | 3 | 218 | 31 |
| 3 | 13/4 | 2 | $1{ }^{\frac{7}{6}}$ |
| $31 / 2$ | 2 | 2 | ${ }^{2} 6$ |



No. 11



No. 2
Mfrs. Pkg. Wt. List l'rice List Price Lbs. per 1000 per 1000 $425 \quad \$ 47.00 \quad \$ 73.32$ $420 \quad 81.00 \quad 102.06$ $3: 30 \quad 22.00 \quad 39.60$ $275 \quad 24.00 \quad 43.20$ $300 \quad 24.00 \quad 37.44$ $\begin{array}{lll}300 & 19.00 & 34.20 \\ 350 & 22.00 & 34.32 \\ & 29.00 & 8.20\end{array}$ $425 \quad 65.00 \quad 81.00$


No. 1


No. 31/6
W.E. ist Price per 1000 $\$ 68.04$
71.82 119.70
68.04 81.90


No. 25


No. 53

1)elivery F. O. B. Factory, Last Liverpool and Libson, O. For warehouse deliveries write nearest house.

## PORCELAIN CLEATS

Two and Three Wire Cleats


No. 334
Length 33 in. Width 5 is in. Groove $\frac{s}{16}$ in.


No. 350
Length $35 / 8$ in. Width $3 / 4 \mathrm{in}$. Groove $1 / 2 \mathrm{in}$.

| $\begin{aligned} & \text { List } \\ & \text { Xo. } \end{aligned}$ | No. per Barrel | W't., Lbs. per Bbl. | W. E. List Price per 1000 | Description | List No. | No. per Larre! | Wt., Lbs. per Bbl. | W.E. Iist Price per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3\%-1-12 | 18;0 | 385 | \$32.76 | Unglazed, two wire | 35()$-12$ | 1250 | 395 | $8(67.08$ |
| $334-\mathrm{C} 2$ | 1850 | 395 | 53.04 | Glazed, two wire | $3500-\mathrm{C} 2$ | 1250 | 395 | 107.64 |
| 33.1-13 | 1850 | 385 | 32.74 | Unglazed, thrce wire | $350-153$ | 12.50 | 395 | 197.08 |
| 333.4-(i3) | 1850 | $39 \%$ | 53.04 | Glazed, three wire | 350)-( $1: 3$ | 1250 | 395 | 107.64 |



Top No. 333
Bottom No. 3331/2

## Single Wire Cleats <br> NO. 333 TELEPHONE CLEAT

(Bottom No. 3331/2)
Dimensions: Length, $1 \frac{3}{16}$ inches; Width, $1 / 2$ inch; Groove, $1 / 4$ inch.

| List No. | Description | No. per Bbl. | Shpg. Wgt. per Bbl. | W. F. List Price per 1000 |
| :---: | :---: | :---: | :---: | :---: |
| 333 | Top, Glazed | 21500 | 465 lbs . | \$18.00 |
| 3331/2 | Bottom, Glazed . | 22000 | 4.5 lbs . | 16.20 |

*B. \& D.-STYLE A

| List No. | Dimensions |  |  |  | $\begin{gathered} \text { No. } \\ \text { per Bbl. } \end{gathered}$ | $\begin{gathered} \text { Wgt. } \\ \text { per Bbl. } \end{gathered}$ | W. E. List Prico per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D |  |  |  |
| 1 | $1{ }^{1818^{\prime \prime}}$ | $1{ }^{\frac{1}{16}{ }^{\prime \prime}}$ | $1 / 4^{\prime \prime}$ | $\frac{3}{10^{\prime \prime}}$ | 1800 | 415 lbs. | 360.84 |
| 11/2 | $21 / 4 \prime \prime$ | $1 \frac{3}{31}{ }^{1 \prime \prime}$ | $8 / 8{ }^{\prime \prime}$ | 产" | 1250 | 415 lbs. | 84.24 |
| 2 | $21 / 4 \prime \prime$ | $1{ }^{\frac{3}{186}}$ | $58^{\prime \prime}$ | 動 ${ }^{16}$ | 1175 | 415 lbs. | 101.40 |
| $21 / 2$ | $2{ }^{17^{\prime \prime}}{ }^{\prime \prime}$ | $114^{\prime \prime}$ | $\frac{3}{4}{ }^{\prime \prime}$ |  | 750 | 490 lbs. | 98.28 |
| 3 | $31 / 8^{\prime \prime}$, | 11/4" | $1 \frac{3}{16}{ }^{\prime \prime}$ | 8/8' ${ }^{\prime \prime}$ | 500 | 440 lbs. | 129.78 |
| 31/2 | $3 \frac{3}{18 \prime}{ }^{\prime \prime}$ | $18 / 8^{\prime \prime}$ | $11^{\prime \prime}$ | $3 / 8^{\prime \prime}$ | 450 | 440 lbs. | 163.80 |
| 4 | $33 / 4{ }^{\prime \prime}$ | $11 / 2^{\prime \prime}$ | $1 \frac{18}{15}^{\prime \prime}$ | $8 / 8^{\prime \prime}$ | 350 | 460 lbs. | 219.98 |

*Glazed unless otherwise specified.
THOMAS STANDARD
One Wire Cleats

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Length | Widtb | Groove | Qty. <br> per <br> Bbl. | $\begin{gathered} \text { Wgt. } \\ \text { per Bbl. } \end{gathered}$ | Old <br> Code <br> Base | $1^{\prime \prime} \stackrel{\text { A }}{\text { Base }}$ | $\begin{array}{r} \text { B } \\ 1 \prime \prime \text { Base } \\ \text { \& Top } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | W.E.List Prices per 1000 |  |  |
| 328 | $2^{\prime \prime}$ | $\frac{1817}{}{ }^{\prime \prime}$ | $\frac{3}{16}{ }^{11}$ | 1800 | 460 | \$43. 68 | 80.84 | 78.00 |
| 329 | 21/8" | $1^{\prime \prime}$ | $3{ }^{\prime \prime}$ | 1200 | 450 | 67.08 | 84.24 | 101.40 |
| 330 | $21 /{ }^{\prime \prime}$ | $1^{\prime \prime}$ | 11/' | 1200 | 435 | 81.12 | 101.40 | 121.68 |
| 331 | 27/8' | $11 /{ }^{\prime \prime}$ | 7/8' | 600 | 410 | 81.90 | 98.28 | 114.66 |
| $3311 / 2$ | 27/8' | $11 /{ }^{\prime \prime}$ | 11/4" | 600 | 400 |  |  | 151.20 |
| 332 | $4^{\prime \prime}$ | 11/2" | $1 \frac{5^{\prime \prime}}{6 \prime \prime}$ | 300 | 420 |  |  | 217.98 |
| 3321/4 | $4^{\prime \prime}$ | $11 /{ }^{\prime \prime}$ | $15 /{ }^{\prime \prime}$ | 250 | 410 |  |  | 217.98 |
| 3321/2 | $4^{\prime \prime}$ | 11/2" | $17 / 8^{\prime \prime}$ | 250 | 400 |  |  | 217.98 |

On the above cleats given under heading "Old Code Base" these are less than 1 -inch base.

Those given under "A" are 1 -inch oase and are regular top, the groove being 1 inch from bottom of base.
Those given under " $B$ " are 1 inch base and 1 inch top.
Nos. $332,3321 / 4$ and $3321 / 2$ are the same in every respect except groove.
Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.

## STRAIN INSULATORS


No. 361

No. 366



No. 506

TEST AND WEIGHT DATA

| List ${ }^{\text {No }}$ | Weights per I 3 bl . | Flashover Dry | Values in Volts Wet | Ult. <br> Crushing <br> Strength in Libs. | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 500 | 370 lbs. | 16000 | 0000 | 4000 | 400 |
| 502 | 475 lbs . | 23000 | 14000 | 11000 | 400 |
| 504 | 450 lls . | 25000 | 15000 | 19000 | 250 |
| 506 | 400 lbs . | 31000 | 20000 | 45000 | 150 |
| 508 | 500 ll s . | 19000 | 8000 | - 19000 | 300 |

## DIMENSIONS AND LIST PRICES

Mfrs. W.E.
Height Diam. Hole List Price List Price
Ins. Ins. lns. per 1000 per 1000
List No.

## IMPROVED STRAIN INSULATOR

The improved poreelain strain insulator has protected end coverings. The wires passing through instead of around the insulator make it impossible for the ends of the span or dry wires to come in contaet with each other or allow any chance for leakage of current.

| IIeight | Diam. | Groove | Std. | Mk. Wit. | Mist Price <br> Lnches | W. E. <br> Inches |
| :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| Inches | Pkg. | Lbs. | per 1000 | per 1000 |  |  |
| $21 / 2$ | $2 \frac{5}{16}$ | $1 / 2$ | 500 | 500 | $\$ 73.00$ | $\$ 91.98$ |
| 3 | $23 / 4$ | $\frac{11}{10}$ | 350 | 350 | 110.00 | 138.60 |
| $31 / 4$ | $23 / 4$ | $5 / 8$ | 350 | 420 | 110.00 | 138.60 |
| $4 \frac{7}{16}$ | $33 / 8$ | $7 / 8$ | 200 | 425 | 291.65 | 367.48 |

PORCELAIN KNOBS


No. 1829 Split Old Code


Grip It
Old Code


No. 2 Screw It


No. 1

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | No. Groove | Size <br> Wire | Diam. Inches | Height Inches | Std. Pkg. | Std. Phg Gross Weight |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1829 | Split, old code. . . . . . | Hroove | 12 to 14 |  |  |  | Weight | per 100 |
| 1849 | Split, old code. | 2 | 12 to 14 | 11. | 13/4 | 4500 | 500 | \$4.40 |
|  | Grip It, old code | 2 | 12 to 14 | $1{ }^{11}$ | $13 / 8$ | 4500 4500 | 500 500 | 4.40 4.40 |
| 1849 | Split, new eode.. | 2 | 12 to 14 | $1 \frac{1}{16}$ | 17\% | 4500 | 500 | 4.40 4.80 |
|  | Sirip It, new code. | 2 | 12 to 14 | $11 / 8$ | 134 | 3200 | 480 | 4.80 5.20 |
| ${ }_{2}^{2}$ | Screw It, old code | 2 | 12 to 14 | 1. | $13 / 4$ | 4000 | 500 | 8.00 |
| 51/2 | Nail It, old code. . . |  | 12 to 14 | 11/8 | $13 / 4$ | 4000 | 495 | 6.00 |
| $51 / 2$ | Nail It (solid), new corde |  | 12 to 14 | $11 / 8$ | $1{ }^{19}$ | 4500 | 500 | 4.80 |
| 1 | Nail it, new code. . . . . | 2 | 12 to 14 | 11/8 | $13 / 4$ | 4000 4000 | 500 | 4.80 |
| 1 | Screw It, new code | 2 | 12 to 14 | $11 / 8$ | $13 / 4$ | 4000 | 600 | 8.40 |



Grip It Detroit


No. 1911
Interchangeable


No. 1729, 1730 and 1731

| List <br> No. | Description | No. Groove | Size Wire | Diam. Inches | Height Inches | Std. Pkg. | Std. Pkg. <br> Gross <br> Weight. | $\begin{array}{r} \text { List } \\ \text { Price } \\ \text { per } 100 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Grip It Detroit. . . | 2 | 12 to 14 | 11/4 | 13/4 | rkg. 3000 | Weight. $500$ | $\begin{aligned} & \text { per } 100 \\ & \$ 5.20 \end{aligned}$ |
| 1729 | Detroit Serew It New corle. | 2 | 12 to 14 | $11 / 4$ | $13 / 4$ | 3000 | 500 | $\$ 5.20$ 9.00 |
| 1730 | Second size | 2 | 12 to 14 | $11 / 4$ | $13 / 4$ | 3000 | 490 | 8.20 |
| 1731 | Third size. | 2 |  | 1/2 |  | 2000 | 500 | 12.40 |

# PORCELAIN TUBES Standard Unglazed Porcelain Tubes 



Tube list dimensions conform to the new rules of the Underwriters' Board.
Barrel lots constitute a standard package.
Mfr's. Standard List Price per 100. Special Discounts on Application

| Length in | $\left\|\begin{array}{lll} \frac{5}{26} & \text { Hole } \\ \frac{5}{16} & \text { Out- } \end{array}\right\|$ | $\begin{aligned} & 3 / 8 \text { Hole } \\ & 48 \text { Out- } \end{aligned}$ | $\begin{array}{\|l\|} \mid 1 / 2 \text { Hole, } \\ 1 / 2 \text { On Out- } \end{array}$ | 5/8 Hole, | $3 / 4$ Hole, $1 \frac{3}{3}$ Out- | $\begin{aligned} & 1 \text { Hole, } \\ & 1 \frac{7}{26} \text { Out } \end{aligned}$ | $11 / 4$ Hole, <br> $1 \frac{13}{8}$ Out- | $\left\|\begin{array}{ll} 11 \frac{1}{2} & \text { Hole } \\ 2 \frac{3}{18} & \text { Out } \end{array}\right\|$ | $2 \frac{9}{18}$ Out- | $2 \frac{15}{18}$ Out- | $3 \frac{8}{16} \text { Out- }$ | $3 \frac{11}{26} \text { Out- }$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inches | side | side | side | side | side | side | side | side | side | side | side | side |
| Under Head | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diameter | Diam. eter |
| 1/2 | \$1.30 | \$1.40 |  |  |  |  |  |  |  |  |  |  |
| 1 | 1.30 | 1.40 | \$2.10 | \$2.70 | \$3.00 | \$4.50 |  |  |  |  |  |  |
| $11 / 2$ | 1.30 | 1.50 | 2.10 | 2.70 | 3.30 | 5.30 |  |  |  |  |  |  |
| 2 | 1.40 | 1.80 | 2.60 | 3.20 | 4.20 | 6.00 |  |  |  |  |  |  |
| $21 / 2$ | 1.50 | 2.20 | 3.00 | 4.00 | 5.00 | 7.00 | \$12.20 | \$15.60 | \$19.80 | \$23.40 | \$26.80 | \$30.30 |
| 3 | 1.60 | 2.60 | 3.40 | 4.70 | 5.50 | 8.00 | 13.80 | 17.40 | 22.00 | 25.80 | 29.60 | 32.50 |
| 4 | 2.70 | 3.00 | 4.10 | 5.50 | 6.80 | 10.00 | 15.60 | 19.20 | 23.90 | 27.70 | 31.50 | 35.30 |
| 5 | 3.20 | 3.60 | 4.80 | 6.40 | 8.00 | 12.50 | 18.10 | 25.30 | 34.10 | 41.70 | 48.80 | 56.80 |
| 6 | 3.90 | 4.50 | 5.50 | 7.30 | 9.50 | 14.30 | 19.20 | 31.20 | 45.30 | 57.90 | 70.50 | 83.20 |
| 8 | 7.20 | 8.40 | 9.60 | 10.80 | 12.00 | 16.80 | 24.00 | 38.40 | 58.10 | 73.90 | 89.80 | 105.60 |
| 10 | 9.60 | 10.80 | 12.00 | 14.40 | 16.80 | 19.20 | 31.20 | 45.60 | 66.00 | 81.80 | 97.70 | 113.50 |
| 12 | 14.40 | 15.60 | 16.80 | 19.20 | 21.60 | 26.40 | 45.60 | 69.20 | 102.10 | 128.00 | 154.00 | 180.00 |
| 14 | 20.20 | 23.10 | 25.90 | 28.80 | 31.70 | 34.60 | 63.40 | 97.90 | 145.70 | 183.70 | 221.80 | 259.80 |
| 16 | 23.10 | 25.90 | 28.80 | 34.60 | 37.50 | 43.20 | 74.40 | 109.50 | $1: 58.40$ | 196.50 | 234.50 | 272.40 |
| 18 | 25.90 | 28.80 | 34.60 | 40.30 | 43.20 | 49.00 | 86.40 | 122.70 | 190.30 | 234.10 | 277.70 | 321.10 |
| 20 | 28.80 | 31.70 | 37.50 | 43.20 | 46.10 | 54.70 | 95.10 | 135.40 | 211.40 | 259.20 | 307.60 | 355.90 |
| 22 | 33.10 | 36.00 | 40.30 | 46.10 | 51.90 | 59.10 | 103.70 | 148.30 | 321.60 | 285.10 | 338.70 | 392.30 |
| 24 | 37.50 | 40.30 | 43.20 | 49.00 | 57.60 | 63.40 | 112.30 | 161.30 | 252.30 | 311.10 | 369.90 | 428.50 |

For glazed tubes, add 50 per cent. to list prices.
For split regular tubes, multiply list by ten (10).
For floor tubes, multiply list by six (6).
For split floor tubes, multiply list by ten (10).
For headless tubes, multiply list by four (4).
Curved and curved end tubes, multiply list by six (6).
Crossover tubes split, multiply list by ten (10).
Crossover tubes solid, multiply list by eight (8).
Note.- In computing prices on split floor tubes, headless tubes, curved and curved end tubes, the above list prices and lengths must be used as referring to "OVER-ALL" lengths, and not lengths under head.

Split regular tubes lengths refer to under head.
Crossover, solid and split tubes lengths refer to between heads.

## SPECIAL PACKAGES

## Standard Porcelain, Packed in Corrugated Paper Boxes

Special attention is called to the method of packing Standard Porcelain in heavy corrugated paper cartons. This method entirely eliminates the breakage incident to the usual barrel packages. Packing in cartons is done by hand, which insures inspection of every piece and the selection of only perfect material; this fact easily compensates for the slightly increased cost over the usual barrel packages.


| Material | Over-all Dimension of Cart |
| :---: | :---: |
| $\frac{5}{16} \times 3$ inch Tubes | $8 \times 8 \times 4$ inches |
| $\frac{5}{16} \times 4$ inch Tubes | $8 \times 8 \times 5$ inches |
| $3 / 8 \times 3$ inch Tubes | $7 \times 6 \times 7$ inches |
| 51/2.Split Linobs | $9 \times 8 \times 5$ inches |
| 2-wire Cleats | $9 \times 8 \times 5$ inches |
| $3 / 8 \times 4$ inch Tubes | $9 \times 8 \times 6$ inches |
| Packed 500 in a Carton |  |
| $\frac{5}{16} \times 3$ inch Tubes | $8 \times 10 \times 12$ inches |
| $\frac{5}{16} \times 4$ inch Tubes | $10 \times 10 \times 12$ inches |
| $3 / 8 \times 3$ inch Tubes | $8 \times 10 \times 161 / 2$ inches |
| 3/8x 4 inch Tubes | $10 \times 10 \times 161 / 2$ inches |
| 51/2 Split Ǩnobs | $10 \times 10 \times 14$ inches |
| 2-wire Cleats | $10 \times 10 \times 161 / 2$ inches |

## HIGH VOLTAGE INSULATORS BROWN GLAZE, UNLESS OTHERWISE SPECIFIED




No. 1111
List No. 1111 1077 1075


No. 1077
MT., Lbs. per 100 100
86
124


No. 1039

| List | Line | Flashover Volts |  |
| :---: | :---: | :---: | :---: |
| No. | Voltage | dry | Plain |
| 103!) | 100) |  |  |
| 100! | 6100 | 50.000 | 23000 |
| 1031 | 1000 | 51000 | 25000 |



No. 1075
Quantity W. E. List Price per Bbl.

300
350
225 per 100
$\$ 18.00$
18.00
20.00


No. 1009
$63 / 4$ ins. $\quad 21 / 8$ ins.


No. 1031
Weight
Leakage
Distance
$\ldots 1 / 2$ ins.
$63 / 4$ jns.
$\begin{aligned} & \text { Arcing } \\ & \text { I)istance } \\ & \text { 13 } \\ & 2 \text { ins. } \\ & 21 / 8 i n s . ~\end{aligned}$.
$\begin{array}{cc}\text { Wt., Libs. } & \text { Packed } \\ \text { per } 100 & \text { per } 100\end{array}$ $\begin{array}{lr}125 & 165 \\ 150 & 175\end{array}$
W. E. Quantity List Price per Bb . per 100 200 \$30.00 $200 \quad 24.00$ 175 52.00

## HIGH VOLTAGE INSULATORS

## Brown Glaze Furnished Unless Otherwise Specified



No. 2117


No. 3026

| Tist | Tine | Flashover Volts | Leakage | Arcing | Wt. Ihs. |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :---: |
| No. | Voltage | Jry | Wet | Distance | Distance | per 100 |
| $1010 A$ | 6600 | 54000 | 34000 | 4 | ins. | $13 / 4$ ins. |
| 1049 | 5500 | 43000 | 21000 | $43 / 4 \mathrm{ins}$. | $13 / 4$ jns. | 110 |



No. 1049

049


No. 1010 A
Quantity
per libl.
250
W. E. T.ist Priceper 100 286.00

## HIGH VOLTAGE INSULATORS Brown Glaze Furnished Unless Otherwise Specified



No. 3058


No. 3056

| List | Tine | Flash | Yolts | Ieakace | Arrine | W't. It |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Dry | Wet | Distance | Distance | per 100 |
| $\cdots 3.33$ | 20000 | 82000 | 47000 | $10{ }^{3}{ }^{\text {a }}$ ins. | $3{ }^{3} \mathrm{ins}$. | 510 |
| 3056 | 40000 | 131000 | 81000 | $21 \frac{1}{2}$ ins. | 7 ins. | 1800 |



No. 4000
Wt. Parked
per 100
166.5
5000
W. IR. List Price per 100 $\$ 330.00$ 1176.00


No. 2033
W. F. Jist

Price per 100 $\$ 151.00$ 484.00


No. 4032

| I, ist | Line | Flashover | $V$ Volts | Leakage | Areing | We. Ihs. | Wt. Parked |  | W, E. List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Dry | Wet | Distance | Di,tance | per 100 | per 100 | Quantity | Priceper 100 |
| 2102 | 17.500 | 74000 | 37000 | $10 \mathrm{ins}$. | $21 / 2 \mathrm{ins}$. | 320 | 380 | per bbl. 75 | 890.00 |
| 4032 | 66000 | 194000 | 137000 | 42 ins. | $10 \frac{3}{4} \mathrm{ins}$. | 1600 | 6300 | per crate 2 | 485.00 |

## HIGH VOLTAGE INSULATORS

## Brown Glazed Furnished Unless Otherwise Specified



No. 2111


No. 2120


No. 4002

| List | Jine | Jiashover | Volts | leakage | Mreing | Wt. Jhs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Dry | Wet | Distance | Distance | per 100) |
| 4002 | (i0) 100 | 185000 | 125000 | 42 ins. | 10 ind. | $2(500)$ |
| 4033 | 5.3000 | 171000 | 120000 | 32 ins. | 91台 ins | 3000 |



No. 2021


No. 3020


## HIGH VOLTAGE INSULATORS

## Brown Glaze Furnished Unless Otherwise Specified



No. 1076


No. 1139

| List | Iine | Flashover | Volts | Leakage | Arcing |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Dry | Wot | Distance | Distance |
| 1139 | 15000 | 73000 | 41000 | $71 / 2 \mathrm{ins}$. | 3 3年ins. |
| 2020 | 17500 | 81000 | 47000 | $0^{0}$ ins. | $41 / 8 \mathrm{l}$ is. |



No. 3055

| List | Line | Flashover | Volts | Seakage | Arcing |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. | Voltage | Dry | Wet | Distance | Distance |
| 3055 | 45000 | 147000 | 1020400 | 28 ins. | $71 / 2$ ins. |
| 3057 | 55000 | 165000 | 121000 | $301 / 2$ ins. | 9 |
|  | ins. |  |  |  |  |




No. 6



700386 700233 700234
6
30
36


Prices on application.



## GLASS INSULATORS



No. 52


No. 50-Upper and Lower Parts


No. 51

| List <br> No. | Mif. No. | Description | Diam. Groove | Weight Each | Wt. per 1000 Packed | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700259 | 50 | Two Piece Transpo | 1/4 in. | 27 ozs. | 2000 lbs. | 125 prs. |
| 700260 | 52 | Transposition. | $\frac{5}{16} \mathrm{in}$. | 22 ozs. | 1700 lbs . | 125 |
| 700261 | 51 | Transposition. | $3 / 8 \mathrm{in}$. | 29 ozs . | 2250 lbs. | 100 |



No. 72


No. 73


Prices on application.

Quantity Prices
Quoted on Request

## GLASS INSULATORS



| $\begin{aligned} & \text { List } \\ & \text { No. } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Mfr } \\ & \text { No. } \end{aligned}$ | Description | 1 iam . | Height | Diam. Groove | Diam. Hole | Weight Each | Wt. per 1000 Packed | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700266 | 1 | Inob | $1,2 \mathrm{ins}$. | $1 \frac{3}{16}$ ins. |  | 1/2 in. |  | 220 lbs . | 500 |
| 700267 | 2 | Knob | 2 ins. | $17 / 8 \mathrm{ins}$. |  | $1 \% \mathrm{in}$. |  | 500 lbs . | 500 |
| 700268 | 3 | Knob | 2 ins . | 2 ins. |  | ${ }^{3} \mathrm{~s}$ in. |  | 530 lbs . | 500 |



| $\begin{aligned} & 700269 \\ & 700270 \\ & \hline \end{aligned}$ | 5 7 | Jinob linob | $2^{7 / 3}$ ins. | 13 <br> $1^{3}$ ins. | 1 3 3 8 |  | 350 llhs. 530 lbs. | $\begin{aligned} & 500 \\ & 500 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |



| $\begin{aligned} & 700272 \\ & 700273 \end{aligned}$ | 59 60 | Mine Insulator Mine Insulat or | 3 ins. $43 \times$ ins. | 312 ins 258 ins. | $\begin{aligned} & 1 \\ & 21 \\ & \hline 1 \\ & \text { ins. } \\ & \text { ins. } \end{aligned}$ | $\mathrm{l}^{5} \text { in in. }$ | $\begin{aligned} & 21 \mathrm{ozs} \\ & 36 \mathrm{ozs} . \end{aligned}$ | $\begin{aligned} & 1600 \text { lbs. } \\ & 2200 \text { lbs. } \end{aligned}$ | 150 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## GLASS INSULATORS



No. 115


No. 109

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Mir. } \\ & \text { No. } \\ & \hline \end{aligned}$ | Description | $\begin{gathered} \text { Line } \\ \text { Voltage } \end{gathered}$ | Radius Groove | Weight Each | Wt. per 1000 Packed | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700274 | 115* | Top Groove, Double I'etticoat. | 5000 | 1/4in. | 22 ozs. | 1750 lbs . | 150 |
| 700275 | 109 | Top Groove, Double l'et ticoat. | 6 B (1) | $3 / 4 \mathrm{in}$. | 23 ozs . | 1950 lbs. | 160 |

*Radius side groove $\frac{8}{16}$ inch.


No. 117


No. 112

| 700278 | 117 | Large Top Groove, Double Petticoat | 5000 | $\frac{3}{4} \mathrm{in}$. | 22 ozs. | 1650 lbs. | 150 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 700279 | 112 | Large'Top (iroove, Double Petticoat | 5000 | $\frac{1}{2} \mathrm{in}$. | 29 ozs. | 2150 lbs. | 110 |

Prices on application.

## GLASS INSULATORS



No. 400


No. 401


No. 1

| No. 400 |  |  | No. 401 |  | No. 1 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Mrr. | Description | Line | Radius | Leakage | Weight | Wit. per 1000 | Quantity |
| No. | No. | Description | Voltage | Groove | Distance | Each | Packed | per Bbl. |
| 700281 | 400 | Cable. | 6600 | $5 / 8 \mathrm{in}$. | 41/4 ins. | 30 ozs . | 2100 lbs . | 110 |
| 700282 | 401 | Cable. | 6600 | 1 in. |  | 30 ozs . | 2100 lbs . | 110 |
| $\underline{700283}$ | 1 | Cable | 6600 | $\frac{7}{16} \mathrm{in}$. |  | 18 ozs. | 1385 lbs. | 170 |

700284
700285
700286


No. 3

|  | $5 / 8$ in. |
| :--- | :--- |
| 1 | $41 / 4$ ins. |
| $11 / 8$ ins. | $61 / 2$ ins. |
| $41 / 4$ ins. |  |

No. 4


No. 100
No. 404

| $\begin{aligned} & 700287 \\ & 700288 \end{aligned}$ | $\begin{aligned} & 100 \\ & 404 \end{aligned}$ | Cable <br> High Voltage, Double Petticoat. | $\begin{aligned} & 6600 \\ & 7500 \end{aligned}$ | ${ }^{\frac{1}{16}} \mathrm{in}$. |  | $\begin{aligned} & 36 \mathrm{ozs} . \\ & 33 \mathrm{ozs} . \end{aligned}$ | $\begin{aligned} & 2160 \mathrm{lbs} . \\ & 2260 \mathrm{lbs} . \end{aligned}$ | 60 120 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Prices on application.

## GLASS INSULATORS



No. 135


No. 118

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Mfr. } \\ & \text { No. } \end{aligned}$ | Description | $\begin{gathered} \text { Line } \\ \text { Voltage } \end{gathered}$ | Radius Groove | Weight Each | Wt. per 1000 Packed | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700390 | 135 | Triple Petticoat | 10000 | ${ }_{1}^{56} \mathrm{in}$. | 30 ozs . | 2200 llis . | 125 |
| 700290 | 118 | Large Top Ciroove, Double Petticoat | 6600 | $5 / 8 \mathrm{in}$. | 21 ozs . | 1650 lbs. | 150 |



No. 8

| 700292 | 8 | Columlia Double Petticoat....... | 6600 | T7 in. | 40 ozs. | 2900 lbs. | 78 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



No. 7


No. 12

| $\begin{aligned} & 700293 \\ & 700294 \end{aligned}$ | 7 12 | Columbia Double l'etticoat. . . . . . Columbia Single Petticoat. . . . | $\begin{aligned} & 6600 \\ & 5000 \end{aligned}$ | $\begin{aligned} & 11 / 8 \text { ins. } \\ & \frac{1}{16} \text { in. } \end{aligned}$ |  |  | $\begin{array}{r} 78 \\ 110 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $700294$ | 12 | Columbia Single Petticoat....... | $5000$ | $\frac{11}{16}$ in. | $22 \mathrm{ozs} .$ | $1750 \mathrm{lbs} .$ | $110$ |

Prices on application.

## GLASS INSULATORS



| List No. | $\begin{aligned} & \text { Mir. } \\ & \text { No. } \end{aligned}$ | Description | $\begin{gathered} \text { Line } \\ \text { Voltage } \end{gathered}$ | Diam. Groove | Weight Each | Wt. per 1000 Packed | Quantity per Bbl. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 700391 | 137 | High Voltage, Triple Petticoat | 20000 | $1 / 2 \mathrm{in}$. | 6 lbs . | 6535 | 33 |
| 700297 | 124 | High Voltage, Double I'etticoat. | 10000 |  | 44 ozs. | 3300 lhs. | 50 |



No. 130


No. 129

| 700298 | 130 | High Voltage, Double Petticoat. | 11000 | $\ldots \%$ | 40 ozs. | $3300)$ bss. | 60 <br> 700299 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



No. 140


No. 132

| 700300 | 140 | High Voltage, Triple Petticoat. | 10000 | $1 / 8 \mathrm{in}$. | 32 ozs | 2560 lbs. | 125 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 700301 | 132 | High Voltage, Triple Petticoat.. | 11000 | $3 / 1 \mathrm{in}$. | 82 ozs. | 2560 lbs. | 125 |

Prices on application.

## ELECTROSE LINE INSULATORS

INSULATED PINS



No. 3006


No. 3010


No. 3012


No. 3084


No. 3085

Pin Type Insulators
INSULATORS 1,000 TO $\mathbf{1 , 0 0 0 , 0 0 0}$ VOLTS

| List No. | Diameter in lns. | Ileight of Body in Ins. | Width of Top Groove in Ins. | Width of Side Groove in Ins. | Diameter of Pinhole in Ins. | Depth of of linhole in Ins. | Electrical Value Dry in Volts | Plectrical Value Hain in Volts | Line Voltage | Net <br> Weight Each in Lbs. | W.E. List <br> Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3000 | $21 / 4$ | $33 / 8$ | ... | 3/8 | 1 | 17/8 | 30000 | 20000 | 2200 | 1/2 | \$0.80 |
| 3001 | 316 | 41/8 |  | 1/4 | 1 | 113 | 42000 | 20000 | 6600 | $11 / 4$ | 1.50 |
| 3003 | $33 / 4$ | 4 |  | $1_{16}^{3}$ | 1 | $21 / 4$ | 42000 | 20000 | 6600 | 11/2 | 1.80 |
| 3004 | $41 / 8$ | 41/2 | 11/2 | $2{ }_{1}^{13}$ | 1 | $2 \frac{1}{16}$ | +3000 | 26000 | 6600 | $11 / 4$ | 2.00 |
| 3005 | $57 / 8$ | $3 \frac{15}{16}$ | 11/8 | 11/8 | 1 | 15/8 | 52000 | 30000 | 11000 | 23/4 | 4.00 |
| 3006 | $57 / 8$ | 7 | 11/8 | 11/8 | Note |  | 80000 | 45000 | 22000 |  | 8.00 |
| 3007 | $2 \frac{15}{16}$ | 25/8 | . | 1/4 | 1 | $1 \frac{13}{16}$ | 10000 |  |  |  | . 80 |
| 3008 | $3 \frac{9}{16}$ | $2{ }_{1} 16$ |  | $1 / 4$ | 1 | $1 \frac{5}{16}$ | 20000 | 5000 | 1100 |  | 1.20 |
| 3009 | $41 / 2$ | 31/8 | $3 / 4$ | 3/8 | 1 | $1 \frac{1}{1} \frac{1}{6}$ | 40000 | 28000 | 6600 | 11/4 | 2.00 |
| 3010 | $41 / 2$ | 41/2 | $3 / 4$ | 3/8 | Note | . . . | 60000 | 28000 | 11000 | 2 | 3.00 |
| 3012 | $31 / 8$ | $53 / 8$ |  | 3/8 | Note | $\ldots$ | 50000 | 25000 | 11000 |  | 4.00 |
| 3013 | $33 / 4$ | 23/8 | $3 / 4$ | 3/8 | Note |  | 40000 | 25000 | 6600 | $11 / 2$ | 1.40 |
| 3016 | 33/4 | $27 / 8$ | $3 / 4$ | 3/8 | 1 | 15/8 | 39000 | 25000 | 6600 | 3 | 1.40 |
| 3018 | 7 | 51/2 | $3 / 4$ | 1/2 | $13 / 8$ | $21 / 4$ | 80000 | 45000 | 22000 | $31 / 4$ | $4 .(10)$ |
| 3019 | 7 | 8 | $3 / 4$ | 1/2 | $13 / 8$ | $21 / 4$ | 100000 | 60000 | 22000 |  | 6.00 |
| 3020 | 5 | 378 | 3/8 | $\frac{7}{16}$ | 1 | $21 / 2$ | 65000 | 35000 | 11000 | 13/4 | 3.40 |
| 3084 | 5 | $41 / 4$ | 5/8 | 3/8 | 1 | $1 \frac{11}{16}$ | 70000 | 40000 | 11000 |  | 3.40 |
| 3085 | 7 | 6 | $3 / 4$ | 1/2 | 13/8 | $2{ }_{16}^{3}$ | 85000 | 55000 | 22000 |  | 6.0) |

Note: No. 3006 has $3 / 4$ inch diameter steel pin. No. 3010 has $5 / 8$ inch diameter steel rod. No. 3012 has $5 / 8$ inch diameter steel tube. No. 3013 has $3 / 8$ inch rod, $11 / 2$ inch extension.

Specify size pinhole desired.
Delivery F. O. B. Faetory, I3rooklyn, N. Y. For warehouse deliveries write nearest house.

ELECTROSE SAFETY STRAIN INSULATORS


No. 10A-B. (Old Style)


No. 10 (New Type)


No. 10. (New Type)


No. 10. (New Type)


## Safety Strain Insulators

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Diam. in lns. | length of IBody in 1 ns . | Opening of Fye in Ins. | Overall <br> l.ength in Ins. | Preaking Ntrength in I bs | Merhan. ieal Test in l.hs. |  | $\begin{gathered} \text { Vilectrical } \\ \text { Vabue } \\ \text { lrain } \\ \text { in Volts } \end{gathered}$ | $\begin{aligned} & \text { Test } \\ & \text { Voltage } \\ & \text { Dry } \\ & \text { in Volts } \end{aligned}$ | Line Voltage | Net Weight Each in I.bs. | W. Fi Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Old } 10 \\ & \text { Old } \end{aligned}$ | (Combinationof Nos. 10A and 10B) |  | $\left.\right\|_{1} ^{16} x^{1} x^{7}$ | $8 \frac{1}{6}$ | 2000) | 10000 | 40000 | 20000 | 15000 | 11000 | 41/4 | \$392.00 |
| 10 AB |  |  | \} $1 \frac{1}{16} \times 18$ | 1418 | 20000) | 10000 | 70000 | 35000 | 30000 | 15000 | 81/2 | 852.00 |
| Old 10X |  |  | $1 \frac{1}{16} \times 7 / 8$ | $8 \frac{18}{18}$ | 20000 | 10000 | \$(000 | 20000 | 15000 | 11000 | 43/8 | $\begin{gathered} 420.00 \\ \text { Each } \\ 10.92 \end{gathered}$ |
| 10AB | $\left\lvert\, \begin{aligned} & 4 \\ & \text { (Combinationof } \\ & \text { Nos. } 10 \mathrm{~A} \text { and } \\ & 10 \mathrm{~B}) \end{aligned}\right.$ |  | 11/2 $\times 1 / 8$ | 121/8 | 20000 | 10000 | 75000 | 40000 | 35000 | 20000 | 714 |  |
| 10ADA | (Combination of Nos. 10A, 10D and 10A) |  | 1 $11 / 2 \times 7 / 8$ | $16{ }_{16}^{5}$ | 20000 | 10000 | 1 HOH 00 | 50000 | 45000 | 25000 | 107/8 | 16.72 |
| New 10 | 4 | + 3 | $11 / 2 \times 7 / 8$ | $7 \frac{18}{18}$ 636 | 20000 | 10000 | +5000 | 25000 | 20000 | 11000 | 35/8 | 5.12 |
| 10A | 4 | 3 3 | $11 / 2$ $11 / 2$ x $7 / 8$ | 638 63 | 20000 | 10000 10000 | 15000 45000 | 25000 25000 | $20000)$ $20000)$ | 11000 11000 | $35 / 8$ $35 \%$ | 5.46 5.46 |
| 10 C | 4 | 3 | $12 \times 8$ | $5{ }^{8}$ | 2015) ${ }^{\text {a }}$ | 10000 | 15000 | 25000 | 20000 | 11000 | $3{ }^{5}$ | 5.46 5.80 |
| 101 |  | 3 |  | 5 | 2015013 | 10000 | 45000 | 25000 | 20000 | 11000 | $35 / 8$ | 5.80 |
| 10G | 4 | 3 | $11 / 2 \times 7 / 8$ | $71 / 2$ | 20009 | 10000 | +5000 | 25000 | 20000 | 11000 | $33 /$ | 5.68 |
| 10 H | 4 | 3 |  | 77/8 | 20000 | 10000 | 45000 | 25000 | 20000 | 11000 | $35 / 8$ | 5.74 |
| 10X | 4 | 3 | $11 / 2 \times{ }^{\text {x }}$ | $7 \frac{18}{18}$ | 20000 | 10000 | 45000 | 25000 | 20000 | 11000 | 35\%8 | 5.40 |

[^80]
## ELECTROSE LOCKING INSULATING BUSHINGS AND CONNECTORS



No. 6206


No. 6266

No. 6275


No. 6277


No. 6282


No. 6296. With a $1_{2}$ Incli Rod, This is No. 6867


No. 6811


No. 6815


No. 6833


No. 6851

Locking Insulating Bushings and Connectors

| List | Overall | Diameter of Scetion Filting | Largest | Diameter of |  | Tacal |  | Net W't. | list Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Length | Into Barrier | Diameter | Rod or Hole | Dry Test | Rain Test | Line Voltage | Fach | Each |
| 6200 | 23 ins. | 41 ins. | 7 ins. | 1/3 ins. | 100000 v . | 80000 v . | 44000 v . | $13{ }^{3}$ chos. | \$26.00 |
| 6206 | 61/4 ins. | $17 / 8$ ins. | $21 / 2 \mathrm{ins}$. | $1 / 3 \mathrm{in}$. | 50000 v . | 20000 v . | 6600 v . | $11 / 2 \mathrm{lbs}$. | 4.90 |
| 6210 | 2734 ins. | 5 ins. | 7 ins. | $1{ }^{3}$ ins. | 1800000 V . | 120000 v . | 66000 v . | 40 lbs. | 90.00 |
| 6222 | 15 ins. | 215 ins. | 4\% ins. | $1 / 2 \mathrm{in}$. | 75000 v . | 50000 v . | 22000 v . | $47 / 8 \mathrm{lbs}$. | 10.00 |
| 6226 | 33 亿年 | $71 / 4$ ins. | $91 / 2$ ins. | $31 / \mathrm{ins}$. | 18500 v . | 130000 v . | 66000 v . | 70 lbs . | 150.00 |
| 6266 | 578 ins. | $1 \frac{5}{16}$ ins. | $1{ }_{10}^{15}$ ins. | $3 / 8$ in. | 450100 v . | 15000 v . | 6600 v . | 5/8 lbs. | 3.40 |
| 6275 | $2^{3} 4 \mathrm{ins}$. | 1 in. | 112 ins. | 38 in . | 30000 v . | 15000 | 2200 v . | 1/4 lb. | 1. 20 |
| 6277 | $9^{3 /} \mathrm{ins}$. | 21/4ins. | $35 / 8 \mathrm{ins}$. | $\frac{11}{10} \mathrm{in}$. | 60000 v . | 35000 v . | 11000 v | 23 lbs. | 6.00 |
| 6282 | 5 prins. | 1 in. | 2 ins. | \% in. | 45000 v . | 20000 v | 6600 v | 1/2 1b. | 2.40 |
| 6296 | $111 / 2$ ins. | $37 / 8$ ins. | 5 ins. | 13 ins. | 55000 v . | 250100 v . | 11000 v . | $61 / 21 b s$. | 12.00 |
| 6811 | 18 ins. | 216 ins . | $41 / 2 \mathrm{~ns}$. | $1 / 2 \mathrm{in}$. | 75000 v . | 50010 v . | 22000 v . | 6 lbs. | 14.00 |
| 6815 | $91 / 4 \mathrm{ins}$. | $1 / 8 \mathrm{ins}$. | $2^{1} 2 \mathrm{ins}$. | $1 / 2 \mathrm{in}$. | 50000 v . | 200100 v | 6600 v . | 2 lbs. | 5.60 |
| 6833 | $77 / 8$ ins. | $1{ }_{10}^{3}$ ins. | $1 \pm$ ins. | $3 / 8 \mathrm{in}$. | 45000 v . | 15000 v | 6600 v . | 7/8 lbs. | 4.60 |
| $68+5$ | 434 ins . | 1 in. | 112 ins. | 3 gin . | 30000 v . |  | 2200 v . | $3 / 8 \mathrm{lb}$. | 1.80 |
| 6851 | $6{ }_{16}^{13} \mathrm{ins}$. | 1 in. | 2 in . | 14 in . | 4.500 v | 20000 v | 6600 v . | $5 / 811$. | 2.80 |



No. 6816. With a $31 / 2$ Inch llole, This Is No. 6226


No. 6818. With $112 / n+1$ Through Hole. This Is No. 6200


No. 6858

No. 7211


## Locking Insulating Bushing and Connectors



The locking ring construction as illustrated enables the insulator to be locked on to the barrier quickly and easily, obviating the costly and awkward cementing process.

In the connectors the conductor rod is permanently imbeded in the electrose insulation, making a water and air-tight construction. Delivery F. O. B. Brooklyn, N. Y. For warchouse deliveries write nearest house.

## ELECTROSE SAFETY STRAIN INSULATORS



No．10A－B．（Old Style）


No． 10 （New Type）


No．10．（New Type）


No．10．（New Type）


No．10X．（New Type


No．10X．（Old Style）

Safety Strain Insulators

| List <br> No． | Diam． in Ins． | $\begin{gathered} \text { Lefngy } \\ \text { of Rody } \\ \text { in Ins. } \end{gathered}$ | Opening <br> of tiye <br> in Iths． | Onerall <br> l．engrh in Ins． | Breaking strength in Lhes． | DTechan－ is＇a！Test in 1．t）s |  | $\begin{gathered} \text { Filectrical } \\ \text { Value } \\ \text { inain } \\ \text { in lolts } \end{gathered}$ | $\begin{aligned} & \text { Test } \\ & \text { Voltage } \\ & \text { 1)ry } \\ & \text { in Volts } \end{aligned}$ | Line Voltage | $\begin{gathered} \text { Net } \\ \text { Weight } \\ \text { Each } \\ \text { in I.bs. } \end{gathered}$ | W，Li List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Old 10 Old | ${ }_{\text {（Combi }}$ | 4 名 <br> ation of | $1_{10}^{1} x^{\prime}{ }^{7}$ | $8 \frac{16}{16}$ | 20000 | 10000 | 40000 | 20000 | 15000 | 11000 | $41 / 4$ | \＄392．00 |
| 10 AB | Nos． <br> 10B） | 0A and | \} $110 \times$ \％ 8 | 141／8 | 20000 | 11000 | 70000 | 35000 | 30000 | 15000 | $81 / 2$ | \＄52．00 |
| Old 10x |  | $14^{4 \frac{3}{16}}$ | $1{ }_{16}^{16} \times 7 / 8$ | 8 右 | 20000 | 16000 | 40010 | 20000 | 15000 | 11000 | 43／8 | 420.00 |
| 10AB | Nos． 1013） | OA and | \} $11 / 2 \times 7 / 8$ | 121／8 | 20000 | 10000 | 75010 | 40000 | 35000 | 20000 | $71 / 4$ | Each 10.92 |
| 10ADA | （Combin <br> Nos． 10 and 10 | ation of <br> A，10D <br> A） | 112x $\times 18$ | 16 宕 | 20000 | 10000 | 100040 | 50000 | 45000 | 25000 | 10\％ | 16.72 |
| New 10 | 4 | － 3 | $11 / 2 \times 7 / 8$ | 718 | 20000 | 10000 | 45000 | 25000 | 20000 | 11000 | 38／8 | 5.12 |
| $10 \mathrm{~A}$ | 4 | 3 | $11 / 1 \times 7 / 8$ | 638 | 20000 | 10000 | 45000 | 25000 | 20000 | 11000 | $35 / 8$ | 5.46 |
| 10 B 10 C | 4 | 3 3 | $11 / 2 \times 7 / 8$ | $6^{3 / 8}$ | 20000 | 110000 | 4509 | －5000 | 20000 | 11000 | 35 | 5.46 |
| 10 C 10 D | 4 | 3 |  | 5 | 20000 | 16000 | 45000 | 25000 | 20000 | 11000 | $35 \%$ | 5.80 |
| 10 G | 4 | 3 |  | 716 | 20000 | 16000 | 4000 | 25000 | 20000 | 11000 | 35／8 | 5.80 |
| 10 H | 4 | 3 | $1 / 2 \times$ | 7\％ | 20000 | 10000 | 4 | 25000 | 20000 | 11000 | 33／6 | 5． 68 |
| 10X | 4 | 3 | 11\％x＊ | $7 \frac{18}{18}$ | 20000 | 10 DO 0 | 4 | 25000 | 20000 20000 | 11000 | $35 / 8$ | 5.74 |

$10 \mathrm{~A}-5 / 8$ inch threaded socket at one end．
$10 \mathrm{~B}-5 / 8$ inch threaded stem at one and．
$10 \mathrm{C}-5 / 8$ inch threaded socket at each end
$10 \mathrm{D}-5 / 8$ inch threaded stem soeket at each end．
10 F －${ }_{16}$ inch clevis at onc end．
10G－H inch clevis at one end
10 H －${ }_{2} \mathrm{~A}_{\mathrm{f}}$ inch clevis at one end．
Delivery F．O．B．Factory，Brooklyn，N．1＇．For valelouse deliveried write nearest house，

## ELECTROSE SAFETY STRAIN INSULATORS



| List No. | Diam. in Itrs. | Lengeth of liody in Ins. | Opening of Bye in lns. | Ovarall l.enoth in ! n : | Treahing Arrenath in I. 1 ) | Mechanical 'l'est in lotis | $\begin{gathered} \text { 1. lectrical } \\ \text { Value } \\ \text { Hry } \\ \text { in Volts } \end{gathered}$ | $\begin{gathered} \text { Vilectrical } \\ \text { Vitue } \\ \text { Rain } \\ \text { in Volte } \end{gathered}$ | Test Voltage 1)ry in Volts | Line Voltage | Net Weight Each :a Lbs. | W. ES. IList per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $23_{4}$ | $2^{3} 8$ | $11 . x^{3}$ |  | 10000 | 5000 | 20000 | 10000 | 7000 | 3500 | 1 | \$163.00 |
| 1 A | 23 | $2^{3} 8$ | 114 $\times 1$ | $4{ }^{2}$ | 10000 | 5010 | 20000 | 10000 | 7000 | 3500 | $11 / 2$ | 187.00 |
| 1ADA | $\begin{aligned} & \text { (Conbil } \\ & \text { Noos. } \end{aligned}$ | li, 110 | $11 / 4 \times 3$ | $12^{1} 2$ | 10000 | 5000 | $5 \mathrm{~B} / \mathrm{KM}$ | 30000 | 20000 | 11000 | 41.2 | 585.00 |
| 113 | ${ }_{23}{ }_{2}$ | $23^{3}$ | $114 \times 3$ | 4 | 10Н\%) | 56190 | 20000 | 10000 | 7000 | 3500 | 112 | 187.00 |
| 1 C | 234 | 238 |  | 4 \% | 1яния | 50100 | 20 (\%) | 10050 | 7000 | 3.5110 | 11. | 211.00 |
| 1 D | 23 | $2^{3}$ |  | 11. | 10000 | 5004 | 20000 | 10000 | 7000 | 3510 | 112 | 211.00 |
| 1 I | ${ }^{23} 4$ | $2^{3} \times$ |  |  | 160(\%) | 50106 |  | 100019 | 7000 | 3500 | 13 | 243.60 |
| 11 | 234 | $2^{33}$ | $11 / \mathrm{x}^{3}$ | $0^{3}$ | $110301)$ | 50100 | $20 \times 1000$ | 10000 | 7000 | 3.500 | 15\% | 203.00 |
| 1 X | 23 | 238 | $1^{1}$ y ${ }^{\text {x }}$, | $5 \cdot 3$ | 10000 | 5000 | 206000 | 10000 | 7000 | 35116 | 134 | 186.00 |
| 2 | $2^{14}$ | 131 | $1 \mathrm{x}^{5} 5$ | $4!$ | 7000 | 10001 | 12010 | 7000 | 5000 | $2514)$ | 178 | 121.10 |
| 2 X | ${ }_{8}^{1}$ | 131 | $1 \mathrm{x}^{5}{ }^{2}$ | $4{ }^{5}$ | 70100 | 1000) | 12000 | 7000 | 5000 | 2.51) |  | 138.00 |
| 7 | ¢1. | 2 | $1 x^{3}+$ | 51 | 10000 | (6)以 | 25000 | 12000 | 10000 | (itil) | $1{ }^{3} 4$ | 168.50 |
| 7A | $3!$ | $2^{3} \times$ | $1 \times 1$ | 5 | 10060 | (b)00 | 25000 | 12000 | 10000 | 6600 | 13\% | 192.50 |
| 7A1 | $\begin{aligned} & \text { Conbi } \\ & \text { Nos. } \end{aligned}$ (IE) | 7.1 und | $1 \mathrm{x}^{3}{ }^{3}$ | ${ }^{1} 4$ | 10000 | (30)0 | 10000) | 25000 | 20000 | 11000 | 31/2 | 385.00 |
| 7ADA | (Combin Nos. und 7 | nation of <br> 7.1, 71) <br> A) | $1 \mathrm{x}^{3}{ }^{4}$ | $13^{1}$ | 10600 | BiOM) | 60000 | 35000 | 25000 | 13000 | 51.4 | 601.50 |
| 7 B | 31: | $\int^{23} 8$ | $1 \times 3$ | 5 | $10 \% 0$ | \%000 | 2.5000 | 12000 | 10000 | 6600 | 13 \% | 192.50 |
| 7 C | 813 | $2^{3} 8$ |  | 458 | 10000 | (i)00) | 25000 | 12000 | 10000 | 6600 | 13 | 216.50 |
| 7 D | 313 | $2^{\text {sin }}$ |  | $4{ }^{4}$ | 10000 | (6)00) | 25000 | 12000 | 10000 | (ifif0 | 13.4 | 216.50 |
| 7 F | 313 | 2 \% |  | 61 | 10060 | (i0)(\%) | 25000 | 12000 | 10000 | $6 \mathrm{fj60}$ |  | 248.50 |
| 7 F | 313 | 25. | $1 \mathrm{x}^{3}$ | $5{ }^{\text {P }}$ | 10000 | lif)(0) | 2.5100 | 12000 | 10000 | (if)0 | 178 | 208.50 |
| 7X | 33/3 | $2^{5}$ | $1 \times 3$ | $5{ }^{3}$ | 10000 | (6)00) | 2.5000 | 12000 | 10000 | 6if00 |  | 192.00 |
| 14 | 5 | $25 \%$ | 78 | 51 | 10006 | HiONO | 2.5000 | 15000 | 15000 | (ifion | 218 | 282.00 |
| 14 AB | ; | $2^{5 \%}$ |  | (9)1 | 1 (W)OM | (i0)O) | 150100 | 25000 | 25000 | 111000 | $41 / 2$ | 680.00 |
| 14.1 DA | 5 | $2^{5}$ |  | 131 | 1 (M)N | (b)0, | fillom) | 35000 | 2.5000 | 13:20) | 61 6 | 1020.00 |
| 14. | 5 | $2^{5}{ }^{4}$ | $2^{7} 8 \times 8$ | ${ }^{5}$ | 1(0)(H) | 16000 | 2.5000 | 10.00) | 15000 | 6ifiot | $2^{21}{ }^{1}$ | 364.00 |
| 77 Reg . | 71 | $5^{51}$ |  |  | . 4000001 | 200600 | 78000 | 5000\% | 40000 | 22000 | 21 | 861 earh |
| 77 Spec. | 83 | 6 | $21 \times 22$ | 1431 | 50000 | 30000 | 100000 | 60000 | 50000 | 33000 |  | 1101 each |
| *77A | 1115 | $7^{77}{ }^{1} 8$ | $316 \times 211$ | $\stackrel{208}{20}$ | .... | . . . |  |  |  |  | . . . | Prices on |
| *77B ${ }^{77 \mathrm{C}}$ | 153: | 101 $1.31 \frac{2}{x}$ |  | 375 |  |  |  |  |  |  |  | \%n |

[^81]ELECTROSE ROOF BARRIER, OR WALL INSULATORS


No. 7120


No. 6805



No. 7127-1)


No. 6804


No. 7135


No. 7149-D


No. 7136-A

## Roof Barriers and Wall Insulators

These insulators are adapted for indoor or outdoor service. The connecting rods are imbedded permanently in the electrose insulation, making a watertight construction. Various patented methods of locking the insulators to the roof, wall, transformer, tank, cover, ctc., are shown. The insulators can also be furnished with through holes if desired.


LIST PRICES AND DATA

| List | Rain Test | lectrical Val | $s t \longrightarrow$ | Puncture Value in Oil | Tested To | LineVoltage | W. E. List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Upper End | Upper End | Lower Eind |  |  |  | Each |
| 6804 | 30000 v . | 60000 v . | 60000 v . | 85000 v . | 60000 v . | 11000 v . | \$20.00 |
| 6805 | 40000 v . | 60000 v . | 60000 v. | 85000 v. | 600000 v . | 11000 v . | 30.00 |
| 7120 | 25000 v . | 60000 v . | 50000 v. | 1350000 \%. | 50000 v . | 6600 v . | 14.00 |
| 7122 | 50000 v . | 80000 v . | 45000 v . | 13.5000 v . | 45000 v . | 16500 v . | 18.00 |
| 7127 D | 60000 v . | 100000 v . | 6,5000) v. | 1350000 v . | 65000 v . | 22000 v . | 32.00 |
| 7135 | 60000 v . | 110000 v . | 80000 v . | 1350000 Y . | 80000 v . | 22000 v . | 32.00 |
| 7136 A | 135000 v . | 180000 v . | 115000 v . | 200000 *. | 115000 v . | 44000 v . | 94.00 |
| 7149 D | 85000 v. | 135000 v . | 75000 v . | 170000 v. | 75000 v . | 33000 v | 56.00 |

Delivery F. O. B. Brooklyn, N. Y. For warehouse deliveriss write nearest house.

## ELECTROSE LOCKING INSULATING BUSHINGS AND CONNECTORS



No. 6210. With a $1 / 2$ Inch Rod This Is No. 6821

No. 6206


No. 6296. With a 1/2 Inch Rod, This Is No. 6867


No. 6282


No. 6277


No. 6815

No. 6266

With $1 / 2$ Inch Through IIole, 6811 This Isi'No. 6222



No. 6275


No. 6833


No. 6851

Locking Insulating Bushings and Connectors

|  |  | Diameter of Sertion Fitting | Iargest | Diameter of |  | rical Va | $\square$ | Net Wt. | $\begin{aligned} & \text { W. E. } \\ & \text { l.ist Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Iength | Into Barrier | Diameter | Ikod or IIole | Jry T'est | Rain Test | Line Voltage | Each | Each |
| 6200 | 23 ins. | $41 / \mathrm{ins}$. | 7 ins. | $11 / \mathrm{ins}$. | 100000 v . | 80000 v . | 44000 v. | 139/4lbs. | \$20.00 |
| 6206 | $61 / 4 \mathrm{ins}$. | 17/8 ins. | $21 / 2 \mathrm{ins}$. | $1 / 3 \mathrm{in}$. | 50000 v . | 20000 v . | 6600 v . | $11 / 9 \mathrm{lbs}$. | 4.00 |
| 6210 | $273 / 4$ ins. | 5 ins. | 7 ins. | 13/4 ins. | 180000 v . | 120000 v . | 66000 v . | 40 lbs. | 90.00 |
| 6222 | 15 ins. | 21 ins. | $41 / 2$ ins. | $1 / 2 \mathrm{in}$. | 75000 v . | 50000 v . | 22000 v . | $47 / 8 \mathrm{lbs}$. | 16.00 |
| 6226 | $33^{1 / 2}$ ins. | $71 / 4 \mathrm{ins}$. | $91 / 8$ ins. | $31 / 2$ ins. | 185000 v . | 130000 v . | 66000 v. | 70 lbs. | 150.00 |
| 6266 | $57 / 8$ ins. | $1 \frac{5}{16}$ ins. | $1 \frac{1}{1}$ ins. | $3 / 8 \mathrm{in}$. | 45000 v . | 15000 v . | 6600 v. | 5/8 lbs. | 3.40 |
| 6275 | 23. ins. | 1 in. | $11 / 2 \mathrm{ins}$. | $8 / 8 \mathrm{in}$. | 300100 v . | -•500. | 2200 v. | 1/4 lb. | 1.20 |
| 6277 | $93 / 8$ ins. | $21 / 4 \mathrm{ins}$. | $35 / 8$ ins. | $\frac{1}{1} \mathrm{in}$. | 60000 v. | 35000 v . | 110010 v . | $28 / 4 \mathrm{lls}$. | 6.00 |
| 6282 | 5 fins. | 1 in. | 2 ins. | $1 / 4 \mathrm{in}$. | 45000 v . | 20000 v . | 6600 v . | $1 / 2 \mathrm{lb}$. | 2.40 |
| 6296 | $111 / 2 \mathrm{ins}$. | $37 / 8$ ins. | 5 ins. | $13 /$ ins. | 55000 v . | 25000 v . | 11000 v . | $61 / 3 \mathrm{lbs}$. | 12.00 |
| 6811 | 18 ins. | 2 ding. | $41 / 2$ ins. | $1 / 2$ in. | 75000 v. | 5004 v . | 22000 v . | 6 lbs. | 14.00 |
| 6815 | $91 / 4$ ins. | $1 / 8 \mathrm{ins}$. | 21. | $1 / 2 \mathrm{in}$. | 50000 v . | 200000 v | 6600 v | 2 lbs. | 5.60 |
| 6833 | $77 / 8 \mathrm{ins}$. | 1 If ins. | 118 ins . | $8 / 8 \mathrm{in}$. | 45000 v . | 15000 v | 6600 v. | $7 / 8 \mathrm{lbs}$. | 4.60 |
| 6845 | $43 / 4 \mathrm{~ns}$. | 1 in. | $11 / 2 \mathrm{ins}$. | 3/8in. | 30000 v . | - . . . . | $2: 00 \mathrm{v}$. | $3 / 8 \mathrm{lb}$. | 1.80 |
| 6851 | 6 l ins. | 1 in. | 2 in. | $1 / 4 \mathrm{in}$. | 45000 v . | 20000 v . | 6600 v. | 5/813. | 2.80 |



## Locking Insulating Bushing and Connectors



The locking ring construction as illustrated enables the insulator to be locked on to the barrier quickly and easily, obviating the costly and awkward cementing process.

In the connectors the conductor rol is permanently imbeded in the clectrose insulation, making a water and air-tight construction. Delivery F. O. B. Brooklyn, N. Y. For warehouse deliveries write nearest house.

# WOOD CROSSARMS Washington Fir or Yellow Pine 



Wood Crossarm

## STANDARD ARMS

Size $31 / 4 \times 4 \frac{1}{4}$ ins. Bored for $11 / 2 \mathrm{in}$. Pins, or $1-5 / 8 \mathrm{in}$. Machine Bolt and 2-3/8 in. Brace Bolts

| Length <br> Feet | Number of Pins | Standard Spacings |  |  | Brace | W ashington lir |  | Yellow Pine |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Center | Side | End |  | List No. | Wt. Lbs. Each | $\begin{aligned} & \hline \text { List } \\ & \text {. } \\ & \text { No. } \end{aligned}$ | Wt. Lbs. Each |
| 3 | 2 | 28 |  | 4 | 25 | 740092 | 10.2 | 740112 | 13.2 |
| 4 | 4 | 16 | 12 | 4 | 28 | 740093 | 13.6 | 740113 | 17.6 |
| 5 | 4 | 18 | 17 | 4 | 28 | 740094 | 17 | 740114 | 22 |
| 6 | 4 | 22 | 21 | 4 | 32 | 740095 | 20.4 | 740115 | 26.4 |
| 6 | 6 | 16 | 12 | 4 | 32 | 740096 | 20.4 | 740116 | 26.4 |
| 8 | 6 | 18 | 171/2 | 4 | 32 | 740097 | 27.2 | 740117 | 35.2 |
| 8 | 8 | 16 | 12 | 4 | 32 | 740098 | 27.2 | 740118 | 35.2 |
| $81 / 2$ | 10 | 16 | 93/4 | 4 | 32 | 741146 | 29.9 | 741148 | 37.4 |
| 10 | 8 | 171/2 | 153/4 | 4 | 42 | 740099 | 34 | 740119 | 44 |
| 10 | 10 | 16 | 12 | 4 | 42 | 740100 | 34 | 740120 | 44 |
| 10 | 12 | 16 | 95/8 | 37/8 | 42 | 741147 | 34 | 741149 | 44 |

PONY TELEPHONE ARMS
Size $23 / 4 \times 33 / 4$ ins. Bored for $11 / 4 \mathrm{in}$. Pins, $1-5 / 8 \mathrm{in}$. Machine Bolt and $2-3 / 8$ in. Brace Bolts

| Length Inches | Number of Pins | Standard Spacings |  |  | Brace | Washington lir |  | Yellow Pine |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Center | Side | End |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | W't. Libs. Each | List <br> No. | Wt. Lbs. Each |
| 24 | 2 | 17 | . . . | $31 / 2$ |  | 740101 | 5 | 740122 | 65 |
| 30 | 2 | 23 | . . | $31 / 2$ |  | 740102 | 6.25 | 740123 | 8.125 |
| 36 | 2 | 29 |  | $31 / 2$ | 25 | 740103 | 7.5 | 740124 | 9.75 |
| 42 | 4 | 16 | 91/2 | $31 / 2$ | 28 | 740104 | 8.75 | 740125 | 11.575 |
| 62 | 6 | 16 | $93 / 4$ | $31 / 2$ | 28 | 740106 | 13 | 740126 | 16.8 |
| 82 | 8 | 16 | $93 / 4$ | $33 / 4$ | 28 | 740108 | 17 | 740127 | 22.2 |
| 102 | 10 | 16 | 93/4 | 4 | 28 | 740110 | 21.25 | 740129 | 27.625 |
| 120 | 12 | 16 | 95/8 | 37/8 | 28 | 740111 | 25 | 740130 | 32.5 |

N. E. L. A. ARMS

Standard Sizes Adopted by the National Electric Light Association
Size $31 / 2 \times 41 / 2$ ins. Bored for $11 / 2 \mathrm{in}$. Pins, $1-5 / 8 \mathrm{in}$. Machine Bolt and $2-3 / 8 \mathrm{in}$. Brace Bolts

| Length Feet | Number of Pins | Standard Spacings |  |  | Brace | Washington Fir |  | Yellow Pine |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Center | Side | End |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Wt. Lbs. Each | List <br> No. | Wt. Lbs. Each |
| $3 \mathrm{ft} 2 ins.$. | 2 | 30 |  | 4 | 32 | 740105 | 122/3 | 741120 | 15.83 |
| 5 ft .7 ins. | 4 | 30 | 141/2 | 4 | 38 | ¢40107 | $221 / 3$ | 741121 | 27.92 |
| 8 ft . | 6 | 30 | 141/2 | 4 | 38 | ${ }^{6} 40109$ | 32 | 741122 | 40 |
| 9 ft .2 ins. | 8 | 30 | 12 | 4 | 38 | 741119 | $363 / 8$ | 741123 | 45.83 |

## RAILROAD ARMS

Size $3 \times 41 / 4$ ins. Bored for $1 / 2 \mathrm{in}$. Steel Pins, $1-5 / 8 \mathrm{in}$. Machine Bolt and $2-3 / 8$ in. Brace Bolts

| Length Feet | Number of Pins | Standard Spacings |  |  | Brace | Washington Fir |  | Yellow Pine |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Center | Sido | End |  | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Wt. Lbs. Each | List No. | Wt. Lbs. Each |
| 6 | 4 | 22 | 21 | 4 | 32 | 741662 | 19.2 | 741127 | 24.6 |
| 6 | 6 | 16 | 12 | 4 | 32 | 741124 | 19.2 | 741128 | 24.6 |
| 8 | 6 | 18 | $171 / 2$ | 4 | 32 | 740128 | 25.6 | 741129 | 32.8 |
| 8 | 8 | 16 | 12 | 4 | 32 | 741125 | 25.6 | 741130 | 32.8 |
| 10 | 8 | 171/2 | 153/4 | 4 | 42 | 741663 | 32 | 741131 | 41 |
| 10 | 10 | 16 | 12 | 4 | 42 | 741126 | 32 | 741132 | 41 |

## STANDARD POWER ARMS AND SPECIAL BORED ARMS

| List <br> No. | Size | Weight <br> per Lineal Foot | List <br> No. |  | Size |
| :---: | :---: | :---: | :---: | :---: | :---: |

Prices on application.

## Poles

The Western Electric Company is noted for the quality of the poles it handles and the service it renders. Our facilities for securing stock, our large and numerous concentrating yards, make it possible for us to meet any demand at a moment's notice. Our record has given us an enviable reputation in the pole business throughout the I'nited States and Canada.

In order to give our friends and patrons a more intimate knowledge of what we can supply in the way of poles and pole-line material, we have assembled in these pages a representative list of the standard stocks carried by us


Section of One of Our Many Pole Yards

## Large Posts and Small Poles <br> Northern White Cedar Association Specification

"Sizes 4 inch 10 foot to 4 inch 18 foot inclusive. Sizes at top may be $1 / 4$ inch less than the dianneter specified. Four inch 20 foot poles circumference measurement at top end 12 inches for seasoned stock and $12 \frac{1}{2}$ inches for green or water soaked stock, 5 inch top and larger 20 foot poles take same circumference top measurement as longer poles of same size. Lengths may be two inches scant. On posts and poles 10, $12,14,16$ feet long, 4 inch crook one way allowed. Eighteen and 20 foot poles, 4 inch erook one way allowed, the sweep to be measured from a point 4 feet from the butt. Pipe holes in top allowed. Must be cut from live timber and in other respects, except as above mentioned, conform to post specifications. Green, fresh cut or water soaked stock must be plump measure for the diameter or circumference specified."

## Standard Telegraph, Telephone and Electric Poles

## Northern White Cedar Association Specification

"Sizes 4 inch 25 feet and upwards. Above poles must be cut from live growing timber, pecled and reasonably well proportioned for their length. Tops must be reasonably sound, must measure in circumferonce as follows: seasoned 4 inch poles, 12 inches; 5 inch poles, 15 inches; 6 inch poles, $181 / 2$ inches; 7 inch poles, 22 inches. If poles are green, fresh cut or water soaked, then 4 inch poles must measure $121 / 2$ inches; 5 inch poles, 16 inches; 6 inch poles, $191 / 2$ inches; 7 inch poles, $223 / 4$ inches in circumference at top end. Lengths may be $1 / 2$ inch scant for each 5 feet in length and 6 inches long for any length from 20 feet up.
"One way sweep allowable not exceeding 1 inch for every 5 feet, for example, in a 25 foot pole, sweep not to exceed 5 inches, and in a 40 foot pole, 8 inches. Measurement for sweep shall be taken as follows: That part of the pole when in the ground ( 6 feet) not being taken into account in arriving at sweep, tightly stretch a tape line on the side of the pole where the sweep is greatest, from a point 6 feet from the butt to the upper surface at top, and having so done measure widest point from tape to surface of pole and if, for illustration, upon a 25 foot pole said widest point does not exceed 5 inches, said pole comes within the meaning of these specifications. Butt rot in the center including small ring rot outside of the center; total rot must not exceed 10 per cent. of the area of the butt. Butt rot of a character which plainly serinusly impairs the strength of the pole above ground is a defect. Wind twist is not a defect unless very unsightly and exaggerated. Rough, large knots if sound and trimmed smooth are not a defect."

Northern White Cedar Association Specifications

| Diam. Top | Length | Approx. <br> Weight | No. |  | Diam. Top | Length | Approx. <br> Weight | No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Inches | Feet | Lbs. | From | To | Inches | Feet | L.bs. | From | T0 |
| 4 | 16 | 85 | 340 | 400 | is | 30 | 3.50 | 90 | 125 |
| 5 | 16 | 105 | 300 | 400 | $6^{1 / 2}$ | 30 | 350 | 75 | 100 |
| 6 | 16 | 135 | 230 | 300 | 7 | 30 | 450 | 75 | 100 |
| 7 | 16 | 16.5 | 200 | $\because 50$ | 8 | 30 | (6)0 | 50 | 75 |
| 8 | 16 | 200 | 150 | 23.5 | 5 | 35 | 400 | 75 | 100) |
| 9 | 16 | 300 | 100 | 130 | 51 | 35 | 400 | 75 | 100 |
| 4 | 18 | 95 | 32.5 | 400 | 6 | 35 | 4.50 | 75 | 100 |
| 5 | 18 | 125 | 250 | 300 | $6^{1 / 2}$ | 35 | 450 | (50 | 80 |
| 6 | 18 | 155 | 200 | 250 | 7 | 35 | 600 | 50 | 75 |
| 7 | 18 | 200 | 150 | 225 | 8 | 35 | 850 | 40 | ${ }_{60}$ |
| 8 | 18 | 325 | 95 | 12.) | 6 | 40 | 62.5 | 50 | 75 |
| 9 | 18 | 425 | 90 | 125 | 6 12 | 40 | 625 | 45 | 60 |
| 4 | 20 | 100 | 300 | 400 | 7 | 40 | 850 | 40 | 60 |
| 5 | 20 | 130 | 2:30 | 300 | 8 | 40 | 1100 | 30 | 45 |
| 51/2 | 20 | 130 | 230 | 300 | Following sizes require two cars for shipping |  |  |  |  |
| 6 | 20 | 190 | 150 | 225 |  |  |  |  |  |
| 7 | 20 | 250 | 125 | 150 | ${ }^{6}$ | 45 | 900 | 60 | 80 |
| 8 | 20 | 350 | 90 | 12.5 | 7 | 4.5 | 1100 | 50 | 70 |
| 9 | 20 | 450 | 75 | 100 | 8 | 4.5 | 1350 | 45 | 60 |
| 5 | 22 | 175 | 175 | 250 | 6 | 50 | 11.50 | 50 | 70 |
| 4 | 25 | 150 | 200 | 250 | 7 | 50 | 1350 | 45 | 60 |
| 5 | 25 | 200 | 150 | 22.5 | 8 | 50 | 1700 | 35 | 4.5 |
| $51 / 2$ | 25 | 200 | 135 | 190 | ${ }^{6}$ | 55 | 1400 | 40 | 50 |
| 6 | 25 | 250 | 125 | 150 | 7 | 55 | 1700 | 35 | 45 |
| $61 / 2$ | 25 | 250 | 10) | 130 | 8 | 55 | 2200 | 25 | 3.5 |
| 7 | 25 | 350 | 90 | 125 | 7 | 60 | 2200 | 25 | 3.5 |
| 8 | 25 | 42.5 | 90 | 125 | 8 | 60 | 2500 | 22 | 30 |
| 5 | 30 | 275 | 110 | 175 | 7 | 65 | 2500 | 22 | 30 |
| 51/2 | 30 | 275 | 100 | 130 | 8 | 65 | 3000 | 18 | 25 |

A. T. and T. Co., Western Union and Nat. Electric Light Association Specifications

| Class | Length Feet | Circum. Top Inches | Circum. 6 Feet from lButt Inches | Approx. Weight Lbs. | Class | Length | Circum. Top | Circum. 6 Feet from Butt | Approx <br> Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| G | 20 | 121. |  | 100 | 1 | 35 | nes | Inches | L.bs. |
| I | 20 | 1512 |  | 130 | J | 40 | $15^{3}$. | 43 | 850 |
| I) | 20 | 171 |  | 150 | D | 40 | 183 |  | 625 |
| C | 20 | $18{ }^{3}$ | 27 | 190 | C | 40 | $18^{3}$ | 40 | 625 |
| H | 22 | $151{ }^{1}$ |  | 17.5 | I3 | 40 | 22 | 43 | 850 |
| I) | 22 | 171/4 |  | 17.5 | A | 40 | 21 | 47 | 1100 |
| C | 22 | $18{ }^{3}$ | 28 柏 | 250 | Following sizes require two cars for shipping |  |  |  |  |
| ${ }^{13}$ | 22 | 22 | 30 | 275 |  |  |  |  |  |
| G | 25 | 121 2 |  | 150 |  |  |  |  |  |
| ${ }^{\text {F }}$ | 25 | 1512 | . . . | 200 | E | 45 | 22 |  | 1100 |
| E | 25 | 1714 |  | 200 | D | 45 | 22 |  | 1100 |
| 1) | 25 | 1834 |  | 250 | C | 45 | 183/4 | 43 | 900 |
| C | 25 | 1834 | 30 | 250 | 13 | 45 | 22 | 47 | 1100 |
| B | 25 | 22 | 32 | 350 | A | 45 | 24 | 50 | 13.50 |
| A | 25 | 24 | 36 | 425 | $1)$ | 50 | 22 |  | 1350 |
| I) | 30 30 | $18{ }^{3}{ }^{4}$ |  | 350 | C | 50 | 183/4 | 46 | 11.50 |
| C | 30 30 | 183/4 | 33 | 350 | 13 | 50 | 22 | 50 | 1350 |
| B | 30 | 22 | 36 | 450 | $\Lambda$ | 50 | 21 | 53 | 1700 |
| A | 30 | 24 | 40 | (i0) | I3 | 55 | 22 | 53 | 1700 |
| $\stackrel{\text { C }}{ }$ | 35 35 | $188^{3 / 4}$ | 36 | 450 450 | 1 | 55 | 24 | 56 | 2200 |
| B | 35 | $22{ }^{4}$ | 38 | 400 | A | 60 60 | 22 | 56 | 2200 |

Prices on application.

## BATES TROLLEY POLES



Bates Poles Selected to Ornament the Approach to the New Wisconsin State Capitol Building, Madison, Wis.

The Bates One-Pice Sted Pole possesses many alvantages. It is used for bracket and span wire construction in all types of trolley installations. It has great strength because of its light, automatically tested truss. Bates Poles are not fabrieated. They are ornamental and possess long life (no joints or hollow conters to rust awaył. Bates Poles can always be completely repaintel. There are no covered surfaces of any kind. Because of the open construction, they do not turn in the concrete, but are solidly loeked. These one-piece expanded truss poles have all the advantages of a riveted truss and eliminate all of its disadvantages. They are superior to tubular sted poles from an engincering point of view as well as being more artistic. We can supply quickly and cheaply the pole you need. Let us figare on your reguirementa.

[^82]
## BATES POWER POLES



## STEEL POLE TREATISE

This book, sent to you upon request, eovers weight, strength and list price of steel poles from 20 ft to 60 ft . in length. Bates poles are made for all pole purposes. Thotographs of installations, valuable engineering data, in fact, complete pole line engincering is covered in this publication.

We carry in stock a complete line of fittings and fixtures for all types of construction that can be fitted to the pole at any point without drilling.


Hates Steel Poles Ornamenting (hicago Streets-Forming an Important Factor in the Vast Lighting System of the Second Largest City of the World


POLE LINE HARDWARE


Peirce Forged Steel Pins
Long Shank Type for Wood Crossarms－With 1 Inch Spring Thread

|  |  | Above | Below | Total |  | ＊List |  |  | Above | Below | Totad |  | ＊List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Diam． | Shoulder | Shoulder | Length | Weight | Price | List | Diam． | Shoulder | Shoulder | Length | Weight | Price |
| No． | Ins． | Ins． | Ins． | Ins． | Lhs． | per 100 | No． | Ins． | Ins． | Ins | Ins． | Lbs． | per 100 |
| 71 | 1／2 | $43 / 4$ | 43／4 | 91／2 | 81 | \＄22．20 | 84 | 5／8 | 6 | 51 | $111 /$ | 132 | \＄37．00 |
| 74 | $1 / 2$ | $43 / 4$ | 51／2 | 101／4 | $8 t$ | 25.16 | 83 | 5／8 | 6 | 6！ | 121 | 140 | 38.48 |
| 80 | 5／8 | $43 / 4$ | $43 / 4$ | $91 / 2$ | 115 | 32.50 | 9.5 | $3 / 4$ | 6 | 5 | 11 | 183 | 49.50 |
| 81 | 5／8 | $43 / 4$ | $51 / 2$ | 1014 | 122 | 34.80 | 90 | $3 / 4$ | 6 | $53 / 4$ | 113 | 192 | 53.28 |
| 81 A | 5／8 | 43／4 | $61 / 2$ | 111／4 | 129 | 37.00 | 91 | $3 / 4$ | 6 | （3） 3 | 123. | 205 | 54.76 |
| 82 | 5／8 | 6 | $43 / 4$ | 103／4 | 126 | 35.52 | 90． | $3 /$ | $43 / 4$ | 53 | $101 / 2$ | 177 | 50.32 |

Short Shank Type for Steel Crossarms With 1 Inch Spring Thread

| 72 | $1 /$ | 4 | $11 / 4$ | （3） | 54 | \＄21．76 | 73 | 1／6 | $43 / 4$ | 3 | 73 | 65 | 76 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 86 | $5 / 8$ | $43 / 4$ | $11 / 4$ | 6 | 85 | 29.60 | 88 | $5 / 8$ | $43 / 4$ | 3 | 73 | 88 | 34.04 |
| 87 | 5／8 | 6 | 11／4 | $71 / 4$ | 96 | 31.82 | $8!$ | \％ | $71 / 2$ | 4 | 1118 | 120 | 38.48 |
| 93 | $3 / 4$ | 6 | 11／2 | $71 / 2$ | 123 | 42.92 | 94 | $3 / 4$ | 6 | 4 | 10 | 130 | 47.36 |
| 93 A | $3 / 4$ | $43 / 4$ | $11 / 2$ | 6114 | 107 | 39.96 | 9．4．1 | $3 / 4$ | ＋3／4 | 4 | $83-1$ | 114 | 41.44 |

List
No．
Size of Arms
4300
4400
4401 $\quad 4 \quad$ ins．$\times 5$ ins．and smaller．．．．．．

Clamp Pins

Size of Height
Channel Above Arm Sheet $43 / 4 \mathrm{ins}$ ． $3 / 4 \mathrm{in}$ ． 43 ins． $3 / 1 \mathrm{in}$ ． 43 ins．

## Log Screw Type for Poles，Etc．

With 1 Inch Spring Thread

List
4300
4401 $31 / 2$ ins．$\times 41 / 2$ ins．and smaller．．．．．．

Type of Thimble
Std．Wt．＊List Price in．ppring threal per．per 100 per 100 1 in．spring thread $\quad 300 \quad 120 \quad 39.90$ 1 in ．spring thread $\quad 300 \quad 105 \quad 37.80$

No． 897 No． 900 No． 912 No． 915 No． 916 No． 920 No． 921 No． 923 No． 924 No． 925 No． 934 No． 935 No． 1923 HIGH INSULATION PINS

| List <br> No． 1 |  | $\begin{aligned} & \text { 它高 } \\ & \text { 号号 } \\ & \text { 号 } \end{aligned}$ | $\begin{aligned} & \text { 名 } \\ & \text { 号号 } \\ & \text { 品 } \end{aligned}$ |  | $\ddagger$ List Price Each |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Japan Finish |  |  |  | Galvanized |  |  |  |
|  |  |  |  |  | Without Insertion |  | WithInsertion |  | Without Insertion |  | WithInsertion |  |
|  |  |  |  |  | Each | Per 100 | Each | Per 100 | Each | Per 100 | Each | Per 100 |
| 897 Mall． | 11／2 | 41／2 | 5 | 345 | \＄1．02 | \＄03．34 | \＄1．05 | \＄98．66 | \＄1．55 | \＄141．34 | \＄1．58 | \＄14．00） |
| 900 Gray． | $11 / 4$ | 5 | 41／8 | 300 | ． 58 | 53.34 | ． 64 | 58.66 | 1.02 | 93.34 | 1.06 | 96．00 |
| 916 Gray． | 11／2 | 3338 | 41／8 | 280 | ． 56 | 50.66 | ． 58 | 53.34 | ． 94 | 85.34 | ． 97 | 88.00 |
| 920 Mall． | 11／2 | 37\％ | 47\％ | 125 | ． 35 | 32.00 | ． 41 | 37.34 | ． 47 | 42.66 | ． 53 | 48.00 |
| 921 Mall． | $11 / 4$ | 37\％ | 478 | 125 | ．35 | 32.00 | ． 41 | 37.34 | ． 47 | 42.66 | ． 53 | 48.00 |
| 923 Gray． | $11 / 2$ | 4 | 9 | 365 | ． 85 | 77.34 | ． 01 | 82.66 | 1.53 | 138.66 | 1.58 | 144.00 |
| 924 Mall． | 11／2 | $31 / 4$ | 41／2 | $\cdot 280$ | ． 67 | 61.34 | ． 70 | 64.00 | 1.09 | 98.66 | 1.11 | 101.34 |
| 935 Mall． | $11 / 2$ | ${ }^{4} 11 / 4$ | 51\％ | 350 150 | ． 76 | 69.34 48.00 | ． 79 | 72.00 | 1.20 | 109.34 | 1.23 | 112.00 |
| 935 Mall ． | $11 / 2$ | 31／4 | ${ }_{9}^{4 / 2}$ | 150 | 1.93 | 18.1200 | 1.27 | 50.66 114.66 | 1.70 1.79 | 64.00 162.66 | ． 76 | 69.34 |
| 1923 Gray． | 11／2 | 4 | 9 | 470 | 1.06 | 96.00 | 1.11 | 101.34 | 1.71 | 154.66 | 1.73 | 165.34 157.34 |

Note：When ordering，specify finish desired and state whether with or without insertion．
＊Delivery F．©．13．Pittsburgh，Pa．$\ddagger$ Delivery F．O．B．Factory，Daytón，Ohio．For warehouse de－ liveries write nearest house．


POLE LINE MATERIAL


Oak Pin


No. 8070 Bolt No.
8078

## Standard Western Union Pins <br> Hot Galvanized or Plain

| List | 1)iameter | -J.ength, Above | Inches Below | Weight Pounds | -list l' | Each- | -List Pr | 100- |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Shoulder | Shouldie | per 100 | lain | Galv. | Plain | Galv. |
| 8000 | 1/2 | $41 / 4$ | 5 | 73 | \$0.22 | 80.26 | \$19.00 | \$23.16 |
| 8005 | 8/8 | $41 / 4$ | 5 | 110 | . 28 | . 34 | 25.00 | 30.48 |

## Short Shank Western Union Pins

|  |  |  |  | niz |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8010 | 1/2 | 4 | 1 | 48 | \$0.20 | \$0.24 | \$18.00 | \$21.92 |
| 8011 | $1 / 2$ | 5 | 1 | 54 | . 30 | . 36 | 26.00 | 31.68 |
| 8015 | $5 / 8$ | 4 | 1 | (65) | 26 | . 32 | 23.00 | 28.06 |
| 8016 | $5 / 8$ | 5 | 1 | 73 | 35 | 42 | 31.00 | 37.76 |

## Wood Pins

Deseription
$11 / 4 \times 8$ ins.
$1 / 2 \times 9$ ins
$1 / 4 \times 8$ ins
$1 / 4 \times 9$ ins.
1 . $x 8$ ins.
$1 / 2 \times 9$ ins.
$11 / \mathrm{x} 11 \mathrm{ins}$
$1 / \times 12$ ins
$1 / 2 \times 12$ ins

$1 / 2 \times 9$ ins. Locust corner pin, without bolts, nuts and washers.
on
Browen duplex lorust bracket
Appli-
Brown duplex oak bracket
cation.
1 x $\times 16 \mathrm{ins}$. Duplex oak Foranket, painted or paraffined
$1 / 2 \times 10 \mathrm{ins}$. Oak bracket, painted or parafined
$11 / 2 \times 5 \times 12$ ins. Oak bracket, painted or paraffined.
$11 / 2 \times 51 / 4 \times 12$ ins. Oak bracket, painted or paraffined
$2 \times 21 / 4 \times 12$ ins. Oak bracket, painted or paraffined
$2 \times 93 / 8 \times 12$ ins. Oak hracket. pañted or paraffned.
$15 / 8 \times 2 \times 12 \mathrm{ins}$. Oak bracket, painted or parafined
$15 / 8 \times 21 / 4 \times 12 \mathrm{ins}$. Oak brakcet. painted or paraffined
$2 \times 23 / 8 \times 111 / 2$ ins. Oak braeket, painted or parafined

## Wood Top Pins with Steel Bolts <br> Bolts Hot Galvanized

| List | -Size of Wood Top, Ins.Diam. Diam. |  |  | Size of l3alt, Ins. |  | Lengtlr of J3olt J3clow Top Ins. | Wt. -list I'rice Each— |  |  | P-List Price-- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Top | Rottom | Jenisth | Jiameter | J,ength |  |  |  |  | Plain | Galv. |
| 8070 | $1{ }^{1}$ | 17/8 | 4 | $1 / 2$ | $51 / 2$ | 1 | 52 | \$0.40 | \$0.46 | \$33.00 | \$37.50 |
| 8071 | 1 | $21 / 4$ | $5{ }^{7}$ | 1/2 | $61 / 2$ | 11/4 | 60 | 42 | . 48 | 34.38 39 | 39.08 44.52 |
| 8072 | 13/8 | 21/4 | 412 | 5/8 | $51 / 2$ | 1 | 90 | . 48 | 5 | 39.20 | 44.52 |
| 8073 | 13/8 | $21 / 4$ | 51 | 5 8 | 61 | 11/4 | 115 | . 22 | 58 | 41.96 | 47.66 41.10 |
| 8074 | 1 | 17/8 | $4{ }^{-2}$ | 1/2 | 9112 | 5 | 72 | . 44 | . 50 | 36.14 | 41.10 |
| 8075 | 1 | $21 / 4$ | 51. | 1/2 | 101/2 | $51 / 4$ | 80 | . 47 | . 53 | 38.50 | 43.76 |
| 8076 | 1 | $21 / 4$ | 51 | 1/2 | $111 / 2$ | (1) ${ }^{1}$ | 88 | . 48 | . 54 | 39.46 | 44.86 |
| 8077 | $13 / 8$ | $21 / 4$ | 412 | 8/8 | 91\% | 5 | 135 | . 56 | . 64 | 46.08 | 52.36 |
| 8078 | 13/8 | $21 / 4$ | $4{ }^{\text {2 }}$ | 5/8 | 101/2 | G | 160 | . 60 | . 68 | 49.50 | 56.36 |
| 8079 | 13/8 | $21 / 4$ | 51 | 5/8 | 101/2 | $51 / 6$ | 16.5 | . 63 | . 71 | 51.54 | 58.60 |
| 8080 | 13/8 | $21 / 4$ | ${ }^{6} 12$ | 5 | 121/2 | $f$ | 190 | 71 | . 80 | 57.76 | 65.62 |
| 8081 | 18\% | $21 / 2$ | S | 5/8 | 14 | 6 | 225 | . 88 | . 98 | 71.50 | 81.26 |
| 8082 | 13/8 | $23 / 4$ | 9 | $5 / 8$ | 16 | 7 | 250 | . 94 | 1.06 | 77.00 | 87.50 |

I? elivery F. O. B. Factory: For warehouse deliveries write nearest house.


All Metal "Lee" Pin

# All Metal '"Lee" Pins 

## WITH SEPARABLE THIMBLES

Note: "H" aud " K " dimensions made to suit cross-arms. Please specify. "A" ran be fur nished $3 / 4$ inch for insulator having 1 inch pin hole. " $D$ " can be furnished $31 / 2$ inch.

No. 03, $11 / 8$ inch thimble always furnished unless otherwise specified. Thimbles are alnays furnished plain, as they are cemented into the insulators.

On prices given bolts can be decreased or increased 1 inch in lenyth without extra charge.
Bolt can be furnished either hot galvanized, threads cut and recut, or sherardized, as desircd.
Bolts are always threaded $21 / 8$ inches at top and $21 / 2$ inches at bottom, unless otherwise specified, und are fitted with standard hot pressed square nuts and standard washers.

Where pin hole in insulators is 1 inch in diameter No. 01, $3 / 4$ inch thimble will be furnished.
When ordering always specify the size cross-arm to be used.
The approximate weights given below are for complete pin, but when thimble is cemented in the insulator, which is usually the casc, this weight is reduced by approximately 100 lbs . per 100 pins.

| List No. | Inches | $\begin{gathered} \text { B } \\ \text { Inches } \end{gathered}$ | $\underset{\text { Inches }}{\text { C }}$ | $\begin{gathered} \text { IJ } \\ \text { Inches } \end{gathered}$ | $\underset{\text { Inches }}{\text { IN }}$ | $\begin{gathered} \text { F-lf } \\ \text { Inches } \end{gathered}$ | $\stackrel{\text { V. }}{\text { Inches }}$ | Approx. <br> Weight <br> per <br> 100 <br> in Lbs. | *List Price per 100 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | $\begin{gathered} \text { Complete } \\ \text { Pin, } \\ \text { Ilain } \end{gathered}$ | Body and Bolt Galvanized | Plain Body and Galv. Bolt |
| 9006 | $11 / 8$ | 3 |  |  |  |  |  |  |  |  |  |
| 9007 | 11/8 | 3 | 71 | 3 | $41 / 2$ | 3/4×111/4 | 18.4 | 450 450 | 876.00 86.00 | $\$ 100.00$ 114.00 | \$ 88.00 |
| 9007 | $11 / 1$ | 334 | $71 / 2$ | 3 | $41 / 2$ | 3 \% $\times 121$ 1 | $13 / 4$ | 500 | 90.00 | 122.00 | 104.00 |
| 9007 | $11 /$ | $43 / 4$ | $71 / 2$ | 3 | $41 /$ | $3 \mathrm{3} \times 121$ | 13\% | 5.50 | 96.00 | 130.00 | 110.00 |
| 9008 | $11 / 1$ | 3 | $81 / 4$ | 3 | $51 / 4$ | $3 \times 13$ | 18 | 510 | 90.00 | 122.00 | 104.00 |
| 9008 9009 | $11 / 8$ | $333 / 4$ | ${ }_{9} 1 / 4$ | 3 | $51 / 4$ | $\frac{3}{3} \times 1 \times 13$ | 13.4 | 550 | 94.00 | 126.00 | 108.00 |
| 9009 | $11 / 8$ | 384 | 9 | 3 3 |  | $33 \times 131 / 2$ | $13 / 1$ | 600 | 102.00 | 136.00 | 116.00 |
| 9010 | $11 / 8$ | $3{ }^{3}$ | 10 | 3 | $\frac{6}{7}$ | 3/4×141/2 | 13 | 650 650 | 108.00 | 146.00 | 122.00 |
| 9010 | $11 / 8$ | 48 | 10 | 3 | 7 | 3/4×141/ | 13 | 650 700 | 112.00 | 150.00 | 128.00 |
| 9011 | 11/8 | 334 | 11 | 3 | 8 | 8/4 $\times 151 / 2$ | $13 / 4$ | 700 725 | 114.00 | 156.00 | 130.00 |
| 9011 | 11/8 | $48 / 4$ | 11 | 3 | 8 | 8/48151/2 | 13 | 725 750 | 114.00 122.00 | 156.00 | 130.00 |
| 9012 | 11\%8 | 48 | 13 | 3 | 10 | 3 3/4 $\times 17$ | 131 | 750 800 | 122.00 132.00 | 164.00 | 136.00 |
| 9012 | 11/8 | $43 / 4$ | 13 | 3 | 10 | $31 \times 171 / 2$ | $13 / 4$ | 800 850 | 132.00 144.00 |  | 148.00 160.00 |
| 9013 | 11/8 | 48 | 14 | 3 | 11 | 3/4×181/2 | $13 / 4$ | 850 900 | 144.00 160.00 | 198.00 220.00 | 160.00 176.00 |



With Wood Thimbles

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | $\stackrel{A}{\text { Inches }}$ | $\begin{gathered} \mathrm{B} \\ \text { Inches } \end{gathered}$ | $\underset{\text { Inches }}{\text { C }}$ | $\stackrel{1}{\text { Inches }}$ | $\begin{gathered} \text { E } \\ \text { Inehes } \end{gathered}$ | $\underset{\text { Inches }}{\text { F }}$ | $\underset{\text { Inches }}{\mathrm{H}}$ | Base No. | Weight per 100 <br> Lhs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 101 | 1 | $21 / 4$ |  |  |  |  |  |  |  |
| 103 | 1 | $25 / 8$ | $51 / 2$ | $21 / 2$ | $3^{1 / 4}$ | 1/2 | 91/3 | 6000 | 125 |
| 105 | 13/8 | $21 / 4$ | $41 / 2$ | $21 / 4$ | 21/4 | $5 / 8$ | 101\% | 60001 | 165 |
| 116 | 13/8 | 25/8 | $51 / 2$ | $21 / 2$ | 3 | 5.8 | 101/2 | 6001 | 175 |
| 118 | $13 / 8$ | 31/2 | 9 | $3{ }^{2}$ | 6 | $5 / 8$ | 15 | 6005 | 200 450 |
| 120 | 1 | 21 | $41 / 2$ | $21 / 4$ | 214 | $1 / 8$ | 151/2 | 6005 | 450 100 |
| 122 | $13 / 8$ | $31 / 2$ | 8 | 3 | 5 | $5 / 8$ | $14^{51 / 2}$ | 6001 | 100 |
| 124 | 13/8 | $25 / 8$ | $51 / 2$ | $21 / 2$ | 3 | $5 / 8$ | 141/2 | 60003 | 375 175 |
| 125 | $13 / 8$ | 31.2 | 8 | 3 | 5 | 5/8 | 9 | 6003 | 175 325 |
| 127 | 13 | $23 / 8$ | $51 / 2$ | $21 / 2$ | 3 | 1,2 | $61 / 2$ | 6001 | 130 |
| 130 | 13\% | $41 / 2$ | $\stackrel{9}{101}$ | 3 | 6 | 5/8 | 10\% | 6005 | 410 |
| 130 A | 13\% | $3^{4 / 4}$ | $101 / 2$ | $41 / 3$ | 6 | $8 / 4$ | 17 | 6006 | 600 |
| 130 B | $13 \%$ | $31 / 2$ | $101 / 2$ | $41 \%$ | 6 6 | $3 / 4$ | 17 | 6004 | 525 |
| 142 | 13/8 | $41 / 2$ | $111 / 2$ | $31 / 2$ | 6 8 | $3 / 4$ | 17 | 6005 | 450 |
|  |  |  |  |  | 8 | 3/4 | 18 | 6007 | 800 |

List Prices per 100

|  | Approx. Weight <br> per 100 <br> Ln Lbs. | List Price per 100 |
| :---: | :---: | :---: | :---: |

Delivery F. O. B. Factory, Fast Liverpool, (). For warchouse deliveries write bearest housc.


Pole Top Pin, Malleable Iron

## POLE TOP PINS

## Malleable Iron Pins-Separable Thimble

Made of malleable iron of channel design. The top of base or body is threaded and the thimble is attached by means of a $3 / 4$ inch threaded stud, one end of which threads into the base and the other into the thimble. When both pins and insulators are furnished by us the thimbles are cemented into the insulators at the factory without extra charge. This adds one pound to weight of insulator. Thimbles are always furnished plain, not galvanized. Through bolts for fastening pins to pole are not included in price; these are standard machine bolts. The great convenience of having thimbles cemented into the insulator at the factory is worthy of special consideration. When extra insulators are wanted with thimbles cemented in, the price of thimbles plain is $\$ 14.00$ per 100 . Insulators with $13 / 8$ inch pin hole take $11 / 8$ inch thimble and 1 inch pin hole takes $3 / 4$ inch thimble.

Note: Thimble No. 03, $11 / 8$ inch, furnished unless otherwise specified. Thimbles always furnished plain.

In ordering, always specify whether plain or galvanized wanted.
Price of through bolts not included in above, but we can quote on such bolts, either plain, galvanized, or sherardized. 1'lease give length of through bolt required.

| List No. | A inches | $\underset{\text { inches }}{\text { B }}$ | $\underset{\text { inches }}{\text { C }}$ | $\underset{\text { inches }}{\text { D }}$ | $\underset{\text { inches }}{E}$ | $\underset{\text { inches }}{\mathrm{H}}$ | $\underset{\text { inches }}{\mathbf{F}}$ | $\underset{\text { inches }}{K}$ | L inches | M inches | $\underset{\text { inches }}{N}$ | $\begin{gathered} 0 \\ \text { inches } \end{gathered}$ | $\underset{\text { inches }}{\underset{y}{p}}$ | $\begin{gathered} \mathbf{Q} \\ \text { inches } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9550 | 11/8 | $21 / 4$ | 61/4 | 3 | $51 / 2$ | 13 | 1/2 | $31 / 2$ | 21/4 | 21/4 | 1 | $\frac{9}{16}$ | $\frac{9}{16}$ | 1 |
| 9551 | 11/8 | $21 / 2$ | $71 / 2$ | 3 | 7 | 15 | 5/8 | 4 | $21 / 2$ | $21 / 2$ | 1 | $\frac{9}{16}$ | $\frac{11}{116}$ | 1 |
| 9552 | 11/8 | 23/4 | 9 | 3 | 83/4 | 171/2 | 5/8 | $41 / 2$ | 23/4 | $23 / 4$ | 11/4 | $\frac{18}{16}$ | ${ }^{18}$ | 11/4 |
| 9553 | 11/8 | 3 | 11 | 3 | 11 | 201/2 | $3 / 4$ | 514 | 3 | 3 | 11/4 | $\frac{11}{16}$ | $\frac{13}{13}$ | $11 / 4$ |
| 9554 | 11/8 | 31/4 | 13 |  | 13 | $231 / 4$ | $3 / 4$ | 6 | $31 / 4$ | 3 | 11/4 | $\frac{11}{16}$ | 188 | $11 / 4$ |
| 9555 | 11/8 | $31 / 2$ | 15 |  | 151/2 | 27 | $3 / 4$ | 7 | $31 / 2$ | $31 / 2$ | 11/2 | 16 | $\frac{18}{16}$ | $11 / 2$ |


|  | List No | Approximate Wgt. per 100 | List Price per 100 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Plain | Galvanized |
|  | $\begin{aligned} & \hline 9550 \\ & 9551 \\ & 9552 \\ & 9553 \\ & 9554 \\ & 9555 \\ & \hline \end{aligned}$ | $\begin{array}{r} 500 \mathrm{lbs} . \\ 670 \mathrm{lbs} . \\ 700 \mathrm{bs} . \\ 775 \mathrm{lbs} . \\ 875 \mathrm{bs} . \\ 1300 \mathrm{lbs} . \end{array}$ | Prices on Application | Prices on Application |

## Pole Top Pins-Separable Thimble

These are hollow, being drawn from steel tube. A threaded $3 / 4$ inch stud is sweated into the top, and the thimble is screwed on this stud. Bottom part of pin is closed and securely welded; thus the lower bolt hole passes through one solid piece of fat metal, while the upper hole passes through a hollow tube. When both pins and insulators are furnished by us the thimbles are cemented into the insulators at the factory without extra charge. This adds one pound to weight of insulator. The great convenience of having thimbles cemented into the insulators at the factory is worthy of special consideration. When extra insulators are wanted with thimbles cemented in, the price of thimbles plain is $\$ 14.00$ per 100 . Insulators with $13 / 8$ inch pin hole take $11 / 8$ inch thimble and 1 inch pin hole takes $3 / 4$ inch thimble.

Note: Thimble No. 03, $11 / 8$ inch, furnished unless otherwise specified. Thimbles always furnished plain.

In ordering, always specify whether plain or galvanized.
Price of through bolts not included in list, but we can quote on such bolts, either plain, galvanized, or sherardized. Please give length of through bolts required.

We can furnish all sizes of pipe pins for pole top or cross-arm, such as 2 inch, $23 / 2$ inch, and 3 inch standard and extra heavy. Prices made on application.

| List No. | $\underset{\text { inches }}{\text { A }}$ | $\begin{gathered} \text { B } \\ \text { inches } \end{gathered}$ | $\underset{\text { inches }}{\text { C }}$ | $\underset{\text { inches }}{\text { D }}$ | $\underset{\text { inches }}{E}$ | $\underset{\text { inches }}{K}$ | $\underset{\text { inches }}{\mathrm{MI}}$ | Apprx. Wt. per 100 lbs. | Diam. and Length of Bolt, inches |  | List Price per 100 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | Upper | Lower | Plain | Galv'd |
| 9600 | 11/8 | 2 | $61 / 4$ | 3 | 9 | 1 | 21/4 | 460 | 1/2 $\times 11$ | 1/2×9 | \$132.00 | \$144.00 |
| 9601 | 11/8 | 2 | 71/2 | 3 | 11 | 1 | $21 / 2$ | 475 | $5 / 8 \times 111 / 2$ | $1 / 2 \times 9$ | 138.00 | 142.00 |
| 9602 | 11/8 | 2 | 9 | 3 | 131/4 | 11/4 | 23/4 | 580 | $5 / 8 \times 111 / 2$ | $1 / 2 \times 9$ | 156.00 | 168.00 |
| 9603 | 11/8 | 2 | 11 | 3 | 161/4 | 11/4 | 3 | 670 | $5 / 8 \times 111 / 2$ | $1 / 2 \times 9$ | 180.00 | 200.00 |
| 9604 | 11/8 | 2 | 13 | 3 | 19 | $11 / 2$ | 3 | 760 | $5 / 8 \times 111 / 2$ | $1 / 2 \times 9$ | 200.00 | 226.00 |
| 9605 | 11\% | 2 | 15 | 3 | 221/2 | 11/2 | 31/\% | 880 | $3 / 4 \times 111 / 2$ | $5 / 8 \times 9$ | 228.00 | 258.00 |

Delivery F. O. B. Factory, East Liverpool, O. For warehouse deliveries write nearest house.

## POLE TOP PINS <br> HOT GALVANIZED

Pins Nos. 3000 to 3012 inclusive have $\frac{7}{16}$ inch bolt holes, all other pins $\frac{11}{16}$ inch holes.
The pipe pins are superceding cast and malleable iron pins for high voltage work, as they are lighter, stronger and cheaper.
'The Presteel pins are useful on lighter lines, and for 6600 and 11,000 volt work the No. 3013 pin is particularly suitable.


## List

Stack
Stac
No.


| 3050 | 11 |
| :--- | :--- |
| 3052 | 11 |
| 3054 | 11 |
| 3060 | 11 |
| 3062 | 11 |
| 3064 | 11 |


| Size Steel | Le |
| :--- | :--- |
| $11 / 4 \mathrm{pipe}$ |  |
| $11 / \mathrm{pipe}$ |  |
| $11 / \mathrm{pipe}$ |  |
| $11 / \mathrm{pipe}$ |  |
| $11 / \mathrm{pipe}$ |  |
| $11 / 4$ pipe |  |


| 3030 | $2 \times 2 \times \frac{3}{16}$ angle | 18 |  |
| :--- | :--- | :--- | :--- |
| 3031 | $2 \times 2 \times 16$ | angle | 24 |

18
24
ANGLE STEEL PINS
$3031 \quad 2 \times 2 \times \frac{3}{16}$ angle
24
36

| 8 | 1 in . spring |
| :---: | :---: |
| 8 | 1 in . spring |
| 10 | 1 in. spring |
| PRESTEEL PINS |  |
| 8 | i in. spring thread |
| 8 | 13 \% in. spring thread |
| 8 | ${ }^{\frac{2}{3} 7}{ }^{3} \mathrm{in}$, thimble |
| 8 | $1{ }^{2} \mathrm{in}$. thimble |
| 8 | 1 in. spring thread |
| 8 | $13-3$ in. spring thread |
| 8 | ${ }^{27}{ }^{3} \mathrm{in}$ in thimble |
| 8 | $1_{3}^{7} \mathrm{7}$ in. thimble |


|  | List Price- |  |
| :---: | :---: | ---: |
| Wt. Lbs. |  | Per 100 |
| 336 | $\$ 1.39$ | $\$ 112.80$ |
| 448 | 1.64 | 142.88 |
| 672 | 2.31 | 201.16 |
| 336 | 1.49 | 122.20 |
| 448 | 1.75 | 152.28 |
| 672 | 2.40 | 210.56 |
|  |  |  |
| 366 | $\$ 1.18$ | $\$ 103.40$ |
| 488 | 1.53 | 137.24 |
| 732 | 1.83 | 163.56 |
|  |  |  |
| 29 | $\$ 0.97$ | $\$ 80.10$ |
| 230 | .97 | 80.10 |
| 227 | 1.03 | 89.00 |
| 230 | 1.08 | 89.01 |
| 303 | 1.32 | 108.58 |
| 305 | 1.33 | 108.58 |
| 303 | 1.43 | 117.48 |
| 305 | 1.43 | 117.48 |
|  |  |  |
| 140 | $\$ 0.64$ | $\$ 56.96$ |
| 74 | .38 | 33.82 |
| 140 | .64 | 56.96 |
| 163 | .53 | 45.12 |
| 369 | 1.43 | 124.08 |
| 480 | 1.81 | 154.16 |
| 725 | 2.50 | 208.08 |


| 3040 | 10 gauge | 18 | 8 | i in. spring thread | 297 | \$0.97 | \$80.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3041 | 10 gauge | 18 | 8 | 13 \% in. spring thread | 230 | . 97 | 80.10 |
| 3042 | 10 gauge | 18 | 8 | ${ }_{3}^{2} \frac{3}{2}$ in thimble | 227 | 1.08 | 89.00 |
| 3043 | 10 gange | 18 | 8 | $1^{\frac{7}{2}}$ in. thimble | 230 | 1.08 | 89.00 |
| 3045 | 10 gauge | 24 | 8 | 1 in. spring thread | 303 | 1.32 | 108.58 |
| 3046 | 10 gauge | 24 | 8 | $13-3$ in. spring thread | 305 | 1.33 | 108.58 |
| 3047 | 10 gauge | 21 | 8 | ${ }_{3}^{27}$ in thimble | 303 | 1.43 | 117.48 |
| 3048 | 10 gauge | 24 | 8 | $13_{32}^{7}$ in. thimble | 305 | 1.43 | 117.48 |
| CHANNEL PINS |  |  |  |  |  |  |  |
| 3000 | 1 x 1/2 channel | 18 | 4 | 1 | 140 | \$0.64 | \$56.96 |
| 3010 | 1 x $1 / 2$ channel | 12 | 4 | 1 | 74 | . 38 | 33.82 |
| 3012 | 1 x $1 / 2$ channel | 18 | 4 | 1 | 140 | . 64 | 56.96 |
| 3013 | $11 / 2 \times 3 / 4$ channel | 15 | 4 | 1 | 163 | . 53 | 45.12 |
| 3020 | $13 / 4 \times 5 / 8$ channel | 18 | 8 | 13/8 | 369 | 1.43 | 124.08 |
| 3022 | $13 / 4 \times 5 / 8$ channel | 27 | 8 | 13\% | 480 | 1.81 | 154.16 |
| 3023 | $13 / 4 \times 5 / 8$ channel | 36 | 10 | 13\% | 725 | 2.50 | 208.08 |

Delivery F. O. B. Factory, P'ittsburgh, P'it. I or warchouse deliveries write nearest house.

## FLETCHER IRON BRACKETS

## HIGH INSULATION ERACKETS

 3 Inch Extension

No. 1018


No. 1028


No. 1019


No. 1029


No. 1058

Weight Without Insertion With Insertion per 100 Each Per 100 Each Per 100

| 210 | $\$ 0.44$ | $\$ 40.00$ | $\$ 0.47$ | $\$ 42.66$ |
| :--- | :--- | :--- | :--- | :--- |


| 215 | .74 | 66.66 | .76 | 69.34 |
| :--- | :--- | :--- | :--- | :--- |

$210 \quad .44 \quad 40.00 \quad .47 \quad 42.66$
$215 \quad .74 \quad$ i6. $66 \quad .76 \quad 69.34$
$215 \quad .51 \quad 45.34 \quad .56 \quad 50.69$

| 220 | .83 | 74.60 | .85 | 77.20 |
| :--- | :--- | :--- | :--- | :--- |

200
09
295


No. 1071


No. 2070


## MALLEABLE IRON, WOOD THIMBLE



No. 1074


No. 1075


No. 3038

List
No.
Malleable Wall Bracket, with parafnned oak head.
1074G Galvanized Wall Bracket, with paraffinerl oak head. ..... 90
1075 Malleable Wall Bracket, with locust head....... ....... 85
1075G Galvanized Wall Bracket, with locust head.............. 90
3038 Malleable Wall Bracket, with oak head................ . . . 140
3038G Galvanized Wall Bracket, with oak head................ 145

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Weight per 100 | Without Insertion |  | With Insertion |  |
|  | Eaca | Per 100 | Each | Per 100 |
| 85 | \$0.35 | \$32.00 |  |  |
| 90 | . 47 | 42.60 |  |  |
| 85 | . 41 | 37.20 |  |  |
| 90 | . 56 | 50.60 |  |  |
| 140 | 41 | 37.20 |  |  |
| 145 | . 58 | 58.20 |  |  |

*F. O. B. Dayton, O. For warehouse deliveries write nearest house.

# FLETCHER IRON BRACKETS 

## Wall Brackets

6 inch extension


No, 1007


No. 2008

Shipping Weight
per 100
No.
1007 Gray Iron Wall Bracket, japanned.
1007G Galvanized Gray Iron Wall lsracket
2008 Gray Iron Wall Bracket, japanned
2008G Galvanized Gray Iron Wall Bracket
2006 Gray Iron Wall Bracket, for $11 / 4 \mathrm{in}$. pin
2006G Galvanized Gray Iron Wall Iracket, for $11 / 4 \mathrm{in}$. pin
2007 Gray Iron Wall Bracket, for $11 / 2 \mathrm{in}$. pin.
2007 G Galvanized Gray Iron Wall Bracket, for 11/......... 300
2010 Gray Iron Wall Bracket, for $11 / 2 \mathrm{in}$. pin
2010G Galvanized Gray Iron Wall Bracket, for 1


Nos. 2006 and 2007


No. 2010


No. 1038


No. 1039


No. 1012


No. 1011


No. 2018


No. 2019


No. 1022 Patented


No. 1023 Patented

Wall Brackets
10 Inch Extension

| List | Description | Shipping Weight per 100 | -- ${ }^{\text {List Price }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  | Without | Insertion | With | sertion |
| 2018 | Gray Iron Wall Bracket, japanned. |  | Each | Per 100 | Each | Per 100 |
| 2018 G | Galvanized Gray Iron Wall Brack | 520 545 | \$1.02 | \$93.34 | \$1.05 | \$96.00 |
| 2019 | Gray Iron Wall Bracket, japanned | 500 | 1.76 1.02 | 160.00 | 1.79 | 162.66 |
| 2019G | Galvanized Gray Iron Wall Bracket | 525 | 1.71 | 154.66 | 1.05 | $\begin{array}{r} 96.00 \\ 160.00 \end{array}$ |
| Malleable Drive Brackets |  |  |  |  |  |  |
| 1022 | Malleable Drive Bracket. |  | \$0.35 |  |  |  |
| 1022G | Galvanized Malleable Drive Bracket | \% | \$0.35 | \$32.00 | \$0.41 | \$37.20 |
| 1023 | Malleable Drive Bracket. . . . . . | 90 | . 37 | 42.60 | . 53 | 48.00 37.20 |
| $1023 \mathrm{C}^{\text {i }}$ | Galvanized Malleable Drive Bracket | 95 | . 47 | 42.60 | . 41 | 37.20 48.00 |

## FLETCHER IRON BRACKETS

## Ceiling Brackets

4 Inch Drop, 6 Inch Spread



No. 1013


No. 1014


No. 1062


No. 1063


No. 1065
List
No.
1013

Description
$\begin{array}{ll}1013 & \text { Gray Iron Single Ceiling Bracket, japanned. . . . . . . . . . . . } \\ 1013 \mathrm{G} & \text { Galvanized Gray Iron Single Ceiling Bracket. . . . . . . . . }\end{array}$

| Shipping Weight per 100 | Without Insertion |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | With Insertion |  |
|  | Each | Per 100 | Each | Per 100 |
| 300 | \$0.74 | \$66.60 | \$0.76 | \$69.20 |
| 315 | 1.14 | 104.00 | 1.20 | 109.20 |
| 350 | 85 | 77.20 | 94 | 85.20 |
| 365 | 1.35 | 122.60 | 1.44 | 130.60 |
| 545 | 1.62 | 146.60 | 1.79 | 162.60 |
| 570 | 2.38 | 216.00 | 2.55 | 232.00 |
| 310 | 74 | 66.60 | . 76 | 69.20 |
| 325 | 1.14 | 104.00 | 1.20 | 109.20 |
| 360 | 85 | 77.20 | 94 | 85.20 |
| 375 | 1.35 | 122.60 | 1.44 | 130.60 |
| 270 | 74 | 66.60 | . 76 | 69.20 |
| 285 | 1.14 | 104.00 | 1.20 | 109.20 |
| 360 | . 85 | 77.20 | . 94 | 85.20 |
| 380 | 1.35 | 122.60 | 1.44 | 130.60 |


| 1014G | Galvanized Gray Iron Double Ceiling 13racket | 365 | 1.35 | 122.60 | 1.44 | 130.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1062 | Gray Iron Four-wire Ceiling Bracket, japanned | 545 | 1. 62 | 146.60 | 1.79 | 162.60 |
| 1062G | Galvanized Gray Iron Four-wire Ceiling Bracket | 570 | 2.38 | 216.00 | 2.55 | 232.00 |
| 1063 | Gray Iron Single Ceiling Bracket, japanned | 310 | . 74 | 66.60 | . 76 | 69.20 |
| 1063G | Galvanized Gray Iron Single Ceiling Bracket | 325 | 1.14 | 104.00 | 1.20 | 109.20 |
| 1064 | Gray Iron Double Ceiling Bracket | 360 | . 85 | 77.20 | . 94 | 85.20 |
| 1064G | Galvanized Gray Iron Double Ceiling Bracket | 375 | 1.35 | 122.60 | 1.44 | 130.60 |
| 1065 | Gray Iron Single Ceiling Bracket, japanned. | 270 | . 74 | 66.60 | . 76 | 69.20 |
| 1065G | Galvanized Gray Iron Single Ceiling Bracke | 285 | 1.14 | 104.00 | 1.20 | 109.20 |
| 1066 | Gray Iron Double Ceiling Bracket | 360 | . 85 | 77.20 | . 94 | 85.20 |
| 1066 G | Galvanized Gray Iron Double Ceiling Bracket. | 380 | 1.35 | 122.60 | 1.44 | 130.60 |

Note: When ordering, specify finish desired and state whether with or without insertion.

4 Inch Drop, 6 Inch Spread
With Wood Thimbles


No. 2063


No. 2065


No. 2068


No. 2064


No. 2066


No. 2069

| List | Description | Shipping Weight per 100 | -*List Price-- |  |
| :---: | :---: | :---: | :---: | :---: |
| No. |  |  | Each | Per 100 |
| 2063 | Malleable Single Ceiling Bracket. | 250 | \$0.83 | \$74.60 |
| 2063 G | Galvanized Malleable Single Ceiling Bracket | 255 | 1.06 | 96.00 |
| 2065 | Malleable Single Ceiling Bracket. | 250 | . 83 | 74.60 |
| 2065G | Galvanized Malleable Single Ceiling Bracket | 255 | 1.06 | 96.00 |
| 2068 | Malleable Single Pendant Bracket. . | 275 | . 83 | 74.60 |
| 2068G | Galvanized Malleable Single Pendant Bracket | 280 | 1.06 | 96.00 |
| 2064 | Malleable Double Ceiling Bracket | 350 | . 91 | 82.60 |
| 2064G | Galvanized Malleable Double Ceiling Bracket | 355 | 1.20 | 109.20 |
| 2066 | Malleable Double Ceiling Bracket.......... | 350 | . 91 | 82.60 |
| 2066G | Galvanized Malleable Double Ceiling Bracket. | 355 | 1.20 | 109.20 |
| 2069 | Malleable Double Pendant Bracket. . . . . . . . | 340 | . 91 | 82.60 |
| 2069G | Galvanized Malleable Double Pendant Bracket | 345 | 1.20 | 109.20 |
|  | O. B. Dayton, O. For warehouse deliveries writer |  |  |  |

## FLETCHER IRON BREAK-ARMS



No. 3002


No. 3083


No. 3008

## Iron Break-arms

| List No. |  |
| :---: | :---: |
| 3002 | Gray Iron Break-arm |
| 3002G | Gray Iron Break-arm |
| 3083 | Gray Iron Break-arm. |
| 3083G | Gray Iron Break-arm. |
| 3008 | Gray Iron Break-arm. |
| 3008G | Gray Iron Break-arm |


|  |  |
| :--- | :---: |
| Spread | Stem |
| 18 ins. | $11 / 2$ ins. |
| 18 ins. | $11 / 2$ ins. |
| 24 ins. | Use $1 / 2$ in. bolt |
| 24 ins. | Use $1 / 2$ in. bolt |
| 24 ins. | $11 / 2$ ins. |
| 24 ins. | $11 / 2$ ins. |



No. 3007


No. 1035

## Iron Break-arms



## Malleable Screw Pins and Brackets

|  | Description |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  | Weight | Without | Insertion | With | sertion |
| No. |  | per 100 | Each | Per 100 | Each | Per 100 |
| 1025 | Malleable Screw Bracket. | 85 | \$0.35 | \$32.00 | \$0.41 | \$37.20 |
| 1025G | Galvanized Malleable Screw Brac | 90 | . 44 | 40.00 | . 47 | 42.60 |
| 1026 | Malleable Screw Pin. | 65 | . 26 | 24.00 | . 32 | 29.20 |
| 1026G | Galvanized Malleable Screw Pin | 70 | . 41 | 37.20 | . 44 | 40.00 |
| 1072 | Two-wire Malleable Screw ISracket. | 120 | . 53 | 48.00 | . 58 | 53.20 |
| 1072G | Galvanized Two-wire Malleable Screw Brack | 125 | . 67 | 61.20 | . 79 | 72.00 |
| 1073 | Three-wire Malleable Screw Bracket. | 165 | . 79 | 72.00 | . 88 | 80.00 |
| 1073G | Galvanized Three-wire Malleable Screw Brack | 170 | 1.06 | 96.00 | 1.14 | 104.00 |

## FLETCHER IRON BREAK-ARMS



Nos. 1080 and 1081


Nos. 1001, 1031, 1033 and 1034


No. 1082

## Iron Break-arms



Nos. 1002 and 1032


No. 2001


No. 2002

Iron Break-arms


Iron Break-arms

| 3080 | Gray iron. | 18 ins. |  | $11 / 4 \mathrm{ins}$. | Jap. | 685 | \$1.53 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3080G | Gray iron. | 18 ins. |  | $11 / 4 \mathrm{in}$. | Galv. | 720 | 2.46 |  |
| 3081 | Gray iron. | 18 ins. |  | $11 / 2 \mathrm{ins}$. | Jap. | 660 | 1.53 |  |
| 3081G | Gray iron. | 1s ins. |  | $11 / 2 \mathrm{ins}$. | Galv. | 690 | 2.46 |  |
| 3001 | Gray iron. | 18 ins. | $11 / 2 \mathrm{ins}$. | $11 / 2 \mathrm{ins}$. | Jap. | 830 | 1.53 |  |
| 3001G | Gray iron. | 18 ins. | $11 / \mathrm{ins}$. | $11 / 2 \mathrm{ins}$. | Galv. | 870 | 2.63 |  |
| 3005 | Gray iron. | 18 ins. | $11 / 4 \mathrm{ins}$. | $11 / 1 \mathrm{ins}$. | Jap. | 750 | 1.53 |  |
| 3005 G | Gray iron. | 18 ins. | 11/4 ins. | $11 / 4 \mathrm{ins}$. | Galv. | 785 | 2.55 |  |
| 3010 | Gray iron. | 18 ins. | $11 / 4 \mathrm{ins}$. | $11 / 1$ ins. | Jap. | 750 | 1.53 |  |
| 3010G | Gray iron. | 18 ins. | 11/4. ins. | $11 / 4$ ins. | Galv. | 785 | 2.55 |  |
| 3009 | Gray iron. | 18 ins. | Use 1 | . bolt | Jap. | 685 | 1.44 | \$1.53 |
| 3009G | Gray iron. | 18 ins. | Use $1 / 2$ | . bolt | Galv. | 720 | 2.38 | 2.14 |

## FLETCHER IRON BRACKETS



No. 1006


Spreader Brackets
12 Inch Spread

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Shipping Weight per 100 | Without Insertion |  | Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | With | nsertion |
|  |  |  | Each | Per 100 | Each | Per 100 |
| 1006 | Gray Iron Spreader Bracket, forward | 600 | \$1.12 | 102.00 | \$1.14 | \$104.00 |
| 1006G | Galvanized Gray Iron Spreader Bracket | 630 | 1.88 | 170.60 | 1.97 | 178.60 |
| 1036 | Gray Iron Spreader Bracket, forward | 460. | 1.12 | 102.00 | 1.14 | 104.00 |
| 1036G | Galvanized Gray Iron Spreader Bracket, forw | 485 | 1.79 | 162.60 | 1.88 | 170.60 |
| 1037 | Gray Iron Spreader Bracket, forward. | 475 | 1.12 | 102.00 | 1.14 | 104.00 |
| 1037G | Galvanized Gray Iron Spreader Bracket forward. | 500 | 1.79 | 162.60 | 1.88 | 170.60 |
| 1084 | Gray Iron Three-wire Spreader Bracket, forward. | 780 | 1.62 | 146.60 | 1.73 | 157.20 |
| 1084G | Galvanized Gray Iron Three-wire Spreader Bracket, forward. | 820 | 2.73 | 248.00 | 2.85 | 258.60) |
| 1087 | Gray Iron Three-wire Sprcader Bracket, forward. | 800 | 1.62 | 146.00 | 1.73 | 157.20 |
| 1087G | Galvanized Gray Iron Three-wire Spreader Bracket, forward. | 840 | 3.01 | 274.00 | 3.12 | 284.00 |
| 2005 | Malleable Spreader Bracket, right | 360 | . 94 | 85.20 |  |  |
| 037 | Malleable Spreader Bracket, forward | 360 | . 83 | 74.60 |  |  |



No. 1027


Nos. 2027 and 2028


No. 2017 Malleable Iron

## Corner Brackets

Note: When ordering, specify finish desired and state whether with or without insertion
*F. O. B Dayton, O. For warehouse deliverics, write nearest house.

Western Electric

## FLETCHER PINS AND BRACKETS


No. 918


Nos. 994, 995 and 996 2094, 2095 and 2096 IRON


No. 997
No. 998


No. 1021


No. 1059

## Pole Top Material

|  | Description S | Shipping Weight per 100 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List <br> No. |  |  | With Each | Insertion Per 100 | With Insertion |  |
| 918 | Gray Iron Pole Top Bracket | 265 | \$0.74 | \$66.66 | \$0.76 | \$69.34 |
| 918G | Galvanized Gray Iron Pole Top 13racket | 280 | 1.14 | 104.00 | 1.20 | 109.34 |
| 994 | Gray Iron Pole Top Bracket, for 8 in . pole, 1 in . head. | 600 | 1.11 | 101.34 | 1.14 | 104.00 |
| 994G | Galvanized Gray Iron Pole Top Bracket, for 8 in. pole, 1 in. head. | ${ }^{630}$ | 1.96 | 178.66 | 1.99 | 181.34 |
| 995 | Gray Iron Pole Top Bracket, for 6 in. pole, 1 in. head | 500 | 1.11 | 101.34 | 1.14 | 104.00 |
| 995G | Galvanized Gray Iron Pole Top IBracket, for 6 in. pole, 1 in. head. | 525 | 1.82 | 165.34 | 1.88 | 170.66 |
| 996 | Gray Iron Pole Top Bracket, for 7 in. pole, 1 in. head | 550 | 1.11 | 101.34 | 1.14 | 104.00 |
| 996G | Galvanized Gray Iron Pole Top Bracket, for 7 in. pole, 1 in. head. | 575 | 1.87 | 170.00 | 1.90 | 173.20 |
| 997 | Gray Iron Ridge Bracket, 8 in. extension. | 400 | . 85 | 77.20 | . 88 | 80.00 |
| 997G | Galvanized Gray Iron Ridge Bracket, 8 in . extension | 420 | 1.43 | 130.60 | 1.50 | 136.00 |
| 998 | Gray Iron Ridge Bracket, 4 in. extension. | 225 | . 47 | 42.60 | . 50 | 45.20 |
| 998G | Galvanized Gray Iron Ridge Bracket, 4 in. extension. | 235 | . 83 | 74.30 | . 85 | 77.20 |
| 2094 | Gray Iron Pole Top Bracket, for 8 in. pole, $13 / 8 \mathrm{in}$. head. | 700 | 1.29 | 117.20) | 1.32 | 120.00 |
| 2094G | Galvanized Gray Iron Pole Top Bracket, for 8 in. pole, $13 / 8$ in. head | 730 | 2.26 | 205.20 | 2.29 | 208.00 |
| 2095 | Gray Iron Pole Top Bracket, for 6 in. pole, $13 / 8$ in. head. | 600 | 1.29 | 117.20 | 1.32 | 120.00 |
| 2095G | Galvanized Gray Iron Pole Top Bracket, for 6 in. pole, $13 / 8 \mathrm{in}$. head. | 630 | 2.15 | 194.60 | 2.17 | 197.20 |
| 2096 | Gray Iron Pole Top Bracket for 7 in. pole, $13 / 8 \mathrm{in}$. head. | 650 | 1.29 | 117.20 | 1.32 | 120.0 ) |
| 2096G | Galvanized Gray Iron Pole Top Bracket, for 7 in. pole, $13 / 8 \mathrm{in}$. head | 680 | 2.17 | 197.20 | 2.20 | 200.00 |
| 1021 | Gray Iron Ridge Bracket, japanned. | 80 | . 26 | 24.00 | . 30 | 26.66 |
| 1021G | Galvanized Gray Iron Ridge Bracket. | 85 | . 39 | 34.66 | . 41 | 37.34 |
| 1059 | Gray Iron Single Prong Bracket, japanned. | 178 | . 44 | 40.00 | . 47 | 42.66 |
| 1059G | Galvanized Cray Iron Single Prong Bracket. . . . | 190 | . 67 | 61.34 | . 73 | 66.66 |

Note: When ordering, specify finish desired and state whether with or without insertion.
*F. () B. Dayton, (). For Warehonse deliveries write nearest house.
FLETCHER IRON BRACKETS AND PINS


## Malleable Iron Pins and Brackets

|  | Mir. | Shipping Weight per 100 | Without Insertion |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | No. Deseription |  | Each | Per 100 | Each | Per 1 |
| 85 | Malleable Iron Pin, with oak head, 1 in. | 90 | \$0.32 | \$29.20 |  |  |
| 85G | Galvanized Iron Pin, with oak head, 1 in . | 90 | 41 | 37.20 |  |  |
| 204 | Mal. Iron Pin, for bolting to iron plate, 1 in. hea | 120 | 35 | 32.00 | \$0.41 | \$37.20 |
| 204G | Galv. Iron Pin, for bolting to iron plate, 1 in . head. | 120 | . 5 | 53.20 | . 63 | 58.60 |
| 81 | Malleable Iron Ceiling Bracket, 1 in. head. | 275 | 72 | 64.00 | 79 | 72.00 |
| 81 G | Galvanized Iron Ceiling Bracket, 1 in . head | 275 | 1.05 | 96.00 | 1.14 | 104.00 |
| 82 | Malleable Iron Bracket, 1 in. head. | 300 | 79 | 72.00 | 83 | 74.60 |
| 82 G | Galvanized Iron Bracket, 1 in. head | 300 | 1.14 | 104.00 | 1.20 | 109.20 |
| 83 | Malleable Iron Bracket, 1 in. head | 425 | 1.25 | 114.60 | 1.39 | 126.00 |
| 83G | Galvanized Iron Bracket, 1 in. head | 425 | 1.71 | 154.60 | 1.82 | 165.20 |
| 84 | Mal. Iron Corner Bracket, for Nos. 82 and | 110 | 26 | 24.00 |  |  |
| 84 C | Galv. Iron Corner Bracket, for Nos. 82 and 83 | 110 | 41 | 37.20 |  |  |



No. 234


No. 236


No. 204


No. 205


No. 206

Peirce Wall Brackets

| List |  | Size | Size | Width | Wire | Std. | Wt., Lbs. |  | $\text { O. } 306$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Ext. | Channel | Holes | Back | Spacing | Bundle | per 100 | Fach | Per 100 |
| 234 | $31 / 2$ ins. | $3 / 4 \mathrm{in}$. | $\frac{9}{7 / 2} \mathrm{in}$. | 0 | 8 ins. | 25 | 90 | \$0.42 | \$35.70 |
| 236 | $31 / 2 \mathrm{ins}$. | 1 in . | ${ }^{3} 3 \mathrm{in}$, | 0 | 10 ins. | 25 | 143 | . 49 | 42.00 |
| 204 | 3 ins. | $3 / 4 \mathrm{in}$. | ${ }_{1}{ }^{5} \mathrm{in}$. | $31 / 2 \mathrm{ins}$. | $61 / 2$ ins. | 20 | 160 | . 57 | 48.30 |
| 205 | 3 ins. | 1 in . | $\frac{5}{16} \mathrm{in}$. | $31 / 2$ ins. | 9 ins. | 20 | 175 | . 62 | 52.50 |
| 206 | 3 ins. | 1 in . | $\frac{5}{16} \mathrm{in}$. | $3{ }^{1} \mathrm{~L}$ ins. | 9 ins. | 20 | 225 | . 96 | 81.90 |
| 305 | 3 ins. | 34 in . | $\frac{5}{16} \mathrm{in}$. | $31 / 2 \mathrm{ins}$. | 61/2 ins. | 20 | 260 | . 91 | 77.70 |
| 306 | 3 ins. | 1 in. | $\frac{5}{15} \mathrm{in}$. | $31 / 2$ ins. | $61 / 2$ ins. | 10 | 330 | 1.48 | 126.00 |

No. 234 bracket in. $\frac{5}{15}$ in. $31 / 2$ ins. $\quad 61 / 2$ ins. 10


No. 305


No. 306 grooved double petticoat insulators. They are pory fre deepsevere strains will bend but will not breal and angle which under cre strains will bend but will not break and let the wires down.

No. 342

| List |  |
| :--- | :--- |
| No. | Ext. |
| 342 | $3 \quad$ ins. |
| 242 | 3 ins. |
| 145 | $31 / 2$ ins. |
| 146 | $41 / 2$ ins. |
| 150 | $31 / 2$ ins. |




No. 145


No. 146


No. 500

No. 242 Peirce Wall Brackets

| Wt., Lbs. | No. 314 |  |
| :---: | :---: | ---: |
| per 100 | Each | List |
| I'rice | per 100 |  |
| 261 | $\$ 0.98$ | $\$ 84.00$ |
| 186 | .66 | 56.70 |
| 56 | .24 | 19.80 |
| 100 | .36 | 35.70 |
| 74 | .32 | 27.30 |

## Bracket Foot and Corner Iron

| List |  | Size | Width | Spread | Std. | Wt., Lbs. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| . | Ext. | Channe! | Holes | of Base | Bundle | per 100 |  | Per 100 |
| 500 | $43 / 8$ ins. | $1 \times \frac{3}{8}$ in. | $\frac{5}{16} \mathrm{in}$. | 1038 ins. | 20 ins. | ${ }^{\text {per }}$ | \$0.30 | \$25.20 |

For use with Nos. 204, 205, 206, 305, 306 wall brackets. Makes brackets extend 8 inches from wall to get around obstructions such as rain conductors. May also be used on corners. Furnished complete with two stove bolts.

## Peirce Prussian Hook Brackets

Is made of two sizes of square steel, $1 / 2$ and $5 / 8$ inch, and of 16 inch round, with Peirce steel spring threads for insulators with 1 inch diameter ]in holes. The bracket is $6 \frac{1}{2}$ inches long, with a lag screw threaded end 3 inches long.


Peirce Presteel Brackets are hot galvanized and this conting preserves their original strength. They won't rust or break. Excessive strains may bend them but they will never break and let the wires down.


Delivery F. (). 1. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

PEIRCE BRACKETS AND BREAK ARMS

Hot Calvanized


## Peirce Spreader Brackets

Peirce Spreader Brackets fasten around the arm with the crossarm strap. The ends of strapy fit in the long center slot of bracket.

| Lis | Ext. | Spacing | Width of Back | SizeChannel | Diam. Side Holes | Std. Bundle | Wt. <br> Libs. | $\xrightarrow{*}$ List Price-- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | Each | Per 100 |
| 201 | $41 / 2 \mathrm{ins}$. | 10 ins. | $21 / 2$ ins. | 1 in . | $\frac{7}{16} \mathrm{in}$. | 10 | 290 | \$1.23 | \$105.00 |
| 202 | 412 ins . | 12 ins. | $21 / 2$ ins. | 1 in . | $\frac{7}{16} \mathrm{in}$. | 10 | 375 | 1.33 | 113.40 |
| 301 | $41 / 2 \mathrm{ins}$. | $61 / 2 \mathrm{ins}$. | $21 / 2$ ins. | 1 in . | $\frac{7}{16} \mathrm{in}$. | 10 | 390 | 1.75 | 149.10 |
| 302 | $4 \frac{1}{2} \mathrm{ins}$. | $61 / 2 \mathrm{ins}$. | $21 / 2$ ins. | 1 in . | $\frac{7}{16} \mathrm{in}$. | 10 | 450 | 1.85 | 157.50 |



No. 222


No. 223


No. 224

## Peirce Break Arms

| Lis | Spacing | $\begin{gathered} \text { Size } \\ \text { Channel } \end{gathered}$ | Size <br> Bolt | Std. Bundle | Wt. Lbs. | List Price- |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Each | Per 100 |
| 222 | 9 ins. | $3 / 4 \mathrm{in}$. | 3/8 in. | 10 | 160 | \$0.76 | \$65.10 |
| 223 | 12 ins. | 1 in . | $3 / 8 \mathrm{in}$. | 10 | 240 | . 93 | 79.80 |
| 224 | 12 ins. | 1 in . |  | 20 | 200 | . 93 | 79.80 |
| '225 | 10 ins. | 1 in . | $1 / 2 \mathrm{in}$. | 10 | 205 | . 96 | 81.90 |

The Nos. 222, 223 and 225 break arms bolt around the arms and are adjustable to any size of arm between $31 / 4 \times 41 / 4$ ins. and $4 \times 5$ ins. The No. 224 fits in $11 / 2$ in. pin hole.
*F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.


No. 437


No. 237

Hot Galvanized


No. 113


No. 112


No. 115

## Transposition Brackets

The brackets shown with " $U$ " bolts are furnished with bolts bent for 31, x 4 inch arm unless otherwise specified, but can be furnished with bolts bent for any size up to $4 \times 5$ inches. The No. 115 Bracket bolts to the shank of a 12 inch steel pin below the arm and is held by the pin nut.

| 1,ist | Size of | Size of | Size of | Std. | Wit. Lhs. |  | ice-— |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | ('hame) | Back | U Bolt | Bundle | Per 100 | Each | Per 100 |
| 437 | $3_{4} \mathrm{in}$. | $13 / 4$ ins. | $3{ }^{3} \mathrm{inin}$. | 10 | 400 | \$1.72 | \$147.00 |
| 237 | 3 in . | 1 in . | ${ }^{3} 8 \mathrm{irl}$. | 20 | 201 | . 84 | 71.40 |
| 113 | 3 in . | $11 / 4$ ins. | 0 | 25 | 156 | . 62 | 52.50 |
| 112 | 3, in. | 1 in . | () | 25 | 9 | . 17 | 39. 90 |
| 115 | 1 in . | 0 | 11 | 25 | 13.5 | . 54 | 46.20 |


| 110 | $3 / i \mathrm{in}$. |
| :--- | :--- |
| 111 | $1^{1} \mathrm{in}$. |
| 114 | 1 |
| in. |  |



Transposition Brackets

$\$ 0.54$
.71
$\$ 16.20$
60.90
69. 30

Iop No. 9275

No. 9275

Standard Transposition Brackets
The three kinds of transposition hrackets listed are similar to No. (9251, except that the Western ['nion Standard Bracket, No. 9250, does not have the ${ }^{3}$ inch round hole for lagging the bracket to the arm. Bracket No. 0251 is the $1.7 . \& T$. Company standard for one wire, and No. 9252 for two wires on a transposition insulator. The Western I nion bracket is clamped on the arm by a $3_{8} \times 4$ inch carriage bolt. The A. T. \& T. Co. brackets use ${ }^{3}$ s $\times 4^{112}$ inch bolts. All have holes for $1 / 2$ inch insulator pins.

| List | Dimensions in Inches |  | Wt., Lbs. | per 100 |
| :--- | :---: | :--- | :---: | :---: |
| No. | Steel | Crossarm | per 100 | Galv. |
| 9250 | $11 / 4 \times 16$ | $3 \times 4 \times 1 /$ | 235 | $\$ 67.80$ |
| 1251 | $11 / 4 \times 16$ | $314 \times 414$ | 235 | 67.80 |
| 9252 | $112 \times 3 / 8$ | $314 \times 41 / 4$ | 360 | 87.00 |

The A. 'T. \& 'T. Company standard transposition bracket for 4 wire transpositions with large, double petticoated porcelain insulators, sueh as are used on the transcontinental circuits, is fastened to the crossarm hy two $\frac{1}{2} \times 43 / 4$ inch machine bolts, spaced 23 inches apart, and has holes for $5 / 8$ inch pins. The price includes the two parts shown. the smaller of which projects above the arm, but no bolts or pins.

$$
9275 \quad 11 / 2 \times 38 \quad 31 / 4 \times 41 / 4 \quad 685
$$

$\$ 204.00$
Delivery F.O.13. Factory, Pittsburgh, Pa. For warehouse deliveries, write nearest house.

CROSSARM BRACES


No. 7960. Flat Steel Back Braces

No. 743. Peirce Channel Steel Back Braces


No. 796\%. Angle Stec1 Back Braces

## Flat Steel Back Braces

These braces are used for back bracing crossarms at corners and torminal poles. and in many cases eliminate the neensity for donble arming. They are made of three shapes of open hearth sted: fiat, ande and channel, and are fastened to the rossarm by $i_{2}$ inch earriage boits, and to the pole by the ${ }^{2}$ inch cross arm through bolt. The Pcirce Chanmel Braces are stiffer than any other form of brace of the same wapht. Thes are provided wrin two prongs at each bolt hole, which bite into the arm and pole, aul prevent anv lost motinn bretween the arm, brace and bo $t$.

Nos. 7967 and 7969 are the A. '1' © ' 5 . Co. standard braces.

ListNo.
7960

Size Steel, Inches
$116 \times 3 / 8$

Length, Feet
6 ft .

W'eight, Lbs.
1150

List I'rice Each
$\$ 1.06$

# Angle Steel Back Braces 

| Tist No. | Size Stcel Inches | I.encth | Wreight Lbs. | List Price Each | list No. | Size Stcel Inches | Length | Wejght Lbs. | $\begin{aligned} & \text { list } \\ & \text { price } \\ & \text { Eiach } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 710 | $1 \mathrm{x}^{1.8} \mathrm{x}^{1 \times}$ | 5 ft . | 410 | \$0.85 | 716 | 13 ¢ $\times$ 5/8x $1 / 8$ | 4 ft . | 420 | \$1.04 |
| 711 | $1 \times 2{ }^{1} \times$ | 6 ft . | 510 | 1.04 | 7464 | 112 $\times 11 / 8 \times 1$ | $\pm \mathrm{ft}$. | 512 | 1.19 |
| 74.3 | $1{ }^{3} 4 \times \times 5$ | 511. | ${ }_{6} 70$ | 1.19 | $7!165$ | $11 / 2{ }^{1 / 5} \times 1$ x | 5 ft . | 6.35 | 1.40 |
| 713 | $13.4 \times 8 \times 1 / 8$ | 6 f 1. | 820 | 1.38 | 7961 | $112 \times 118 \times 10$ | Oft. | 1100 | 2.04 |
| 744 | $13 / 5 \times 8$ | 8 ft | 1060 | 1.81 | 7967 |  | $7 \mathrm{ft} .10 \mathrm{ins}$. | 16.50 | 2.69 |
| 745 | $13 / 8 \times 5 \times 18$ | 9 ft .2 ins | 1250 | 1.94 | 7969 | $13 / 4 \times 13 \times 4 \times 10$ | () ft. 2 ins. | 1935 | 3.35 |

National Electric Light Association Standard Brace. No. 8128
No. 7994 Vertical Brace

## Flat Crossarm Braces

The standard crossarm brace of the National Flectric Jight Association is the $1 / x{ }^{1} 1$ inch hrace, $2 \mathbb{S}$ inches lones over all, with one if inch hole am! one $\frac{1}{6}$ inch hole, the centers of which areone in h from the encls if the brace, This arrangement of holes is also standard with the A. 1 . \& ' $T$ ' Company and the Western Kion Telegraph (ompany, and will be furnished on all orders unless otherwise specified, although the Railway Signul issociation brace with $\frac{1}{2}$ and sf inch, holessimilarly arranged, or any other clesired combination, can be supplied. IJot galvanized or plain.

| 1 INCH X |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | L.ength | Weigh I.lis. |  | List Price Cialvanizal | List | Leneth | Weight Llos. | List Pried Galvanizet |
| No. | Inches | per 1100 |  | per 100 | No. | Inches | per 1000 | pers 100 |
| 7920 | 20 | 1000 |  | 818.60 | 7921 | 24 | 1200 | \$22. 50 |
| 7922 | 22 | 1100 |  | 20.60 |  |  |  |  |
| $1 \frac{1}{3,}$ INCH X ${ }^{\frac{7}{3}}$ INCH BRACES |  |  |  |  |  |  |  |  |
| 8020 | 20 | 1.120 |  | \$24.50 | 8021 | 26 | 1810 | \$31.80 |
| S1122 | 22 | $1.561)$ |  | 26.40 | 8028 | 26 | 1810 | 364.601 |
| S02 4 | 24 | 1700 |  | 29.30 | 80.30 | :3) | $21: 0$ | 36.60 |
| 11 NCH X INCH BRACES |  |  |  |  |  |  |  |  |
| 81:0 | $\because 0$ | 1670 |  | \$28.40 | 8126 | 26 | $216 \%$ | S37.40 |
| 8122 | 22 | 1:35 |  | 31.60 | 5128 | -3 | 23.35 | 40.20 |
| 8124 | 21 | 2000 |  | 34.50 | 8130 | 30 | 2500 | 43.10 |
| VERTICAL BRACES |  |  |  |  |  |  |  |  |
| Inst | - Dimensions in Inches- |  |  |  | Nis. of | Weight Per 100 - |  |  |
| No. | Size Angle |  | Over All | Spacing | Arms | Jabs. | Plain | Galv. |
| 7990 | 112 $\times 12 \times$ |  | 16 | 12 | 2 | 240 | \$51.56 | Stis. 76 |
| 7991 | 1\%2 $\times 12 \times \frac{3}{14}$ |  | 28 | 12 | 3 | 420 | 78.56 | 10.4. 76 |
| 7992 | 11, $111 / 2 \times 14$ |  | 40 | 12 | 4 | 600 | 11.4 .76 | 15.3 . 00 |
| 7993 | $13 / 4 \times 13 \times 1{ }^{3}$ |  | $\because 2$ | 15 | $\stackrel{2}{2}$ | 385 | 70.88 | 94. 50 |
| 7994 | $13 / 4 \times 134 \times 14$ |  | 40 | 18 | 3 | 700 | 123.51 | 164.70 |
| 7995 | $13 / 5 \times 14 \times{ }^{\frac{3}{4}}$ |  | 58 | 18 | 4 | 1015 | 174.54 | 234.74 |

Delivery fr. O. B. Pittslsurgh, I'a. For warchouse deliveries write neurest house.
31

## Standard Double Arming Bolt <br> Double Arming Bolts

Hot Galvanized or Plain
The standard length of thread on each end is: For 12 inch bolts, 5 inches; 13 and 14 inch bolts, 6 inches; 15 and 16 inch bolts, 7 inches; 17 inch and longer bolte, 8 inches. The points are fuisbed and prices include 4 square nuts, but no washers.

Manufacturer's List. Special Discounts on Application

| Diam. Ins. | Lengeth | —Per 100——— |  | Diam. <br> Ins. | Length Ins. | - Per 100-- |  | Diam. lns. | Length Ins. | $\text { Weight } \operatorname{Per~} 100-\text { List }$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Weight | 1.ist |  |  | Weight | List |  |  |  |  |
|  | Iİ. | Lbs. | Price |  |  | Lbs. | Irice |  |  | L.bs. | Price |
| $1 / 2$ | 12 | 78 | \$12.70 | 5/8 | 12 | 138 | \$19.11 | $8 / 4$ | 12 | 220 | \$2S. $0_{0}$ |
| $1 / 2$ | 13 | S3 | 13.29 | 5/8 | 13 | 115 | 20.20 | 9\%1 | 13 | 232 | 29.90 |
| $1 / 2$ | 14 | 88 | 13.74 | 5/8 | 14 | 1.33 | 20.96 | 9/4 | $1 \pm$ | 244 | 31.00 |
| $1 / 4$ | 15 | 93 | 14.26 | 3/8 | 1i) | 162 | 21.72 | $8 / 4$ | 15 | 256 | 32.10 |
| $1 / 2$ | 16 | 98 | 14.78 | $5 / 8$ | 16 | 168 | 22.45 | $3 / 4$ | 16 | 268 | 33.211 |
| $1 / 2$ | 17 | 103 | 15.30 | 5/8 | 17 | 178 | 23.21 | $3 / 4$ | 17 | 280 | 34.311 |
| $1 / 2$ | 18 | 108 | 15.82 | $5 / 8$ | 18 | 188 | 21.00 | 88 | 18 | 292 | 35.40 |
| $1 / 2$ | 19 | 113 | 16.54 | 5\% | 19 | 198 | 21.76 | 3 | 19 | 304 | 36.50 |
| $1 / 2$ | 20 | 118 | 16.86 | 5/8 | 20 | 208 | 25.52 | $3 / 4$ | 20 | 316 | 37.60 |
| $1 / 2$ | 21 | 123 | 17.38 | 5/8 | 21 | 21.8 | 26. 2 s | $3 / 4$ | 21 | 328 | 38.70 |
| $1 / 3$ | 22 | 128 | 17.90 | 8 | 22 | $2: 8$ | 27.04 | $3 / 4$ | 22 | 340 | 39.80 |
| $1 / 3$ | 23 | 133 | 18.42 | 8/8 | 23 | $2: 38$ | 27.90 | $8 / 4$ | 23 | 352 | 40.90 |
| $1 / 3$ | 21 | 138 | 18.94 | $5 / 8$ | 24 | 248 | 28.66 | $8 / 4$ | 24 | 364 | 4200 |



Wood Screw Thread
Twist Drive Thread


Fetter Drive Thread
Standard Lag Screws
Three types of lag screws are illustrated, with the wood screw, twist drive and fetter drive types of thread. The National Electric Light Association, American Telephone \& Telegraph Company and Railway Sipnal Association specifications call for the fetter drive thread, and $90 \%$ of the lar screws made for pole work arc of this type. Thr fetter drive lar dnes not tear the wood of the pole when driven, and, if given a few turns with a wrench, has greater holding power than the other types of lags which have been screwed with a wrench from the start. For this reason, fetter dirive screws will be furnished on all orders, unless otherwise specified.

| Jength, |  | Manufacturer's List Price per 100, Special Discounts on Application |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Under | Head $1 / 4$ and $\frac{8}{16}$ | 3/8 | ${ }^{16}$ | $1 / 2$ | 18 and $5 / 8$ | 3/6 | 78 | 1 |
| $111 / 2$ | \$2.25 | \$2.70 | \$3.15 | \$3.75 |  |  |  |  |
| 2 | 2.45 | 2.96 | 3.47 | 411 | \$ti.00 |  |  |  |
| $21 / 2$ | 2.65 | 3.22 | 3.79 | 4.47 | 6.50 | \$9.20 |  |  |
| 3 | 2.85 | 3.48 | 4.11 | 4.83 | 7.00 | 9.90 | \$15.00 |  |
| $31 / 2$ | 3.05 | 3.74 | 4.43 | 5.19 | 7.50 | 10.60 | 16.00 | \$22.00 |
| 4 | 3.25 | 4.00 | 475 | $5.5 \overline{5}$ | 800 | 11.30 | 17.00 | 23.30 |
| $41 / 2$ | 3.45 | 4.26 | 5.07 | 5.91 | 8.50 | 12.00 | 18.00 | 24.60 |
| 5 | 3.65 | 4.82 | 5.39 | 6.27 | 9.00 | 12.70 | 1900 | 25.90 |
| $51 / 2$ | 3.85 | 4.78 | 5.71 | 6.63 | 9.50 | 13.40 | 20.00 | 27.20 |
| 6 | 4.05 | 5. 04 | 6.03 | 6.99 | 10.00 | 14.10 | 21.00 | 28.50 |
| $61 / 2$ | 4.25 | 5.30 | 6.35 | 7.35 | 10.50 | 14.80 | 22.00 | 29.80 |
| 7 | 4.45 | 5.50 | 6.67 | 7.71 | 11.00 | 15.50 | 23.00 | 31.10 |
| $71 / 2$ | 4.65 | 5.82 | 6.99 | 8.07 | 11.50 | 16.20 | 24,00 | 32.40 |
| 8 | 4.85 | 6.08 | 7.31 | 8.13 | 12.00 | 16.90 | 25.00 | 33.70 |
| 9 | 5.2 .5 | 6.60 | 7.95 | 9.1 .5 | 1:3.00 | 18.30 | 27.00 | 36.30 |
| 10 | 5.65 | 7.12 | 8.59 | 9.87 | 14.00 | 19.70 | 29.00 | 38.90 |
| 11 | 6.0 .5 | 7.64 | 9.23 | 10.69 | 15. 00 | 21.10 | 31.00 | 41.50 |
| 12 | 6. 45 | 8.16 | 9.87 | 11.31 | 16.00 | 22.50 | 33.00 | 44.10 |


| Length Inches | Weight in los., per $\mathbf{1 0 0}$ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ${ }^{3} 6$ | 3/8 | $\mathrm{T}^{7} \mathrm{~s}$ | $1 / 2$ | 5/8 |  | 8/4 | 7/8 | 1 |
| 11/2 | 3.8 | 5.4 | 8.4 | 11.1 |  |  | , |  |  |
| 2 | 4.7 | 6.6 | 10.0 | 13.8 | 22.2 | - |  | . |  |
| 21/2 | 5.6 | 7.9 | 11.9 | 16.1 | 26 |  | 41 |  |  |
| 3 | 6.5 | 9.1 | 13.6 | 18.4 | 29.8 |  | 44.5 | 64.8 |  |
| $31 / 2$ | 7.4 | 10.4 | 15.4 | 20.8 | 33.7 |  | 52 | 72.5 | 103 |
| 4 | 8.3 | 11.6 | 17.1 | 23.1 | 37.5 |  | 57.5 | 80.2 | 113 |
| $41 / 2$ | 9.2 | 12.9 | 18.9 | 25.5 | 41.4 |  | 63 | 87.9 | 123 |
| 5 | 10.1 | 14.1 | 20.6 | 27.8 | 45.2 |  | 68.5 | 95.6 | 133 |
| $51 / 2$ | 11 | 15.4 | 22.4 | 30.2 | 49.1 |  | 74 | 103.3 | 143 |
| 6 | 11.9 | 16.6 | 24.1 | 32.5 | 52.9 |  | 79.5 | 111 | 153 |
| 7 | 13.7 | 19.1 | 27.6 | 37.2 | 60.6 |  | 90.5 | 126.4 | 173 |
| 8 | 15.5 | 21.6 | 31.1 | 41.9 | 68.3 |  | 101.5 | 1418 | 193 |
| 9 | 17.3 | 24.1 | 34.6 | 46.6 | 76 |  | 112.5 | 157.2 | 213 |
| 10 | 19.1 | 26.6 | 38.1 | 51.3 | 83.7 |  | 123.5 | 172.6 | 233 |
| 11 | 20.9 | 29.1 | 41.6 | 56 | 91.4 |  | 134.5 | 188. | 253 |
| 12 | 22.7 | 31.6 | 45.1 | 60.7 | 99.1 |  | 145.5 | 203.4 | - 273 |


| Length Inches | Weight in lobs, per $\mathbf{1 0 0}$ |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ${ }^{3} 6$ | 3/8 | ${ }^{7}{ }^{7}$ | $1 / 2$ | 5/8 |  | 8/4 | 7/8 | 1 |
| $11 / 2$ | 3.8 | 5.4 | 8.4 | 11.1 |  |  | , |  |  |
| 2 | 4.7 | 6.6 | 10.0 | 13.8 | 22.2 | - |  | . |  |
| 21/2 | 5.6 | 7.9 | 11.3 | 16.1 | 26 |  | 41 |  |  |
| 3 | 6.5 | 9.1 | 13.6 | 18.4 | 29.8 |  | 44.5 | 64.8 |  |
| $31 / 2$ | 7.4 | 10.4 | 15.4 | 20.8 | 33.7 |  | 52 | 72.5 | 103 |
| 4 | 8.3 | 11.6 | 17.1 | 23.1 | 37.5 |  | 57.5 | 80.2 | 113 |
| $41 / 2$ | 9.2 | 12.9 | 18.9 | 25.5 | 41.4 |  | 63 | 87.9 | 123 |
| 5 | 10.1 | 14.1 | 20.6 | 27.8 | 45.2 |  | 68.5 | 95.6 | 133 |
| $51 / 2$ | 11 | 15.4 | 22.4 | 30.2 | 49.1 |  | 74 | 103.3 | 143 |
| 6 | 11.9 | 16.6 | 24.1 | 32.5 | 52.9 |  | 79.5 | 111 | 153 |
| 7 | 13.7 | 19.1 | 27.6 | 37.2 | 60.6 |  | 90.5 | 126.4 | 173 |
| 8 | 15.5 | 21.6 | 31.1 | 41.9 | 68.3 |  | 101.5 | 1418 | 193 |
| 9 | 17.3 | 24.1 | 34.6 | 46.6 | 76 |  | 112.5 | 157.2 | 213 |
| 10 | 19.1 | 26.6 | 38.1 | 51.3 | 83.7 |  | 123.5 | 172.6 | 233 |
| 11 | 20.9 | 29.1 | 41.6 | 56 | 91.4 |  | 134.5 | 188. | 253 |
| 12 | 22.7 | 31.6 | 45.1 | 60.7 | 99.1 |  | 145.5 | 203.4 | - 273 |

Weight in Lbe., per 100


Standard Anchor Rods with Drop Forged Oval Eye

## Anchor Rods

## Hot Galvanized

The eyes of Anchor Rods are drop forged excent on the $11 / 4$ and $11 / 2$ inch rods, which have welded eyes. This insures rods of maximum strength with no possibility of the rods' being burned, as there is in welding the cyes.

Rods under $3 / 4$ inch diameter have $31 / 2$ inches of rolled threads. The $3 / 4,1,11 / 4$ and $11 / 2$ ineh rods have $31 / 2$ inches of cut threads. All rods are made of full size stock as shown.

Rods with two eyes can be furnished at the same prices as standard rods. All prices include square nuts, but no washers.

Rods with welded eyes can be supplied at the same prices, if desired.

| List | Dia. | Length | Size Eye Inches |  | --Per 100-_..- |  |  | List No. | Dia. Inches | Length Feet | Size Fye Inches |  | Weight | $\begin{aligned} & \text {-Per } 100- \\ & \text { I ist Prices } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Inches | Feet | Widtb | Length | Liss. | Plain | Gialv. |  |  |  | Width | length | l.hs. | Plain | Galv. |
| 7405 | 1/3 | 5 | $8 / 4$ | 1 | 355 | \$52. 12 | \$70.54 | 7427 | 3 | 7 | 1 | $1{ }_{1}^{5}$ | 112.5 | \$139.06 | \$188. 12 |
| 7406 |  | 6 | 3 | 1 | 410 | 45.84 | 80.96 | 7428 |  | 8 | 1 | $1 \frac{5}{10}$ | 127.5 | 155. 72 | 210.68 |
| 7407 |  | 7 | 8 | 1 | 465 | 67.54 | 91.38 | 7429 | 3/4 | 9 | 1 | $11^{\frac{3}{6}}$ | 147.5 | 172.26 | 233.06 |
| 7415 |  | 5 | 38 | 11/8 | 550 | 72.54 | 98.12 | 7438 |  | 8 | $1{ }^{\frac{5}{6}}$ | 134 | 2320 | 218.20 | 392.94 |
| 7416 | 5/8 | 6 | 78 | 11/6 | 650 | 83.00 | 113.46 | 7440 | 1 | 10 | $1{ }^{\frac{3}{6}}$ | 131 | 2850 | 319.06 | 472.54 |
| 7417 | 5/8 | 7 | 7/8 | $11 / 8$ | 750 | 95.20 | 128.80 | 7444 | $11 / 4$ | 10 | $13 / 4$ | 5 | 44.50 | 578.66 | 714.78 |
| 7418 | $5 / 8$ | 8 | 7/8 | 11/8 | 850 | 106.52 | 14.4 .12 | 7446 | $11 / 1$ | 12 | 2 | 6 | 7750 | 979.18 | 1324.12 |
| 7426 | 36 | 6 | 1 | $1{ }^{3} 5$ | 975 | 122.36 | 165.60 |  |  |  |  |  |  |  |  |

## Drop Forged Eyes

The drop forged eye is furnished on all standard rods and bolts except those of $11 / 4$ and $11 / 2$ inches diameter. In addition to having nearly 40 per cent. greater strength than the welded eye, being in all cases stronger than the rod itself, the drop forged type of eye is absolutely reliable becuuse it is forged from solid metal at a much lower temperature than the welding heat, and the chance of the metal burning, crystallizing, or being only partially welded is completely eliminated.


Standard Eye Bolts with Drop Forged Round Eyes

## Drop Forged Eye Bolts

## Hot Galvanized

All bolts are rolled threaded 6 inches. Fye bolts are measured from the center of the eye to the end of the bolt. l'rices include one square nut and one round washer.

|  |  |
| :---: | :---: |


| Weight | list l'rices | - Inches- |  |
| :---: | :---: | :---: | :---: |
| Lbs. | Galv. | Dia. | Length |
| 56.7 | \$28.12 | 5/8 | 8 |
| 66.9 | 30.08 | 5/8 | 10 |
| 77.1 | 32.02 | $5 / 8$ | 12 |
| 87.3 | -33.98 | $5 / 8$ | 11 |
| 97.5 | 31.50 | 5/8 | 16 |
| 107.7 | 37.96 | $5 / 8$ | 18 |
| 117.9 | 39.90 | 5/8 | 20 |
| 128 | 41.86 |  |  |


| Weight | List Prices | -_Inches-_ |  |
| :---: | :---: | :---: | :---: |
| L.bs. | Galv. | Dia. | Lengt h |
| 111.3 | \$37.56 | $3 / 4$ | 10 |
| 127.7 | 40.40 | \% $/ 4$ | 12 |
| 144.1 | 43.22 | $3 / 4$ | 14 |
| 160.5 | 46.08 | 3 | 16 |
| 176.9 | 48.96 | $3 / 4$ | 18 |
| 193.3 | 51.78 | $3 / 4$ | 20 |
| 209.7 | 54.66 |  |  |


| Per 100 |  |
| :---: | ---: |
| Wheight | List Prices |
| Lbs. | Galv. |
| 190.6 | $\$ 56.36$ |
| 214.4 | 60.46 |
| 238.2 | 64.60 |
| 262 | 68.70 |
| 285.8 | 72.86 |
| 309.6 | 76.96 |

Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.


Bolts with hexagon heads or hexagon nuts, 10 per cent. extra.
If both lexagon heads and hexagon nuts, 20 per cent. extra.
In ordering bolts please specify length from under head to point, except for countersunk head bolts, which are measured over all. Name diameter first, and then length, thus: $1 / 2 \times 3$.

Weight, Lbs., per 100

| Length Inches |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1/4 | $\frac{5}{16}$ | 3/8 | $\frac{7}{16}$ | 1/2 | I\% and 5/8 | $3 / 4$ | 7/8 | 1 | 1!8'80 | 114 |
| 11/2 | 3.1 | 5.6 | 8.8 | 13.5 | 18.5 | 33.4 | 53.8 | 88 | 130 |  |  |
| 2 | 3.7 | 6.5 | 10.2 | 15.4 | 21 | 37.5 | 59.7 | 96.2 | 140.8 |  |  |
| 21/2 | 4.4 | 7.5 | 11.7 | 17.4 | 23.6 | 41.6 | 65.7 | 104.4 | 151.6 |  |  |
| 3 | 5 | 8.4 | 13.1 | 19.3 | 26.1 | 45.7 | 71.6 | 112.6 | 162.4 | 210 | $\ddot{8} 86$ |
| 3! 2 | 5.7 | 9.4 | 14.6 | 21.3 | 28.7 | 49.8 | 77.6 | 120.8 | 173.2 | 223.8 | 302.5 |
| 4 | 6.3 | 10.3 | 16 | 23.2 | 31.2 | 53.9 | 83.5 | 129 | 184. | 237.6 | 319.1 |
| $41 / 2$ | 7 | 11.3 | 17.5 | 25.2 | 33.8 | 58 | 89.5 | 137.2 | 194.8 | 251.4 | 3.35 .6 |
| 5 | 7.6 | 12.2 | 18.9 | 27.1 | 36.3 | 62.1 | 95.4 | 145.4 | 205.6 | 265.2 | 352.2 |
| $51 / 2$ | 8.3 | 13.2 | 20.4 | 29.1 | 38.9 | 66.2 | 101.4 | 153.6 | 216.4 | 279 | 368.7 |
| 6 | 8.9 | 14.1 | 21.8 | 31 | 41.4 | 70.3 | 107.3 | 161.8 | 227.2 | 292.8 | 385.3 |
| $61 / 2$ | 9.6 | 15.1 | 23.3 | 33 | 44 | 74.4 | 113.3 | 170 | 238 | $30 t .6$ | 401.8 |
| 7 | 10.2 | 16 | 24.7 | 34.9 | 46.5 | 78.5 | 119.2 | 178.2 | 248.8 | 320.4 | 418.4 |
| $71 / 2$ | 10.9 | 17 | 26.2 | 36.9 | 49.1 | 82.6 | 125.2 | 186.4 | 259.6 | 334.2 | 434.9 |
| 8 | 11.5 | 17.9 | 27.6 | 38.8 | 51.6 | 86.7 | 131.1 | 194.6 | 270.4 | 348 | 451.5 |
| 9 |  |  | 30.5 | 42.7 | 56.7 | 94.9 | 143 | 211 | 292 | 37.5 .6 | 48.6 |
| 10 |  |  | 33.4 | 46.6 | 61.8 | 103.1 | 154.9 | 227.4 | 313.6 | 403.2 | 517.7 |
| 11 |  |  | 39.3 | 50.5 | 66.9 | 111.3 | 166.8 | 24.3 . 8 | 335.2 | 430.8 | 550.8 |
| 12 | . . |  | 3! .2 | 54.4 | 72 | 119.5 | 178.7 | 26.2 | 3356 | 458.4 | 583.9 |
| 13 |  |  |  |  | 77.1 | 127.7 | 190.6 | 276.6 | 378.4 | 486 | 617 |
| 11 |  |  |  |  | 82.2 | 135.9 | 202.5 | 293 | 400 | 513.6 | 650.1 |
| 15 |  |  |  |  | 87.3 | 144.1 | 214.4 | 309.4 | 421.6 | 541.2 | 683.2 |
| 16 |  |  |  |  | 92.4 | 152.3 | 226.3 | 325.8 | 443.2 | 5488.8 | 716.3 |
| 17 |  |  |  |  | 97.5 | 160.5 | 238.2 | $342.2{ }^{\circ}$ | $46+.8$ | 596.4 | 749.4 |
| 18 |  |  |  |  | 102.6 | 168.7 | 250.1 | 358.6 | 486.4 | 624 | 782.5 |
| 19 |  |  |  |  | 107.7 | 176.9 | 262 | 375 | 308 | 651.6 | 815.6 |
| 20 |  |  | $\ldots$ | $\ldots$ | 112.8 | 185.1 | 273.9 | 391.4 | 529.6 | 679.2 | 848.7 |

[^83]965

## Standard Carriage Bolt

Carriage bolts are used for attaehing the braces to erossirms on most overhead lines, the standard N゙. F. L. A. bolt, being $3 / 8 \times 4 \frac{1}{2}$ inches and that of the A. T'. d' Company $3 \frac{1}{8} \times 4$ inches. Carriage Bolts have standard heads, square nuts, finished points and rolled threads, athough eut threads can be supplied if required. Like machine bolns, earriage bolts have agenerous length of thread, the size mentioned having $1 \frac{1}{2}$ inches, and other bolts in proportion to their length. The round washers used with carriage bolts are listed below.

Manufacturer's List Price per 100. Special Discounts on Application

| Length Inches | 3 --Diameter, Inches- |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 1/2 | ${ }_{16}^{6}$ and ${ }^{5} / 8$ | $3 / 4$ |
| 1 | \$1.00 | \$1.40 | \$1.90 | \$2.20 | \$3.25 | 85. 75 | \$8.50 |
| 11/2 | 1.00 | 1.40 | 1.90 | 2.20 | 3.25 | 5.75 | 8.50 |
| 2 | 1.10 | 1.52 | 2.06 | 2.40 | 3.25 | 5.75 | 8.50 |
| $21 / 2$ | 1.20 | 1.64 | 2.22 | 2.60 | 3.25 | 5.75 | 8.50 |
| 3 | 1.30 | 1.76 | 2.38 | 2.80 | 3.53 | 6.13 | 9.00 |
| $31 / 2$ | 1.40 | 1.88 | 2.54 | 3.00 | 3.81 | 6.51 | 9.50 |
| 4 | 1.50 | 2.00 | 2.70 | 3.20 | 4.09 | (6.89) | 10.00 |
| $41 / 2$ | 1.tio | 2.12 | 2.86 | 3.40 | 4.37 | 3.27 | 10.50 |
| 5 | 1.70 | 2.24 | 3.02 | 3.60 | 4.65 | 7.65 | 11.00 |
| $51 / 2$ | 1.80 | 2.343 | 3.18 | 3.811 | 4.93 | 8.03 | 11.50 |
| 6 | 1.90 | 2.48 | 3.34 | 4.00 | 5.21 | 8.41 | 12.00 |
| $61 / 2$ | 2.00 | 2.60 | 3.50 | 4.20 | 5.49 | 8.79 | 12.50 |
| 7 | 2.10 | 2.72 | 3.66 | 4.40 | 5.77 | 9.17 | 13.00 |
| $71 / 2$ | 2.20 | 2.84 | 3.82 | 4.60 | 6.05 | 9.55 | 13.50 |
| 8 | 2.30 | 2.96 | 3.98 | 4.80 | 6.33 | 9.93 | 14.00 |
| $81 / 2$ | 2.40 | 3.08 | 4.14 | 5.00 | 6.61 | 10.31 | 14.50 |
| 9 | 2.50 | 3.20 | 4.30 | 5.20 | 6.819 | 10.69 | 15.00 |
| 91/2 | 2.60 | 3.32 | 4.46 | 5.40 | 7.17 | 11.07 | 15.50 |
| 10 | 2.70 | 3.44 | 4.62 | 5.60 | 7.45 | 11.45 | 16.00 |
| 11 | 2.90 | 3.68 | 4.94 | 6.00 | 8.01 | 12.21 | 17.00 |
| 12 | 3.10 | 3.92 | 5.26 | 6.40 | 8.57 | 12.97 | 18.00 |
| 13 | 3.30 | 4.16 | 5.58 | 6.80 | 9.13 | 13.73 | 19.00 |
| 14 | 3.50 | 4.40 | 5.90 | 7.20 | 9.69 | 14.19 | 20.00 |
| 15 | 3.70 | 4.61 | 6.22 | 7.60 | 10.25 | 15.25 | 21.00 |
| 16 | 3.90 | 4.88 | 6.51 | 8.00 | 10.81 | 16.01 | 22.00 |
| 17 | 4.10 | 5.12 | 6.86 | 8.40 | 11.37 | 16.75 | 23.00 |
| 18 | 4.30 | 5.34 | 7.18 | 8.80 | 11.93 | 17.53 | 21.00 |
| 19 | 4.50 | 5.60 | 7.50 | 9.20 | 12.49 | 18.29 | 25.00 |
| 20 | 4.70 | 5.84 | 7.82 | 9.60 | 13.05 | 19.05 | 26.00 |

Add 15 per rent. extra for hexagon muts.
Intermerliate lengt hs take next ligher list.
Larger diancters than $3 / 4$ inch take machine bolt list.
Carriage Bolts
Weight, Lbs., per 100

| Length Inches |  |  |  | eter, In |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1/4 | $\frac{5}{16}$ | 3/8 | $\stackrel{7}{16}$ | 1/2 | 5/8 | $3 / 4$ |
| 1 | 2.6 | 4.6 | 7.1 | 10.8 | 14.5 | 27.1 |  |
| $11 / 2$ | 3.2 | 5.6 | 8.5 | 12.8 | 17.1 | 31.2 |  |
| 2 | 3.9 | 6.5 | 10 | 14.7 | 10.6 | 35.3 |  |
| $21 / 2$ | 4.5 | 7.5 | 11.4 | 16.7 | 22.2 | 39.4 | 58.4 |
| 3 | 5.2 | 8.4 | 12.9 | 18.6 | 24.7 | 43.5 | 64.4 |
| $31 / 2$ | 5.8 | 9.4 | 14.3 | 20.6 | 27.3 | 47.15 | 70.3 |
| 4 | 6.5 | 10.3 | 15.8 | 22.5 | 29.8 | 51.7 | 76.3 |
| 41/2 | 7.1 | 11.3 | 17.2 | 24.5 | 32.4 | 55.8 | 82.2 |
| 5 | 7.8 | 12.2 | 18.7 | 26.4 | 34.9 | 59.9 | 88.2 |
| $51 / 2$ | 8.4 | 13.2 | 20.1 | 28.4 | 37.5 | 64 | 94.1 |
| 6 | 9.1 | 14.1 | 21.6 | 30.3 | 40 | 68.1 | 100.1 |
| $61 / 2$ | 9.7 | 15.1 | 23 | 32.3 | 42.6 | 72.2 | 106 |
| 7 | 10.4 | 16 | 24.5 | 34.2 | 45.1 | 76.3 | 112 |
| 71/2 | 11 | 17 | 25.9 | 36.2 | 47.7 | 80.4 | 117.9 |
| 8 | 11.7 | 17.9 | 27.4 | 38.1 | 50.2 | 84.5 | 123.9 |
| $81 / 2$ | 12.3 | 18.9 | 28.8 | 40.1 | 52.8 | 88.6 | 129.8 |
| 9 | 13 | 19.8 | 30.3 | 42 | 55.3 | 92.7 | 135.8 |
| 91/2 | 13.6 | 20.8 | 31.7 | 44 | 57.9 | 96.8 | 141.7 |
| 10 | 14.3 | 21.7 | 33.2 | 45.9 | 60.4 | 100.9 | 147.7 |
| 11 | 15.6 | 23.6 | 36.1 | 49.8 | 65.5 | 109.1 | 159.6 |
| 12 | 16.9 | 25.5 | 39 | 53.7 | 70.6 | 117.3 | 171.5 |

## IRON WOOD SCREWS



Manufacturer's List; Prices per Gross. Special Discounts on Application.



No. 7125 Step for Wood Poles


No. 7140 for Steel Poles


No. 7129 Step for Wood Poles


## Steps for Wood Poles

Of the steps for wood poles, the 10 inch hook head step is the standard of the National Electric Light Association, the American Telephone \&'Clegraph Company and the Western Union Telegraph Company, It has the fetter drive thread, which makes it casy to install and does not tear the wood of the pole when driven. The 10 inch button head step is also an $\Lambda$. T. \& 'I. Co. standard and has the twist drive thread and a square shoulder under the head for a wrench hold.


## POLE STEP AND BANDS



No. 7206


## Steps for Tubular Poles

Open hearth steel $11 / 2$ inches wide, $\frac{3}{16}$ inch thick. is used in making steps for tubular poles. The steps are 6 inches long from pole to tip, which is turned up $1 / 2$ inch. Maehine bolts $1 / 2$ inch diameter, $11 / 2$ inches long, are furnished with these steps. Hot galvanized or plain.

SOLID STEPS

|  |  |  |  | Nominal |
| :--- | :---: | :---: | :---: | :---: |
| List | Weight | List Price per 100 |  | Size Pole |
| No. | Lbs. | Plain | Galv. | Inches |
| 7204 | 215 | $\$ 72.20$ | $\$ 05.02$ | 4 |
| $72041 / 2$ | 230 | 77.30 | 101.66 | $41 / 2$ |
| 7205 | 245 | 82.34 | 108.32 | 5 |
| 7206 | 260 | 88.67 | 116.66 | 6 |
| 7207 | 295 | 80.28 | 128.32 | 7 |
| 7208 | 320 | 97.54 | 140.82 | 8 |
| 7209 | 345 | 116.00 | 153.34 | 9 |
| 7210 | 375 | 126.68 | 166.68 | 10 |

## SPLIT STEPS

| Actual <br> Outside Diameter of Pole. Inches | List | Weight | List Price per 100 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
|  | 7304 | 260 | \$88.66 | \$116.66 |
| 5 | 73041/2 | 275 | 93.74 | 123.32 |
| $51 / 2$ | 7305 | 290 | 98.78 | 130.00 |
| $65 / 8$ | 7306 | 315 | 104.50 | 137.50 |
| 75/8 | 7307 | 340 | 114.00 | 150.00 |
| 85/8 | 7308 | 365 | 123.48 | 162.52 |
| $95 / 8$ | 7309 | 390 | 133.00 | 175.02 |
| 103/4 | 7310 | 420 | 143.16 | 188.32 |

## DI-EN-KEY EXPANSION SHIELDS

## W. E. LIST PER 100



1ratinted)
Button Bearing or Open Back
$\begin{array}{lcccccc}\text { Diameter, inches. } & 1 / 4 & { }^{\frac{5}{16}} & 3 / 8 & 1 / 2 & 5 / 8 & \\ \text { Shields only. . ... } & \$ 9.00 & \$ 10^{6} .50 & 812.00 & \$ 19.00 & \$ 25.00 & \$ 35.00\end{array}$ Length shields, $\begin{array}{lllllll}\text { inches......... } & 1 & 13 / 4 & 2 & 21 / 2 & 21 / 2 & 4\end{array}$
Nize drill to usi, inches $\begin{array}{lllll}7 & 9 & 9 & 11 & 7 / 6\end{array} 1$ $11 / 4$
The above prices are for Shields only, when ordered complete add the prevailing market price for the Machine Bolts.
Diamond N-Y Screw Anchors
W. E. LIST PER 100, WITHOUT SCREWS

|  | Drill Itead No. Inches | Screw | Length of Shield Inches | Outside Diameter Inches | W. E List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1\% $\mathrm{x}^{16}$ | So. 5-15-7 | $1{ }_{2}$ | $1 /$ | \$4.40 |
|  | 1/8x 5 | No. $5-6-7$ | $5 / 8$ | 1.4 | 4.40 |
|  | $1 / 8 \times 13$ | No. 5-6-7 | 3 | $1 / 4$ | 4.40 |
| 170) 7 dit | $1 / 8 \times 1$ | No. 5-i-7 | 1 | 1/4 | 4.40 |
|  | ${ }_{16}^{3} \times 1 / 2$ | No. S-1-10-11 | 1/2 | 1. | 5.00 |
|  | \% ${ }^{16} \times 3$ | No. 8-9-10-11 | $3 / 4$ | $\frac{5}{16}$ | 5.00 |
|  | ${ }_{16}^{36} \times 1$ | No. S - $\mathrm{z}^{\text {-10-11 }}$ | 1 | ${ }_{16}$ | 5.00 |
| (Patented) | ${ }^{1 / 8} 16 \times 1$ | No. S 9-10-11 | 1 | 38 | 5.00 |
| Diamond $\mathrm{N}-\mathrm{Y}$ | $3 \times 15$ \% | No. $0-10-11$ | 15.8 | - ${ }^{3}$ | 6.25 |
| Diamond N - Y | 1/4x $\times 1 / 2$ | No. 12-1:3-14 | 12 | 3,8 | 5.60 |
|  | 1/4 $\times$ x ${ }^{3 / 4}$ | No. 12-13-14 | 34 | 38 | 5.60 |
|  | 1 $\times 1$ | No. 12-13-14 | 1 | 38 | 5.60 |
|  | 114 $\times 11 / 2$ | No. 12-13-14 | 11.2 | 38 | 8.00 |
|  | $1 / 1 \times 2$ | No. 12-1:3-14 | 2 | 38 | 10.00 |
|  | $11 \times 216$ | No. 12-1:3-14 | 212 | 38 | 12.00 |
|  | $\frac{5}{16} \times 1{ }^{4}$ | No. 1\%-16-17-18 | $3{ }_{4}^{4}$ | ${ }_{1}^{76}$ | 6.25 |
|  | ${ }_{15}^{56} \times 13$ | No. 1,5 16-17-18 | 1 | $\frac{7}{16}$ | 6.25 |
|  | ${ }_{15}^{6} \times 13$ \% | No. 15-16-17-18 | 138 | 1/2 | 10.00 |
|  | ${ }_{16}^{6} \times 11 / 2$ | No. 15-16-17-18 | $1{ }^{1} \cdot$ | $\frac{7}{16}$ | 10.00 |
|  | ${ }_{16} \times 2 \times 2$ | No. 15-16-17-18 | $2^{-}$ | $\frac{7}{16}$ | 13.00 |
|  | ${ }_{3}^{3} \times 1$ | No. 20) $29-24$ | 1 | $\frac{19}{16}$ | 13.00 |
| 4ef) | ${ }_{3}{ }^{3} \times 11 / 4$ | No. 22-23-24 | 11/4 | 16 | 15.00 |
| 43zagererser | $38 \times 2$ | No. 22-23-24 | 2 |  | 15.10 |
| Diamond N Screw | $\frac{1}{2} \times 2$ | No. 26-28-30 | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | $3 / 4$ | $25.00$ |
| Anchor | $\begin{aligned} & 5 / 8 \times 2 \\ & 5 / 4 \times 31 / 2 \end{aligned}$ | 58 in . Lag Screw $5 / 8 \mathrm{in}$. Lag Screw | 31/2 | 7/8 | $\begin{aligned} & 30.00 \\ & 50.00 \end{aligned}$ |

Put up in wooden boxes 100 to a box.
Made of non-corrodine, rust-proof composition metal.
The above prices are for Sirew . Inchors only, when ordered complete add the prevailing market price for the Wood Screws.

## "Diexco" Extension Brick Drill Heads

Marle in the following sizes are carried in stock.

|  | Drill Head No. | Size Pipe for Handle Inches | Diameter of Hole Inches | Mifs. Price per Dozen | $\begin{array}{r} \text { W. E. } \\ \text { List } \\ \text { per Dozen } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | 15 | 9 | \$3.00 | 85. 10 |
|  | 3 | ${ }_{4}^{1}$ | $\frac{16}{16}$ | 3.00 | 5.10 |
|  | 4 | ${ }^{3} 8$ | \% 16 | 3.00 | 5.40 |
| [40.4 | 5 | 1/2 | 1 | 3.00 | 5.10 |
|  | 54 | 12 | $11 / 8$ | 3.60 | 7.20 |
|  | 6 | 3 | 11/4 | 4.20 | 8.40 |
|  | 6A | $3 / 4$ | 138 | 7.50 | 15.00 |
| 0 | 7 | $3 / 4$ | $11 / 2$ | 9.00 | 18.00 |
|  | 7A | 1 | 13.4 | 10.50 | 21.00 |
|  | 8 |  | $\stackrel{2}{2}$ | 12.00 | 24.00 |
| Drill lleads | 9 | 1 | $21 / 4$ | 18.00 | 36.00 |
| Drim Meads | 9 A | 1 | $21 / 2$ | 22.00 | 44.00 |
|  | 10 | 1 | $23 / 4$ | 27.00 | 54.00 |
|  | OA | 1 | 3 | 31.00 | 62.00 |
|  | 11 | 11/4 | 314 | 36.00 | 72.00 |
|  | 11A | $11 / 4$ | $31 / 2$ | 40.00 | 80.00 |
|  | 11 B | $111 / 4$ | $33 / 4$ | 44.00 | 88.00 |
|  | 12 | 11/4 | 4 | 48.00 | 96.00 |

Sels of 4 (Nos. 2. 3. 4, 5) in wood boxes or on cards, $\$ 1.80$.

## EXPANSION BOLTS AND SHIELDS



Shield with Screw


Shield
W. E. LIST PER 100 FOR SHIELDS ONLY. (MALLEABLE)

Based on Diameter of Screw

| $\$ 8^{\frac{3.16}{16} .40}$ | $\begin{gathered} 1 / 4 \\ \$ 9.40 \end{gathered}$ | $\begin{gathered} \frac{5}{16 \prime \prime} \\ \$ 10.50 \end{gathered}$ | $\begin{gathered} 3 / \%^{\prime \prime} \\ \$ 13.3 \% \end{gathered}$ | $81^{\frac{76}{17}} .75$ | $\begin{gathered} 1 / 2^{\prime \prime} \\ 822.00 \end{gathered}$ | $\begin{gathered} 5 / 8^{\prime \prime} \\ 827.80 \\ \hline \end{gathered}$ | $\begin{gathered} 3 / 4^{\prime \prime} \\ 339.95 \\ \hline \end{gathered}$ | $\begin{gathered} 7 / 8^{\prime \prime} \\ 553.30 \end{gathered}$ | $\begin{gathered} 1^{\prime \prime} \\ 866.60 \end{gathered}$ | $\begin{gathered} 114^{\prime \prime} \\ \$ 100.00 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

## Dimensions of Diamond Expansion Shields Long Standard Shields. (Malleable)

Two-Part

| Diameter of screw. | ${ }^{3} 16$ | 1/4" | ${ }_{16}{ }^{\prime \prime}$ | $3^{\prime \prime}$ | $7^{1611}$ | 1/2" | $5{ }^{5} 11$ | 3/4" | 7/8" | $1^{\prime \prime}$ | 11/4" |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Outside diameter of shicld. | 38 | 1/2 | $\frac{9}{16}$ | 5/8 | 11 | 3 | $7 / 8$ | 11/3 | $13 / 8$ | $11 / 2$ | 17/8 |
| Length of shield. | 1 | $11 / 2$ | 13/4 | $23 / 4$ | 23/4 | $31 / 2$ | $3 \frac{1}{2}$ | $31 / 2$ | 5 | 5 | 8 |
| Diameter of drill required. | $3 / 8$ | $1 / 2$ | 9 ${ }^{\text {in }}$ | 5/8 | $\frac{11}{16}$ | 3/4 | 7/8 | 11/4 | 138 | 11/2 | 17/8 |

SHORT STANDARD AND EXTRA SHORT STANDARD. (MALLEABLE.) TWO-PART

|  | Short Standard |  |  |  | Extra Short <br> Standird for Conernte Walls |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Diameter of screw |  | $\frac{7}{16}$ | $1 / 2^{\prime \prime}$ | $5 / 811$ | $3 / 4$ " | $3 / 8{ }^{\prime \prime}$ | 1/2" |  |
| Outside diameter of shield |  | ${ }^{16}$ | \% 4 | 7/8 | 11/8 | $5 / 8$ | $3 / 4$ | $1 / 8$ |
| Length oif shiedi | 2 | 2 | 2 | 2 | 2 | 11/2 | 11/2 | $11 / 2$ |
| Diameter drill required | 5\% |  | $3 / 4$ | $7{ }^{7}$ | 11名 | 5/8 | 3/4 |  |

## "Diamond N" Midget Expansion Shields

Two Part (Malleable) The Most Powerful Little Shield
For use where shields are required for heavy duty and where conditions will allow the use of only a small expansion.


Midget

(Patented)
Midget
(Patented) Square Head Bolt

(Patented)
Square Head Bolt


For attaching opera chairs, ornamental iron work, metal grilles, ornamental hand railings, etc.
W. E. LIST PER 100 FOR SHIELDS ONLY (MALLEABLE)


The above prices are for shichds only; when ordered complete add the prevailing market price for the Lag Screws or Wood Screws.

## Keystone Expansion Shields <br> For Use with Machine Bolts <br> Double

Diameter, inches. . .
Shields only, per 100 .
Length of expansion,
$\$ 11^{1 / 4^{\prime \prime}} 70$
$\$ 1^{\frac{5}{16^{\prime \prime}}} .30$ $\$ 1$ $3 / 8^{\prime \prime}$
$\$ 16.90$ inches. . . . . .....
Diameter, inches. ...
Shichls only, per 100
$11 / 2$
Shichls only, per 100... . . . . . . . . . . $\$ 31.20$

| Length of expansion, inches. . . . |
| :--- |
| Size drill to use, inches . . . . . . |
| 1 |

Diameter, inches. . . . . . . . . . . . . . $\quad \begin{array}{r}\text { Single } \\ 1 / 4\end{array}$
Shields only, per 100. . . . . . . . . $\$ 9.76$
Length of expansion, inches.... $13 / 8$
Size drill to use, inches.
Diameter, inches. .

Length of expansion, inches. . . . 2
Size drill to use, inches. . . . . . . . . 1
The above prices are for Shields only, when ordered complete add the prevailing market price for machine bolts.

(Patented)
Rapid-fire Drill

# Diamond Rapid-fire Drill 

Drilling Holes in Concrete, Brick and Stone Made Easy With Diamond Rapid-fire Drill
Diamond lRapid-fire Drill (without drill points) $\$ 35.20$ each.
Rapid-fire Bits
Rapid-fire Bits (Extra)
Assorted Sets, Consisting of 1 Each

Per Set
Sct No. $1 \quad 1 / 4, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}, 1 / 2$ inch . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 44.42$
Set No. 2 1/8, $5 / 8,3 / 4,4 / 8,1$ inch . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6.98
Set No. 3 3/8, $\frac{7}{16}, 1 / 2,5 / 8,3 / 4$ inch . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5.34
Set No. 4 1/4, $\frac{3}{16}, 3 / 8, \frac{7}{16}, 1 / 2,5 / 8,3 / 4,1$ inch. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 8.86
Drill Points, per Dozen

## Diameter

Overall
Length
$41 / 4$ ins.
$411 /$ ins.
$41 / 4$ ins.
$41 / 4$ ins.
6 ins.
6 ins.
6 ins.
$61 / 2$ ins.
$61 / 2$ ins.
Depth of Hole
Drilled
3
3 ins.
3
3
ins.
3
ins.
$41 / 2$ ins.
$41 / 2$ ins.
$41 / 2$ ins.
5
5 ins. $\quad$ ins.

Price per
$1 / 4 \mathrm{in}$. Length

Drilled
$\$ 10.18$
$\frac{5}{16} \mathrm{in}$. $41 / 4 \mathrm{ins}$.
10.18
$\frac{7}{16} \mathrm{in}$. $41 / 4$ ins. 6 ins. $41 / 2$ ins. 11.96 6 ins. 41/2 ins. 14.36

G1/2ins. 5 ins. 16.76
( $61 / 2$ ins.
5 ins.
21.54

Extra length of Irill points, 12, 18 and 24 inches.


Diamond N Hand Drills

## Diamond N Hand Drills

Four Point



Diamond N Drill Holders
Diamond N Drill Holders and Points

| Diamond N Drill Points |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Holders | 1/4Inch | ${ }_{1}^{5}$ - Inch | $3 / 8$ Inch | $\frac{7}{16}$ Inch | 1/2Inch | 5/8 Inch | 3/4Inch |
| \$21.60 | \$10.17 | \$10.17 | \$10.17 | \$10.78 | \$11.98 | \$14.36 | \$16.76 |

Sets put up in wooden boxes make a most convenient drill outfit in most compact form for those requiring various sizes of holes for different diameters of expansion bolts.


## DIAMOND TOGĢLE BOLTS

## PARTICULARLY DESIGNED FOR MAKING QUICK AND PERMANENT FASTENINGS TO HOLLOW TILE, HOLLOW CEMENT BLOCKS, WALLS CONSTRUCTED OF EXPANDED METAL OR WOOD LATH

Can be used with either the finished stove bolt head or the nut exposed or with loose ornamental ap nuts.

FIRST: Insert round head of stove bolt through the grooves in sides of toggle and it is ready for use pith the nut at the outside of the work.


SECOND: Insert the nut through slot in sides of toggle head and turn the thread of stove bolt into the ut. The toggle is then ready for use with a finished stove bolt head at the outside of the work exposed oo view.


THIRD: Diamond Toggles are also furnished with long threaded rods as listed below with loose ornamental brass or nickel plated on brass cap nuts round, flat or acorn.


## LIST PRICE PER HUNDRED

| Size of Screw Inches | With Round or Flat Head Stove Boits |  | With Loose Head Plain Brass |  | With Loose Head Nickel Plated |  | Brass Toggle with Brass Bolts |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mfrs. | W. E. | Mfrs. | W. E. | Mirs. | W. E. | Mfrs. | W. E. |
|  | List | List | List | List | List | List | List | List |
| $1 / 8$ or $\frac{3}{16} \times 3$ | \$4.50 | \$5.86 | \$5.00 | ${ }^{5} 6.50$ | \$6.00 | \$7.80 | \$11.00 | \$14.30 |
| $1 / 8$ or $\frac{3}{16} \times 31 / 2$ | 4.70 | 6.12 | 5.20 | 6.76 | 6.20 | 8.06 | 11.30 | 14.70 |
| $1 / 8$ or $\frac{16}{16} \times 4$ | 5.00 | 6.50 | 5.40 | 7.02 | 6.40 | 8.32 | 11.55 | 15.02 |
| 18 or $\frac{3}{16} \times 5$ | 5.20 | 6.76 | 5.80 | 7.54 | 6.80 | 8.84 | 12.10 | 15.74 |
| $\frac{1}{8}$ or $\frac{3}{16} \times 6$ | 5.70 | 7.42 | 6.20 | 8.06 | 7.20 | 9.36 | 12.65 | 16.44 |
| $1 / 4 \times 3$ | 6.10 | 7.94 | 6.60 | 8.58 | 7.80 | 10.14 | 12.20 | 15.86 |
| $1 / 4 \times 31 / 2$ | 6.50 | 8.46 | 7.00 | 9.10 | 8.20 | 10.66 | 12.60 | 16.38 |
| $1 / 4 \times 4$ | 6.90 | 8.98 | 7.40 | 9.62 | 8.60 | 11.18 | 13.00 | 16.90 |
| $1 / 4 \times 5$ | 7.90 | 10.28 | 8.40 | 10.92 | 9.60 | 12.48 | 13.80 | 17.94 |
| $1 / 4 \times 6$ | 8.50 | 11.06 | 9.60 | 12.48 | 10.80 | 14.04 | 14.60 | 18.98 |
| $\frac{5}{16} \times 3$ | 6.60 | 8.58 | 10.60 | 13.78 | 12.20 | 15.86 | 20.00 | 26.00 |
|  | 7.40 | 9.62 | 11.40 | 14.82 | 13.00 | 16.90 | 25.00 | 32.50 |
| $\frac{5}{16} \times 5$ | 8.40 | 10.92 | 12.40 | 16.12 | 14.00 | 18.20 | 30.00 | 39.00 |
|  | 9.00 | 11.70 | 13.60 | 17.64 | 15.20 | 19.76 | 35.00 | 45.50 |

No. 2920


No. 2922


No. 2924


No. 2902

## DISTRIBUTING RACKS AND KNOB FIXTURES

Hot Galvanized


No. 2910


No. 358


No. 355
No. 356

Peirce Single Knob Fixtures

| List |  | W't. I.hs. per 100 | $\ldots$-List Price-_- |  |
| :---: | :---: | :---: | :---: | :---: |
| No. |  |  | Fach | I'er 100 |
| 2920 | Single knob fixture. | 35 | \$0.17 | \$13.96 |
| 2912 | Single kinob tixture. | 48 | . 25 | 20.64 |
| 2924 | Single knob tixture. | 40 | . 22 | 17.20 |

Peirce Distributing Racks For Telephone Wires


## Peirce Secondary Racks

| List | No. of | Wire | Overall | Std. |  | thout | tors- ice |  | With | ce. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Live Wires | Spacing | I, ength | Bundle | Wt. Libs. | Fach | Per 100 | Wt. Lbs. | Fach | Per 100 |
| 250 | 2 | 4 ins. | $83 / 4 \mathrm{~ms}$. | 30 | 360 | \$1.34 | \$112.00 | 560 | \$1.71 | \$111.00 |
| 350 | 3 | 4 ins. | 123/4 ins. | 10 | 500 | 1.79 | 150.00 | 800 | 2.36 | 108.00 |
| 450 | 4 | 4 ins. | $163 / 4 \mathrm{ins}$. | 10 | 620 | 2.28 | 192.00 | 1020 | 3.05 | 256.00 |
| 540 | 5 | 4 ins. | $203 / 4 \mathrm{ins}$. | 10 | 740 | 2.74 | 230.00 | 12.40 | 3.69 | $311) .00$ |
| 258 | 2 | 8 ins. | 123/4 ins. | 10 | 500 | 1.79 | 1.50 .00 | 710 | 2.17 | 183.00 |
| 358 | 3 | 8 ins. | 203/4ins. | 10 | 740 | 2.74 | 230.00 | 1040 | 3.05 | 278.00 |

## Peirce Extension Secondary Racks

| 2.51 | 2 | 4 ins. | 83/4 ins. | 5 | 735 | \$2.62 | \$220.00 | 935 | \$3.00 | \$2.52.00 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.51 | 3 | 4 ins. | 123/4ins. | 5 | 1100 | 3.57 | 300.00 | 1400 | 4.14 | 3 +s. 00 |
| 4.51 | 4 | 4 ins. | 163/4 ins. | 5 | 1245 | 4.43 | 372.00 | 1645 | 5.19 | $43 i 10.00$ |
| 541 | 5 | 4 ins. | 203/4 ins. | 5 | 15 ()0 | 5.28 | 444.00 | 2000 | 6.24 | 524.00 |
| 259 | 2 | 8 ins. | 123/4 ins. | 5 | 1100 | 3.57 | 300.00 | 1200 | 3.95 | 332.00 |
| 359 | 3 | 8 ins. | 203/4 ins. | 5 | 1500 | 5.28 | 444.00 | 1800 | 5.85 | 493.00 |
| Insulators for Peirce Secondary Racks |  |  |  |  |  |  |  |  |  |  |
| List Wt. Lbs. |  |  |  |  |  |  |  |  |  |  |
| No- | Standard single groove |  |  |  |  |  |  | per 1 | Each | Per 100 |
| 335 |  |  |  |  |  |  |  | 100 | \$0.19 | \$15.80 |
| 356 | Special double groove. . . ......................................................... 115 . 0.21 18.90 |  |  |  |  |  |  |  |  |  |

Delivery F. O. B. Factory, Pittsburgh, Pa. "For warehouse deliveries write nearest house.


## CONSTRUCTION MATERIAL



No. 8905


No. 8906

## Universal Messenger Hangers HOT GALVANIZED

List
No.
3911
3912

List
No.
3905
3906
3907



No. 9200


No. 9210


Bracket No. 9202 with No. 9220 Knobs and Two $3 / 8 \pm 4$ inch Lag Screws


No. 9215

## Hubbard Telephone Distributing Brackets



| Styple | Length of Legs Inches | -_- Per 100-_._- |  |
| :---: | :---: | :---: | :---: |
|  |  | Weight | *List Price |
| Bracket |  | Lbs. | Galv. |
| ${ }^{1}$ House | $3 \frac{11}{16} \times 2 \frac{13}{16}$ | 51 | \$15.20 |
| L l'ole | $4 \times 3$ | 87 | 25.32 |
| T Pole | $5 \times 21 / 2$ | 65 | 30.40 |

## Porcelain Knobs Complete With Galvanized Bolts for Distributing Brackets

List
No.
1215
1216
1220

Delivery: F. O. B. Pittsburgh, Pa. †Delivery: F. O. I3. Chicago, Ill. For warehouse deliveries vrite nearest house.


No. 7575


No. 7570

## Strain Plates and Guy Shims <br> HOT GALVANIZED

The purpose of strain plates and guy shims is to keep the guy strand from cutting into the pole, whic not only injures the pole, but retains moisture about the strand and accelerates corrosion. Th strain plate has been adopted as standard by the Bell companies and by most large central stations, as it give better protection to the pole, costs less, and is much cheaper to install than shims, which were formerl standard. From two to four plates are required per pole, depending on its diameter. Strain plates are mad from 14 gauge galvanized steel plates. Guy shins are furnished either hot galvanized or plain.

|  |  |  |  | 100 |
| :---: | :---: | :---: | :---: | :---: |
| List |  | Dimensions | Weight | List Price |
| No. |  | in Inches | Lbs. | Galv. |
| 7575 | Strain plate. | $4 \times 8$ | 85 | \$22.88 |
| 7570 | Pole shim | $1 \times \frac{3}{16} \times 8$ | 45 | 9.72 |
| 7571 | l'ole slim. | $11 / 4 \times 16 \times 8$ | 57 | 10.30 |



No. 7102

## Hub Guards HOT GALVANIZED OR PLAIN

Hub Guards are used on corner poles to protect them from the hubs of wagons The dimensions given are those of the flat plates, before bending, the 14 inch guard: being bent to a $5 \frac{1}{2}$ inch radius, and the 16 inch to a $71 / 2$ inch radius. All holes are $\frac{9}{16}$ inch diameter for $1 / 2$ inch lag screws, there being three holes on each side of the 18 inch guarls and five on the 30 inch sizes. The 18 inch lengths are the A. T. \& T Co. standard.

|  | Dimensions |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| List No. | in Inches | Weight, Lbs. | Per Plain | Galv. |
| 7100 | $14 \times 18 \times 1 / 8$ | 1050 | $\$ 215.33$ | $\$ 278.70$ |
| 7101 | $16 \times 18 \times 1 / 8$ | 1100 | 232.35 | 300.64 |
| 7102 | $14 \times 30 \times \frac{3}{16}$ | 2400 | 438.04 | 601.33 |
| 7103 | $16 \times 30 \times \frac{3}{16}$ | 2500 | 460.64 | 630.70 |

No. 7110

## Pole Protection Strips

## hot galvanized

These are also known as cribbing guards and are used to prevent horses gnawing poles. Made of 24 gauge galvanized sheet steel, 2 inches wide and 48 inches long, and curved to fit the pole, to which they are nailed, generally spaced about 3 inches on centers.

$$
\begin{gathered}
\text { List No. } \\
7110
\end{gathered}
$$

Weight per 100
165 lbs.

## CONSTRUCTION MATERIAL



No. 1860


No. 1872


No. 1861


No. 7840

## PEIRCE DOUBLE CLEVISES FOR CROSSARMS

## Hot Galvanized

The Double Clevis consists of a clevis plate and a crossarm clamp or strap.

| No. |  |
| :--- | :---: |
| 1860 | Standard Clevis Plate |
| 1861 | Angle Clamp only |
| 1862 | Angle Clamp only |
| 1871 | Crossarm Strap only |
| 1872 | Crossarm Strap only |
| 1873 | Crossarm Strap only |
| 1874 | Crossarm Strap only |


| Size Arm, Inches |  |
| :---: | :---: |
| All Arms |  |
| $3 \times 3$ | Angle |
| $3112 \times 31 /$ | Angle |
| $31 / 4 \times 41 / 4$ | Wood |
| $31 / 2 \times 41 / 2$ | Wood |
| $33 / 4 \times 43 / 4$ | Wood |
| $4 \times 5$ | Wood |

Wt., Lbs. per 100
120
70
76
97
108
119
132

|  |  |
| ---: | ---: |
| Lach | per 100 |
| $\$ 0.29$ | $\$ 26.60$ |
| .12 | 10.46 |
| .14 | 12.36 |
| .23 | 20.90 |
| .25 | 22.80 |
| .28 | 25.66 |
| .32 | 28.50 |

HUBBARD GUARD IRONS
Hot Galvanized
The Guard Irons are fastened to the arm by two wood screws.

F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.


No. 7515


No. 7501
Drop Forged Bolt Clevis

## Hot Galvanized

The bolt clevis is used where a long eye is necessary, for instance, in supporting suspension type insulators with a hook in the eap of the upper unit. It is attached to the crossarm or building by a $5 / 8$ inch machine bolt, with either the head or nut inside the eye, which is $31 / 2$ inches long, and tapers from $5 / 8$ inch wide at one end to $11 / 4$ inches at the other, inside measurements.
List No. Weight per 100, Lbs. 7515

## Drop Forged Eye Nuts

Hot Galvanized
These cye nuts were primarily designed for use on the threaded ends of $1, \frac{1}{2}$ or $5 / 8$ inch machine bolts passed vertically through crossarms for attaching suspension type insulators. They are also useful for dead ending lines. By their use a second eye may be added to the $1 / 2$ or $5 / 8$ inch eye bolts, which pernits the attachment of a back guy to the same bolt that supports the strain insulators to the dead ended wire, thus remoting the stress from the crossarm without the trouble and expense of using an additional eye bolt. A pole hoal guy can be attached to an eye nut on the end of the crossarm bolt. The $1 / 2$ inch eye nut may be used on the end of a Peirce crossarm strap for back guying a line dead ended on a l'iree clamp pin. Nany other uses will be found. The eye nuts are threaded to serew on standard $1 / 2$ or $5 / 8$ inch bolts, have eyes 1 inch inside diameter, and are sufficiently strong to develop the full strength of the bolt.

| rist No 7.500 7501 | Diameter Rolt, Inehes发 |
| :---: | :---: |

feight, I.bs.
41

| liach | List Pricer |
| ---: | ---: |
| $\$ 0.39$ | $\$ 36.40$ |
| .47 | 42.68 |

Guy Thimbles
Hot Galvanized
Nos. 7504 and 7505 are standard sizes of the A. T. \& T. Co.


No. 8937


No. $75831 / 2$


No. 7584


No. 7586

## Wall Straps

## Hot Galvanized

Wall straps are used by telephone and electric railway companies for dead ending messengers or span wires on buildings and walls. They are made of $1 / 4 \times 2$ inch flat steel, $121 / 2$ inches long, with an eye of 1 inch inside and $21 / 2$ inch outside diameter. Holes are provided for four $3 / 8$ inch Peirce Expansion Bolts or lags.
${ }_{8937}$ List No. Weight per 100. Lbs.
List Price per 100
238
Price on application

## Guy Hooks

Hot Galvanized
The No. 7584 guy hook is the A. T. \& T. Company's standard and is in general use, although the 2 bolt type is preferred by some construction men. For lighter work, the $31 / 2$ inch hook gives very satisfactory results.
List No.
$75831 / 2$
7584
7586

| Size Steel | Length | Diameter Holes |
| :---: | :---: | :---: |
| $11 / 1 \times \frac{3}{16}$ | $31 / 2$ | ti |
| $13 / 4 \times 3 / 8$ | 4 | H |
| 112 $\times$ 3 | 6 | $\frac{1}{10}$ |


| Weight, Lbs. | Per $100-$ |
| :---: | ---: |
| 38 | List Price |
| 75 | $\$ 12.50$ |
| 75 | 20.00 |
|  | 20.00 |

Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house,


No. 7484


Showing Rope Wire Clip Applied


Bulldog Clip

## Drop Forged Wire Rope Clips

Hot Galvanized
Wire Rope Clips are drop forged to the Croshy pattern and made from best, quality open licarth steel. List No. Size Strand, Ins. Weight, Lbs. List l'rice Galv.

7480 7481 7482 $748: 3$ 7484


| 1. | 25 |
| :---: | :---: |
| ${ }_{1}{ }^{5}$ | 25 |
| $3{ }^{3}$ | 37 |
| ${ }_{1}{ }^{7}$ | 37 |
| 12 | 75 |

$\begin{array}{r}833.00 \\ 33.00 \\ \hline 3.00\end{array}$
33.00
+1.00
44.00
47.00

## BULLDOG CLIPS

## Galvanized

| Galvanized |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 740408 | 1/4 in. strand | \$15.00 | 740411 | 1/2 in. strand. | 24.00 |
| 740109 | ${ }_{16}^{16} \mathrm{in}$. strand | 15.00 | 740412 | \%'s in. st rand. | ) |
| 740410 | $3 / 8$ in. strand | 18.00 |  |  |  |



Connecting Link

(iuy Shackle

## Acme Connecting Link <br> Drop Forged

| ListNo. | Size | ${ }^{*}$ List Price per Doz. |  | List | Size | * Ijist Price per Doz. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Plain | Gals. | No. |  | Plain | Galv. |
| 741435 | $\frac{3}{16} \mathrm{in}$. | \$1.62 | \$2.37 | 741441 | $\frac{9}{16} \mathrm{in}$. | 84.37 | \$6.39 |
| 741436 | $1 / \mathrm{in}$. | 1.62 | 2.37 | 741442 | 58 in . | 5.01 | 7.35 |
| 741437 | ${ }_{16} \mathrm{in}$. | 1.85 | 2.75 | 74144; | 3 l in. | 6.88 | 10.11 |
| 741438 | 38 in . | 2.55 | 3.62 | $74144+$ | 7/8 in. | 11.37 | 16.50 |
| 741439 | $\frac{7}{16}$ in. | 3.12 | 4.26 | 741445 | 1 in. | 15.63 | 22.74 |
| 741440 | $1 / 2 \mathrm{in}$. | 3.62 | 5.49 |  |  |  |  |

## Screw Guy Shackles

Drop Forged Steel

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Size | Length Inside Inches | Width 13'twn Eyes Inches | Diam. of Pin lnches | *List Price per 100 |  | List No. | Size | Length <br> Inside <br> Inches | Width B'twn Eive Inches | Diam. of Pin Inches | *List Price per 100 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Galv. | Jap. |  |  |  |  |  | Galv. | Jap. |
| 741446 | ${ }^{\frac{3}{16}}$ | 7/8 | 3/8 | 1/4 | S48.75 | $\bigcirc$ | 741454 | $3 / 4$ | 23.4 | $1{ }^{\frac{7}{32}}$ | 7/8 | \$142.80 | \$17.30 |
| 741447 | $1 / 4$ | $1 \frac{1}{1+6}$ | $1 / 2$ | $\frac{3}{16}$ | 48.75 | 4485 | 741455 | 7/8 | 3, ${ }^{3}$ | $13 / 8$ |  | 206.75 | 173.40 |
| 741448 | $\frac{5}{16}$ | 11/4 | $\frac{9}{16}$ | 3\% | 48.7 .5 | 4185 | 741456 | 1 | 334 | 15/8 | 11/8 | 306.00 | 241.80 |
| 741449 | $3 / 8$ | $13 / 8$ | ${ }_{1}^{17}$ | $\frac{7}{16}$ | 52.65 | 48.75 | 74145 | $11 / 8$ | $43 / 8$ | 17/8 | $11 / 4$ | 418.00 | 321.00 |
| 741450 | $\frac{7}{16}$ | $13 / 4$ | $\frac{15}{16}$ | $1 / 2$ | 60.45 | 56.55 | 741458 | 111/4 | 5 | 2 | $13 / 8$ | 579.00 | 456.00 |
| 741451 | 1/2 | 17/8 | $3 / 4$ | $\frac{9}{16}$ | 72.15 | 64.35 | 741459 | 138 | $51 / 4$ | $21 / 8$ | $11 / 2$ | 780.00 | 624.00 |
| 741452 | $\frac{9}{16}$ | 2 | 7/8 | $5 / 8$ | 104.55 | 94.35 | 741460 | 1名 | $51 / 2$ | 21/4 | 15/8 | 975.00 | 780.00 |
| 741453 | 5/8 | 238 | $1 \frac{1}{16}$ | $3 / 4$ | 12240 | 112.20\| |  |  |  |  |  |  |  |

[^84]
## CONSTRUCTION MATERIAL



No. 740508 Showing Top

## Matthews Boltless Guy Clamp

|  | Wt. | Less 500 | $\dagger$ Price per 10 500 to 1000 | $00 \text { andOver }$ |
| :---: | :---: | :---: | :---: | :---: |
| "13aby" guy clamp | 50 lbs . | \$23.00 | \$22.00 | \$21.00 |
| "(iiant" guy clamp. | 130 lbs . | 38.00 | 36.00 | 34.00 |

## Matthews Two Bolt Guy Clamp

|  | Wt. |  | Price Each $\qquad$ 500 to 10001000 and Over |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Less 500 |  |  |
| 2 bolt guy clamp. | 175 lbs. | \$0.32 | \$0.32 | \$0.32 |
| Chain lever for use with 2 bolt clamp. |  | 3.00 | 3.00 | 3.00 |

$\dagger$ Delivery F. O. B. Factory, St. Louis, Mo. For warehouse deliveries write nearest house.


## Rolled Steel Guy Clamps

List No.
7448
7449
7450

7460

Type
2 bolt
3 bolt
3 bolt

## Heavy Malleable Iron Guy Clamps

3 bolt
6 ft .2 in. wide
370 lbs.
$\$ 1.29$
$\$ 103.60$

| Each | List |
| ---: | ---: |
| $\$ 0.39$ | Price $10 C$ |
| .53 | 42.74 |
| .63 | 50.87 |
|  |  |

Length
$6 \mathrm{in}$.
4 in.
$6 \mathrm{in}$.
Wt.
per 100
115 lbs.
185 lbs.
210 lbs.
.
.


No. 7465
Schaper Forged Guy Clamps

| List No. | Bolt | Length | Width | Size Strand | - Wt. Lbs. | -*List Price Each | Galvd $=$ Per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7465 | 3 | $51 / 2 \mathrm{in}$. | $11 / 2 \mathrm{in}$. | $1 / 4$ to $1 / 2 \mathrm{in}$. | 210 | \$0.96 | \$77.20 |

*Delivery F. O. B. Factory, Pittsburgh, Pa. For warehouse deliveries write nearest house.

## CONSTRUCTION MATERIAL



Cable Clamp

'Long-Saut' Clamp


Bridle Ring

Matthews Cable Clamp


## Matthews Dead End Eyes or Eyenuts



## "Long-Saut" Combination Cable Clamp

For attaching telephone eables and bridle wires with one fastening to briek or wood buildings, fenees, ete.

| List No. | No. | Outside Diarn. of Cables | $\begin{gathered} \text { List Price } \\ \text { per } 100 \end{gathered}$ | $\begin{aligned} & \text { Iist } \\ & \text { No. } \end{aligned}$ | No. | Outside Diam. of Cables | List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 740158 | 00000 | $3 / 8$ | \$2.85 | 740165 | 2 | $11 / 8$ | \$14.72 |
| 740159 | 0000 | ${ }^{7} 16$ | 3.24 | 740166 | 3.1 | 11/4 | 21.38 |
| 740160 | 000 | 1/2 | 3.42 | 740167 | 3 | $11 / 2$ | 22.80 |
| 740161 | 00 | 5/8 | 3.62 | 540168 | 4 A | 13.4 | 25.66 |
| 740162 | 0 | H | 7.88 | 740169 | 4 | 2 | 28.50 |
| 740163 | d | $3 / 4$ | 9.78 | 740170 | 5 | 25/8 | 35.62 |
| 740164 | 2 A | 1 | 14.14 |  |  |  |  |

## Bridle Rings

Arefor the rarriage and distribution of wir's. Wue to the superior process of enampling, no ehafing of the wires, absolute smoothness, perfeet insulation, and proof against rust are points of distinetion.

| $\begin{aligned} & \text { List No. } \\ & \text { Style } \end{aligned}$ | $\begin{aligned} & \text { Fy" } \\ & \text { Inches } \end{aligned}$ | Opening Inches | Shank <br> Inches | Steel Inche's | -List Price per 1000Fnameled Galvanized |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { i } \\ & \text { E } \\ & \text { B } \end{aligned}$ | $\begin{aligned} & 15 / 8 \\ & 11 / 4 \\ & 5 / 8 \end{aligned}$ | $\begin{aligned} & 1 / 4 \\ & 1 / 4 \\ & 1 / 4 \end{aligned}$ | $\begin{gathered} 11 / 4 \\ 11 / 4 \\ 7 / 6 \end{gathered}$ | $\begin{aligned} & 1 / 4 \\ & 1 / 4 \\ & \frac{1}{16} \end{aligned}$ | On Application |

Irices for bridle rings with marhine threads, quoted on applieation.


No. 8901

## Cable Suspension Clamps

## Hot Galvanized

These are the standard A. T. \& T. Cable Suspension Clamps, the One-Bolt type being used for light eables and on eable arms, and the Three-Bolt Clamp for heivy cables and long spans. Clamps are made of special rolled sections of open hearth steel $21 / 4$ inches wide and $3 / 8$ inch thick, and are shaped so as to securely grip messenger strands of the sizes shown.


## Acme Beam Clamps

These clamps are made of a forging with a left-hand running thread on one end and a right-hand running thread on the other. The square in the center is drilled with inch hole. These clamps are of malleable iron.


## CONSTRUCTION MATERIAL



Duct Rods


Strand Connector

## Diamond Screw Duct Rods

This form of Duct Rod is furnished with cast bronze couplings, hickory sticks 1 inch diameter and furnished with either octayonal or round sticks. They lack the quick acting features of the automatic couplings used in the Empire Duct Rods but are used with good results by a number of telephone companies who prefer this type.

$$
\begin{align*}
& \text { W. E. List on } 3 \mathrm{ft} \text {. long, each. } \\
& \text { W. F. List on } 4 \mathrm{ft} \text {. long, each } \\
& 2.16
\end{align*}
$$

## Diamond Strand Connector

Diamond Strand Connectors are designed for connecting up dead ends of messenger strands when they occur between poles and result in great cconomy in pole line construction for various reasions.

With the Diamond Strand Connector the dead end of wire strands are looped in opposite directions and held with Triflent 3 Jolt Guy Clamp, as illustrated, and forms a continuous line of messenger strand from one end of the pole line to the other.
W. E. List price, galvanizel, each. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$1.17


Safety Straps


Drive Rings

## Diamond Safety Straps

The purpose of safety straps is to prevent heavy lead cable from falling to the ground should the aerial rings through accident be stripped off the strand. Great danger of injury to enmployees and to the public is the result of heavy lead cables becoming detached from the strand.

## W.E. LIST PER 100

List 1
List 2.

## Diamond Drive Rings

Diamond Drive Rings are designed to accomplish the same purpose as the Screw Bridle Ring with the added advantage of their use in stueco exterior walls and plaster interior walls over wood where it is difficult to secure a wood screw brille ring. They are quick to attach, being driven in with an ordinary nail hammer and will hold securely. They are made of hard nail wire, galvanized by the hot process.

| Diameter | Wire |  | List Per |
| :---: | :---: | :---: | :---: |
| of Eye | Gauge | Length | 1,000 |
| $1 / 2$ ins. | No. 11 | 2 ins. | 3 ins. |
| $11 / 4$ ins. | No. 9 | $\$ 11.00$ |  |
|  |  |  | 25.00 |

Delivery: F.O.B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.


## Metropolitan Electric Light Wire Connector

Type ( 6 wire commedors, for aerial serviee wire No. 6 and smaller.
1Pe 100)
Type D wire comnertors, for aerial service wire $\lambda \mathrm{N} .6$ and smaller; to main line wire No. 6 and larger

Per 100
30.00

## O. G. "Long Saut" Ground Wire Clamp

Fastening for Ground Wires to Walls of Brick, Stone, Concrete or Wood
७. G. "Long Saut" ground wire clamp.
l'er 100
$\$ 1.90$


Telegraph and Telephone Pothead Support

List No. 9017

Weight per 100
125 lbs.

List Price per 100
On application

| Iist | No. of |
| ---: | :---: |
| No. | Holes |
| 2125 | 14 |
| 2126 | 18 |

## Presteel Cable Rack Sections

| Ilole <br> Spacing | Iength |
| :--- | :--- |
| $11 / 2$ ins. | 24 ins. |
| $1 \% 2$ ins. | 30 ins. |


| Size Bolt | Weight Lbs. | List Prico |
| :---: | :---: | ---: |
| Ifole | per 100 | 1 'er 100 |
| $5 / 8$ ins. | 290 | On |
| 58 ins. | 360 | arplication |

## Rack Hooks

| Iist | Extension from Face | Thickness of | * | 100 |
| :---: | :---: | :---: | :---: | :---: |
| No. | of Rack, Inches | Plate | Wt., Lbs. | List Price |
| 2131 | 4 | $\frac{5}{33}$ | 40 | On |
| $\stackrel{1}{2132}$ | $71 / 2$ | $\frac{3}{16}$ | 86 | application |
| 2133 | 10 | $\frac{3}{16}$ | 112 |  |


|  | Angle | Steel C |
| :--- | :---: | :---: |
|  |  |  |
| List | No. of | Length |
| No. | Ilooks | Inches |
| 9125 | 14 | 30 |
| 9120 | 28 | 60 |

## CONSTRUCTION MATERIAL



Peirce Pole Seats

## Hot Galvanized or Painted

These seats in a competitive test held a dead load of 1740 lbs . without deflection. A $11 / 4 \mathrm{inch}$ angle iron seat, weighing fifty per cent. more, collapsed with 960 lbs . load. The frames and braces of all styles are of $1 \times 1 / 2$ inch channel steel. The wood seats are $11 / 4$ inch cypress, boiled in creosote. The bars of the all steel seats are $3 / 8$ inch square steel let into the frame in such manner as to leave no projecting ends. There is no strain on the riveted joints. The bars are placed with corners up, to prevent slipping. They are shipped completely assembled in bundles of five.

| No |  | Std. <br> Bundle | Weight per 100 | List Price- |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Each | Per 100 |
| 750 | No. 1, painted Pole Seat | 5 | 1260 | \$2.59 | \$234.60 |
| 751 | No. 1, galvanized Pole Seat. | 5 | 1260 | 3.03 | $276.00)$ |
| 752 | No. 2, painted Pole Seat | 5 | 1400 | 3.80 | 345.00 |
| 753 | No. 2, galvanized Pole Seat. | 5 | 1400 | 4.40 | 400.20 |
| 754 | No. 3, painted Pole Seat. | 5 | 1400 | 2.88 | 262.20 |
| 755 | No. 3, galvanized Pole Seat. | 5 | 1400 | 3.64 | 331.20 |
| 756 | No. 4, painted Pole Seat | 5 | 1260 | 2.88 | 262.20 |
| 757 | No, 4, galvanized Pole Scat. | 5 | 1260 | 3.64 | 331.20 |

*Delivery F. O. B. Pittsburgh, Pa. For warehouse deliveries write nearest house.

## Ground Rods

## HOT GALVANIZED

The wired rods have, soldered firmly to their upper ends, No. 12 eopper wires with free ends 5 inches long for attaching to the grounding wires running down the poles. Unwired rods are provided with holes through their upper ends for attaching grounding wires. These holes are $1 / 8$ inch in diameter for $3 / 8$ inch rods, $\frac{3}{32}$ inch for $1 / 2$ inch rods, and $\frac{3}{16}$ inch for $5 / 8$ and 1 inch rods, and are located 1 inch from the ends of the rods.

GROUND RODS WITH COPPER WIRE


# GUY ANCHORS 

## Matthews Scrulix Anchors



These anchors are screwed down into the solid ground without disturbing it. Each turn of the helix causes it to feel down into the ground and as it goes down the upper half again compresses the earth so that it is as solid above the anchor as around it.

| Mrs. | 5 in......................... | List Prices per 100, |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Less | Less than 50 | 50 or |
| 50212 |  | than 12 | and Over 11 | More |
| 603 R | 6 in | \$370.00 | \$350.00 | \$330.00 |
| 704 R |  | 540.00 | 520.00 | 500.00 |
| 567 | 7 in . | 640.00 | ¢20.00 | 600.00 |
| *765 | Handle. | 1000.00 | 1000.00 | 1000.00 |
| 800 | 8 in. |  | 1000.00 | 1000.00 |
| 1000 | 10 in | 1650.00 | 1650.00 | 1650.00 |
|  |  | 280.00 | 2100.00 | 2100.00 |
| 1200 | 12 in | 2800.00 | 2800.00 | 2800.00 |

All rod anchors are 6 feet long overall. A No. 567 wrench must be used with all anchors smaller than 800. No wrench is needed for the 800,1000 or 1200 anchors.
*The 765 ratchet handle is for use with the 567 wrench, and is very useful where it is desired to put the anchor down next to walls, fences, etc.

Delivery F. O. B. St. Louis, Mo. For warehouse deliveries write nearest house.

## Bierce Guy Anchors



Bierce Anchor

The Bierce Anchor works on the principle of the inverted wedge. It has exceptional holding power in dry sand or swampy soil. In a recent series of tests, the 8 inch size held over 16,000 pounds in clay and over 13,000 pounds in dry sand. It does away with expanding, screwing, driving or guessing. One man can bore hole with auger, set anchor and tamp it in fifteen minutes. It is made in one solid piece.

To install, bore a hole not less than five feet with an earth auger of same diameter as Bierce Anchor. Use $3 / 2$ inch, $5 / 8$ inch or $3 / 4$ inch anchor rods as desired for 8 inch size and 1 inch rods for 12 inch size. Drop the anchor into the hole with the point up. Tamp a quantity of broken stone or brick firmly around the anchor and it is ready to attach to the guy wire. The earth may be back filled loosely or tamped, as desired. We recommend the 8 inch anchor for a general purpose and the 12 inch for deadending lines under heavy strain.

| List | Diam. |  | Weight Lbs. | List Price Each |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Less |  | 100 or |
| No. |  |  | per 100 | than 50 | 50 to 100 | More |
| 740981 | 5 in. | Bierce Anchor. | 230 | \$1.19 | \$1.04 | \$0.91 |
| 740982 | 6 in. | Bierce Anchor. | 290 | 1.30 | 1.17 | 1.04 |
| 740983 | 8 in . | Bierce Anchor. | 530 | 1.56 | 1.43 | 1.30 |
| 740984 | 12 in. | Bierce Anchor. | 1300 | 2.90 | 2.74 | 2.60 |

Delivery F. O. B. Cincinnati, O. For warehouse deliveries write nearest house.
Prices do not include rods.

## Harpoon Guy Anchors

Harpoon Guy Anchors are made of steel throughout. They are driven down with a sledge and set by a pull. One man can install a Harpoon Guy Anchor in ten minutes. No digging, boring, tamping or special tool is required. The wings open out in the undisturbed ground and will withstand any strain met in ordinary pole line service.

| List | Length |  |  |  | ice |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Rod | Finish | eigh | than 49 | 50 to 99 | 100 and Over |
| 741274 | 5 ft . | Black enamel | 23 | \$5.32 | \$5.04 | \$4.64 |
| 741275 | 5 ft . | Electro galvanized. | 23 | 6.20 | 5.88 | 5.50 |

Delivery F. O. B. Syracuse, N. Y. For warehouse deliveries write nearest house.

## CABLE ACCESSORIES

## STYLE A CRIMPING PLIERS



These pliers are for clamping rings to suspension strand. They are made in two sizes. The small size is for rings 2 inches inside diameter and smaller; the large size for $21 / 2$ inches and greater.

| List |  |  | List Price |
| :---: | :---: | :---: | :---: |
| No. | Style |  | Each |
| 741644 | A | Small size for rings 2 inches and smaller | \$4.95 |
| 741645 | 13 | Large size for rings $21 / 2$ inches and greater | 7.50 |

Note: When ordering state size of strand: $\frac{5}{16}$ inch, $3_{8}$ inch, $\frac{7}{16}$ inch or special size.

DIAMOND CRIMPER

| List <br> No. |  |  |
| :---: | :---: | :---: |
| 741659 | Crimper complete with three sets of |  |
|  | jaws..................................... | List Price <br> Each |
|  |  | 19.20 |



Type A


Type B


Type C


Type D


Crimper

## Galvanized Aerial Cable Rings

Made of stecl heavily and smoothly galvanized after forming. They are placed on the strand by a lineman, scated in a cable car or boatswain's chair.

A tool called a crimping plier is used to fasten them to the strand and the cable is then pulled into the suspended rings.

The inside diameter of ring should be from $1 / 2$ to $3 / 4$ inch greater than the outside diameter of cable to be installed.


## Matthews Cable Splicing Joints

This levice is designed to take the place of horizontal splices in multiconductor lead-covered cables, and is adapted particularly for underground manholes.

List Description
1 Will take for straightaway splice any cable up to


Spiicing Joint and including 1 in., outside diameter, for each cable. Weight 3 lbs ., inside dimensions, 21/4 $x 8$ ins.
$\$ 5.60$
$\$ 5.30$
2 Will take for straightaway splice any cable up to and including $11 / 2$ ins., outside diameter, for each cable. Weight, 4 lbs., inside dimensions, $31 / 8 \times 8$ ins
3 Will take for straightaway splice any cable up to and including $21 / 8 \mathrm{ins}$., outside diameter, for each cable. Weight, $71 / 2 \mathrm{lbs}$., inside dimensions, $43 / 8 \times 9$ ins..
4 Will take for straightaway splice any cable up to and including $23 / 4$ ins., outside diameter, for each cable. Weight, 15 lbs., inside dimensions, $53 / 4 \times 117 / 8$ ins



Universal Sindle Ese Cable Grip


Universal Double Eye Cable Grip


Universal Double Eye Split Cable Girip

## Universal Cable Grips

These cahle grips are made in three different styles, as shown in illustrations. The single eye grip is used for atauhing the pulling line to the end of the acrial or underground cable.

The double cye grip is designed for a lufing tool, to pull additional cable into a manhole after the single eye grip has been removed. It is invaluable for pulling out old underground cable, leaving it in the best of condition for furme use.

The double eye split grip can be lashed on a working cable at any desired point, allowing slack to be pulled without interruption to the service. To determine size of Universal Cable Grips to order, refer to table of measurements.

## Table of Measurements

| Cable Grip Size | Cable Dianneter, Inches |
| :---: | :---: |
| $1 / 2 \mathrm{in}$. | For $1 / 2 \mathrm{in}$. to $5 / 8 \mathrm{in}$. |
| $3 / 4 \mathrm{in}$ | For $3 / 4 \mathrm{in}$. to 788 in . |
| 1 in | For 1 in. to 138 in . |
| $11 / 2 \mathrm{in}$ | For $11 \frac{1}{2} \mathrm{in}$. to $17 / 8 \mathrm{in}$. |


| Cable Grip Size | Cable Diameter, Inches |
| :---: | :---: |
| 2 in | For 2 in. to $2^{3} 8 \mathrm{in}$. |
| $21 / 2$ in | For $21 / 1 \mathrm{inc}$ to 278 in. |
| 3 in | For 3 in. $103^{\circ} \mathrm{s}$ in. |
| 33 in . | For $31 / 2 \mathrm{inl}$. to $3{ }^{7} 8$ in |



## and Data

List Prices
${ }^{*}$ List Price

| List |  | *List Price |
| :---: | :---: | :---: |
| No. | Size | Each |
| 191701 | 120 $\times 21 \mathrm{ins}$ | \$6.42 |
| 191702 | $3 \times 2$ ¢ ins | 7.05 |
| 191703 | $1 \times 21 \mathrm{ins}$ | 7.71 |
| 19170t | $112 \times 24$ ins | 8.84 |
| 19170.5 | $2 \times 21 \mathrm{ins}$ | 8.97 |
| 191705 | 212 x 2 ! ins | 9.63 |
| 191707 | $3 \times 21$ ins | 10.26 |
| 191708 | 3 光 $\times 24$ ins | 10.89 |

## Double Eye Grip

$191733 \quad 3$ 3-4 x 18 ins....................... 88.97

$191736 \quad 2 \times 18 \mathrm{ins} . . . . .$.
191737 212x18ins..................... 14.10
1917.38 y x 18 ivs.......................... 15.39

191739 3!2 18 ins.
16.68


## Double Eye Split Grip

191754 3/4 x 18 ins...................... $\$ 10.26$
$1917551 \times 18$ ins. . . . . . . . . . . . . . . . . . . . 11.55
$1,1756 \quad 11 / 2 \times 18$ ins. . . . . . . . . . . . . . . . 12.81
191757 2 $\times 18$ ins. ............................... 11. 10
$191758 \quad 21 / 2 \times 18$ ins. . . . . . . . . . . . . . . . 15.30
$1917593 \times 18$ ins . . . . . . . . . . . . . . . . . .
$191760 \quad 31 / 2 \times 18 \mathrm{ins} . . . . . . . . . . .$.

## Universal Leather Collar Protector

The Universal Leather Collar I'rotector is for use with single eye grips only. [t will prolong the life of the cable grip, as it protects the point of greatest wear.

| Single Eye Grip <br> For 24 Inch and 36 Inch |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List List |  | Size | *List Price Each | List <br> No. |  | Size | *List Price |
| 191775 | 1 in. |  | \$ 2.00 | 191778 | $21 / 2$ ins |  | \$4.30 |
| 191776 | $11 / 2$ ins |  | 4.10 | 191779 | 3 ins |  | 4.40 |
| 191777 | 2 ins |  | 4.20 | 191780 | $31 / 2$ ins |  | 4.50 |

*Delivery F. O. B. Syracuse, N. Y. For warehouse deliveries write nearest house.


Style A


Style B

## Holmes Tree Insulators

These insulators are made of malleable iron and furnished with double petticoat glass insulator. They are always in an upright position, regardless of the slant of the tree. The current cannot leak even if wire is bare. They can be quickly applied to tree without cutting the wire.

```
Style *List Price Each
    A Holmes Tree Insulator, 3/4 in. hole, will take wire up to 2-0 . . . . . . . . . . . . . . . . . . . . . . . $1. . 12
    B Holmes Tree Insulator, 1 in. hole, will take wire up to and including 4-0 . . . . . . . . . . . . . . 1.40)
```



## Ajax Insulator Bracket

The new Ajax Insulator Bracket is made of malleable iron with lag screw in one piece and the insulator pin is made of a soft tough learl composition.

The comparatively soft insulator pin eliminates cracking the glass or porcelain insulator which is screwed over it. Where iron pins are used the expansion and contraction of the metal often results in eracking the glass or porcelain.

The lag screw used without expansion shield is adapted for use in wood house-walls, trees, poles, etc., and with the addition of a Diamond $N$ Two-part Expansion Shield it makes a most secure attachment to brick, stone or concrete walls. Furnished in two diameters, $1 / 2$ inch and $5 / 8$ inch.

List per 100

| Diameter of Screw | Without Shield | With Shield | Without Shield | With Shield |
| :---: | :---: | :---: | :---: | :---: |
| 1/2 in. | \$57.00 | \$70.50 | \$18.76 | \$60.00 |
| $5 / 8 \mathrm{in}$. | 67.50 | 82.50 | 57.76 | 70.50 |

[^85]
## EFFICIENCY ADJUSTABLE INSULATOR SUPPORTS



This style of support is made in three sizes and is designed for carrying lines on bridges, in steel frame buildings, mills, foundries, piers elevated railways, subways, train sheds and similar structures, and for stringing temporary circuits in mills and factories in process of construction.

## List Price of Support, Bolt and Nut

| List No. | For | Mfr. List per 100 | W.E. Price per 100 |
| :---: | :---: | :---: | :---: |
| 100 | Porcelain Insulator, 1 inch high. | \$28.00 | \$33.60 |
| 150 | Porcelain Insulator, $11 / 2$ inch high | 40.00 | 48.00 |
| 300 | Glass lnsulator. | 110.00 | 114.40 |
| 201 | Cleat Fitting, 2 inches long. | 40.00 | 48.00 |
| 202 | Cleat Fitting, 3 inches long. | 74.00 | 81.40 |
| 203 | Cleat Fitting, 4 inches long. | 110.00 | 114.40 |
| 343 | 2 Wire Cleat. | 35.50 | 42.60 |
| 344 | 3 Wire Cleat. . | 47.50 | 57.00 |

All Efficiency Adjustable Supports instead of being drilled and tapped for a set serew are cored and equipped with a cup point set screw and steel nut seated on the concave side of the lower jaw of the support. This patented feature retains intact the full strength of the support and provides for firm attachment to columns, girders, angle iron and similar steel work without danger of stripping threads.

Among other advantages is its adaptability for carrying lines parallel with and at rightangles, or both, to girders, columns, angle irons, ete., on top, under and at the side of the structural steel.


Furnished with two sizes of Hooks
No. 1 for $1 / 4$ inch Messenger Wire; No. 4 for $1 / 2$ inch Messenger Wire

| List |  |  | *W. E. List |
| :---: | :---: | :---: | :---: |
| No. | Length of Strap | Hook No. | per 1000 |
| 1 | 6 ins. | 1 | S60 (0) |
| 2 | 7 ins. | 1 | (0) 00 |
| 3 | 8 ins. | 1 | 60.00 |
| 4 | 61/2 ins. | 4 | 60.00 |
| 5 | $61 / 2$ ins. | 1 | 60.00 |

## Marlin Cable Hanger

No. 1 Grade
No. 1 grade is an excellent hanger, quality of hemp not quite as good as No. 3. Hooks are made from No. 9 galvanized steel wire.

| Size | Length of Loop | Hook No. | Materia! | Weight per 1000 | tW.E. List per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 pair | 9 ins. | 9 | 2-ply Marlin | 30 lbs . | \$16.88 |
| 50 pair | 11 ins. | 9 | 2-ply Marlin | 33 lbs . | 18.12 |
| 75 pair | 12 ins. | 9 | 2-ply Marlin | 34 lbs. | 18.76 |
| 100 pair | 14 ins. | 9 | 2-ply Houseline | 40 lbs . | 21.74 |
| 150 pair | 15 ins. | 9 | 2-ply Itouseline | 42 lbs. | 22.50 |
| 200 pair | 16 ins. | 9 | 2-ply Houseline | 44 lbs . | 23.74 |

## No. 3 Grade

No. 3 Grade Marlin Cable Hanger is made in accordance with A. T. \& T. Co.'s specifications. The marlin used is 3 -ply and is made of the finest quality of selected long line American bemp. The hooks are of No. 9 wire, gadvanized by hot dip process after they are formed.

| Size | Length of Loop | Hook No. | Material | Weight per 1000 | $\dagger$ W. E. List per 1000 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 pair | 9 ins. | 9 | 3-ply Houseline | 35 lbs . | \$22.26 |
| 50 pair | 11 ins. | 9 | 3 -ply Houseline | 37 lbs. | 24.50 |
| 75 pair | 12 ins. | 9 | 3-ply Houseline | 38 lbs. | 25.62 |
| 100 pair | 14 ins. | 9 | 3-ply Houseline | 40 lbs. | 27.86 |
| 150 pair | 15 ins. | 9 | 3-ply Houseline | 42 lbs . | 29.00 |
| 200 pair | 16 ins. | 9 | 3-ply Houseline | 45 lbs. | 30.12 |

## Metropolitan Cable Clip

Will stand 400 lbs . strain. The steel wire loop is heavily galvanized and the band which encircles both cable and supporting strand is of zinc.

| Type A | *List Price per 1000 | Type B | *W. E. List per 1000 |
| :---: | :---: | :---: | :---: |
| 7 inches. | \$60.00 | 7 inches. | \$57.00 |
| 8 inches. | 66.00 | 9 inches. | 66.00 |
| 9 inches. | 72.00 |  |  |
| Deli nearest ho | $\dagger$ Delivery F. O. B. Cleveland, O. |  |  |

## INSULATED FORKS AND TURNBUCKLES

Hot Galvanized


No. 650


No. 660

## Insulator Fork and Turnbuckles

| List No. | Stylo | Sid. <br> liundle | Hit. Lhs. per 100 | List Irice Each | *List Price per 100 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 650 | Insulator Fork and Eye, 6 in. Turnbuekle. | 10 | 3.56 | \$3.54 | S3311.04 |
| 651 | Insulator Fork and Eye, 9 in. Turnbuekle | 10 | $3 \rightarrow 1$ | 3.84 | -336. 96 |
| 660 | Two Insulator lorks and 6 in . Turubuckle. | 10 | 435 | 3.94 | 345.60 |
| 6 t 1 | 'lwo Insulator Torks and 9 in. Turnbuckle | 10 | 460 | 4.33 | 380.16 |


Style
Insulator Fork and Swivel Fye, 6 in. Turnbuckle
Insulator Fork aud Swivel Eye, 9 in. Turnbuckle.

| Std. | Wit. Lbs. | List Price | *List Trice |
| :---: | :---: | :---: | ---: |
| Bundle | per 100 | Each | pur 1111 |
| 10 | 304 | $\$ 3.70$ | $\$ 324.00$ |
| 10 | 329 | 3.98 | 319.92 |

## Insulated Turnbuckles



llook and Eye and Eye

| Size |  | +List Price Einch |  |
| :---: | :---: | :---: | :---: |
|  |  | Self-colored | Galv. |
| ${ }_{16}^{3} \mathrm{x} 3$ | ins. | 80.81 | 80.00 |
| 1 x 4 | ins. | . 95 | 1.05 |
| ${ }_{16}^{5} \times 8.414$ | ins. | 1.08 | 1.20 |
| 3 \% $\mathrm{x}+12$ | ins. | 1.22 | 1.3.) |
| ${ }_{16}^{7} \mathrm{X}$ ( 5 | ins. | 1.35 | 1.50 |
| 1. $2 \times 0$ | ins. | 1.7i | 1.95 |
| 12 x | ins. | 2.30 | 2.55 |
| $12 \times 12$ | ins. | 2.70 | 3.00 |
| $5 \times \mathrm{x}$ i | ins. | 2.70 | 3.00 |
| $58 \times 0$ | ins. | 2.84 | 3.15 |
| ${ }_{5 \times 12} \times 12$ | ins. | 3. 5 ! | 390 |



| LList Price Fach |  |
| :---: | ---: |
| Self-colored | Galv. |
| $\$ 3.13$ | $\$ 3.45$ |
| 3.92 | 4.35 |
| 4.81 | 5.3 .1 |
| 1.29 | 4.75 |
| 5.67 | 6.30 |
| 6.29 | 6.99 |
| 5.40 | 6.00 |
| $1 i .29$ | 6.99 |
| 7.16 | 7.95 |
| 11.61 | 12.90 |
| 14.85 | 16.50 |

Priecs of clevis combinations on applieation.
${ }^{*}$ Delivery F. O. IB. Pittsburgh, Pa.; $\ddagger$ Sehenectady, N゙. ${ }^{\prime}$.; †Portland, Me. For warehouse dehiveries write nearest house.


FIBRE CONDUIT AND FITTINGS

In the process of manufacturing fiber conduit and fittings, wet pulp or fiber is wrapped in a minutely thin film upon a forming mandrel, under pressure, until the desired thickness of wall is obtained. The individual fiber becomes and forms a solid homogeneous wall. Taken off the mandrel, the wet pulp structure is subjected to a drying process, after which it is placed in a vat of liguid compound. This compound is a preservative, and is also insulating and water proofing. It thoroughly permeates the entire structure so that after treatment the wall of the conduit, when cut, presents a strong resemblance to hard rubler. The ends are cut in a lathe to make a socket joint, sleeve joint, Harrington joint, or screw joint, as nay be desired.


## The Sleeve Joint Type

The ends of each length are turned down to fit snugly in a sleeve by means of which a tight connection is made. The ends of the pipe are squared and fared.

Inside
I iameter
Inches
$\ddagger 1$
$11 / 2$
2
$21 / 2$
33
$31 / 2$
4

| Conduit | Standard |  |  | Caps or |
| :---: | :---: | :---: | :---: | :---: |
| per | Bends | Flbows | Tees | Plugs |
| Foot $\dagger$ | Each | Each | Each | Fach |
| \$0.27 | \$2.48 | \$2.70 | \$3.73 | \$1.05 |
| . 21 | 2.85 | 3.00 | 3.90 | 1.05 |
| . 21 | 2.85 | 3.38 | 4.43 | 1.13 |
| . 23 | 3.00 | 3.38 | 4.43 | 1.18 |
| . 24 | 3.15 | 3.45 | 4.50 | 1.20 |
| . 4.5 | 5.78 | 4.05 | 5.55 | 1.28 |
| . 54 | 6. 98 | 4.35 | 6.15 | 1.35 |

This type of joint is a modification of the sleeve joint and is made with a tapered end. Sleeves are tapered also, thereby allowing more swing to the conduit than ean be secured by other types of joints. In this type the conduit does not butt, in consequence of which nore flexibility may be had.


Coupling

| $\$ 0.20$ | $\$ 2.85$ | $\$ 3.37$ |
| ---: | ---: | ---: |
| .21 | 3.00 | 3.37 |
| .23 | 3.15 | 3.45 |
| .24 | 3.45 | 3.45 |
| .27 | 3.53 | 3.53 |

$\$ 4.43$
4.43
4.50
4.50
4.73
$\$ 1.13$
1.13
1.20
1.28
1.35
85.48
$\$ 0.15$
2
$21 / 2$
3
$31 / 2$
4

## Screw Joint Type

This type of fiber conduit is manufactured with a slightly thicker wall than the socket joint type, owing to the necessity of securing a sufficiently heavy structure for
 carrying the thread that is cut on the ends of the pipe. The thread is "United States Standard"-four to the inch-and a coupling is provided for completing the joint. A liquid compound ean be furnished to be wiped on the threuds of the pipe when making the connection. This compound hardens and renders the joint watertight.


Elbow

| $11 / 2$ | $\$ 0.30$ | $\$ 4.65$ | $\$ 4.05$ | $\$ 5.78$ | $\$ 1.28$ | $\$ 7.35$ | $\$ 0.18$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | .33 | 4.80 | 4.50 | 6.30 | 1.35 | 7.88 | .21 |
| $21 / 2$ | .33 | 4.80 | 4.50 | 6.30 | 1.35 | 7.88 | .24 |
| 3 | .42 | 5.25 | 4.65 | 6.45 | 1.50 | 8.03 | .27 |
| $31 / 2$ | .48 | 5.85 | 4.80 | 6.75 | 1.65 | 8.40 | .36 |
| 4 | .60 | 7.05 | 5.10 | 7.35 | 1.80 | 9.00 | .45 |

$\dagger$ Prices include couplings required.
$\ddagger$ Manufactured only on special order.
*Delivery F. O. B. Orangeburg, N. Y. For warehouse deliveries write nearest house.

## FIBER CONDUIT AND FITTINGS

## The Socket Joint Type

Socket or mortise and tenon connections are automatically turned on the ends of each length, being $3 / 8$ inch long, slightly tapering and uniform in size. This connection secures laying the conduit perfect in fit and alignment.

| Inside <br> Diameter | Conduit | Standard |  | Caps or |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  | per | Bends | Elhows | Tees | Plugs | Crosses |
| Inches | Foot | Each | Each | Each | Each | Each |
| 1 | \$0.18 | \$2.33 | \$2.55 | \$3.23 | \$1.05 | \$3.98 |
| $11 / 2$ | . 15 | 2.63 | 2.85 | 3.53 | 1.05 1.05 | $\$ 3.98$ 4.35 |
| 2 | . 15 | 2.63 | 3.23 | 4.05 | 1.13 | 4.88 |
| $21 / 2$ | . 17 | 2.70 | 3.23 | 4.05 | 1.13 | 4.88 |
| 3 | . 18 | 2.78 | 3.30 | 4.13 | 1.20 | 5.10 |
| 31/2 | . 20 | 3.00 | 3.30 | 4.13 | 1.28 | 5.10 |
| 4 | . 23 | 3.38 | 3.38 | 4.28 | 1.35 | 5.25 |

## Junction Boxes

Fiber junction boxes can be used with either screw, sleeve or socket joint conduit. They are especially recommended for service connections and where it is necessary to light up private roads. These bo:cs are made two, three and four way. The inside dimensions are, approximately, $8 \times 8$ inches, and the weight is 16 pounds.


## Fibre Conduit Bends

In producing these bends the conduit is first formed in the usual manner. When the pulp structure is removed from the mandrel it is bent on a special form to the radius and degree desired after which it is dried and thoroughly saturated with an insulating and preservative compound. Special bends of short radii are mitered to give the degree and radii desired.

| Inside diameter | Standard Bends |  |  |  |  | $31 / 2$ ins. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 ins . | $11 / 2 \mathrm{ins}$. | 2 ins. | $21 / 2 \mathrm{ins}$. | 3 ins . |  | 4 ins |
| DATA, 45 DEGREES AND 90 DEGREES BENDS |  |  |  |  |  |  |  |
| Length. | $21 / 2 \mathrm{ft}$. | 5 ft . | 5 ft . | 5 f | 5 ft . | 5 ft . | 5 ft . |


| DATA "S' BENDS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Offset...... Radius. | 10 ins. 8 ins | 20 ins. 36 ins. | 20 ins. 36 ins . | 20 ins. 36 ins. | 20 ins . 35 ins. | 20 ins. 36 ins. | 20 ins. 36 ins. |
| Socket - W. F. List Price Each ---_ |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| *Sleeve. . . . . | 2.48 | 2.85 | 2.85 | 3.00 | 3.45 | 5.78 | \$3.98 |
| *Harrington. . |  |  | 2.85 | 3.00 | 3.15 | 3.45 | 6.98 3.53 |
| *Screw. . . . . | . . . . | 4.65 | 4.80 | 4.80 | 5.25 | 5.85 | 7.05 |

*Prices include couplings.
$\dagger$ Delivery F O. B. Orangeburg, N. Y. For warehouse deliveries write nearest house.

## VITRIFIED CLAY CONDUIT

This conduit is made of the purest fire-clay, salt glazed, and guaranteed to comply rigidly with the American Telephone and Telegraph Company's specifications. We inspect all conduit as it is loaded. Conduit is manufactured in all standard sizes and designs, and includes some special economic forms.


Single Duct Conduit: May be obtained in either of two forms: the square or round duct. The square duct single is heavier and has no real advantage over the round duct single. The round duct is now the popular single duct conduit. Its weight is much less, thus saving on freight. It is especially efficient in building up trunk lines, the beveled corners allowing square interstices between the pieces, thus forming an additional concrete support, and insuring good alignment before and after cable pulling.

Two-way and Three-way Multiple Conduit can only be manufactured in 2 foot lengths, and is designed for building up trunk lines to the desired capacity of laying singly in the trench for terminal and lateral construction.

## VITRIFIED CLAY CONDUIT

Is the most, satisfactory conduit made, strong in the web, straight in line, smooth in the duct, and flat on the ends. This ware is the most economical per duct foot to lay in the trench.

| Stzile | Length of Piece, Feet | Duct Feet in Piece, Feet | Weight <br> per <br> Duct <br> Foot | Duct Diameter Inches | Duct Fect Minimum Cor. | Price per <br> Duct Foot |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Square Duct, Single. | 1.5 | 1.5 | 10 | $31 / 2$ | 4278 |  |
| Round Duct, Single. | 1.5 | 1.5 | 8 | $31 / 2$ | 5000 | Prices |
| 2-Way Multiple. | 2 | 4 | 8 | 3,8 | $\stackrel{3}{2} 250$ |  |
| 3-Way Multiple. | 2 | 6 | 350 | $3{ }^{3}$ | 7800 | Applica- |
| 4-Way Multiple. | 3 | 12 | 7.50 | 3.8 | 7800 | tion |
| 6-Way Multiple. | 3 |  | 7.50 <br> -50 |  | ${ }_{7800}$ |  |
| 9-Way Multiple. | 3 | 27 | . 50 | 3,8 | 7800 |  |

## STANDARD WOODEN CONDUIT

This pine "punp-log duct" is largely used by telephone companics with underground lead-covered cable; it is creosoted, and, therefore, there is no limit to its life; the price is moderate, freight is low: breakage is very slight, cost of laying is low; dimensions, square, $41 / 2 \times 4 \frac{1}{2}$ inches outside; hole, 3 inches.

Prices on application.


Long Handle Round Point


Tele. \& Tele. Spoon and Shovel

Tele. \& Tele. Western Pattern


Tele. \& Tele. Spoon, Eastern
 Pattern


## Standard Long or D Handle Shovels

The standard shovel furnished with either D or long handle (D handle is 27 inches long, long handle is $41 / 2$ feet from top of blade to top of handle), furnished in either polished or black finish, round or square point and with plain back (welded).

|  |  |  |  |  | L |  | List Price per Dozen |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Width | Length | Width | Length | Width | Length | Black Finish |
| ${ }^{\text {No. }}$ | 91/ | 113/4 | $011 / 4$ | 123/4 | 91/4 | 113/4 | \$37.50 |
| 3 | $93 / 4$ | 121/4 | $91 / 2$ | 131/4 | $91 / 2$ | 1214 | 38.50 |
| 4 | 101/2 | $121 / 2$ | 93/4 | 133/4 | $93 / 4$ | 123/4 | 39.75 |
| 5 | 107/8 | 13 | 101/2 | 141/4 | 101/4 | 131/4 | 40.85 |

## Telephone or Telegraph Shovels

These shovels are from 6 to 8 feet in length with round point (blarle straight with hand, no lift), plain back finished in black; has strap regularly $9 \frac{1}{2}$ inches to 28 inches, inclusive.

|  |  | List Price per Dozen | Length |  | List Price per Dozen |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Leng <br> 6 ft | With 91/2 in. strap | . . . . . . . $\$ 40.80$ | 6 ft . | With 28 in. strap | \$42.80 |
| 7 ft . | With $91 / 2 \mathrm{in}$. strap. | 41.80 | 7 ft . | With 28 in. strap | 43.80 |
| 8 ft . | With $91 / 2 \mathrm{in}$. strap. | 42.80 | 8 ft . | With 28 in. strap | 44.80 |

## Telephone or Telegraph Spoons

These spoons are male from 6 to 8 fect long with regular round point (Eastern pattern) or flat toe (Western pattern) with plain lack in black finish.

|  | n pattern) with plain | . $\$ 40.80$ | 6 ft . With 28 | , | \$42.80 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | With $91 / 2 \mathrm{in}$. strap. | 31.80 41 | 7 ft . With 28 |  | 43.80 |
|  | With $91 / 2$ in. strap. With $91 / 2$ in. strap. | 41.80 42.80 | 8 ft . With 28 |  | 44.80 |
|  |  | ndard | st Spades |  |  |
| 16 in . D or long handle, polished finish. |  |  |  |  | \$42.05 |
| SPOON HANDLES |  | SHOVEL HANDLES |  | D SHOVEL HANDLES |  |
| Length | List Price per Doz. | Length | List Price per Doz. | Length | List Price per Doz. |
| 6 ft . | \$16.25 | 6 ft . | \$15.35 | XX Grade | \$9.80 |
| 7 ft . | 19.05 | 7 ft . | 18.35 | X Grade | 9.10 |
| 8 ft . | 21.15 | 8 ft . | 20.45 |  |  |
| 9 ft . | 24.65 | 9 ft . | 23.30 |  |  |
| 10 ft . | 30.95 | 10 ft . | 30.25 |  |  |
| 12 ft . | 34.45 | 12 ft . | 33.75 |  |  |

# Western Electric <br> <br> CONSTRUCTION TOOLS 

 <br> <br> CONSTRUCTION TOOLS}


## Crow and Digging Bar high grade open hearth steel

| List |  | List Price | List |  |  | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N |  | Wgt. Fach | No. |  | Wgt. | Each |
| 1061 | 1 in , octagon, 7 ft . long. | $20 \mathrm{lbs} . \$ 4.45$ | 1064 | 11/8 in. octagon, 7 ft . long. | 26 lbs . | \$5.50 |
| 1062 | 1 in . octagon, 8 ft . long. | 23 lbs .5 .15 | 1065 | $11 / 8 \mathrm{in}$. octagon, 8 ft . long. | 30 lbs . | 6.40 |
| Tamping and Digging Bar |  |  |  |  |  |  |
| $\begin{aligned} & 1071 \\ & 1072 \end{aligned}$ | 1 in . octagon, 7 ft . long. | 20 lbs . $\$ 5.25$ | 1074 | $11 / 8 \mathrm{in}$. octagon, 7 ft . long. | 26 lbs. | \$6.40 |
|  | 1 in . octagon. 8 ft . long. | 23 lbs . 6.05 | 1075 | $11 / 8 \mathrm{in}$. octagon, 8 ft . long | 30 lbs . | 7.35 |
| Plain Digging Bar |  |  |  |  |  |  |
| 1081 | 1 in . round, 7 ft . long | 19 lbs. \$4.10 | 1084 | $11 / 8$ in. round, 7 ft . long. | $241 / 2 \mathrm{lbs}$ | \$4.80 |
| 1082 | 1 in , round, 8 ft . long. | $211 / 2 \mathrm{lbs}$. 5.95 | 1085 | $11 / 8 \mathrm{in}$. round, 8 ft . long. | 28 lbs | 5.10 |

Digging Spud with Tamper


Electric Tamping Bar


Loy or Slick

## Digging Spud With Tamper



Tamping Bar with Extra Heavy Iron Shoe

## Tamping Bar

## WITH HEAVY IRON SHOE

## CONSTRUCTION TOOLS



## Carrying or Lug Hooks

REGULAR PATTERN

| Weight List Price |  |
| :--- | ---: |
| per Doz. | Each |
| 8.5 lbs | $\$: 3 . x 0$ |
| 95 lbs | $4 .(1)$ |


Socket Peavy

## Western Union Pattern



Cant I look



Pike Poles Nos. 805-816


Western Electric Pattern Nos. 818-824

## Washington Fir Pike Poles

## Standard Small Size



Guarded Pike Pole

## Guarded Pike Poles

| List |  | Weight | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | List |  | Weight | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Handie, Washington Fir | per Doz. | Each | No. | Handle, Washington Fir | per Doz. | Each |
| 832 | $10 \mathrm{ft},. 13 / 4 \mathrm{ins}$ | 100 lbs . | \$3.00 | 797 | $14 \mathrm{ft.} ,21 / 4 \mathrm{ins}$ | 180 lbs . | \$4.00 |
| 833 | $12 \mathrm{ft},. 13 / 4 \mathrm{ins}$ | 120 lbs . | 3.15 | 835 | $16 \mathrm{ft}, 2^{1 / 4} \mathrm{ins}$ | 195 lbs. | 4.25 |
| 834 | $14 \mathrm{ft}$. , $13 / 4 \mathrm{ins}$ | 140 lbs. | 3.35 | 836 | $18 \mathrm{ft}$. , $21 / 4 \mathrm{ins}$. | 210 lbs . | 4.45 |
| 795 | $16 \mathrm{ft} ., 13 / 4$ ins | 160 lbs. | 3.75 | 837 | $20 \mathrm{ft},. 21 / 4 \mathrm{ins}$. | 235 lbs. | 4.85 |
| 796 | 12 ft ., $21 / 4 \mathrm{ins}$. | 165 lbs . | 3.75 | 798 | $22 \mathrm{ft.} ,21 / 4 \mathrm{ins}$. | 250 lbs . | 5.40 |



## Pole Supports

WOODEN JENNEY POLE SUPPORTS
List
Price
List
No.
8426 ft., $21 / 2 \times 3$ ins........ 39 lbs. $\$ 10.95$
843
844
$7 \mathrm{ft}$. ., $21 / 2 \times 31 / 2 \mathrm{ins.}$. . . . . . 57 lbs. 11.90

62 lbs. 12.75

IRON JENNEY POLE SUPPORTS

| IRON JENNEY POLE SUPPORTS |  |  |
| :--- | :--- | ---: |
|  | List <br> Price |  |
|  |  | Weight |
| Each |  |  |

## IRON MULE SUPPORT

6 ft . mule pole support. . . . $32 \mathrm{lbs} . \$ 16.80$
7 ft . mule pole support.... $35 \mathrm{lhs}$.
8 ft. mule pole support.... 39 lbs . 21.70

## Standard Dead Man <br> WESTERN ELECTRIC PATTERN

Made of $2 \times 4$ inch white oak with wrought steel fork and pike and with steel bands to prevent splitting.

ORT
23 lbs. $\$ 8.40$
26 lbs. 10.10
29 lbs. 12.05

## CONSTRUCTION TOOLS



No. 318 Simplex Pole Jack

## No. 318 Simplex Pole Jack

Single acting-operating on the down stroke of lever, or tripping at any point.
This jaek has becn especially designed for pulling, reinforcing and straightening telephone, trolley and lighting poles. "It pivots on its base," and lifts the largest pole from solid ground in but a fraction of the time required by former methods.

The pivoting base allows the jack to follow the angle of the pole with pressure exerted constantly. The recessed cap into which any of the links of the chain are dropped, holds firmly under every load. Tho double lever soeket insures a convenient position of the lever bar, no matter the angle of inclination of the jack.

Standard Equipment. Eight fect of heavy chain with pear link attached. Five foot steel lever har, pinch bar construction. Two feet of $10 \mathrm{inch}, 2 \mathrm{j}$ b. I beain basc support to prevent slipping.

| List | Capacity | Lift | Height |  |  |  |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Tons | Inches | Inches | Jack | Chain | Bar | Total Wt. | Each |
| 318 | 15 | 24 | 39 | 90 lbs. | 34_lbs. | 17 lbs . | 189 lbs. | \$80.00 |



No. 310 Simplex Jacks

## Simplex Emergency Jack

This jack pivots on its base and has recessed eap which holds the links of a chain firmly. It is used for turning the flywheels of large engines off center, as an emergency jack on trucks, on elcctric and steam railroads, for tank cars, moving heavy machinery, etc. It performs the service of a combined erane and jack.

Single acting-operating on the down stroke of the lever.

| List |  | - |  |  |  | ts |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Capaeity | Lift | Height | Jack | Chain | Total | Price |
| No. | Style | Tons | Inches | Inches | Lbs. | and Box | Wt. | Each |
| 310 | Emergency | 15 | 121/3 | 21112 | 59 | 30 lbs. | 89 libs. | \$63.00 |
| 315 | Ordnance and Emergency | 15 | 12 | 233 | 67 | 13 lbo. | 102 lbe. | 68.00 |

Delivery F. O B. Factory, Chicago, Ill. For warehouse deliveries write neareat house.

## CONSTRUCTION TOOLS



Standard Tree Trimmer


## CONSTRUCTION TOOLS



W. E. Cable Reel Jack Front View

W. E. Cable Reel Jack

Side View

Western Union Cable Reel Stand

List Price per Pair
$\$ 95.25$

## W. E. Cable Reel Jack




Folding Take-up Reel
List
No.
1
1
3

## Security Messenger Cable Cars

| Descrip.ion | Weight .Lbs. | List Price Each |
| :---: | :---: | :---: |
| With adjustable seat and table. | 53 | \$33.30 |
| With adjustable seat, no table. | 37 | 25.95 |
| Without safety strap. | 28 | 19.85 |
| Take-up Reels |  |  |
|  | Weight Lbs. | List Price Each |
| Folding, for 12 inch coil | 39 | \$22.40 |
| Folding, for 18 inch coil. | 40 | 23.10 |
| Folding, for 21 inch coil. | 41 | 23.80 |
| Folding, for 24 inch coil. | 42 | 24.50 |



No. 4609-108


No. 4609-102 Reel in Operation


No. 4609-102 Combined Take-up and Pay-out Wire Reel

## Combined Take-up and Pay-out Auto Truck Wire Reel The "EICHOFF" No. 4609-104

This combination reel is made with No. 12 galvanized sheet steel disc, 28 inches in diameter, and has the same labor saving features as the combination reel No. 4609 -102. By simply reversing the ends of the T axle in the socket of the base the reel is changed from a horizontal to a perpendicular position for either taking-up or paying-out wire. The ' $\Gamma$ axle turns in the socket of the base so that the reel will take up wire in any direction without turning the auto truck. It is especially adapted for railway signaling, telegraph and telephone departments.

| List |  | Weight | *istPrice <br> Each |
| :--- | :--- | :--- | ---: |
| No. |  | Combined take-up and pay-out reel (reel disc, 28 inches) $\ldots \ldots \ldots$ | 57 lbs. |
| 4609-104 | $\$ 57.40$ |  |  |

## Combined Take-up and Pay-out Wire Reels

No. 4609-102

Heretofore most telephone, telegraph and electric light companies used separate reels, one to pay out and one to take up. These new combination reels will fill both of these requirements and will do it better and in less time. The reel disc proper instead of being made of wood is of No. 10 galvanized sheet steel; is 34 inches in diameter and has a 1 inch flange turued around the edge. The axles are made from $7 / 8$ inch cold rolled steel with cast iron hub bored to fit. Wieight of the reel about eighty lbs.

No. 4609-108 reel has the same labor saving features as the No. 4609-102 and has the added advantage of being mounted on wheels, making it very convenient for one man to handle.

| List |  |  | $\dagger$ List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Weight | Each |
| 4609-102 | Combined take-up and pay-out reel (reel disc 34 ins.) | 91 lbs . | \$58.80 |
| 4609-108 | Same as the No. 4609-102, but is mounted on wheels | 129 lbs. | 77.00 |
|  | Large wire guile for barbed wire (extra) |  | 4.20 |



The Wasson Reel

## Wasson Reels



## Western Electric <br> CONSTRUCTION TOOLS



No. 401
Improved Reel


No. 402 Improved Wagon ReeI

## PAY OUT REELS

No. 402 Improvel wagon reel. Can be bolted on any wagon box, platform or fence post for putting up wire fences.

| List |  |  | *List I'rice |
| :---: | :---: | :---: | :---: |
| No. |  | Wt. | Each |
| 401 | Improved Reel | 95 lbs . | \$32.15 |
| 402 | Improved Wagon Reel | 37 lbs . | 25.00 |



## TOOL CART

## Dimensions



No. 403
Jumper Wire Reel

Main box, 6 feet 2 inches x 30 inches deep.
Lower tool hox, $33 \times 30 \times 8 \frac{1}{2}$ inches deep.
Side tool box, 5 compartments, 5 ft . 10 inches $x 6$ inches wide, 10 inches deep.

Front tool box $30 \times 6 \times 10$ inches.


## TRACK DOLLY

With the use of one rail. two men can move poles to any desirel place. The wheels are iron and fit standard rails. This tool can also be used in pairs to move a load of poles, by laying two across and piling any amount desired.

List
No.
408 Track Dolly, $4 \times 2$ ft. x 15 in........ . . . 225 lbs. On appl.

## JUMPER WIRE REEL

The Jumper Wire Reel was especially designed for use in telephone exchanges.

| List |  | *List Price |
| :--- | ---: | ---: | ---: |
| No. | Wt. | Each |
| 403 Jumper Wire Reel..................... 40 lbs. | $\$ 39.30$ |  |
| *Delivery F. O. B. Factory, Downers Grove, Ill. | For ware- |  |
| house deliveries write nearest house. |  |  |



No. 4602-1
Double Deck Pay-our Ree


No. 5306
Shoulder Strap for Carryinglpay-out Reel


No. 4601-1. For Telephone Work. Wood, Select Maple No. 4601-2. For Electric Light, Telegraph Work. etc. A Heavier Reel than No. 385A. Wood, Seasoned Oak


No. 4600-1
Common Pay-out Reel

## Pay-out Reels

| List |  | Weight | *List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Lbs. | Each |
| 4602-1 | Klein Double Deck Pay-out Reel on barrow |  | \$50.4) |
| 4601-1 | Klein Pay-out Recl on barrow for telephone work | 90 | 23.80 |
| 4601-2 | Klein Pay-out Reel on barrow for electric light work. | 80 | 28.00 |
| 5306 | Leather Shoulder Straps for carrying pay-out reel... . . . . . . . . . . . . (per set) | $43 / 4$ | 14.55 |
| 4600-1 | Klein Common Pay-out Reel without barrow for wagon reels. | 40 | 14.00 |
|  | e reels are substantially built of hard wood, disk reinforced with steel pla table for standard 12 inch, 18 inch or 24 inch coils. Built to stand hard usa | $\mathrm{Tl}$ | uard pins |



No. 4608-1
Improved Take-up Reel


No. 4608-2

## Klein's Improved Take-up Reels

Take-up Reel, seasoned oak. All braces bolted. Removable side piece on spool to allow the coiled wire to be unloaded. The turned axle makes the reel light running. The unloading feature makes it economical in time. And in addition to being so well constructed, the improved take-up reel has a separate guard piece slipped on shaft and fastened with a flat key, allowing wire to be removed quickly and easily.

| List |  | Weight | *List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Lbs. | Each |
| 4608-1 | Improved, for 18 in . coil. | 62 | \$33.60 |
| 4608-2 | Improved, for 21 in . coil. | 65 | 33.60 |

*Delivery F. O. B. Factory, Chicago, Ill. For warchouse deliveries write nearest house.


## Wire Measuring Outfit

This measuring outfit measures quickly and accurately all wires from No. 0 to No. 40, inclusive. It can also be used for measuring lamp cord, rope, tape, etc. It is made so that it may be fastened to either the counter or side wall and occupies but little space. It is indestructible and very neat in appearance, the winder and reel are so arranged that they may be closed when not in use, therefore occupying but little space.

| List No. |  | *List Price Each |
| :---: | :---: | :---: |
| 761806 | Folding reel | \$8.00 |
| 761807 | Measuring machine | 24.00 |
| 761808 | Wire winder . . . . | 13.35 |



Iland Tally Counter


No. 1 Tally Register


Pole Counter

## Veeder Set Back Hand Tally Counter

This counter is useful for many purposes. The case is small in size, with rounded corners so as not to irritate the hand of the user.

| List No. |  | List Price Each |
| :---: | :---: | :---: |
| 762016 | Set Back Hand Tally Counter. | \$6.c0 |
| List No. | No. 1 Tally Register | List Price Each |
| 0 | With bracket. | \$6.00 |
| 1 | With bracket.. | 8.00 |
|  | With safety pin. | 6.00 |
| 1 | With safety pin. | 8.00 |
| List No. | Pole Counter | List Price Each |
| 0 | Pole counter, records 1 to 1000 . . . . . . . . . . | \$5.00 |
| $1 \cdot \mathrm{D}$ | Pole counter, records 1 to $10,000 . \ldots . . . .$. | 7.00 |

No. 9110


No. 9140

Manhole Cover Lifters

| List No. | Type | W., Lbs. |
| :--- | :--- | :---: |
| 9110 | Woorl | $71 / 2$ |
| 9115 | Steel | 5 |

List No. Wt. per 100
9140
40 lbs.
*List Price Each

## Cable Duct Shields

On application
On application

## 9120 950 lbs.

Pulling-in Irons for Manholes


No. 9104
Galvanized Steel Manhole Ladders are made to the specifications of the large telephone and central station eompanies. They have sides of $2 \mathrm{x}=3$ inch flat and rungs of $5 \frac{8}{8} \mathrm{inch}$ round open hearth steel. The rungs pass through the sides and are riveted over on the outside.

| list | No. of | Kung |  |  | Weight | *List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | liungs | Spacing | Width | Length | Lbs. | Each |
| 9100 | 5 | 15 | 14 ins. | 6 ft . | 37 |  |
| 9101 | 5 | 1.5 | 14 ins. | 6 ft .3 ins. | $381 / 2$ |  |
| (1) 102 | 5 | 15 | 14 ins. | 6 ft . 6 ins. | 40 |  |
| 9103 | 5 | 1.5 | 14 ins. | 7 ft . | 42 | On |
| 9104 | 6 | 15 | $14 \mathrm{ins}$. | 8 ft . | 49 | applica- |
| 9105 | 7 | 1.5 | 14 ins. | 0 ft . | 55 | tion |
| 9106 | 8 | 15 | 14 ins. | 10 ft . | 61 |  |
| 9107 | 9 | 15 | 14 ins. | 12 ft . | 73 |  |
| 9108 | 11 | 15 | 14 ins. | 14 ft . | 86 |  |

## Manhole Skids and Sheaves


A tool for leading the pulling line from the mouth of the duct to the capstan. The skids have pin holes every thrce inches from top to bottom so that the sheaves can be moved any place desired in the skid. Nine foot sets furnished unless otherwise ordered.
$\dagger \dagger$ List Price Each
Nine-foot skids, per set. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 80
Price for additional lengths, per foot . . . . . . . 80

## Empire Duct Rods



Empire Duct Rods

* Delivery F. O. B. New York City, † Delivery F. O. B. Factory, Chicago, Ill. $\ddagger \dagger$ Lelivery F. O. B. Factory, Harvey, Ill. § Delivery F. O. B. Factory, Garwood, N. J. For warehouse deliveries write nearest house.

These rods are constructed of malleable iron machined to a perfect fit so that side or end play is avoided. The wooden rod is of the best selected straight-grained wellseasoned hickory, and is expanded in the end of the iron coupling by means of a wedge which makes it impossible to pull out.

The rods are made in two styles, without wheels and with wheels. In the wheel type the wheels are so staggered that if one axle should come in contact with an obstruction on one side of the duct the other side will remain free.

With Wheels
Without Wheels §List Price
per Rod

| Length | per Rod |
| :--- | :---: |
| 3 ft. | $\$ 2.00$ |
| 4 ft. | 2.15 |

List No.
760178
§List Price
$\$ 1.60$
1.75

## CONSTRUCTION TOOLS



## Western Electric

## iBuffalo Grips

Made in the Following Types and Sizes
The jaws may be clamperl open at any width, the grip held in one hand and the wire inserted, no matter in what position the lineman may be.

The harder the pull the firmer it grips, yet it does not injure the wire or insulation.


Buffalo Grips with Pulleys
Made in the Following Types and Sizes

| I.ist <br> No. | Description | $\begin{aligned} & \text { Grip with } \\ & \text { Pulley } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: |
| 1 | lixtreme opening of .22 inch, holding wire from smallest size to No. 6 , inclusive. Will accommodate sash cord $1 / 4$ inch in diameter. | \$6.60 |
| 2 | Extreme opening of .35 inch, holding wire from smallest size to No. 0 , inclusive. Will accommodate rope ${ }^{3} s$ inch in diameter. | 8.50 |
| 3 | Extreme opening of . 48 inch, holding all sizes of wire from smallest size up to No. 0000, inclusive. <br> Will accommodate sash cord ${ }^{3}$ s inch in diameter. | 12.00 |
| 4 | Extreme opening of . 52 inch, holding weatherproof wire, sizes No. 6 to No. 1, inclusive. <br> Will accommodate sash cord ${ }^{3}$ ǵ inch in diameter. | 8.50 |
| 5 | Extreme opening of .68 inch, holding weatherproof wire, sizes No. 4 to No. 0000 , inclusive. |  |
| 6 | Will accommodate sash cord ${ }^{3}$, inch in diameter. <br> Extreme opening of .27 inch, holding weatherproof wire, sizes No. 14 to No. 8, inclusive. | 9.50 6.20 |

## Buffalo Lineman's Tool

| List <br> No. | Description | Complete <br> Tool |
| :---: | :---: | :---: |
| 1 | Extreme opening of .22 inch, holding wire from smallest size to No. 6, inclusive. | $\$ 12.50$ |
| 2 | Extreme opening of . 35 inch, holding wire from smallest size to No. $\mathbf{0}$, inclusive. | 13.70 |
| 4 | Extreme opening of .52 inch, holding weatherproof wire sizes No. 6 to No. 1, | 11.00 |



No. 1602-10

## Klein's American Grip

The American Grip Wire Clanp is made of steel. It is light and compact and takes up but little space between the blocks and wire, thus allowing the greatest amount of slack within lineman's reach to be brought up. It is operated with one hand, is easily placed on the wire and is self locking by spring pressure and readily released.

This grip is equally efficient on iron or copper wire. The jaws are parallel and perfectly smooth and will positively not injure the wire. The draft being close on the center, it will pull straight and not kink the wire. Galvanized finish.

| List |  |  |  |
| :---: | :---: | :---: | :---: |
| No. |  | Weight <br> bs. Each | List Price |
| 1602-10 | For No. 6 wire and smaller | $11 / 4$ | \$4.50 |
| 1602-20 | For No. 0 wire and smaller | 2 | 8.50 |



## Klein's Eccentric Wire Grips

 KLEIN'S COME ALONG GRIP| List No. |  | Galvanized | Weight Lbs. | List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| 1609-20 | For No. 8 wire and smaller |  | 1 | \$1.60 |
| 1609-30 | For No. 6 wire and smaller |  | 2 | 1.95 |
| 1609-40 | For No. 0 wire and smaller |  | 21/4 | 2.40 |

## KLEIN'S COMMON ECCENTRIC GRIP

## Arranged for Attaching Strap

1607-20 For No. 8 and finer wire, with clevis for jack straps. Galvanized finish. . . . . . . . . . . . . $\$ 2.10$

## KLEIN'S HAVENS STEEL GRIP

| 1604-10 | For No. 8 wire and finer, galvanized finish. | 1 | \$4.65 |
| :---: | :---: | :---: | :---: |
| 1604-20 | For $1 / 2$ inch wire and finer, galvanized finish | 21/2 | 6.05 |

$1604-20$ For $1 / 2$ inch wire and finer, galvanized finish . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\quad 21 / 2 \quad 6.05$
1625-20 Improved Havens grip. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 14.56
This is a very efficient Grip for all around work.



| Quick Samson Trolley Messen |  |  |
| :---: | :---: | :---: |
| For Messenger or Strand | Weight, Lbs. Each | List Price Each |
| $\frac{3}{16}$ to $3 / 8$ in. strand, gripping surface 7 in | 8 | \$22.85 |
| $1 / 4$ to $1 / 2 \mathrm{in}$. strand, gripping surface 7 in | $93 / 4$ | 25.90 |
| $\frac{3}{16}$ to $5 / 8 \mathrm{in}$. strand, gripping surface 9 in | 141/2 | 29.00 |

A modification of the Quick Samson Grip is available for trolley wire. The jaws are not serrated, but only roughened.

| List |  | Weight Lbs Each | List Price Each |
| :---: | :---: | :---: | :---: |
| 1619-20 | For No. 6 to 2-0 B\&S wire, gripping surface 7 in | 8 | \$22.85 |
| 1619-30 | For No. 2 to 4-0 B\&S wire, gripping surface 7 in | $93 / 4$ | 25.90 |
| 1619-40 | For $\frac{5}{16}$ to $5 / 8 \mathrm{in}$. B\&S wire, gripping surface 9 in | 141/2 | 29.00 |

For Trolley Wire
For $\frac{3}{16}$ to $\frac{3}{8}$ in. strand, gripping surface 7 in 8 $93 / 4$
For $\frac{1}{16}$ to $5 / 8 \mathrm{in}$. strand, gripping surface 9 in.............................................. $141 / 2$

Wire Grip



Lineman's Block with Strap

Klein's Parallel Screw Wire Grip
For Trolley Wire

| List | Fror | Weight Lbs. | List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Each | Each |
| 1608-10 | Two grooves for Nos. 0 and 00 | 7 | \$6.60 |
| 1608-20 | Two grooves for Nos. 00 and 000 | $71 / 2$ | 7.45 |
| 1608-30 | Two grooves for Nos. 000 to 0000 | $73 / 4$ | 8.25 |

Lineman's Block with Strap



Howe's Wire Tool
Single Purchase


Howe's Wire Tool Double Purchase

## Howe's Wire Tools

The frames are malleable, castings galvanized finish, roller made of steel. The swivel hook is steel with an opening large enough to go over an insulator pin or other convenient object to anchor to. The forward end has a locking device to hold the load at any distance. It is arranged so it can be used with a vise or with a grip.

| List |  | Weight | List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Lbs. | per Set |
| 1702-20 | Single purchase strap $11 / 4 \mathrm{in}$. wide, 9 ft . long |  | \$9.80 |
| 1702-30 | Double purchase strap $11 / 8 \mathrm{in}$. wide, 10 ft . lo | 236 | 11.05 |

## Steel and Wooden Pulley Blocks <br> WOOD PULLEY BLOCKS

Wood Pulley Block with Hook



Japanned and Hollow Shell Steel Tackle Block


| Diameter Sherves | Length Shell | No. of Sheaves | Size of Rope |
| :---: | :---: | :---: | :---: |
| $31 / 2 \mathrm{ins}$. | 6 ins. | Single | $3 / 4 \mathrm{in}$. |
| $31 /$ ins. | 6 ins. | 1)ouble | 3 in. |
| $31 / 3 \mathrm{ins}$. | 6 ¢ ins. | Triple | 3in. |
| $43 / 4 \mathrm{ing}$. | $7 \mathrm{ins}$. | Ningle | \%/8. in . |
| $41 /{ }^{4} \mathrm{ins}$. | 7 ins. | Double | \% in. |
| 434 ins. | 7 ins. 88 ins. | ${ }_{\text {Triple }}$ | \%/8in. |
| 4 y ins. | 8 ins. | Double | 1 in . |
| $43 / 1 \mathrm{ins}$. | 8 ins. | Triple | 1 in . |

List Price Fach
Japanned Hollow
Steel Steel
on appl.


No. 300 Dicke Messenger Clamp

## Laurent Cherry Pulley Block



Dicke Messenger Clamp


## CONSTRUCTION TOOLS



Self-locking Block Set No. 1802-30


Self-locking l3lock Set No 1803-30

## Self-Locking Lineman's Slack Tackle

Light steel shell blocks fitted with snubbing hook to lock in any position, also in handling a vertical oad. To lock the load, simply pull the luff rope under the hook. 'I'o release, simply pull the rope. The forward block is arranged with a snap hook with spring guard.

| List |  | Weight |
| :--- | :--- | :--- |
| No. |  | List Price |
| $1801-30$ | Self-locking lineman's slack tackle, galvanized, furnished with 25 ft . of rope | $21 / 2$ |

## Self-locking Blocks


attaching grips, furnished with $25 \mathrm{ft} . \frac{3}{8}$ in. rope. . . . . . . . . . . . . . . 2 . 2.45


Lineman's Wood Block

## Lineman's Wood Eye Blocks <br> With Eye at Ends for Fastening Grips

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Weight per Pair | List Price per Pair |
| :---: | :---: | :---: | :---: |
| 4900-3 | 3 in . block for $\frac{7}{16} \mathrm{in}$. rope | 2 lbs. | \$5.75 |
| 4900-4 | 4 in . hlock for $\frac{1}{2}$ in. rope. | 3 lbs . | 6.45 |
| 4900-5 | 5 in . block for $5 / 8$ in. rope | 7 lbs . | 9.65 |



Klein's Pulley Blocks with Eccentric Grips

| $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ |  | Neight per Pair | List Price per Pair |
| :---: | :---: | :---: | :---: |
| 4902-21/4 | Klein's pulley block with eccentric grip. | 2 lbs. | \$9.95 |
| Rope |  |  |  |



No. 1901
Eastern



No. 762067
Western


## Klein's Pole Climbers

| List |  |  | Weight | List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Length | per Pair | per Pair |
| 1900 | Eastern-without straps, riveted strap loops | 15 to 18 in . | $33 / 4 \mathrm{lbs}$. | \$6.30 |
| 1903 | Special light weight Lastern riveted loops-without straps | 15 to $163 / 2 \mathrm{in}$. | $23 / 4 \mathrm{lbs}$. | 6.30 |
| 1901 | Eastern-without straps, punched strap loops. | 15 to 18 in. | $3 \% 8 \mathrm{lbs}$. | 5.70 |
| 1902 | Western-without straps. | 15 to 18 in . | $25 / 8 \mathrm{lbs}$. | 4.60 |

Note: When ordering climbers, always specify length wanted by half inch variation.
The steel in Linemen's Lastern Pattern Climbers is made to special order of a springy, durable quality, forged to the right thicknesses for safety and lightness. The gaffs are of tool steel set into the shank and never loosen. When worn down, however, they can be removed and new gafis set in place.

The lines of form make them well fitting and comfortable.
Quality and workmanship, is the best in either. The only difference is in the loop through which the straps pass. The No. 381 and No. 381 L have the loops riveted into the shank, while in the No. 382 they are punched out of the metal of the shank. No. 381 L is the pattern of No. 381, but made lighter than the standard weight.

If straps are wanted with climbers, mention it in the order. We never send straps unless it is mentioned.

## Climber Straps

| List |  | Weight | List Price |
| :---: | :---: | :---: | :---: |
| No. |  | per Doz. Sets | per Pair |
| 5301-1 | Straps for Eastern Climbers, with plain leather pads | 15 lbs . | \$55.70 |
| 5301-2 | Straps for Eastern Climbers, with sheep-lined pads | 16 lbs . | 6.40 |
| 5301-3 | Straps for Eastern Climbers, with felt-lined pads. | 16 lbs . | 6.40 |
| 5300-1 | Straps for Western Climbers, with plain leather pads | 15 lbs . | 5.70 |
| 5300-4 | Straps for Western Climbers, plain bottom. . . . . . . | 8 lbs . | 2.90 |
| 5300-5 | Straps for Western Climbers, top with leather pad | 9 lubs. | 2.90 |
| Eas shown in We straps a | Climber straps set consists of two upper straps with 4 t. <br> Climber straps set consists of two upper straps with own in cut. | and two low her pads and | straps 48 <br> wo lower |



Soft Pads


Plain Leather_Pads

Strap Pads

|  | Weight | List Price |
| :---: | :---: | :---: |
|  | per Doz. Sets | per Pair |
| Strap Pads, felt lined, $4 \times 4$ inc | 3 lbs . | \$1.75 |
| Strap Pads, plain leather, $4 \times 4$ inches. | ${ }_{3}^{3} \mathrm{lbs}$. | 1.75 1.20 |

## CONSTRUCTION TOOLS



Belt and Safety Strap


Double Tool Belt, With Rings


Single Tool Belt, With RIngs
Weight List Price Lbs. Each
$31 / 2 \quad \$ 14.40$

## List <br> No.

5206-1A $21 / 4 \mathrm{in}$. belt, including safety strap
Belt and Safety Strap
The safety strap is $13 / 4$ inches wide and 6 feet long, and provided with a snap at each end.

## Safety Tool Belt With Rings

| 5202 | $21 / 4 \mathrm{in}$. belt, with rings for attaching safe | $15 / 6 \mathrm{lbs}$. | \$7.60 |
| :---: | :---: | :---: | :---: |
| 5204 | $31 / 2 \mathrm{in}$. belt, with rings for attaching safety strap | $15 / 6 \mathrm{lbs}$ | 9.40 |
| 5205 | 12 in. belt, whing | 2 lbs. | 8.40 |



Leather Pouch


Jack or Vise Strap


Safety Strap


Combined Safety and Jack Strap

## Combined Safety and Jack Strap

| List | Combined Safety and Jack Strap | Weight | List Price |
| :---: | :---: | :---: | :---: |
| No. |  | Lbs. | Each |
| 5308 | $13 / 4 \mathrm{in}$. strap, fixed snap on one end, roller snap at other. | 21/4 | \$7.80 |
| Jack or Vise Strap |  |  |  |
| 5303-1 | Regular Jack Strap, for vise, $11 / 4 \mathrm{in}$. x $51 / 2 \mathrm{ft}$. | $3 / 4 \mathrm{lbs}$. | \$4.00 |
| Safety Strap |  |  |  |
| 5250 | $13 / 4 \mathrm{in}$. x 6 ft. Safety Strap, with japanned sraps | $21 / 2 \mathrm{lbs}$. | . $\$ 6.80$ |
| 5251 | $13 / 4$ in. $\times 61 / 2 \mathrm{ft}$. Safety Strap, with roller snaps... | $21 / 2 \mathrm{lbs}$. | . 8.20 |
| 5252 | $13 / 4 \mathrm{in} . \times 61 / 2 \mathrm{ft}$. Safety Strap, with swivel roller snaps | $21 / 2 \mathrm{lbs}$. | \%. 9.60 |
| 5253 | $2^{4} \mathrm{in} . \times 6$ ft. Safety Strap, with roller snaps..... | $23 / 4 \mathrm{lbs}$. | 3. 9.25 |
| Leather Pouch |  |  |  |
| ${ }^{5106}$ | Made with loop to slip into belt, for holding screw, etc. re: When ordering belts, please state if wanted for $38,40,42,44$, or 46 i | $62 / 3 \mathrm{oz} .$ | \$1.80 |



No. 5108. Leather Tool Rag

## Inspector's Leather Tool Bag, Harness Leather

This bag is a rombination of all the good features of the various common leather bags. It is made of harness leather and will stand rough and hard usage and still always look well. It has a shoulder strap combined with a pad and hand strap; saw and bit. The bottom is three ply and is studded with steel studs. Retaining straps pass clear around the bag so that it may be loaded to the limit of its capacity and be securely held intact. All seams are sewed with hot waxed linen thread, lock stitched. The leather used does not absorb moisture.

| List |  | Wgt. Lbs. Each | List Price Each |
| :---: | :---: | :---: | :---: |
| 5108-14 | $14 \times 8$ in. harness leather | 3 | \$14.25 |
| 5108-16 | $16 \times 8$ in. harness leather | 41/8 | 15.65 |
| 5108-18 | $18 \times 8 \mathrm{in}$. harness leather | $41 / 2$ | 17.10 |
| 5108-20 | $20 \times 8 \mathrm{in}$. harness leather | $51 / 8$ | 18.85 |
| 5108-22 | $22 \times 8 \mathrm{in}$. harness leather |  | 19.90 |
| 5108-24 | $24 \times 8 \mathrm{in}$, harness leather | 71/4 | 21.25 |



Canvas Tool Bas


No. 5101-15

## Lineman's Canvas Tool Bag, Leather Bottom

| List |  | Size | Wgt. Lbs. | List Price | List |  | Size | Wgt. Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  | Inches | Each | Each | No. |  | Inches | Each | Each |
| 5102-24 | 24 in . |  | 41/2 | \$11.20 | 5102-16 | 16 in . |  | 31/2 | \$8.40 |
| 5102-22 | 22 in. |  | . 4 | 10.10 | 5102-14 | 14 in . |  | 3 | 7.90 |
| 5102-20 | 20 in . |  | . $37 / 8$ | 9.50 | 5102-12 | 12 in. |  | 25/8 | 7.15 |
| 5102-18 | 18 in |  | . $33 / 4$ | 8.80 |  |  |  |  |  |

## Inspector's Black Leather Tool Bag

This bag is made with shoulder straps entirely of leather, tongue and buckle fastenings, convenient for inspector, wireman or lineman.

| List |  | Wgt. Lbs. List Price |
| :---: | :---: | :---: |
| No. |  | Each Each |
| 5101-15 | 15 ins. long, 12 ins. high | 3 \$15.00 |
| 5101-20 | 20 ins. long, 12 ins. high | $33 / 4 \quad 18.50$ |

Quantity Prices
Quoted on Request


No. 1301-2

Western Electric


No. 1304-2

These tool kits are recommonded especially ffor every plectrician, mechanic, repeirman, inspector, limeman, signalman and supervisor.

1304-2 Cienuinc leather case, 8 ins , long, $31 / 2 \mathrm{ins}$ in width and 2 ins, high when elosed. Furnished in
either russet or black leather. The kit contains seven tuols. They are 7 an. special side
cutting pliers, 5 in. nickel-plated scissors; double-bladed knifc screw driser and wirescraper
combined; 3 in. half-round mill flee and handle; $2 \%$ in. screw clriser, $3!2$ in. nickel-plated
tweezer and 2 ft. 4 fold
either russet or black leather. The kit contains seven tuols. They are 7 an. special side
cutting pliers, 5 in. nickel-plated scissors; double-bladed knifc screw driser and wirescraper
combined; 3 in. half-round mill flee and handle; $2 \%$ in. screw clriser, $3!2$ in. nickel-plated
tweezer and 2 ft 4 fold
either russet or black leather. The kit contains seven tuols. They are 7 an. special side
cutting pliers, 5 in. nickel-plated scissors; double-bladed knifc screw driser and wirescraper
combined; 3 in. half-round mill flee and handle; $2 \%$ in. screw clriser, $3!2$ in. nickel-plated
tweezer and 2 ft 4 fold tweezer and 2 ft . 4 fold hoxwood rule

W"t. List Pripe tweezer
$\$ 16.50$
1304-1 Case onl
I.l.s. Jiach

1301-2 Genuine lather case. It is $4 \times 9$ ins. It contains: One single blacle ixel electrician's knifc, one 5 in . sperial side cutting pliers, one 5 in . oblique diagonal pliers, one 6 in . longnose side cutting pliers, one 3,2 in. blade niekel-plat ed serew driver and one pair 512 in electrician's scissors, $4 \frac{1}{2}$ in. nickel-plated twerzers. one $3^{11} \underline{2}$ in. file and handle.
1301-1 Case only.


No. 2200-4 ${ }^{1}$-Needle Point


No. 1550-2-Double Blade
No. 2201-31, ${ }^{2}$-Blunt Point

## Electrician's Knife and Screw <br> Driver

1


No, 1550-1-Single Blade
$1550-2$ Single blade elcetrician's knife
I ist
No.
$2200-412$
$2201-31_{2}^{2}$

## Electrician's Wire Tweezers

Vire $t$ weezers, necile point
Vire tweezers, blunt point.

|  | List Price |
| :---: | ---: |
| Weight | Each |
| 18 oz. | $\$ 2.00$ |
| 250 oz | 2.50 |

Finish
Electrician's Scissors

Nickel
Nirkel

Fini-h
Sick! ! lated

Werght bach $22 / 3 \mathrm{oz}$.
$\qquad$


## Bolt and Wire Cutters



Steel Lag Screw Wrench


Combination Lag Screw Wrench

## Klein's Steel Lag Screw Wrench

This wrench is forged from select bar steel. The jaw is made tapering, allowing it to take any ordinary size machine bolts, nuts, or lag screws, from $3 / 8$ inch to $\frac{5}{8}$ inch. The hook is a means of attaching the wrench to the tool belt, and it serves to keep the heads of bolts within the jaws of the wrench when in use.

| List |  |  | Weight | *List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Length | per Doz. | Each |
| 3110-20 | Steel Lag Screw Wrench, full polished. | $111 / 2 \mathrm{ins}$. | 20 llss. | \$4.00 |
| 3112-20 | Combination Steel Lag Screw Wrench | $131 / 2 \mathrm{ins}$. | 20 lbs . | 3.00 |

## Klein's Combination Lag Screw Wrench

This wrench is forged from select bar steel. The slot in this wrench is formed in a cross shape, and will fit machine bolts, nuts or lag screws, from $3 / 8$ inch to $5 / 8$ inch. The small end of the wrench is arranged for $\frac{5}{16}$ inch machine bolts or lag screws, the round hole allowing the end of a bolt to come through as the nut is run on.
3109-20 Combination Lag Screw Wrench, full polished

$131 / 2$ ins.
20 lbs.
$\$ 4.00$


## Terminal Wrench

This wrench is especially adapted for use on terminal nuts, receivers, transmitters, binding posts, etc. There are three different side openings, with dimensions as follows: $3 / 8$ inch, $5 / 8$ inch, and $\frac{7}{16}$ inch, which will engage either square or hexagonal nuts. One end is bent at an angle of 45 degrees, to allow its use in confined places.

| List | confned places. |  | Wgt. | st Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | Length | per Doz. | Each |
| 3111-20 | Terminal Wrench | $2 \frac{13}{16} \mathrm{in}$. | $3 / 4 \mathrm{lb}$. | \$0.50 |

Weight
Per Doz.


Wire Peeler

| TWIN WRENCH |  |
| :--- | ---: |
| Holds |  |
| Round Iron | Length |
| $1 / 4$ to 1 in. | 10 ins. | 10 ins.



No. 4



No. 600

| Weight | ListPrice <br> Each <br> $11 / 4 \mathrm{lbs}$ |
| :---: | ---: |
| 1.20 |  |

Hollow Handle Tool Sets

| List |  | Length | Length | $\ddagger$ List Price |
| :---: | :---: | :---: | :---: | :---: |
| No. |  | of Handle | of Tool | per Doz. |
| $\stackrel{4}{*}$ | Cocobolo wood, jaws and shell nickeled 10 tools. | 61/4 in. | $21 / 2 \mathrm{in}$. | \$25.80 |
| 600 | Combination handle, complete with 20 tools. | 5 in. | 21/4in. | 30.90 |
|  | Clivery F. O. I. Factory, Chicago, Ill., $\ddagger$ Delive | ory, Mill | ls, Mas | For ware- |



No. 132-3
List
No.
$132-3$

No. Has 5 round holes and 4 double holes for Nos. 6, 8, 10, 12 and 14



| No. 132-5 |  |  |
| :---: | :---: | ---: |
| Length | Wt. per | List Price |
| Inches | Doz., Lbs. | Each | copper sleeves, or Nos. $8,9,10,11,12,14$ and 16 iron sleeves. $111 / 4$

$173 / 4$
6.00

| No. 132-4 |  |  |
| :--- | ---: | ---: |
| Length | Wt. per | List Price |
| Inches | Doz., Libs. | Each | iron wire, $4,6,8,10$ and 12 copper wire, and $8,10,12$ and $14 \mathrm{~B} \& \mathrm{~S}$ slecves, or $10,12,14$ and $16 \mathrm{~B} . \mathrm{W} . \mathrm{G}$. sleeves. . . . . . . 103/4

$151 / 2$
$\$ 5.50$
132-4 Same style only arranged for different sleeves. For Nos. 6, 8, 10 and $12 \mathrm{~B} \& \mathrm{~S}$ sleeves, or $8,10,12$ and $14 \mathrm{~B} . \mathrm{W} . \mathrm{G}$. sleeves, 6 to 14 iron wire, and 4 to 12 copper wire.

## Klein's Splicing Clamp

The splicing clamp is one of the most important tools in the lineman's kit, and as electrically and mechanically good joints are of the most importance in a line, it is evident that the tools selected to do this work should have careful consideration. The following illustrations show our different styles and the sizes of wire for which they are fitted. The handles have a spring temper and will not bend out of shape
after being closed on the wire.
No. 102-1

No. 102-3
Baby Pattern for Telephone Work


No. 102-4
Nos. 105-6 and 105-7
For Electric Light, Telegraph and Railroad Work
102-4 For Nos. 0, 2 and 4 copper wire. .................................. 103/4 143/4
$\$ 4.60$
For Telephone, Telegraph, Railway, Light and Power Work
105-6 For sleeves Nos. 8, 10, 12 and 14 B\&S gauge or 10,12, 14, 16 B. W. G. 10 $1 / 2 \quad 14$
105-7 For sleeves Nos. 6, 8, 10 and 12 B\&S gauge or 8, 10, 12, 14 B. W. G.. 101/2 14

"Die Stock" Sleeve Twister
"Die Stock" Sleeve Twister

[^86]



No. 5


Breast and Hand Drill

| List No. |  | Weight Lbs., Each | **List Prjce Each |
| :---: | :---: | :---: | :---: |
| 13 | Breast drill, double gear, 6 in . Hrive wheel | 6 | \$ 9.50 |
| 87 | Breast drill, 2 speed 234 to 1 and even. | 8 | 14.80 |
| 5 | Hand drill, cut gears, ball thrnst bearing | $13 / 4$ | 4.60 |
|  | Delivery F. O. B. Factory, Chariotte, N. C. Delivery F. O. B. Factory, Millers Falls, Ma | York City nearest |  |



Klein's "World Special" Side Cutting Pliers


KLEIN'S "WORLD SPECIAL" SIDE CUTTING PLIERS



RIMCO RUBBER INSULATED PLIERS
Fach pair tested for 10,000 volts by electrical testing labratory of N. Y. Rubber bandad to handle by "Elchemeo process. list Nize No. Inches

6 Rimeo Rubber Insulated Pliers.... |  | Per |
| ---: | :--- |
| $\$ 27.00$ |  | 8 Rimeo IRubber Insulatel Pliers. .. 33.00



KLEIN'S EXTRA LONG OVAL NOSE PLIERS
203-5 5 With Side Cutter.
203-6 6 With Side Cutter ….... $3^{23}$ llbs. $\$ 2.60$ 203-7 7 With side Cutter.......... $3^{11}$ lbs. 3.90


Klein's Extra Long Curved Nose Pliers


KLEIN'S EXTRA LONG DUCK BILL PLIERS
List Size wht list Price No. Inches jer Doz. Eist Price
 $\begin{array}{lllll}205-7 & 7 & \text { With Side Cutter...... } & 31 / 2 \mathrm{lbs} & \mathbf{3 . 2 0}\end{array}$

KLEIN'S EXTRA LONG FLAT NOSE PLIER'S-SIDE CUTTERS



KLEIN'S EXTRA LONG CURVED NOSE PLIERS


## BUTTON PLIERS

Our 1600 series Pliers have knurled handles and stop feature.
 Perdoz. ...... $\$ 17.25 \quad \$ 19.50 \quad \$ 21.65 \quad \$ 24.55$
Packed one in a carton. Six rartons in a cardboard box.

KLEIN'S OBLIQUE DIAGONAL CUTTING PLIERS


STAPLE PULLER
This tool has a longitudinal groove in the top which allows clearance for wire when pulling staples.
List No
200
Length, ins
Wt, llss., per doz.
Per doz., per doz.
$\$ 48.00$

SMALL TOOLS


Nos. 30 to 34 and 30 A to 34 A
Nos. 769 to 774

## Ratchet Braces

Polished and nickeled.



Nos. 1320 to 1324 Ratchet Brace

| List Nos | 1320 | 1321 | 1322 | 1323 |
| :---: | :---: | :---: | :---: | :---: |
| Size sweep. | 14 ins. | 12 ins. | 10 ins . | 8 ins. |
| Weight per dozen | 42 lbs . | 36 lbs . | $331 / 2 \mathrm{lbs}$. | $291 / 2 \mathrm{lbs}$. |
| List price, each | \$4.60 | \$4.40 | \$4.20 | \$4.00 |

## Corner Bit Brace

With Master Chuck



No. 980 Hand Drill

Hand drill; length without handle 10 inches, with $151 / 4$ inches
No. 980 Hand Drill
No. 108 Universal Angular Bit Stock

# Wireman's and Telephone Installer's Special KNOWN AS NO. 8A AND No. 9A 

Length of twist on both No. 8 A and No. 9A, $41 / 2$ inches. Length over all, 18 inches.
Style of crimp and screw on No. 8A and No. 9A same as No. 8 and No. 9.

## COARSE THREAD, POLISHED

This bit is designed especially for electricians' use, is a self feeder, pulls itself right into the work, and will bore about twice as fast as the ordinary bit.



## Electrician's Bit No. 9

| Size, ins., packed 6 in box | 5/8 | $\frac{11}{16}$ | $3 / 4$ |
| :---: | :---: | :---: | :---: |
| $*$ List price, each | \$1.00 | \$1.20 | \$1.20 |
| Weight per dozen, lbs | 27/8 | 3 | $31 / 4$ |



This bit is designed especially for electricians, using boring machines where work is to be performed in limited space.

## Electrician's Bit No. 5

| Size, ins., packed 6 in b | 1/4 | $\frac{5}{26}$ | 3/8 | $\frac{7}{16}$ | $1 / 2$ | $\frac{9}{16}$ | 5/8 | $\frac{21}{16}$ | $3 / 4$ | $\frac{13}{16}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| *List price, each. | \$0.90 | \$0.90 | \$0.90 | \$0.90 | \$0.90 | \$1.00 | \$1.00 | \$1.20 | \$1.20 | \$1.40 |
| Weight per dozen, lbs | $1 / 2$ | 1/2 | 7/8 | 1 | 11/4 | 13/8 | $11 / 2$ | 13/4 | 2 | $21 / 4$ |
| Size, ins., packed 6 in a box. | ${ }^{15}$ | 1 | 11/8 | 11/4 | 13/8 | 11/2 | $13 / 4$ | 17/8 | 2 | $2 \frac{1}{16}$ |
| *List price, each. . . \$1.40 | \$1.60 | \$1.60 | \$2.00 | \$2.30 | \$2.70 | \$3.00 | \$3.20 | \$4.50 | \$5.00 | \$5.30 |
| Weight per doz., lbs. 23/8 | 21/2 | 23/4 | 35/8 | 4 | 41/2 | 5 | 65/8 | $71 / 2$ | 71/2 | 77/8 |

Extension Bit Holder No. 5

## Extension Bit Holder No. 5

Four reliably strong, steel jaws, made in one piece, grip firmly over shoulder of bit stock shanks. Bit inserted or released instantly when desired. Polished and nickel-plated steel. Follows bits $5 / 8$ inch and larger into their bores.

| Length. | 12 ins. | 15 ins. | 18 ins. | 21 ins. | 24 ins. | 30 ins |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight, per dozen. | 7 lbs . | 8 lbs . | 9 lbs . | 10 lbs . | 11 lbs . | 13 lbs . |
| *List price each. | \$2.36 | \$2.40 | \$2.44 | \$2.54 | \$2.60 | \$2.80 |

*Delivery F. O. B. Factory, Wallingford, Conn. For warehouse deliveries write nearest house.


IRWINS' STANDARD SOLID CENTER AUGER BITS DOUBLE CUTTERS
62 T

|  | Average | Average | Weight | ion Lip |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Length | Length |  | List Prices |  |
| Size | Overall | of 'Twist | per Dozen | Each | per Dozen |
| $3 / 8 \mathrm{in}$. | $73 / 4$ ins. | $41 / 8 \mathrm{ins}$. | 1 lb . | 30.60 | \$6.00 |
| $\frac{7}{16} \mathrm{in}$. | $77 / 8$ ins. | $41 / 8$ ins. | 2 lbs. | . 65 | 6.75 |
| $1 / 2 \mathrm{in}$. | 8 ins. | $4 \frac{3}{16}$ ins. | 2 lbs. | 70 | 7.50 |
| $\frac{9}{16} \mathrm{in}$. | 81/8 ins. | $41 / 4 \mathrm{ins}$. | 2 lbs. | 75 | 8.24 |
| $5 / 8 \mathrm{in}$. | $81 / 4$ ins. | $4^{3} 8$ ins. | 3 lbs. | 85 | 9.00 |
| $\frac{11}{16} \mathrm{in}$. | 83 \% ins. | 41/4 ins. | 3 lbs. | 1.00 | 10.50 |
| $3 / 4 \mathrm{in}$. | $81 / 2$ ins. | $45 / 8$ ins. | 4 lbs . | $1.00)$ | 10.50 |
| 7/8 in. | $8 \frac{1}{4}$ ins. | $43 / 4$ ins. | 4 lbs . | 1.10 | 12.00 |
| 1 in. | 9 ins. | $47 / 8 \mathrm{ins}$. | 6 lbs . | 1.30 | 13.50 |
| 11/4ins. | $91 / 8$ ins. | $4_{16}^{15} \mathrm{ins}$. | 6 lbs. | 1.65 | 18.00 |
| $11 / 2 \text { ins. }$ | 91/4ins. | 5 ins. | 8 lls . | 2.10 | 22.50 |
| IRWINS' | SPECIAL ELE | ' SOLID | CENTER AUGER | DOUBL | TER |
| $1 / 4 \mathrm{in}$. | 12 ins. | 8 ins. | 2 lbs. | \$1.10 | \$11.15 |
| $\frac{5}{16}$ in. | 12 ins. | 8 ins. | 2 lbs. | 1.10 | 11.15 |
| $3 / 8 \mathrm{in}$. | 12 ins. | 8 ins. | 2 lbs. | 1.10 | 11.15 |
| $\frac{7}{16}$ in. | 12 ins. | 8 ins. | 2 lbs . | 1.10 | 11.15 |
| $1 / 2 \mathrm{in}$. | 12 ins. | 8 ins. | 3 lbs. | 1.10 | 11.15 |
| $\frac{2}{16} \mathrm{in}$. | $12 \mathrm{ins}$. | 8 ins. | 4 lbs . | 1.25 | 13.50 |
| $5 / 8 \mathrm{in}$. | 12 ins. | 8 ins. | 4 lbs . | 1.25 | 13.50 |
| $\frac{11}{16} \mathrm{in}$. | 12 ins. | 8 ins. | 5 lbs. | 1.40 | 14.51 |
| 3 4 in. | 12 ins. | 8 ins. | 6 lbs . | 1.40 | 14.51 |
| 7/8 in. | $12 \mathrm{ins}$. | 8 ins. | 6 lbs . | 1.70 | 18.22 |
| 1 in. | 12 ins. | 8 ins. | 7 lbs. | 1.85 | 20.24 |

IRWINS' STANDARD SOLID CENTER CAR BITS DOUBLE CUTTER

| $1 / 4 \mathrm{in}$. | 18 ins. | 12 ins. | 3 lbs. | 65 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | \$1. 10 | \$12.14 |
| $\frac{5}{16} \mathrm{in}$. | 18 ins. | 12 ins. | 3 lbs. | 1.10 | 12.14 |
| $3 / 8 \mathrm{in}$. | 18 ins. | 12 ins. | 4 lbs. | 1.10 | 12.14 |
| $\frac{7}{16} \mathrm{in}$. | 18 ins. | 12 ins. | 4 lbs . | 1.30 | 13.50 |
| $1 / 2 \mathrm{in}$. | 18 ins. | 12 ins. | 4 lbs . | 1.40 | 15.18 |
| $\frac{9}{16} \mathrm{in}$. | 18 ins. | 12 ins. | 6 lbs . | 1.55 | 16.87 |
| $5 / 8 \mathrm{in}$. | 18 ins. | 12 ins. | 7 lbs . | 1.70 | 18.55 |
| ${ }_{11}^{11}$ in. | 18 ins. | 12 ins. | 7 lbs . | 1.85 | 20.24 |
| $3 / 4 \mathrm{in}$. | 18 ins. | 12 ins. | 8 lbs . | 2.00 | 20.93 |
| $7 / 8 \mathrm{in}$. | 18 ins. | 12 ins. | 10 lbs . | 2.30 | 25.64 |
| 1 in. | 18 ins. | 12 ins. | 11 lbs . | 2.70 | 29.70 |

Bell Hanger Wood Drill Bit

Bell Hanger Wood Drill Bit

|  | 12 In. |  | 18 In. |  | 24 In . |  | 30 In . |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Each | No. | Each | No. | Each | No. | Each | No. | 36 In . Each |
| 6 | \$1.25 | 6. | \$1.70 | 6. | \$2.10 | 6. | \$2.50 | 6 | \$2.95 |
| 8 | 1.35 | 8 | 1.75 | 8 | 2.20 | 8 | 2.60 | 8 | 3.00 |
| 10 | 1.45 | 10 | 1.85 | 10 | 2.25 | 10 | 2.70 | 10 | 3.10 |
| 12 | 1.60 | 12 | 2.00 | 12 | 2.45 | 12 | 2.85 | 12 | 3.25 |
| 14 | 1.75 | 14 | 2.20 | 14 | 2.60 | 14 | 3.00 | 14 | 3.45 |
| 16. | 2.00 | 16 | 2.45 | 16. | 2.85 | 16 | 3.25 | 16 | 3.70 |
| 18 | 2.25 | 18 | 2.70 | 18 | 3.10 | 18 | 3.50 | 18 | 3.95 |
| 20 | 2.55 | 20. | 2.95 | 20 | 3.40 | 20 | 3.80 | 20 | 4.25 |
| 22 | 2.85 | 22. | 3.25 | 22 | 3.70 | 22 | 4.10 | 22 | 4.50 |
| 24 | 3.15 | 24. | 3.60 | 24 | 4.00 | 24 | 4.45 | 24 | 4.85 |
| 26 | 3.50 | 26. | 3.95 | 26 | 4.35 | 26 | 4.75 | 26 | 5.20 |
| 28 | 3.85 | 28. | 4.25 | 28 | 4.70 | 28 | 5.10 | 28 | 5.50 |
| 30. | 4.20 | 30. | 4.60 | 30 | 5.00 | 30 | 5.45 | 30 | 5.85 |
| 32 | 4.60 | 32. | 5.0 ' | 32. | 5.45 | 32 | 5.95 | 32 | 6.35 |
| 34. | 5.10 | 34. | 5.50 | 34 | 5.95 | 34 | 6.50 | 34 | 7.00 |
| 36. | 5.50 | 36. | 6.00 | 36 | 6.50 | 36 | 7.10 | 36 | 7.85 |



## The Solid Handle Wrench

The head, bar shoulder and handle frane are forged solid of one piece case hardened. The wrench is finely finished.
Inches.
Will open, inches


## Pipe Wrenches

The wrenches are made from entirely new patterns, and the highest grade material is used in making them. They are finely finished.

| Inches | 8 | 10 |  | 18 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Capacity, inches. | $3 / 8$ to $3 / 4$ | $1 / 8$ to 1 | $1 / 4 \text { to } 11 / 2$ | $1 / 4$ to 2 | $\begin{aligned} & 24 \\ & 1 / 4 \text { to } 21 / 2 \end{aligned}$ |
| Each . . . pe. . | 8 lbs . | 17 lbs . | 33 lbs . | 55 lls . | 96 lhs . |



Bevel Back Framing Chisel

| Width of blade, inches | 1 | 11/4 | 2 |
| :---: | :---: | :---: | :---: |
| List per doz. | 760712 | 760714 | 7601717 |
|  | \$21.50 | \$23.50 | \$31.50 |

## SMALL TOOLS



Hand Saws
Hack Saw Frames


No. 45 Extra Refined Stee1. Regular Taper


## CAPE CHISELS

When ordering specify size of Cutting Edge and Number of Chisel desired. Packed one-half dozen in a cardboard box. Cutting edpe.
Dianneter of steel, ins.
Lengths, ins.
Wengths, ins. lbs. per doz
Per doz., No. 50


DIAMOND POINT CHISELS
When ordering specify size of Point and number of Chisel desired. Packed one-half dozen in a cardboard box. Point.
Diameter of steel, ins
Length, ins.
Weight, lbs. per doz.
Per doz., No. 55.

( FINISH BODY
This Chisel is the Standard Pattern First Quality

$1 / 4$ to $3 / 8$, packed one dozen in a cardboard box, $1 / 2$ and larger one-half dozen.


No. 14. Carpenters' Wrecking Chisel
CARPENTERS' WRECKING CHISEL
Black Finish Body-13/8 inch Bit-Oil Tempered

| List | Length | Disc Oil Steel | Wgt. | List Price | Iist |
| :--- | :---: | :---: | :---: | :---: | :--- |
| No. | Ins. | Ins. | Per Doz. | Per Doz. | No. |
| 14 | 14 | $8 / 4$ | 20 | 1 bs. | $\$ 27.00$ |$|$| 12 |
| :--- |

No. 12. Light Gooseneck Pattern Nail Puller LIGHT GOOSENECK PATTERNS Painted Black-Polished Ends

| Length | Disc Oil Steel | Wgt. | List Price |
| :---: | :---: | :---: | ---: |
| Ins. | Ins. | Per Doz. | Per Doz. |
| 12 | $1 / 2$ | 9 lbs | $\$ 27.00$ |



# "Yankeetoothed" Hack Saw Blades <br> All Hard-For General Machine and Structural Iron Work Flexible Back-For Steamfitters and Electricians 

Made with 14, 16, 18, 24 and 32 teeth to the inch.
Use 14 or 16 teeth for general work.
Use 18 or 20 teeth for pipe and light stock.
Unless otherwise stated we furnish 8 or 9 inch blades with 16 teeth and larger blades with 14 teeth to the inch.

Hack Saw Blades are packel one doze: to a bundle and is bumbles to a carton and two cartons to at standard package.


[^87]$8 \times \frac{7}{16} \mathrm{in}$, .025 or 23 gauge
$10 \times 1 / 2$ in., 025 or 23 gauge . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1.60
$11 \times \frac{1}{2}$ in., 025 or 23 gauge
Lengths given are from center to center of hole.
"Yankeetoothed" Flexible Baek Blades are hardened on the teeth on! ${ }^{*}$. the back is flexible, making it impossible to break the blade while it is in the frame.

| High Speed Power Blades |  |  |  |  | Semi-high Speed Power Blades |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Length | Width | Thickness | Teeth per Inch | List Price per Doz. | Length | Width | Thicknoss | Teeth per Inch | List Price per Doz. |
| 10 in . | $3 / 4$ in. | . 049 or 18 ga. | 10, 1.4 | \$3.08 | 8 in . | $\frac{9}{16}$ in. | . 028 or 22 ga. | 14, 18, 24 | \$1.42 |
| 10 in . | 1 in . | . 049 or 18 ga. | 10, 14 | 3.90 | 8 in . | $5 / 8 \mathrm{in}$. | - 028 or 22 ga | 14, 18, 24 | 1.42 |
| 11 in. | $3 / 4 \mathrm{in}$. | . 049 or 18 ga. | 10, 14 | 3.10 | 9 in . | $\frac{9}{16}$ in. | . 028 or 22 ga . | 14, 18, 24 | 1.52 |
| $11 \mathrm{in}$. | 1 in . | . 049 or 18 ga. | 10, 14 | 4.28 | 9 in. | $5 / 8 \mathrm{in}$. | . 028 or 29 ga. | 14, 18, 24 | 1.52 |
| 12 in. | $3 / 4 \mathrm{in}$. | . 049 or 18 ga. | 10, 11 | 3.70 | 10 in . | $\frac{9}{86} \mathrm{in}$. | . 028 or 22 ga | 14, 18, 24 | 1.62 |
| $12 \mathrm{in}$. | 1 in . | . 049 or 18 ga. | 10, 14 | 4.60 | 10 in . | $5 / 8 \mathrm{in}$. | . 028 or 22 ga | 11, 18, 24 | 1.62 |
| 12 in. | 1 in . | . 065 or 16 ga. | 10 | 5.98 | 10 in . | $5 / 8 \mathrm{in}$. | .032 or 21 ga . | 14, 18, 24 | 1.90 |
| 14 in. | $3 / 4 \mathrm{in}$. | . 049 or 18 ga. | 10, 14 | 4.34 | 10 in . | $3 / 4 \mathrm{in}$. | . 032 to 21 ga. | 14, 18, 24 | 3.14 |
| 14 in . | $3 / 4 \mathrm{in}$. | . Of5 or 16 ga. | 10 | 5.90 | 10 in . | 1 in . | . 032 or 21 ga. | 14, 18, 24 | 3.02 |
| 14 in . | 1 in . | . 049 or 18 ga. | 10, 14 | 5. 46 | 11 in . | \% in. | . 023 or 22 ga. | 14, 18, 24 | 1.80 |
| 14 in . | 1 in . | . 0655 or 16 ga g. | 10 | 6.60 | 11 in. | $5 / 8 \mathrm{in}$. | . 032 or 21 ga. | 1.1, 18, 24 | 2.12 |
| 16 in. | $3 / 4 \mathrm{in}$. | . 049 or 18 ga. | 10, 14 | 4.94 | 11 in. | $3 / 4 \mathrm{in}$. | . 032 or 21 ga. | 14, 18, 24 | 2.36 |
| 16 in . | $3 / 4 \mathrm{in}$. | . 0655 or 16 ga g. | 10 | 6.7\% | 12 in . | $\frac{9}{16} \mathrm{in}$. | . 028 or 22 ga . | 14, 18, 24 | 2.00 |
| 16 in . | 1 in. | . 049 or 18 ga . | 10, 14 | 6.28 | 12 in . | $5 / 8 \mathrm{in}$. | . 028 or 22 ga . | 14, 18, 24 | 2.00 |
| 16 in. | 1 in . | . 065 or 16 ga . | 10 | 7.98 | 12 in . | $5 / 8 \mathrm{in}$. | . 032 or 21 ga. | 14, 18, 24 | 2.28 |
| 17 in . | $3 / 4 \mathrm{in}$. | . 049 or 18 ga. | 10, 14 | 5.28 | 12 in . | $3 / 4 \mathrm{in}$. | . 032 or 21 ga . | 14, 18, 24 | 2.56 |
| 17 in . | $3 / 4 \mathrm{in}$. | .065 or 16 ga . | 10 | 7.14 | 12 in . | 1 in . | . 032 or 21 ga . | 14, 18, 24 | 3.63 |
| 17 in . | 1 in . | .049 or 18 ga. | 10, 14 | 6.60 | 13 in . | $\frac{9}{16} \mathrm{in}$. | . 032 or 21 ga . | 14,18 | 3.62 2.38 |
| 17 in . | 1 in . | .065 or 16 ga . | 10 | 8.48 | $13 \mathrm{in}$. | $5 / 8 \mathrm{in}$. | . 032 or 21 ga. | 14, 18 | 2.48 |
| 18 in . | $3 / 4 \mathrm{in}$. | .049 or 18 ga . | 10, 14 | 5). 56 | 13 in . | $3 / 4 \mathrm{in}$. | . 032 or 21 ga . | 14, 18 | 2.80 |
| 18 in . | $3 / 4$ in. | . 0655 or 16 ga ga. | 10 | 7.56 | 14 in . | $\frac{9}{16} \mathrm{in}$. | . 033 or 21 ga . | 14, 18 | 2.56 |
| 18 in . | 1 in. | .049 or 18 ga. | 10, 14 | 7.00 | 14 in . | $5 / 8 \mathrm{in}$. | . 032 or 21 ga . | 14, 18 | 2.66 |
| 18 in. | 1 in . | .065 or 16 ga . | 10 | 8.98 | 14 in . | $3 / 4 \mathrm{in}$. | .032 or 21 ga . | 14, 18 | 2.86 |
| 19 in. | 1 in . | .049 or 18 ga . | 10, 14 | 7.38 | 14 in . | 1 in . | .032 or 21 ga. | 14, 18 | 4.20 |
| 19 in. | 1 in . | .065 or 16 ga g. | 10 | 9.46 | 15 in . | $3 / 4 \mathrm{in}$. | . 032 or 21 ga . | 14, 18 | 3.20 |
| 20 in. | 1 in. | . 049 or 18 ga. | 10, 14 | 7.78 | 16 in . | $5 / 8 \mathrm{in}$. | . 032 or 21 ga . | 14, 18 | 3.04 |
| 20 in . | 1 in . | .065 or 16 ga . | 10 | 9.08 | 16 in . | $3 / 4 \mathrm{in}$. | . 032 or 21 ga . | 14, 18 | 3.42 |
| 21 in . | 1 in . | . 049 or 18 ga. | 10 | 8.16 | 16 in . | 1 in . | .032 or 21 ga . | 14, 18 | 4.82 |
| 21 in . | 1 in . | . 065 or 16 ga g. | 10 | 10.48 | 17 in . | $5 / 8 \mathrm{in}$. | . 033 or 21 ga. | 14, 18 | 3.24 |
| 22 in. | 1 in . | .049 or 18 ga . | 10 | 8.56 | 17 in . | $3 / 4 \mathrm{in}$. | .032 or 21 ga . | 14, 18 | 3.64 |
| 22 in . | 1 in . | . 065 or 16 ga . | 10 | 10.08 | 17 in . | 1 in . | . 032 or 21 ga. | 14, 18 | 5.14 |
| 23 in. | 1 in . | . 049 or 18 ga. | 10 | 8.04 | 18 in . | $3 / 4 \mathrm{in}$. | .032 or 21 ga . | 14, 18 | 3.86 |
| 23 in . | 1 in . | .065 or 16 ga . | 10 | 11.48 | 18 in . | 1 in . | .032 or 21 ga . | 14, 18 | 3.40 |
| 24 in. | 1 in . | .049 or 18 ga . | 10 | 9.32 | 20 in . | 1 in . | . 032 or 21 ga. | 14, 18 | 6.00 |
| 24 in. | 1 in. | .065 or 16 ga . | 10 | 11.98 | 24 in . | 1 in . | .032 or 21 ga . | 14, 18 | 7.22 |

Length of blades measure from eenter to center of holes, exrepting 14 and 17 inch lengths. These measure $131 / 2$ and $161 / 2$ inclies.

Delivery F. O. B. New Torm measure $131 / 2$ and $161 / 2$ inches.


Nos. 7/0B to 8B. Ball Pein


Nos. $6 / 0$ to 8. Gross Pein Hammer


BALL PEIN HAMMERS
Polished-White Hickory Handles


Number.
Weight, oz
lencth, ins
Weight, lbs. per doz
Weight, ibs. per doz.

| 1 | 2 | 3 | -1 |
| :---: | :---: | :---: | :---: |
| 24 | 38 | 18 | 58 |
| 15 | 16 | 15 | 1512 |
| 22 | 3213 | 43 | 52 |
| $\$ 45.10$ | 48.50 | 50.95 | 53.6 .3 |

Packed $1 / 3$ dozen in a eardboard box. Six dozen in a case.


Nos. 1 to 4. Double Face Engineers' llammer
DOUBLE FACE ENGINEERS' HAMMERS
Polished-White Hickory Handles
Nos. 1 to 3. Adze Eye Nail LIammer

## ADZE EYE NAIL HAMMERS

Polished-White Hickory Handles

| Number. | 1 | 11 | 2 |
| :---: | :---: | :---: | :---: |
| Weight, oz. | 20 | 16 | 13 |
| Length, ins. | 14 | 13 | 13 |
| Weipht, lbs jer doz. | -11\% | 1416 | $31^{1415}$ |
| Per dozeı. | 8.37.20 | 36.00 | 34.85 |



Nos. 0 to 7. Machinists' Riveting Hammer
MACHINISTS' RIVETING HAMMERS Polished-White Hickory Handles

[^88]In the Form I) suspensions the cap and cone dovetail together in such a way as to provent the formation of a film of moisture between them. The stull holt head is made considerably larger than the opening in the body casting so that accidental breakace of the insulation will not ailow the trolley wire to fall. A dead load of over 5 tons is required to crush the insulation between the stud cap and body

A metal washer molded into the cone provides a positive bearing for the ear boss.
The lock washer, whieh is supplied only when sperially ortered, engages directly with the screw eap and the body and effectively prevents any tendens y to unscrew from vibration.

All metal parts including studs have standard sherar lize. 1 finish


Single Curve Suspension
FORM D SINGLE TROLLEY



FORM D SINGLE TROLLEY

Approx. Net List
Wt.in Ibs. Price
Description
List No.
3791 Ceiling suspension, $5 / 8$ in. stud..... $350 \quad \$ 220.80$
37993 Ceiling suspension, $3 / 4 \mathrm{in}$. stud..... $355 \quad 230.40$
39703 Ceilng bouy, sherardized............ 250


Straight Line Suspension

List No.
37983

37979
17981
Straight line suspension, $8 / 4 \mathrm{in}$ stud
Straight line body . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
37986 Double curve suspension, $5 / 8$ in. stud.
Double curve suspension, $3 / 4 \mathrm{in}$. stud
Double curre borly

Approx.

| Approx. |  |
| :---: | ---: |
| Net Wt. | List Price |
| per 100 | per 100 |
| 245 | $\$ 168.00$ |
| 250 | 177.60 |
| 150 | 67.20 |
| 195 | 158.40 |
| 200 | 168.00 |
| 100 | 57.60 |
| 295 | 201.60 |
| 300 | 211.20 |
| 200 | 100.80 |



Strain Suspension

Approx. Net List
List No. Deseription

37997 Strain suspension, 58 in . stud..... $245 \quad \$ 184.80$
60015 Strain suspension, 3 in. stud..... $250 \quad 194.40$ 39705 Strain body......................... 150 84.00


Cap

List No
16925
16926
16926
26143
26144
19480
19480
113978
113978
113978 Screw cap insulator, s/8 in. stud with extra high heat resisting compound
Delivery F. O. B. Factory. Schenectady, N. " reight allowe d on orders a
east of the Mississippi River. Suitable allowance is made for shipments west thereof.


Cone

INSULATING PARTS FOR FORM D SUSPENSION


Lock Washer
Approx. Net
Wt. in I.bs. List Price per 100 per 100
Description
$70 \quad \$ 37.2$
$\begin{array}{lr}25 & 33.20 \\ 75 & 33.60\end{array}$
75
25
3
70
25

# Western Electric <br> LINE MATERIAL <br> Trolley Wire Suspensions-Form G 

Mail Orders Filled at Prevailing Prices


Single Curve Suspension


Straight Line Suspension
STRAIGHT LINE SUSPENSION

| STRAIGHT LINE SUSPENSION |  |  |  |  |  | SOCKET CEILING SUSPENSION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List | Size | Jeneth |  | Approx. | List |  |  |  | Dinm. | Approx. | List |
| No. | Stud | Arm | Height | per 100 | Per 100 | List | Size |  | Serew | Weight | Price |
| 25976 | \%sin. | 6 ins. | $37 / 8$ ins. | 21.) | \$177.60 | 38690 | 5 Stud. | Height | Hole | per 100 | per 100 |
| 66019 | 3/9in. | 6 ins. | $37 / 8 \mathrm{ins}$. | 250 | 180.00 | 08399 | $3 / 8$ in. | $3{ }^{\text {s/ }}$ ins. | T\% in. | 170 | \$117.60 |
| 25977 | Boty. |  | \% | 120 | 8 86. 40 | 38691 | Body. | 3 itins. | 15 in. | 175 | 120.00 |
| 25978 | Cap. |  |  | 35 | 24.00 |  |  |  |  | 80 | 50.40 |
| CEILING SUSPENSION |  |  |  |  |  |  |  |  |  |  |  |
| 25098 | Ceili | uspensio |  |  |  |  | ${ }^{8} 8$ in. | 3 \% ins. |  |  |  |
| 66034 | Ceili | uspensio |  |  |  |  | $3{ }^{3} \mathrm{in}$. | $3{ }^{6} \mathrm{D}$ ins. |  | 235 | \$199.20 |
| 25991 | Body |  |  |  |  |  |  |  |  | 23 |  |
| 25999 | Cap |  |  |  |  |  |  |  |  | 60 | 90.00 4.200 |

## FEEDER TAP




Delivery F. O. B. Factory, Sehenectadv, N. Y. Freight allowed on orders amounting to $\$ 50$ list or over, to points east of the Mississippi River. Suitable allowanee is made for shipments west thereof.

List
No.
${ }_{10652}$
$10052 \%$
106426

106 s 23
106828
106828
106829
106830
106830


Straight Line Suspension
Form $\underset{\text { Description }}{P}$ Suspension
Form $\underset{\text { Deseription }}{P}$ Suspension
$106 \times 27$ Form P suspension, is in, stud, without guard
106822 Form P suspension, 3 ilk. stud, without guard

lete.

Porcelain body only, with ${ }^{3}-4$ in. stud
Porcelain body only, with $5_{5}$ in. stud
Suspersion yoke only
Wheel guard only, for 5 is in. stud
Wheel guard only, for $\frac{3}{6}$ in. stud


Straight Line Suspension
Ipprox. W't. List Price

## Form P2 Suspension, 600 Volts

The Form P2 porcelain suspension for city span construction eonsists of two porcelain insubators clamped to a matleable iron span woke by a stud bolt and washers. A split washer on the stud bolt holds the various parts together during shipment and installation. The simple operation of turning the stud bolt draws the ear boss aprainst the suspension with the par aligned



Description
Form P2 straight line suspension, ${ }^{5}$ inch stut, eomplete.

Tpprox. Net IIt.
mer 101
320

Tist Price
per 100
4124 (4)


Expansion Bolt

| Finisil | Suspensions |
| :---: | :---: |
| Japanned | Forms II and H3 |
| Sherardizeal | Forms H and 11:3 |
| Japanned | Form 1) |
| Sherardized | Form D |
| Japanned | Forms H and 113 |
| Sherardized | Forms 11 and H3 |
| Japanned | Forms II and H3 |
| Sherardized | Forms 11 and H3 |
| Japanned | Forn I |
| Sherardized | Form D |
| Japanned | lorms H and 113 |
| Sherardized | Forms II and H3 |

List No. 116019 66334 16081 68397 11150 x 2 100109 116080
66336
110071
116070
116083
100.410

## List No

$114 \times 62$
1145690
35690 Upper roof wedge, sherardized
114863 Lower roof wedge, japanned.
3.2691 Lower roof wedge, sherardized

35689
41069

| Fig. No. | Length |
| :---: | :---: |
| 1 | 4 ins. |
| 1 | 4 ins. |
| 2 | 4 ins. |
| 2 | 4 ins. |
| 3 | 4 ins. |
| 3 | 4 ins. |
| 1 | 6 ins. |
| 1 | 6 ins. |
| 2 | 6 ins. |
| 2 | 6 ins. |
| 3 |  |



For Forms H and H3Suspensions


For Form D Suspensions

ensions
$\underset{\text { EXPANSION BOLTS }}{\text { Roof }}$
Roof $\underset{\text { EXPANSION BOLTS }}{\text { Fastenings }}$


## ROOF PLUG AND LAG SCREW

 screw threaded to fit the suspension and projecting three inches above it.The roor dillin suberin and
34137 Wooden phould be $1 / 2$ inches in diameter and 4 inches deep.
36310 Woden plue ( 3 in . by $1 \frac{1}{2}$ ins' for Forms II and H3.

Denvery F. B. Factory. Schenectady, N. Y. Freisht allowed on orders amounting to $\$ 50$ ligt and over to points east of
the Mississippi River. Suitable allowance is made for shipments west thereof.


Sectional View

# LINE MATERIAL 

## Ears for Round Wire

The Forms H2 and J2 ears have a $1 \frac{7}{16}$ inch hub flange and are suitable for suspensions presenting a large bearing surface at the base of their studs, such as the Forms $\mathrm{H}, \mathrm{S}, \mathrm{D}$ and P .

Form H2 Hars have a groove depth equal to the diameter of the wire so that when the lips are peened down and soldered the bottom of the wire is exposed, allowing unobstructed passage of the trolley wheel.

Form J2 Ears have an extra deep groove so that the lips approximately meet beneath the wire and are generally used without solder.

In the design of these ears all angles are filled with generous fillets, and in their manufacture extreme care is exercised to maintain accurate dimensions of the milled grooves and of the lips, which are tapered to a knife edge.

Grooves are milled to exact dimensions and, unless specially ordered, Form H2 Ears are tinned for soldering and Form J2 Ears are furnished untinued.


Plain Clinch Ear

List
No.
32575
32577
:32571
$: 32573$
32568
32569
34113
:32566
$3+114$
32567

## CLINCH EARS, FORM J

Description
wire, $5 / 8$ in. tap, complete, 9 ins. long, comp. wire, $5 / 9$ in. tap, complete, 9 ins. long, comp. wire, $5 / 8$ in. tap, complete, 12 ins . long, comp. wire, $5 / 8$ in. tap, complete, 12 ins. long, comp. wire, $5 / 8$ in. tap, complete, 15 ins. long, comp. wire, 5 in . tap, complete, $15 \mathrm{ins}$. long, comp.
wite, $5 / 8 \mathrm{in}$. tap, complete, 15 ins long, comp. wite, $5 / 8 \mathrm{in}$. tap, complete, 15 ins long, comp.
wire, $5 / 8$ in. tap, complete, 15 ins long, comp. wire, 34 in. tap, complete, 15 ins long, comp. Form J-2, for No, 0000 wire, $5 / 8$ in. tap, complete, 15 ins. long, comp. Form J-2, for No, 0000 wire, $\frac{5}{8}$ in. tap, complete, 15 ins. long, comp.,
Form J-2, for No. 0000 wire. $3 \frac{1}{4}$ in. tap. complete. 15 ins. long, comp.

Approx. Net
Wit. in Lbs. List Price per 100 per 100 $59 \quad \$ 83.60$
Form J-2, for No. 0
Form J-2, for No. 00
Form J-2, for No. 0
Form J-2, for No. 00
Form J-2, for No. 0
Form J-2, for No. 00
Form J-2, for No. 000
Form J-2, for No, 000


Plain Soldered Ear
SOLDERED EARS
32563 Form H-2, for No. 0
32565
31666
31668
31665
31667
34111
Form 11-2, for No. 000
34112
19492

## Form H-2, for No. 0001

Form II-2, for No. 0000 wire, $\frac{8}{4} \mathrm{in}$. tap, 15 ins . long, comp

| wire, $5 / 8 \mathrm{in}$. tap, 12 ins. long, comp.wire, $5 / 8 \mathrm{in}. \mathrm{tap}$,12 ins. lons, comp |  |
| :---: | :---: |
|  |  |
| wire, $5 / 8 \mathrm{in}$. tap, |  |
| wire, $5 / 8$ in. tap, 9 |  |
| wire, $5 / 8$ in. tap, 15 ins. lo |  |
| wire, $5 \%$ in. tap, 15 ins. lo |  |
| wire, $5 / 8 \mathrm{in}$. tap, 15 ins. |  |
| wire, $3 / 4 \mathrm{in}$. tap, $15 \mathrm{ins}$. lon |  |
|  | $5 / 8 \mathrm{in}$. tap, 15 ins. long, com |
|  | $3 / 4 \mathrm{in}$. tap, 15 ins . long, comp |

66
$\$ 96.80$
Form H-2, for No. (0)
Form 11-2, for No. 0
Form H-2, for No. 00
Form 11-2, for No. 0 Form II-2, for No. 00


Single End Strain

## SINGLE END STRAIN



# Western Electric <br> <br> LINE MATERIAL <br> <br> LINE MATERIAL Ears for Round Wire 

 Ears for Round Wire}


## Form C-Plain <br> CLINCH EARS

Form (: ears differ from the Form $J$ cars in that the siles of the hoss are flat, tapering up to the top of the hul without flange and the extreme ends of the ear are reinfored on the tol. These ears are furnished with lips untinned.


## 15 Inch Feeder Ear

## SOLDERED CLINCH EARS

All fecter. st rain and splicing ears for nse on ronnd wire are of the deep groove form. The 0 and (n) sizes have hub flange $11 / 8$ inehes in diameter and the 000 and 0000 sizes have $1 \frac{7}{16}$ inches flanees.

All these ears are designed for soldering and, unless specially ordered, are furnished with tinned lips.
15120 Form J, for No. 0 wire, $5 / 8$ in. tap, comp. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 95 \$171.60








15 Inch Splicing Ear

## SOLDERED CLINCHED EARS FOR ROUND WIRE

125 ... $\$ 192.51$
12900 Form J, for No. 00 wire, ${ }^{\prime}$ / in. tap, comp)
8192.511






15 Inch Splicing Ear
15 INCH SPLICING EAR, FORM $Q$
Provided with cup set serews for holding the trolley wire. For use without solder

| 1413344 | For No. 0 round or aroove 1 wirc, $5 / 8$ in. tap, comp | 175 | \$291.50 |
| :---: | :---: | :---: | :---: |
| 141335 | For No. O') ruand or grooned wire, $5 / 8 \mathrm{in}$, tap, coap | 185 | 302.50 |
| 141336 | For No. 070 round or prooved uire, 5/8 in. tap, comp | $\because 25$ | 313.50 |
| 145825 | For No. 000 round or grooved wire, $3 i \mathrm{in}$, tap, comp | 240 | 13.50 |
| 141337 | For No, 0) 00 round or grooved wire, $5 / \mathrm{in}$, tap, comp | 235 | 330.00 |
| 145826 | For No. 0000 round or grooved wire, $3 / 4 \mathrm{in}$, tap, comp | 250 | 330.00 |



## Form R-2 Splicing Ear

This splicing ear is installed by driving the large steel wedge into the sleeve on top of the trolley wire.

Delivery F. O. B. Factors, Snitenectaly, N. Y. Freisht allowed on orders amounting to $\$ 50$ list or over to points east of Mississippi River. Suitable allowane is made for mhipments west thereof.

## LINE MATERIAL

| Splicing Ear |  |  |  |
| :---: | :---: | :---: | :---: |
| Ears for Grooved Wire |  |  |  |
|  | SPLICING EARS, SOLDEREI? | Ipprox. |  |
|  | nned for soldering in the same manner as soldered splieing sleeves. | Net Wt. | List |
| No. | Description | in Lbs. | Price per 100 |
| 19436 | 191/2 inch splicing ear, for No. 00 wire, $5 / 8$ inch tap, comp | 2.5 | \$291.50 |
| 21187 | $191 / 2$ inch splicing ear, for No. 00 wire, $3 / 4$ inch tap, comp. | 2.25 | 291.50 |
| 19437 | 2112 inch splicing ear, for No. O00 wire, $\frac{5}{8} 8$ inch tap, comp | 2.50 | 341.00 |
| 21.188 | 2112 inch splicing ear, for No. 0010 wire, 34 inch tap, comp. | 250 | 341.00 |
| 19138 | 2312 inch splicing ear, for No. Oon 0 wire, $5 / 8$ inch tap, comp | 285 | 396.00 |
| 21454 | 231/2 inch splicing ear, for No. 0000 wire, $3 / 4$ inch tap, comp | 285 | 396.00 |

19 Inch Splicing Ear Cap
Equipped with Large Clamping Nuts for Holding Trolley Wire. No Solder Needed. MECHANICAL EARS FOR ROUND WIRE

| 41189 | For Nos. 0 and 00 wire, $5 / 8$ inch tap, comp. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 400 |
| :--- | :--- | :--- |



## 12 Inch Strain

## SCREW CLAMP EARS-FORM A



7 Inch Feeder Ear


7 Inch Half Strain

FEEDER EAR WITHOUT SUSPENSION BOSS
4845.5 For Niss. 00,000 ant 0000 wire, comp
'This ear will acommorlate ferder wire up and including +0 .

## 7 INCH HALF STRAIN


114907
For Nos. 00,000 and 0000 Fig. 8 wire, comp
90
$\$ 110.00$
Sis. 00


## 7 INCH FEEDER

For use in attaching directly to feed span wire.
140155 For Nos. 00,000 and 0000 groovel wire, comp.
Delivery F. O. B. Factory, Sehenectady. N. Y. Freight allowed on orders amounting to 850 list and over 10 pmink east of the Mississippi Tiver. Suitable allowance is made for shipments west therenf.

# LINE MATERIAL <br> splicing sleeves-soldered 

|  |  | 9 |  |
| :---: | :---: | :---: | :---: |
|  | Splicing Sleeve-Standard |  |  |
|  | Brass Sleeves (Standard) |  |  |
| List <br> No |  | .ipprox. Wht. per 100 | List Prior per 100 |
| 64431 | For No. 0 round wire 10 in , by $5 / 8 \mathrm{im}$ | . 50 | \$121.00 |
| 64432 | For No. 0 round wire, 15 in. by $5 / 8 \mathrm{in}$. | 75 | 165.00 |
| 64433 | For No. 00 round or grouve wire, 10 in . by $\overline{3 / 3} \mathrm{in}$. | \% 5 | 121.00 |
| 64434 | For No. 00 round or grooved wire, 16 in . by $5 / 8 \mathrm{i}$ it | 75 | 16.5 .00 |
| 155937 | For No. 00 round or grooved wire, 18 in . by 11 ils | 105 | $24 \geq 00$ |
| 6443 \% | For No. 00.9 round or grooved wire, $11 \mathrm{in} . \mathrm{b}^{\text {b }} 34$ in. | 90 | 176.0) |
| 64436 | For Nu. (0)0 round or grooved wire, 18 in . hy 34 4 in. | 130 | 286.09 |
| 64437 | For No. 0000 round or grooved wire, 12 in . by $\frac{1}{6} \mathrm{in}$. | 130 | $264.00$ |
| 64438 | For No. (0000) round or grooved wire, 20 in. by $3 / 8 . \ldots .$. | 210 | 396.00 |
| 88641 | For No. 0 rount wire, $15 \mathrm{in} . \mathrm{by}$ ss in ... . . . . . . . . . . . . . . | so | \$154.00 |
| 88651 | For No. 00 round or grooved wire, 16 in . by $5 / 8 \mathrm{in}$ | *0 | 181.50 |
| 88672 | For No. On0 round or grooved wire, 18 in . by $\mathrm{S}_{4}$ in. | 130 | 192.50 |
| 88785 | For No. 0000 round or groned wire, 20 in . by $\mathrm{B}_{\mathrm{g}} \mathrm{in}$. <br> Bronze Sleeves | 200 | 440.00 |
| 88786 | For No. 0 round wire, 15 in. by $\overline{1} 8$ in $\ldots . .$. | 75 | \$154.00 |
| 88787 | For No. 00 round and grooved wire, 16 in . by $5 / 8 \mathrm{in}$ | 75 | 154.00 |
| 88842 | For No. 000 round and grooved wire, 18 in . by ${ }^{\prime}$ in | 130 | 236.50 |
| 88893 | For No. 0000 round and grooved wire, 20 in . by $\frac{1}{8} 8 \mathrm{in}$ | $2(1)$ | 396 . 0 O |

## MECHANICAL SPLICING SLEEVE-FORME

## For Use Without Solder-Made With Tempered Steel Wedge

6.4441

64442
For No. 0 round wire, 10 in. long


For No. 00 round or grooved wire, 11 in. long.
154.00


For No 0000 rolnnd or grooved wire, 12 in. long
176.00

42448
for No. 00 figure 8 wire, 10 in. long.
220.00

For No, 000 figure 8 wire, 10 in. long

40073 Fixtra wedges for 0 and 00 round or grooved and boo fivire siecves.


FORM $Q$ MECHANICAL SPLICING SLEEVE

| 133343 | For No. 0 round or grooved wire, 9 in, long | 125 | \$165.00 |
| :---: | :---: | :---: | :---: |
| 133344 | For No. 00 round or grooved wire, 9 in. lon | 160 | 187.00 |
| 133345 | For No. 000 round or grooved wire, 12 in. long | 225 | 209.00 |
| 133346 | For No. 0000 round or grooved wire, 12 in . long | 25.5 | 231.00 |
| 151678 | For No 0 figure 8 wire, 9 in. long . . . . . . . . . . . | 130 | $181.51)$ |
| 151679 | For No. 00 figure 8 wire, 9 in long. | 171) | 205.70 |
| 151680 | For No. 000 figure 8 wire. 12 in . long | 240 | $237 .(10)$ |
| 151681 | For No. 0000 figure 8 wire, 12 in . long | 300 | 253.00 |

Form $Q$ mechanical splicing sleeves are made of composition metal and provided with cup set screws for clamping the wire.
For use without solder.


## FORM R-2 SPLICING SLEEVES

There are only three parts to Form R-2 splieing sleeves.
155943 Form K-2 splicing sleeve for 0 and 00 round or grooved wire, 10 in long, comp. . . . . . . . . 140 \$330.00
155942
Form l -2 splicing sleeve for 000 and 0000 round or grooved wire, 16 in. long. comp


SPLICING SLEEVE FORM R FOR PANTAGRAPH TROLLEY
Form R splicing sleever have a sheet iron tube formed to hold the ends of the trolley wire by long tapered wedges driven in on top of the wire.


Turnbuckle


No. 64426


No, 64420

Insulated Turnbuckles


## STRENGTH


2581120
4000
8000
'I'est voltave
Electrical Strength in Volts


Dimensions of Clevises in Inches
Standard elevis for 2 in. insulator...
Standard clevis for 25 in. insulator.

GIANT STRAIN INSULATOR

| List |  |
| :---: | :---: |
| No. | Description |
| $64+17$ | With standard eye and clevis. |
| (14418 | With 2 standard elevises |
| 64119 | With large eve and standard clevis |
| 6412.5 | With 2 standard eyes |
| (64427 | With large cye and standard eye |
| 6+42 | With 2 large eyes |
| 64420 | With standard eye ant clevis. |
| 64121 | With standard eye and large cle |
| 64422 | With large eye and large |
| 64423 | With 2 standard clevises |
| 154124 | With 2 large clevises |
| 64126 | With 2 standard eves |
| $6+429$ | With large eye and standard |
| 64430 | With 2 large eyes |
| 108054 | With large eye and standard |



Dimensions of Clevises
Standard clevis for 2 in. insulator....
Standard clevis for 2 si in. insulator..
Large clevis for 25 多 in. insulator....
Dimensions of Clevises
Standard clevis for 2 in. insulator....
Standard clevis for 2 si in. insulator..
Large clevis for 25 多 in. insulator....

| 2 Ins. | $25 / 8$ Ins. |
| ---: | ---: |
| 5000 | 5000 |
| 12000 | 15000 |

15000

## DIMENSIONS

Spread
$\frac{1}{5}$
38
36
Dinm. of
Throung
Bolt
$3 / 8$
$\frac{1}{3}$
$3 / 8$


| Distance Betwee (enters o Eyes or Clevis Bolt Holes 4 in ins. <br> 413 ins. <br> 43 ins. <br> $3 \frac{3}{2}$ ins. <br> $3{ }^{17}$ in 114. <br> $3 \frac{1 / 2}{7}$ ins. <br> $4{ }^{18} \mathrm{ins}$. <br> 4 , $\frac{\mathrm{ins}}{}$ <br> $45 \% \mathrm{ins}$. <br> 47 ins. <br> $4^{\circ} 8$ ins. <br> $\pm$ ins. <br> $4{ }^{3}$ ins. <br> 13, ins. |
| :---: |


| Approx. |  |
| :---: | :---: |
| Nitt H st. | Jist |
| in I bas | Price |
| per 100 | per 100 |
| 105 | \$139.60 |
| 11.5 | 111.10 |
| 110 | 141.60 |
| 87 | 117.60 |
| 92 | 129.60 |
| 9.7 | 111.60 |
| 14.3 | 184.80 |
| 17.3 | $197 . \times 0$ |
| 152 | 208.80 |
| 180 | 154.s0 |
| 200 | 220.80 |
| 1.5.) | 172.80 |
| 16." | 181.80 |
| 200 | 197.80 |
| $\because 00$ | 107.80 |

## SPHERICAL STRAIN INSULATORS

The spherical strain insulators are made in two sizes having diameters 214 ins and $2^{3} 4 \mathrm{ins}$. They aredesigned especially for use in span and guy wires in relatively light construction. The smatler size is suitable for a working load of 1000 lbs ; the a verage tensile strength is 3001 lbs. The 28 ins. size has an average tensite strength of 5000 lbs.; and is suitable for a working load up to 2000 lbs . Both sizes are subjected to a potential test of 5000 volts.


Delivery IF.O.B. Fretory. Shenectarly, N. Y. Freight allowed on orders amounting to sion list and over to points east of the Mississippi River. Suitalle allowance is made for shipments west thereuf.

## LINE MATERIAL

## Wood Strain Insulators



With Two Eyes


Wilh Eye and Clevis


With Eye and Tapped Boss
With I'wo Clevises

WOOD STRAIN INSULATOR WITH TWO EYES
With Standard Eyes, 600 Volts


Delivery F. O. B. Factory, Schenectady. N. Y. Freight allowrd on orders amounting to \$50 list and over to points east of the Mississipin River. Suitable allowance is made for shipments west thereof.

# Trolley Wire Frogs 

For Round, Grooved or Figure 8 Wire


20 Degree V Frog

20 DEGREE FROGS

| , |  |  |  | Approx |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| List | Description | Overall | Overall | Net W't. | List |
|  |  | Length | Width | Lbs. | Price |
| No. |  | Inches | Inches | per 100 | per 100 |
| 29133 | Right-hand frog, for Nos. 0 and 00 wire, comp. | 17 | $61 / 2$ | 710 | \$924.00 |
| 29134 | Left-hand frog, for Nos. 0 and 00 wire, comp. | 17 | 61/2 | 710 | 924.00 |
| 29132 | $V$ frog, for Nos, 0 and 00 wire, comp | 17 | 61/2 | 725 | 924.00 |
| 29135 | Three-way frog, for Nos. 0 and 00 wire comp. | 17 | 73/8 | 1000 | 1376.00 |
| 46645 | Right-liand frog, for Nos. 000 and 0000 wire, comp | 17 | $61 / 2$ | 710 | 990.00 |
| 46646 | Left-hand frog, for Nos. 000 and 0000 rire, comp. | 17 | 61/2 | 710 | 990.00 |
| 46644 | $V$ frog, for Nos. 000 and 0000 wire, comp | 17 | 61/2 | 725 | 999.00 |
| 46647 | Three-way frog, for Nos. 000 and 0000 wire, comp | 17 | 78/8 | 1000 | 1650.00 |
| 114166 | Left-land frog, for N ns. 0 and 00 wire, mal. iron. sherardized. | 17 | $61 / 3$ | 710 | 50.4 .00 |
| 114167 | Right-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized | 17 | 61/2 | 710 | 504.00 |
| 103779 | V frog, for Nos. 0 and 00 wire, mal. iron, sherardized. | 17 | 61/2 | 725 | 504.00 |
| 114168 | Left-hand frog, for Nos. 000 and 0000 rire, mal. iron, sherardized. | 17 | 61/2 | 710 | 510.00 |
| 114169 | Right-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized. | 17 | $61 / 2$ | 710 | 510.0.0 |
| 103780 | $V$ frog, for Nos. 000 and 0000 wire, mal. iron, sherardized. . . . . . . . . . . | 17 | 61/2 | 725 | 540.00 |

## 15 DEGREE FROGS

29131
29129
3.187

114154
114165
103781
light-hand frog, for Nos. 00,000 and 0000 wire, comp. . . . . . . . . . . . . 18 Left-hand frog, for Nos. 00, 000 and 0000 wire, comp. . . . . . . . . . . . . . . 18 V frog, for Nos. 00, 000 and 0000 wire, comp. . . . . . . . . . . . . . . . . . . . . . 18 Three-way frog. for Nos. 00, 000 and 0 (000 wire, comp. 18 Left-hand frog, for Nos. 00,000 and 0000 wire, mal. iron, sherardized. . Right-hand frog, for Nos. 00, 000 and 0000 wire, mal. iron, sherardized $V$ frog, for $\mathbb{N} 0 s .00,000$ and 0000 wire, mal. iron, sherardized.

| 5 +80 | 875 | \$1155.00 |
| :---: | :---: | :---: |
| $5 \frac{9}{18}$ | 875 | 1155.00 |
| $5 \frac{18}{16}$ | 890 | 1155.00 |
| 78/8 | 1150 | 1760.00 |
| $5 \frac{1}{16}$ | 875 | 624.00 |
| $5 \frac{18}{16}$ | 875 | 621.00 |
| 5 ริ์ | 890 | (124.00 |

8 DEGREE FROGS
Right-hand frog, for Nos. 00,000 and 0000 wire, comp . . . . . . . . . . . . . .
Left-hand frog, for Nos. 00,000 and 0000 wire, comp . . . . . . . . . . . . . .
V frog, for Nos. 00,000 and 0000 wire, comp. . . . . . . . . .
Right-hand frog, for Nos. 00,000 and 00 wire, mal. iron, sherardized
Left-hand frog, for Nos. 00,000 and 0900 wire, mal. iron, sherardized. .
V frog, for Nos. 00,000 and 0000 wire, mal. iron, sherardized. . . . . . . . .

| $217 / 8$ | 6 | 1300 | $\$ 1430.00$ |
| :--- | :--- | ---: | ---: |
| $217 / 8$ | 6 | 1300 | 1130.00 |
| $217 / 8$ | 6 | 1350 | 1430.00 |
| $217 / 8$ | 6 | 1300 | 780.00 |
| $217 / 8$ | 6 | 1300 | 780.00 |
| $217 / 8$ | 6 | 1300 | 780.00 |

All pull-off eyes are $1 / 2$ inch in diameter. Frogs similar to the above but for $1 / 0$ wire can be furnished.
Delivery F. O. B. Factory, Schenectady, N. Y. Freight allowed on orders amounting to $\$ 50$ list and over to points east of the Mississippi River. Suitable allowed is made for; iipments west thereof.

## LINE MATERIAL

Trolley Wire Frogs
For Round or Grooved Wire


12 Degree Fros Form K

## FORM K FROGS

This frog has extra long approaches with renewable end tongues. The body is malleable iron sherardized and the cnd tongues composition. The bolts for fastening the wire into the frog are $1 / 2$ inch in diameter and have square heads.

| List <br> No. | Description | Approx. Net Wt. in Lbs. per 100 | $\begin{array}{r} \text { List } \\ \text { Price } \\ \text { per } 100 \end{array}$ |
| :---: | :---: | :---: | :---: |
| 140109 | Left-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized | 2000 | \$1320.00 |
| 140110 | lRight-hand frog, for Nos. 0 and 00 wire, mal. iron, sherardized. | 2000 | 1320.00 |
| 140107 | Left-hand frog, for Nos. 000 and 0000 wire, mal iron, sherardized | 2000 | 1320.00 |
| 140108 | Right-hand frog, for Nos. 000 and 0000 wire, mal. iron, sherardized | 2000 | 1320.00 |
| 129977 | V frog, for Nos. 0 and 00 wire, mal. iron, sherardized . . | 2100 | 1320.00 |
| 136004 | $V$ frog, for Nos. 000 and 0000 wire, mal. iron, sherardized | 2100 | 1320.00 |
| 150562 | Renewable end tongue, for 0 and 00 wire, comp. . . . . . . . | 80 | $110 .\left(\begin{array}{l}\text { ( }\end{array}\right.$ |
| 150563 | Renewable end tongue, for 000 and 0000 wire, comp | 100 | 110.00 |



List No. 200291


Bottoni Vlew Showing Branch Wire Run Through the Frog


Body Showing Branch Wire Dead Ended in the Frog


Renewable Pan

## 15 DEGREE FROGS-FORM N

Form N frogs are a new departure in the design of trolley frogs. The body portion to which the wires are attached is subjected to no wear in service and therefore may be permanently wired into the overhead construction. The pan or wearing part being separate and in one piece can be quickly and cheaply renewed as often as worn out. These frogs are furnished with malleable iron bodies and cither malleable iron or composition pans.

| List |  | Approx. Net Wt. in Lbs. Per 100 | List Price |
| :---: | :---: | :---: | :---: |
| No. | Description | Per 100 | Per 100 |
| 200291 | Left-hand frog, Nos. $00,000,0000$ wires, malleable iron, sherardized | 775 | \$576.00 |
| 200292 | Left-hand frog, Nos. $00,000,0000$ wires, conuposition. | 77.5 | 770.00 |
| 200293 | Right-hand frog, Nos. $00,000,0000$ wires, malleable iron, sherardized. | 775 | 576.00 |
| 200294 | Right-hand frog, Nos. 00, 000, 0000 wires, composition | 775 | 770.00 |
| 200295 | $V$ frog, Nos. $00,000,0000$ wires, malleable iron, sherardized . | 800 | 576.00 |
| 200296 | $V$ frog, Nos. $00,000,0000$ wires, composition | 800 | 770.00 |
| 200297 | Left-hand renewable pan for List No. 200291 | 400 | 240.00 |
| 200298 | Right-hand renewable pan for List No. 200293 | 400 | 240.00 |
| 200299 | $V$ renewable pan for List No. 200295. | 400 | 240.00 |
| 200300 | Left-hand renewable pan for List No. 200292 | 400 | 504.00 |
| 200301 | Right-hand renewable pan for List No. 200294 | 400 | 504.00 |
| 200:302 | $V$ renewable pan for List No. 200296. . | 400 | 504.00 |

Delivery F. O. B. Factory, Schenectady, N. Y. Freight allowed on orders amounting to $\$ 50$ list or over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.


# Trolley Frogs-Special <br> 15 DEGREE FROGS 

Suitable for yard work where sliding collectors only are used.


| Qverall | Overall <br> Length | Approx. <br> Net Wt. <br> in Ibs. | List <br> Price |
| :---: | :---: | :---: | ---: |
| LenIns. | in Ins. | per I00 | per 100 |
| $175 / 8$ | $61 / 8$ | 1375 | $\$ 1058.00$ |
| $175 / 8$ | $61 / 8$ | 1375 | 1058.00 |
| $175 / 8$ | $61 / 8$ | 1375 | 1058.00 |

## Crossings, Form G, Uninsulated

The principle of the inclined plane to insure smooth transition of the trolley wherl between tongue and pan has been embodied in the design of all lorm G crossings, and the maximum speed at which the trolley will operate at crossing points has been greatly increased thereby. They will accommodate round or grooved wire of the size indicated in the tables.

The Form G adjustable crossing can he set at any angle between 30 and 90 degrees.
35 DEGREE CROSSINGS

| 42413 | Crossing for Nos. 00, 000 and 0000 wire, comp | 16 | 512 | 865 | \$1276.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 103974 | Crossing for Nos. 00,000 and 0000 wire, mal. iron, sher. | 16 | $5 \frac{1}{2}$ | 865 | 720.00 |
|  | 15 DEGREE CROSSINGS |  |  |  |  |
| 19490 | Crossing for Nos. 00,000 and 0000 wire, comp. | 211/4 | 53/8 | 1025 | \$1452.00 |
| 103975 | Crossing for Nos. 00, 000 and 0000 wire, mal. iron, sher. | 211/4 | 53,8 | 1025 | 870.00 |
|  | 8 DEGREE CROSSING |  |  |  |  |
| 64445 | Crossing for Nos. 00,000 and 0000 wire, mal. iron, sher | 241/4 | 61/4 | 1400 | \$1224.00 |




## LINE MATERIAL Crossings, Form L, Insulated

The Form L insulated crossing consists of a beam of selected second growth hickory thoroughly impregnated with preservative oils to exclude moisture, finished with black japan, and castings of standard composition metal, with a replaceable white fiber runway. Attachment to the trolley wires is effected by mechanical clamps so that the crossing may be installed quickly without soldering and without cutting either wire.

The fiber runways as listed include fiber plates with screws. The crossings will accommodate round or grooved wire of the size indicated in the tables.


Risht Angle Crossing

## SINGLE TROLLEY CROSSINGS

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { No. } \\ & 46184 \end{aligned}$ | Description <br> Right angle crossing for Nos 00, 000 and | Length | Width | per 100 | per 100 |
| 100935 | White fiber runway for List No. 46184. | 351\% ins | 18, 18 ins. | 1750 lbs. | \$2640.00 |

Crossings similar to above, but for $1 / 0$ wire will be furnished at the same price.


## ADJUSTABLE CROSSINGS

The Form $L$ adjustable crossings can be set at any angle between 45 and 90 degrees.

| 19406 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 19407 | White fiber runway for List Nos. 19406, 26150 and 115815. | 36 ins. | 161/2 ins. $16^{1} \text { ins. }$ | 1275 lbs. 18 lbs. | $\$ 2640.00$ |
| 104589 | Cross tongue, complete, with nuts and clamping shoes for List No. 19406 . . . . . . . . . . . |  | $10^{1} 3 \mathrm{ins}$. | 18 lbs. | $240.00$ |
| 26150 | Adjustahle crossing, for Nos 00, 000 and 0000 wires, compositi | 36 ins. | 1612 ins. $16^{1}$ ins. | 310 lbs. 1400 lbs . |  |
| 115815 | Adjustable crossing, for Nos. 00,000 and 0000 wires, malleable iron. | 351/2 ins. | 1612 ins. | $1400 \text { lbs. }$ | $2610.00$ |
| 104590 | Cross tongue, complete, with nuts and clamping shoes, for List No. 26150 . . . ................ | $351 / 2 \mathrm{ins}$. | 16\%2 ins. | 1400 lbs. | 2160.00 |
| 115816 | Cross tongue, complete, with nuts and clamping shoes, for list No. |  | $16 \frac{1}{2}$ ins. | 365 lbs. | 616.00 |
|  |  | 351/2 ins. | 161/3ins. | 365 lbs . | 408.00 |



Single Trolley-Adjustable Crossing

## ADJUSTABLE INSULATED CROSSINGS

Form M insulated adjustable erossings have the end tongues fastened by $1 / 2$ inch holts. The body castings are malleable iron and the end tongues are composition.

[^89]LINE MATERIAL


Right Angle Crossing, Form M

## Single Trolley Crossings, Form M

| List <br> No. | Description | Approx. Wt. in Lbs.. per 100 |  |
| :---: | :---: | :---: | :---: |
| 155022 | Form M crossing for 0-00 round and grooved wire, mal. iron, sherardized. | 1500 | \$3600.00 |
| 155023 | Form M crossing for 000-0000 round and grooved wire, mal. iron, sherardized. | 1.75 | 3600.00 |
| 150562 | Renewable end tongue for List No. 155022, composition | 80 | 110.00 |
| 150563 | Renewable end tongue for List No. 155023, composition | 100 | 110.00 |



List No. 40307
Section Switch


List No. 40321
Section Switch and Fuse

## Section Switches

## POLE TYPE

In these switch boxes, the hinge clip of the switch is connected to the trolley line, and the box is so constructed that the cover can be closed and locked whether the switch is open or closed, thus preventing any interference with the line by unauthorized persons.

| With | List No. Without |
| :--- | :---: |
| Box | Box |
| 40305 | 40313 |
| 40307 | 40315 |
| $* 40321$ | 40317 |
| 40309 | 40319 |

Ampere
Capacity
200
400
400
600
1200

| -Approx. Wt., Each. in Lbs.-- |  | -List Price Each |  |
| :---: | :---: | :---: | :---: |
| With | Without | With | Without |
| Box | Box | Box | Box |
| 12 | 5 | \$13.44 | \$9.36 |
| 171/2 | 8 | 17.76 | 12.96 |
| 32 |  | 33.60 |  |
| 23 | 11 | 25. 20 | 20.16 |
| 46 | 28 | 44.40 | 37.92 |

*Has fuse block.
Delivery F. O. B. Factory, Schenectady, N. Y. Freight allowed on orders amounting to $\$ 50$ list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

## LINE MATERIAL

## Form L Section Insulator

The Form L section insulator consists of a beam of selected second-growth hickory well seasoned and treated with preservative oils to exclude moisture, finished with black japan, and castings of the standard composition metal, with a replaceable runway of hickory. Attachment to the trolley wires is made by double mechanical clamps at each end. The wood runway in conjunction with the accurately aligned castings offers a straight under-run, insuring a smooth passage for the trolley wheel. For 600 volt service the wood runway provides a 7 inch break in the trolley circuit; for 1200 volt service the break is 12 inches.

The insulators will accommodate round or grooved wires of the sizes indicated in the tables.


## Section Insulator

List
No.
19410
19491
115817
46190

| Description $600 \mathbf{1 2 0 0}$ VOLTS | Overall Length in Inches | Approximate <br> Weight per 100 |  |
| :---: | :---: | :---: | :---: |
| Section insulator, for Nos. 0 and 00 wires, 600 volts. | $311 / 2 \mathrm{ins}$. | 975 lbs . | \$1408.00 |
| Section insulator, for Nos. 00,000 , and 0000 wires, 600 volts. . | $311 / 2$ ins. | 1010 lbs. | 1408.00 |
| Section insulator, for Nos. 00, 000, and 0000 wires, 600 volts, malleable iron. | $311 / 2$ ins. | 1010 lbs. | 1056.00 |
| Section insulator, for Nos. 00, 000, and 0000 wires, 1200 volts. | $361 / 2$ ins. | 1200 lbs. | 1430.00 |



Overall length $311 / 2$ inches. List No.
46740 Section insulator, for Nos. 0 and 00 wires, $5 / 8$ in. tap, 7 in. break. . . . . . . .
60434 Section insulator, for Nos. 00, 000, and 0000 wires, $5 / 8 \mathrm{in}$. tap, 7 in. break . . . .
46741 Section insulator, for Nos. 0 and 00 wires, $3 / 4 \mathrm{in}$. tap, 7 in. break.
60435 Section insulator, for Nos. 00,000 , and 0000 wires, $3 / 4$ in. tap, 7 in. break...
21456 Wooden runway, for List Nos. 46740, 60434, 46741 and 60435.

Section Insulator


Section Insulator

## Automatic Section Insulator- 600 Volts

This device is a combined section insulator and automatic section switch, and, while it is designed especially for use in mine tramway work, may of ten be used to advantage on spur tracks in surface work, where it is desirable to cut out the spur section after the car has run back on to the main line.

The switch blade is operated by the trolley wheel, and is permanently connected to the feeder or to the main line trolley wire. Over all length $301 / 2$ inches; height $51 / 8$ inches.

| Approximate | List |
| ---: | ---: |
| Weight | Price |
| per 100 | per 100 |
| 1650 lbs. | $\$ 1201.20$ |
| 12 lbs. | 28.80 |

## No. Description


Section insulators similar to the above but for $1 / 0$ wire will be furnished at the same price.
Delivery F. O. B. Factory, Schenectady, N. Y. Freight allowed on orders amounting to $\$ 50$ list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

## RAIL BOND PRICES

Stud Terminal Bonds with Solid Copper Terminals and Soldered Bonds with Either Ribbon, Cable or Solid Wire Conductors *- except Bevel Head Foot Bonds and Bonds with Tinned Studs
MFR'S. LIST. SPECIAL DISCOUNTS FOR VARIOUS TYPE BONDS ON APPLICATION

Conductor 0 0 00 00 000 000 0000 0000 250,000 250,000 275,000 275,000 300,000 300,000 325,000 325,000 350,000 350,000 375,000 375,000 400,000 40,000 425,000 425,000 450,000 450,000 500,000 500,000 $1,000,000$

Te
8 ln .
8 lnd
Bonds
$\$ 16.00$
48.50

| Diam. Terminal in Ins. | 4 In. Bonds | 5 In. Bonds |
| :---: | :---: | :---: |
| 1/2 | \$40.00 | 841.50 |
| 5 | 42.50 | 44.00 |
| 38 | 45.00 | 46.60 |
| 3 | 50.50 | 52.10 |
| 8 | 54.20 | 56.60 |
| $5 / 8$ | 56.20 | 58.60 |
| 8 | 56.50 | 59.10 |
| 7/8 | 59.00 | 61.20 |
| \% | 62.00 | 65.60 |
| 1 | 67.00 | 70.00 |
| 7\% | 6.5. 10 | 68.80 |
|  | 70.10 | 73.80 |
| 78 | 68.80 | 72.80 |
|  | 73.80 | 77.50 |
| 7/8 |  | 77.00 |
| 1 |  | 82.00 |
| ${ }^{7} 8$ |  | 80.00 |
| 1. |  | 85.00 |
| 78 |  | 88.60 |
| 1 |  | 93.60 |
| 7/8 |  |  |
|  |  |  |
| $1^{1 / 8}$ |  |  |
| 17 |  |  |
| $1^{7 / 8}$ |  |  |
| 1 |  |  |
| $1 \frac{18}{16}$ |  |  |
| 11/4 |  |  |
| Diam. |  |  |


| 6ln. | Schedule |
| ---: | ---: |
| Bonds | Bon |
| B43.00 | $\$ 44$. |
| 45.50 | 47 |
| 48.20 | 49 |
| 53.70 | 55 |
| 59.00 | 61 |
| 61.00 | 63 |
| 61.50 | 61 |
| 64.00 | 66 |
| 68.00 | 71 |
| 73.00 | 76 |
| 72.50 | 76 |
| 77.50 | 81 |
| 76.80 | 80 |
| 81.80 | 85 |
| 81.50 | 86 |
| 86.50 | 91 |
| $8 . .00$ | 90 |
| 90.00 | 95 |
| 93.80 | 99 |
| 98.80 | 104 |
| 97.00 | 103 |
| 102.00 | 108 |
| 101.00 | 107 |
| 106.00 | 112 |
| 105.00 | 111 |
| 110.00 | 116 |
| 120.00 | 127 |
| 123.00 | 130 |
|  | 200 |
|  |  |


| 71 n. | 8 |
| ---: | ---: |
| Bonds | B |
| 844.50 | 84 |
| 47.00 | 48 |
| 49.80 | 5 |
| 55.30 | 5 |
| 61.40 | 6 |
| 63.40 | 6 |
| 61.00 | 6 |
| 66.50 | 6 |
| 71.00 | 7 |
| 76.00 | 7 |
| 78.30 | 8 |
| 81.30 | 8 |
| 80.80 | 8 |
| 85.80 | 8 |
| 86.00 | 9 |
| 91.00 | 9 |
| 90.00 | 9 |
| 95.00 | 10 |
| 99.00 | 10 |
| 104.00 | 10 |
| 103.00 | 10 |
| 108.00 | 11 |
| 107.00 | 11 |
| 112.00 | 118 |
| 111.00 | 117 |
| 116.00 | 12 |
| 127.50 | 13 |
| 130.50 | 138 |
| 200.00 | 215 |
|  |  |


16 In.
Bonds
$\$ 58.70$
61.20
64.90
70.40
83.70
85.70
91.50
94.00
103.00
108.00
113.00
118.00
121.50
126.50
131.00
136.00
139.50
144.50
150.80
155.80
160.00
165.00
16.00
170.00
172.00
177.00
195.00
198.00
335.00
17 In.
Bonds
860.40
62.90
66.70
72.20
86.30
88.30
95.00
97.50
107.00
112.00
117.50
122.50
126.50
131.50
136.50
141.50
14.50
150.50
1.57 .00
162.00
166.50
171.50
172.00
177.00
179.50
184.50
202.50
205.50
350.00

| 18 In . Bonds | For Each Additional Inch Over 18 Inches Add to List of 18 In. Bonds |
| :---: | :---: |
| \$62. 10 | \$1.50 |
| 64.60 | 1.50 |
| 68.50 | 1.80 |
| 74.00 | 1.80 |
| 88.30 | 2.30 |
| 90.90 | 2.30 |
| 98.50 | 2.70 |
| 101.00 | 2.70 |
| 111.00 | 3.20 |
| 116.00 | 3.20 |
| 122.00 | 3.40 |
| 127.00 | 3.40 |
| 131.50 | 3.80 |
| 136.50 | 3.80 |
| 142.00 | 4.40 |
| 147.00 | 4.40 |
| 151.50 | 4.60 |
| 156.50 | 4.60 |
| 163.30 | 4.90 |
| 168.30 | 4.90 |
| 17300 | 5.30 |
| 178.00 | 5.30 |
| 179.00 | 5.70 |
| 184.00 | 5.70 |
| 187.00 | 6.00 |
| 192.00 | 6.00 |
| 210.00 | 7.00 |
| 213.00 | 7.00 |
| 365.00 | 14.00 |

## TWIN STUD TERMINAL BONDS

Twin terminal bonds are measured from a point in the center of a line drawn through the center of the two studs to the same point in the other terminal when bond is straight and extended.
The list price of twin terminal bonds is based on the largest size terminal scheduled for bond of equivalent cross section and length.

| Conductor <br> Section | Length <br> in Inches |
| ---: | :---: |
| 00 | 7 |
| 0000 | 7 |
| 0000 | $71 / 2$ |
| 0000 | 9 |
| 0000 | $91 / 2$ |
| 250,000 | 8 |
| 300,000 | $71 / 2$ |
| 350,000 | 8 |
| 350,000 |  |
|  |  |
|  | For |

Net Wt. in Lbs.
per 100
61
85
$871 / 2$
90
$971 / 2$
118
128
$1381 / 2$
143
List Price
per 100
$\$ 55.30$
66.50
67.75
69.00
73.50
79.00
89.80
97.50
100.00 per 100 $\$ 55.30$ 66.50
67.75 67.75
69.00 69.00
73.50 79.00
89.80
100.00

## Form C Foot Bonds

Add to schedule list price the following:
Up to and including 350,000 cir. mils. $\$ 20$ list per 100.
Over 350,000 cir. mils. including 500,000 cir. mils. $\$ 25$ list per 100.
Over 500,000 cir. mils. $\$ 30$ list per 100.
Bonds with Tinned Studs
For tinning any standard type stud terminal bond, including twin stud, add $\$ 3$ list per 100 bonds.
Bonds with Extra Large Terminal Cap
Providing for soldering in addition to compression, add $\$ 7$ list per 100 bonds for stud of $7 / 8$ inch diameter and smaller; for those having terminal diameters larger than $7 / 8$ inch, add $\$ 10$ list.

Delivery F. () 13. Factory, Schenectady, N. Y. Freight allowed for orders amounting to s50 list or over to points east of Mississippi River. Suitable allowance is made for shipments west thereof


No. 1

## LINE MATERIAL

Kalamazoo Trolley Harps and Wheels
NOS. 1, 2, 3, 4 AND 8 HARPS

| List | Width <br> Between | Diameter of | Maximum <br> Diameter <br> Axle Pin | Approximate | List |
| :--- | :---: | :---: | :---: | :---: | ---: |
| No. | Washers | Price |  |  |  |

$3 / 4$ inch pins for 1,2 and 4 harps can be furnished on special order.
$11 / 2$ ins.
$1 / 2 \mathrm{in}$.
4 ins.
$21 / 2 \mathrm{lbs}$
$5 / 8$ inch pins for 8 harps can be furnished on spectal order.


No. 3-Deep Groove


No. 2-"U" Groove

## Kalamazoo Trolley Wheels

| List <br> No. | Oitside Diameter | Width Flange | Length of Hub | Diameter of Pin | Depth of Groove | Style of Groove | Wt. Each Lbs. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | fins. | $11 / 2$ ins. | $11 / 2 \mathrm{ins}$. | $5 / 8 \mathrm{in}$. | 1 in. | Deep | $33 / 4$ | \$5.00 |
| 2 | 6 ins. | $13 / 8 \mathrm{ins}$. | $11 / 2 \mathrm{ins}$. | $5 / 8 \mathrm{in}$. | $3 / 4 \mathrm{in}$. | U | $33 / 4$ | 5.00 |



No. 8-"*V'' Groove


No.9-Deep Groove


No. 15-"U" Groove

| List No. | Outside Diameter | Width Flange | Length of Hub | Diameter of Pin | Depth of Groove | Style of Groove | Wit. Each Idbs. | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | $4 \mathrm{ins}$. | $13 / 8$ ins. | $11 / 2$ ins. | $1 / 2 \mathrm{in}$. | $3 / 4 \mathrm{in}$. | V | 2 | \$3.00 |
| 9 | 4 ins. | $13 / 8 \mathrm{ins}$. | $11 / 2$ ins. | $1 / 2 \mathrm{in}$. | $7 / 8 \mathrm{in}$. | Extra Deep | 21/4 | 3.00 |
| 15 | 5 ins. | $13 / 8 \mathrm{ins}$. | $11 / 2$ ins. | $1 / 2 \mathrm{in}$. | $3 / 4 \mathrm{in}$. | U | $23 / 4$ | 3.70 |

Any of the above wheels can be furnished with $5 / 8$ inch bushings if desired.
Delivery I'. O. B. Factory, Kalamazoo, Mich. For warehouse deliveries write nearest house.

## CROUSE-HINDS PANELS

## GENERAL PANEL BOARD SPECIFICATIONS

Type A. Branches arranged for N. E. C. cartridge fuses, with or without knife switches.
Type DD. Branches arranged for Edison plug fuses, no switches.
'Type DK. Branches arranged for Edison plug fuses, with knife switches.
Type 1)P. Branches arranged for Edison plug fuses, with push button switches.
Type DR. Branches arranged for Ldison plug fuses, with rotary snap switches.
Type F. Branches arranged for N. E. C. cartridge fuses, with rotary snap switches.
Type O. Branches arranged for N. E. C. cartridge fuses, with push button switches.
Material.-The base is highest grade black Monson slate, free from flaws or metallic veins. All current-carrying parts are best grade hard-drawn copper of 98 per cent conductivity.

Finish.-The slate is furnished with a rubbed oil finish. All exposed metal parts are finished in polished copper, carefully lacquered, except on contact surfaces.

Spacings.-All current-carrying parts are spaced in accordance with the latest requirements of the National Board of Fire Underwriters.

Current Density.-All current-carrying parts are based upon a maximum current density of 1000 amperes per square inch cross section.

Circuit Connections.- Ill two to two-wire panel boards are connected in the regular manner, adjacent poles of adjoining circuits being of the same polarity, but fed by separate strips. Ail three to two-wire panel hoards are connected for the Edison three-wire system; that is, each branch circuit has one pole connected to the neutral bus-bar and the other pole conneeted to one of the two outside bus-bars. All three to two-wire panel boards are so connected that adjacent poles of adjoining circuits are of the same polarity, but fed by separate strips.

Capacities.-Fuse terminal branch circuits and branch circuits with knife switches are of 30 amperes capacity. Snaly switch circuits are of 10 amperes capacity. Mains on all two to two-wire panel boards are figured at 6 amperes per circuit, and on three to two-wire panel boards at 3 amperes per circuit.

Circuit Strips.-Branch circuit strips are made of $1 / 2$-inch by $1 /$-inch copper, formed up in such a manner as to make direct connections to the main bushars without the use of pillars, thus reducing the number of parts and contact joints to a minimum.

Circuit Switches.-Knife switches are of 30 amperes capacity and 30 amperes spacing, equipped with substantial composition handles into which the blades are molded. Contact clips and hinge standards are each formed from one piece of $1 / 2$-inch by No. 16 -gauge copper. The contact clips are flared at the top to insure proper entrance of the blades. The blarles are of substantial design and inade of $1 / 2$-inch by No. 12 -gauge copper. Hinge joints are held under compression by spring washers, insuring perfect contact. Snap switches are of the indicating type, 10 amperes capacity, designed especially for these panel boards, and present a neat and attractive appearance. The outer case is made of black composition and covers the entire mechanism and comections.

Main Switches.-Main switches are or substantial design and construction and are regularly mounted at the bottom of the panel board, but will be mounted at the top, if specifically ordered. This change in arrangement does not alter the size or price of the panel board. The capacities of the main connections for various panel hoards are given in the schedule where panel boards are listed.

Slate Frames.-Slate frames are made of oiled Monson slate $1 / 2$ inch thick, and telescope the panel board; therefore, the outside dimensions of a slate frame are 1 inch greater than those of the panel hoard with which it is used. Slate frames are driled for circuit wires and slotted for main wires, and are held in position by adjustable corner irons.

Special Finishes and Arrangements.-Black enamel slate panel boards will be furnished at an advance of 5 per cent, if specifically ordered. White Italian or Blue Vermont marble panel boards will be furnished at an advance of 25 per cent, if specifically ordered.

Type A panel boards will be furnished with branch circuit strips and switch bases made of $1 / 2$-inch by $\frac{5}{32}$-inch copper, and switches made with contact and standard clips driven and sweated into base blocks at an advance of 30 per cent, if specifically ordered.

Marble frames, drilled for branches and slotted for mains, will he furnished at an advance of 100 per cent, if specifically ordered.

Slate frames will be furnished slotted for both main and branch wires at an advance of 50 per cent, if specifically ordered.

## CROUSE-HINDS TYPE A PANELS <br> 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Branches-Double, Arranged for N.E.C. Cartridge Fuses


## CROUSE-HINDS TYPE A PANELS

## 3 TO 2-WIRE, 125 VOLTS

Mains-3-Wire. Branches-Double, Arranged for N.E.C. Cartridge Fuses

| Panels fornished with main connections at top, if so ordered, withoat uxtra dharge. | Panel Only |  |  |  |  |  |  |  | $\begin{array}{\|c\|} \hline \text { SLATE } \\ \text { PRAME } \end{array}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. |  | List Price | Sizein In. |  |  |  | $\begin{aligned} & \text { Box } \\ & \text { Ref. } \end{aligned}$ |  | Type | Type | Types <br> BK-BN | $\begin{gathered} \text { Type } \\ \text { BT } \end{gathered}$ |
|  |  | No. |  | W. | H. | D. | Mains |  |  |  |  |  |  |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 30 | D) 8 | 83.10 | \$13.10 | \$16.90 | \$21.50 | \$25.90 |
|  | $\begin{aligned} & 2 \\ & 4 \end{aligned}$ | 150641 | 4.80 7.10 | 131/2 | 12 | 4 | 30 | D12 | 3.50 3.70 | 16.30 | 20.30 | 25.40 | 30.00 3080 |
|  | 4 | 150643 | 9.10 | $131 / 2$ | 14 | 4 | 30 | D14 | 3.70 | 18.70 | 22.80 | 28.10 | 32.80 |
| $5=0$ | 8 | 150644 | 11.10 | 131/2 | 16 | 4 | 30 | D16 | 3.90 | 21.10 | 25.30 | 30.80 | 35.60 |
|  | 10 | 150645 | 13.50 | $131 / 2$ | 18 | 4 | 30 | D18 | 4.10 | 24.00 | 28.30 | 33.90 | 38.80 |
|  | 12 | 150646 | 16.30 | $131 / 2$ | 22 | 4 | 60 | D22 | 4.50 | 27.60 | 32.10 | 38.20 | 43.20 |
|  | 14 | 150647 | 18.40 | 131/2 | 24 | 4 | 60 | D24 | 4.70 | 30.20 | 34.80 | 41.10 | 46.20 49.40 |
|  | 16 | 150648 | 20.60 | 131/2 | 26 | 4 | 60 | D26 | 4.90 | 32.90 35.50 | 37.60 40.30 | 44.10 47.00 | 49.40 52.40 |
|  | 18 | 150649 | 22.70 | 131/2 | 28 | 4 | 60 | D28 | 5.10 | 35.50 | 40.30 | 47.00 | 52.40 |
|  | 20 | 150650 | 25.10 | 131/2 | 32 | 4 | 60 | D32 | 5.40 | 38.90 | 44.00 | $51.00$ | 56.50 60.80 |
|  | 22 | 150651 | 28.60 | 131/2 | 34 | 4 | 100 | D34 | 5.60 6.00 | 42.90 46.30 | 48.10 51.70 | 55.30 59.30 | 60.80 64.70 |
|  | 24 | 150652 | 31.00 | 131/2 | 38 | 4 | 100 | D38 | 6.00 | 46.30 51.60 | 51.70 56.90 | 64.90 | 67.90 |
|  | 26 | 150653 | 33.30 | 131/2 | 40 | 4 | 100 | D40 | 6.20 6.30 | 51.60 54.50 | 56.90 59.90 | 67.70 | 71.00 |
|  | 28 | 150654 | 35.50 37.70 | 131/2 | 42 | 4 | 100 | D44 | 6.50 | 57.30 | 62.70 | 71.00 | 74.40 |
|  | 30 32 | 150655 | 37.10 | 131/2 | 48 | 4 | 100 | D48 | 6.90 | 60.90 | 66.40 | 75.10 | 79.20 |


"Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of preth which they are to be used. Prices under head cabinet, and slate frame if one is required. 250 volts, and for double-branch panels, 250 volts, also for through-feed Prices for single-branch pancis, 125 or do not include fuses. Order by catalogue number.
panels will be quited of cabinets listed above, see one of the following pages.

## CROUSE-HINDS TYPE A PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Branches-Double, with 30 -amp. Knife Switches, Arranged for N.E.C. Cartridge Fuses


[^90]
## CROUSE-HINDS TYPE A PANELS

## 3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, with 30 -amp. Knife Switches, Arranged for N.E.C. Cartridge Fuses

| Panels furnished with rain cornections at toj, if so crdered, withcut oxiracharge. | Panel Only |  |  |  |  |  |  |  | $\begin{aligned} & \text { SLATE } \\ & \text { FRAKE } \\ & \hline \text { List } \end{aligned}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \mathrm{Mo.} \\ & \mathrm{Mo.} \\ & \mathrm{Cir} . \end{aligned}$ | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\frac{\mathrm{Siza}}{\mathrm{W} .}$ | H. | D. | $\begin{aligned} & \text { Cap } \\ & \text { Mains } \end{aligned}$ | $\begin{aligned} & \text { BoI } \\ & \text { Ref. } \end{aligned}$ |  | $\begin{aligned} & \text { Type } \\ & \text { Re } \end{aligned}$ | Type | $\begin{gathered} \text { Types } \\ \mathrm{BM} \mathrm{BN} \end{gathered}$ | $\begin{aligned} & \text { Type } \\ & \text { BT } \end{aligned}$ |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1.50961 | \$0.00 | $17^{1}$ | 8 | 4 | 30 | $1-8$ | \$3.50 | \$15.10 | \$19.010 | \$24.30 | \$28.60 |
|  | 4 | 1.5,062 | 9.30 | $17{ }^{1 / 2}$ | 12 | 4 | 30 | F12 | 3.10 | 19.50 | 23.60 | 29.20 | 33.60 |
|  | 6 | 150963 | 12.30 | $17 \frac{1}{3}$ | 14 | 4 | 30 | F14 | 4.10 | 23.00 | 27.20 | 33.10 |  |
|  | 8 | $1: 30964$ | 15.30 | 17, | 16 | 4 | 30 | F16 | 4.30 | 26.60 | 30.90 | 36.80 | 41.30 |
|  | 10 | 150965 | 18.40 | 1712 | 18 | 4 | 30 | 1:18 | 4.50 | 30.20 | 34.60 | 40.80 | 45.30 |
|  | 12 | 150966 | 22.10 | 172, | 22 | 4 | 60 | F22 | 4.90 | 34.90 | 39.50 | 46.10 | 50.70 |
|  | 14 | 150967 | 25.30 | 173' | 21 |  | 60 | $1 \% 24$ | 5.10 | ง8. 60 | 43.20 | 50.10 | 54.80 |
|  | 16 | 1,50068 | 28.30 | 1712 | 20 | 4 | 60 | $1: 6$ | 5.20 | 42.10 | 46 | 53.80 | 58.60 |
|  | 18 | 150969 | 31.40 | 17.2 | 25 | 4 | 60 | F28 | 5.40 | 45.70 | 50.50 | 57.80 | 62.60 |
|  | 20 | 150970 | 31.80 | 1712 | 32 | $\pm$ | 60 | IF32 | 5.80 | 50.30 | 55.20 | 62.90 | 67.80 |
|  | 22 | 1.50971 | 35.29 | $11^{17} 2$ | 31 | 4 | 161 | ].ut | 6. 60 | 5.3. 201 | 60. 20 | 68. 10 | 73.10 |
|  | 24 | 150972 | 42.70 | 1712 | 38 | 4 | 140 | 1.38 | 6.30 | 59.90 | 65.10 | 73.10 |  |
|  | 26 | 150973 | 45.90 | $17^{1}{ }^{3}$ | 40 | 4 | 100 | F40 | 6.50 | 6.3. 90 | 71.40 | 79.70 | 82.80 |
|  | 28 | 150974 | 49.10 | 171: | 43 | 4 | 110 | J. 42 | 6.71 | 69.90 | 75.80 | 83.90 | 87.30 |
|  | 30 | 15097.5 | 5. 20 | 1712 | 41 | 4 | 11.0 | F 4 | 6.90 | 73.60 | 79.10 | 88.10 | 91.80 |
|  | 32 | 1.00976 | 55.70 | 17,2 | 45 | 4 | 100 | F'48 | 7.30 | 78.50 | 84.10 | 93.50 | 98.00 |



| 2 | 1.51141 | 8.30 | $17^{1} 2$ | 111 |
| :---: | :---: | :---: | :---: | :---: |
| 4 | $1.5104^{2}$ | 11.60 | $16^{1} 2$ | 11 |
| 6 | 151043 | 14.60 | 17.2 | 16 |
| 8 | 151044 | 17.60 | 176 | 18 |
| 10 | 151045 | 20.70 | $1712^{17}$ | 2. |
| 12 | 151046 | 24.80 | 1712 | 24 |
| 14 | 151047 | 29.00 | $11^{1}{ }^{2}$ | 28 |
| 16 | 15114.8 | 31.10 | 1712 | 3) |
| 18 | 151149 | 34.10 | $17 \frac{1}{2}$ | 32 |
| 20 | 151050 | 37.50 | 171: | 34 |
| 22 | 1.510 .51 | 43.30 | $11^{1} 2$ | 4) |
| 24 | 151052 | 46.80 | $17 \frac{1}{2}$ | 44 |
| 26 | 151053 | 50.00 | $17^{1} 2$ | 40 |
| 28 | 1510.54 | 53. 20 | $17^{1} 2$ | 43 |
| :0 | 1510.55 | 56.30 | $17: 2$ | 50 |
| 32 | 151056 | 59. 80 | 1713 | 54 |

USIBLE MAINS


| 2 | 151121 | 12.50 | $17^{1} 2$ | 14 |
| :---: | :---: | :---: | :---: | :---: |
| 4 | 1.51122 | 1.5 .80 | 1712 | -18 |
| 6 | 151123 | 18.80 | 1713 | 20 |
| 8 | 1.11124 | 21.80 | $11^{1} 2$ | 22 |
| 10 | 1.51125 | 21.919 | 1712 | 24 |
| 12 | 151126 | 29.90 | 1712 | 30 |
| 14 | 1.51127 | 33.10 | 171发 | 32 |
| 16 | 1.51128 | $36.10)$ | 17.2 | 34 |
| 18 | 151129 | 39.20 | 1512 | 36 |
| 20 | 151130 | 42.60 | 17! | 40 |
| 22 | 1.51131 | 51.20 | 17: 2 | 44 |
| 24 | 151132 | 54.70 | $17{ }^{1}$ | 46 |
| 26 | 151133 | 57.90 | 17!2 | 48 |
| 28 | 151131 | 61.10 | 172 | 52 |
| 30 | 1.)1135 | 64.20) | $17{ }^{1}$ | 54 |
| 32 | 1.51136 | 67.7) | 17,2 | 56 |


| 30 | 1.10 |
| :---: | :---: |
| 30 | 114 |
| 30 | I 16 |
| 30 | F18 |
| 30 | $1 \cdot 2$ |
| 60 | I. 24 |
| 60 | $1 \div 8$ |
| 60 | I. 30 |
| 60 | F32 |
| 60 | F34 |
| 1010 | I 40 |
| 100 | 1.44 |
| 100 | F46 |
| 100 | 1 48 |
| 100 | 1550 |
| 100 | F54 |


| 3.70 | 18.00 | 22.00 | 27.40 | 31.80 |
| :--- | :--- | ---: | ---: | ---: |
| 4.10 | 22.30 | 26.50 | 32.40 | 36.80 |
| 4.30 | 25.90 | 30.20 | 36.10 | 40.60 |
| 4.50 | 29.40 | 33.80 | 40.00 | 44.50 |
| 4.90 | 33.50 | 38.10 | 44.70 | 49.30 |
| 5.10 | 38.10 | 42.70 | 49.60 | 54.30 |
| 5.40 | 42.30 | 47.10 | 54.40 | 59.20 |
| 5.60 | 45.90 | 50.80 | 58.20 | 63.10 |
| 5.80 | 49.60 | 54.50 | 62.20 | 67.10 |
| 6.00 | 53.50 | 58.50 | 66.40 | 71.40 |
| 6.50 | 63.30 | 68.80 | 77.10 | 80.20 |
| 6.90 | 68.20 | 73.70 | 82.60 | 86.40 |
| 7.10 | 72.20 | 77.70 | 86.80 | 90.90 |
| 7.30 | 76.10 | 81.60 | 91.00 | 95.30 |
| 7.50 | 79.90 | 85.50 | 95.10 | 99.90 |
| 7.90 | 81.80 | 90.50 | 100.80 | 106.10 |

FUSELESS MAIN SWITCH


| 2 | 151201 | 1 |
| ---: | :---: | :---: |
| 4 | 151202 | 1 |
| 6 | 151203 | 2 |
| 8 | 1.51204 | 2 |
| 10 | 1.1215 | 2 |
| 12 | 151206 | 3 |
| 14 | 151207 | 3 |
| 16 | 151208 | 3 |
| 18 | 151209 | 4 |
| 20 | 151210 | 4 |
| 22 | 151211 | 5 |
| 24 | 151212 | 5 |
| 26 | 151913 | 6 |
| 28 | 151214 | 6 |
| 30 | 151215 | 6 |
| 32 | 1.51216 | 72 |


| 14.60 | 171'2 | 14 |
| :---: | :---: | :---: |
| 17.90 | $11^{1} 2$ | 18 |
| 20.90 | 1712 | 20 |
| 23.90 | 171自 | 22 |
| 27.10 | $17^{1} 2$ | 24 |
| 32.00 | 171, | 30 |
| 35.20 | 1712 | 32 |
| 38.20 | $17{ }^{17}$ | 34 |
| 41.30 | 17\%2 | 36 |
| 44.70 | 171, | 40 |
| 56.00 | 172 | 46 |
| 54.50 | 1712 | 50 |
| 62.70 | 1712 | 52 |
| 65.90 | 1712 | 54 |
| 69.00 | 1712 | 56 |
| 7250 | 1716 | 60 |

SIble MAIN SWITCH

| 4 | 30 | $1 \cdot 14$ | 4.10 | 25.30 | 29.50 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 30 | F18 | 4.50 | 29.70 | 34.10 |
| 4 | 30 | J. 20 | 4.70 | 33.20 | 37.70 |
| 4 | 30 | F22 | 4.90 | 36.70 | 41.30 |
| 4 | 30 | 124 | 5.10 | 4). 30 | 44.90 |
| 4 | 60 | 1130 | 5.60 | 46.90 | 51.80 |
| 4 | 60 | F32 | 5.80 | 50.70 | 55.60 |
| 4 | 60 | 134 | $6.01)$ | 54.20 | 59.20 |
| 4 | 60 | F36 | 6.10 | 58.00 | 63.10 |
| 4 | 60 | I 40 | 6.50 | 64.70 | 70.20 |
| 4 | 100 | I 16 | 7.10 | 78.20 | 83.70 |
| 4 | 100 | I'50 | 7.50 | 83.10 | 88.70 |
| 4 | 100 | F 52 | 7.70 | 86.90 | 92.60 |
| 4 | 110 | Fis | 7.90 | 90.90 | 96.60 |
| 4 | 100 | 1.50 | 8.10 | 94.70 | 100.40 |
| 4 | 110 | F69 | 850 | 9960 | 10, 40 |


| 35.40 | 39.80 |
| ---: | ---: |
| 40.30 | 44.80 |
| 44.20 | 48.70 |
| 47.90 | 52.50 |
| 51.80 | 56.50 |
| 59.20 | 64.10 |
| 63.30 | 68.20 |
| 67.10 | 72.10 |
| 70.90 | 76.00 |
| 78.50 | 81.60 |
| 92.80 | 96.90 |
| 98.30 | 103.10 |
| 102.60 | 107.70 |
| 106.90 | 112.20 |
| 111.10 | 116.70 |
| 116.70 | 122.90 |

[^91]
## CROUSE-HINDS TYPE F PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Eranches-Double, with 10-amp. Rotary Snap Switches, for N.E.C. Cartridge Fuses


[^92]
## CROUSE-HINDS TYPE F PANELS <br> 3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, with 10 -amp. Rotary Snap Switches, Arranged for N.E.C. Cartridge Fuses

| Panols furnishod with main connootions at top, if so ordered, withont extra charga | Panel Only |  |  |  |  |  |  |  | $\begin{array}{\|c} \left\lvert\, \begin{array}{c} \text { SLATE } \\ \text { FRAME } \end{array}\right. \\ \hline \text { List } \\ \hline \end{array}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { No. } \\ & \text { Cir. } \end{aligned}$ | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $\underset{\text { Prist }}{\text { List }}$ | $\frac{\mathrm{Siz}}{\mathrm{~W} .}$ | IN I | D. | Cap. Mains | $\begin{aligned} & \text { Boz } \\ & \text { Ref. } \end{aligned}$ |  | Type | Type | Types <br> BM-BN | TyT |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 152241 | \$7.50 | 171/2 | 8 | 4 | 30 | F 8 | \$3.50 | 16.60 | \$20.50 | \$25.80 | \$30.10 |
|  | 4 | 152242 | 12.40 | $171 / 2$ | 12 | 4 | 30 | F12 | 3.90 | 22.60 | 26.70 | 32.30 | 36.70 |
|  | 6 | 152243 | 17.00 | 171/2 | 14 | 4 | 30 | F14 | 4.10 | 27.70 | 31.00 | 37.80 | 42.20 |
|  | 8 | 152244 | 21.50 | 171/2 | 16 | 4 | 30 | F16 | 4.30 | 32.80 | 37.10 | 43.00 | 47.50 |
|  | 10 | 152245 | 26.20 | 171/2 | 18 | 4 | 30 | F18 | 4.50 | 38.00 | 42.40 | 48.60 | 53.10 |
|  | 12 | 152246 | 31.60 | 171/2 | 22 | 4 | 60 | F22 | 4.90 | 44.40 | 49.00 | 55.60 | 60.20 |
|  | 14 | 152247 | 36.20 | 171/2 | 24 | 4 | 60 | F24 | 5.10 | 49.50 | 54.10 | 61.00 | 65.70 |
|  | $16$ | $152248$ | 40.90 | 171/2 | 26 | 4 | 60 | F26 | 5.20 | ${ }^{4} 54.70$ | 59.50 | 66.40 | 68.70 71.20 |
|  | 18 | 152249 | 45.60 | 1712 | 28 | 4 | 60 | F28 | 5.40 | 59.90 | 64.70 | 66.40 72.00 | 76.80 |
|  | $20$ | 152250 | 50.50 | 171/2 | 32 | 4 | 60 | F32 | 5.80 | 66.00 | 70.90 | 78.60 |  |
|  | $\begin{aligned} & 22 \\ & 24 \end{aligned}$ | 152251 | 56.50 | $171 / 3$ | 34 | 4 | 100 | F34 | 6.00 | 72.50 | 77.50 | 85.40 | 90.40 |
|  | $24$ | 152252 | 61.60 | 171/2 | 38 | 4 | 100 | F38 | 6.30 | 78.80 | 84.00 | 92.00 | 97.10 |
|  | $26$ | $152253$ | 66.30 | 171/2 | 40 | 4 | 100 | F40 | 6.50 | 86.30 | 91.80 | 100.10 | 103.20 |
|  | $\begin{aligned} & 28 \\ & 30 \end{aligned}$ | 152254 152255 | 71.00 75.80 | $171 / 2$ | 42 | 4 | 100 | F42 | 6.70 | 91.80 | 97.20 | 105.80 | 109.20 |
|  | 30 32 | 15255 152256 | 75.80 80.80 | 171/2 | $\begin{aligned} & 44 \\ & 48 \end{aligned}$ | 4 | 100 | F44 | 6.90 | 97.20 | 102.70 | 111.60 | 115.40 |
|  |  | 152250 | 80.80 | 171/2 | 48 | 4 | 100 | F48 | 7.30 | 103.60 | 109.20 | 118.60 | 123.10 |

FUSIBLE MAINS

| 3.70 | 19.50 | 23.50 | 28.90 | 33 |
| :---: | :---: | :---: | :---: | :---: |
| 4.10 | 25.40 | 29.60 | 35.50 | 39.90 |
| 4.30 | 30.60 | 34.90 | 40.80 | 45.30 |
| 4.50 | 35.60 | 40.00 | 46.20 | 50.70 |
| 4.90 | 41.30 | 45.90 | 52.50 | 57.10 |
| 5.10 | 47.60 | 52.20 | 59.10 | 63.80 |
| 5.40 | 53.20 | 58.00 | 65.30 | 70.10 |
| 5.60 | 58.50 | 63.40 | 70.80 | 75.70 |
| 5.80 | 63.80 | 68.70 | 76.40 | 81.30 |
| 6.00 | 69.20 | 74.20 | 82.10 | 7.10 |
| 6.50 | 80.60 | 86.10 | 94.40 | 97.50 |
| 6.90 | 87.10 | 92.60 | 101.50 | 105.30 |
| 7.10 | 92.60 | 98.10 | 107.20 | 111.30 |
| 7.30 | 97.90 | 103.50 | 112.90 | 117.40 |
| 7.50 | 103.50 | 109.10 | 118.70 | 123.50 |
| 7.90 | 109.90 | 115.60 | 125.90 | 131.20 |

FUSELESS MAIN SWITCH

| 14 | 4 | 30 | F14 | 4.10 | 24.70 | 28.90 | 34.80 | 39.20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 | 4 | 30 | F18 | 4.50 | 30.70 | 35.10 | 41.30 | 45.80 |
| 20 | 4 | 30 | F20 | 4.70 | 35.80 | 40.30 | 46.80 | 51.30 |
| 22 | 4 | 30 | F22 | 4.90 | 40.80 | 45.40 | 52.00 | 6.60 |
| 24 | 4 | 30 | F24 | 5.10 | 46.00 | 50.60 | 57.50 | 62.20 |
| 30 | 4 | 60 | F30 | 5.60 | 54.30 | 59.20 | 66.60 | 71.50 |
| 32 | 4 | 60 | F32 | 5.80 | 59.50 | 64.40 | 72.10 | 77.00 |
| 34 | 4 | 60 | F34 | 6.00 | 64.70 | 69.70 | 77.60 | 82.60 |
| 36 | 4 | 60 | F36 | 6.10 | 70.10 | 75.20 | 83.00 | 88.10 |
| 40 | 4 | 60 | F40 | 6.50 | 78.30 | 83.80 | 92.10 | 5.20 |
| 44 | 4 | 100 | F44 | 6.90 | 89.90 | 95.40 | 104.30 | 108.10 |
| 46 | 4 | 100 | F46 | 7.10 | 95.80 | 101.30 | 110.40 | 114.50 |
| 48 | 4 | 100 | F48 | 7.30 | 101.10 | 106.70 | 116.10 | 120.60 |
| 52 | 4 | 100 | F52 | 7.70 | 107.20 | 112.90 | 122.90 | 128.00 |
| 54 | 4 | 100 | F54 | 7.90 | 112.80 | 118.50 | 128.80 | 134.10 |
| 56 | 4 | 100 | F56 | 8.10 | 118.50 | 124.20 | 134.90 | 140.50 |


FUSIBLE MAIN SWITCH

Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with" Cabinet" include panel complete with cabinet, and satate frame ii one is required

Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

For description of cabinets listed above, see one of the following pages.

## CROUSE-HINDS TYPE 0 PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Branches-Double, with 10 -amp. Push Button Switches, Arranged for N.E.C. Cartridge Fuses


[^93]
## CROUSE-HINDS TYPE 0 PANELS

3 TO 2-WIRE, 125 VOLTS
Mains-3-wire. Branches-Double, with 10 -amp. Push Button Switches, Arranged for N.E.C. Cartridge Fuses

| Panels furnithed with main connections at tof, if so ordered, witkout sxtra charge. | Panel Only |  |  |  |  |  |  |  | $\begin{aligned} & \text { SLATE } \\ & \text { FRAME } \\ & \hline \text { List } \end{aligned}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. | Cat. No. | List Price | $\frac{\text { SIZE }}{\text { W. }}$ |  |  | $\begin{aligned} & \text { Cap. } \\ & \text { Yains } \end{aligned}$ | $\begin{aligned} & \text { Boy } \\ & \text { Ref. } \end{aligned}$ |  | Type | Type | Types <br> BM BN | Type |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 165321 | \$ 7.90 | $17{ }^{1} 2$ | 8 | 4 | 30 | 158 | \$3.50 | \$17.00 | \$20.90 | \$26. 20 | \$30.50 |
|  | 4 | 165322 | 13.20 | 1712 | 12 | 4 | 30 | F12 | 3.90 | 23.40 | 27.50 | 33.10 | 37.50 |
|  | 6 | 165323 | 18.20 | 1712 | 14 | 4 | 30 | F14 | 4.10 | 28.90 | 33.10 | 39.00 | 43.40 |
|  | 8 | 165324 | 23.10 | 171, | 16 | 4 | 30 | F16 | 4.30 | 34.40 | 38.70 | 44.60 | 49.10 |
|  | 10 | 163325 | 28.20 | 1712 | 18 | 4 | 30 | F18 | 4.50 | 40.00) | 44.411 | 50.60 | 55.10 |
|  | 12 | 165326 | 34.00 | 17)/2 | 12 | 4 | 60 | F22 | 4.90 | 46.80 | 51.40 | 58.00 | 62.60 |
|  | 14 | 165327 | 39.00 | 1712 | 24 | 4 | 60 | F24 | 5.10 | 52.30 | 56.90 | 63.80 | 68.50 |
|  | 16 | 165328 | 44.00 | 1712 | 26 | 4 | 60 | F26 | 5.20 | 57.97 | 62.70 | 69.60 | 74.40 |
|  | 18 | 165329 | 49.20 | 17.2 | 28 | 4 | 60 | F28 | 5.40 | 63.50 | 68.30 | 55.60 | 80.40 |
|  | 20 | 165330 | 54.50 | $17 \%$ | 32 | 4 | 60 | F32 | 5.80 | 70.00 | 74.90 | 82.60 | 87.50 |
|  | 22 | 165331 | 60.90 | 1712 | 34 | 4 | 100 | F34 | 6.10 | 76.90 | 81.901 | 89.80 | 94.80 |
|  | 24 | 165332 | 66.40 | 171. | 38 | 4 | 100 | F38 | 6.30 | 83.60 | 88.80 | 96.80 | 101.90 |
|  | 26 | 165333 | 71.50 | $17 \frac{1}{1}$ | 40 | 4 | 100 | F40 | 6.50 | 91.50 | 97.00 | 105.30 | 103.40 |
|  | 28 30 | 1653334 | 76.60 | 1712 | 42 | 4 | 100 | F42 | 6.70 | 97.40 | 102.80 | 111.40 | 114.80 |
|  | 30 | 165335 | 81.80 | 173 | 44 | 4 | 100 | F44 | 6.90 | 103. 20 | $10 \times .70$ | 117.60 | 121.40 |
|  | 32 | 165336 | 87.20 | 17!2 | 48 | 4 | 100 | F'48 | 7.30 | 110.00 | 11.5 .60 | 125.00) | 129.50 |



| 2 | 165401 | 10.20 | 172 | 10) |
| :---: | :---: | :---: | :---: | :---: |
| 4 | 16.540 | 15.50 | 1712 | 14 |
| 6 | 165403 | 20.50 | 1712 | 16 |
| 8 | 165404 | 25.40 | $17^{1} 2$ | 18 |
| 10 | 165405 | 30.50 | 171 | 22 |
| 12 | 165406 | 36.70 | 1712 | 24 |
| 14 | 165407 | 41.70 | 171/2 | 28 |
| 16 | 165108 | 46.80 | 17!2 | 30 |
| 18 | 165409 | 51.90 | 17, | 32 |
| 20 | 165410 | 57.20 | 172 | 34 |
| 22 | 165411 | 65.00 | 1712 | 40 |
| 24 | 165412 | 70.50 | 1712 | 44 |
| 26 | 165413 | 75.60 | 1712 | 46 |
| 28 | 165414 | 80.70 | $17^{17}$ | 48 |
| 30 | 165415 | 85.90 | 171. | 50 |
| 32 | 165416 | 91.30 | 17\% | 54 |

FUUSIBLE MAINS

| 30 | F 10 |
| :---: | :---: |
| 30 | F 14 |
| 30 | F 16 |
| 30 | F 18 |
| 30 | F 22 |
| 60 | F 24 |
| 60 | F 28 |
| 60 | F 30 |
| 60 | $\mathrm{~F}^{2} 22$ |
| 60 | F 34 |
| 100 | F 40 |
| 100 | F 44 |
| 100 | F 46 |
| 100 | F 48 |
| 100 | F 50 |
| 100 | F 4 |


| 3.70 | 19.90 | 23.90 | 29.30 | 33.70 |
| ---: | ---: | ---: | ---: | ---: |
| 4.10 | 26.20 | 30.40 | 36.31 | 40.70 |
| 4.30 | 31.80 | 36.10 | 42.00 | 46.50 |
| 4.50 | 37.20 | 41.60 | 47.80 | 52.30 |
| 4.90 | 43.30 | 47.90 | 54.50 | 59.10 |
| 5.10 | 50.00 | 54.60 | 61.50 | 66.20 |
| 5.40 | 56.00 | 60.80 | 68.10 | 72.90 |
| 5.60 | 61.70 | 66.60 | 74.00 | 78.90 |
| 5.80 | 67.40 | 72.30 | 80.00 | 84.90 |
| 6.00 | 73.20 | 78.20 | 86.10 | 91.10 |
| 6.50 | 85.00 | 91.50 | 98.80 | 101.90 |
| 6.90 | 91.90 | 97.40 | 106.30 | 110.10 |
| 7.10 | 97.80 | 103.30 | 112.40 | 116.50 |
| 7.30 | 103.50 | 109.10 | 118.50 | 123.00 |
| 7.50 | 109.50 | 115.10 | 124.71 | 129.50 |
| 7.90 | 116.30 | 122.00 | 132.30 | 137.60 |

FUSELESS MAIN SWITCH


| 2 | 165481 | 14.40 | 17 |
| :---: | :---: | :---: | :---: |
| 4 | 165482 | 19.70 | 171 |
| 6 | 165453 | 24.70 | $17^{1}$ |
| 8 | 1654 S4 | 29.60 |  |
| 10 | 165485 | 34.70 | $17^{1}$ |
| 12 | 165486 | 41.80 |  |
| 14 | 165487 | 46.80 | 171 |
| 16 | 165488 | \$1.90 | 17 |
| 18 | 165489 | 57.00 |  |
| 20 | 165490 | 62.30 |  |
| 22 | 165491 | 72.90 | 171 |
| 24 | 165492 | 78.40 | 17 |
| 26 | 165493 | 83.50 | 17 |
| 28 | 165494 | 88.60 | 17 |
| 30 | 16.5495 | 93.80 | $17!$ |
| 32 | 165496 | 99.20 | 17 |


| $7^{17}$ | 14 | 4 |
| :---: | :---: | :---: |
| 712 | 18 | 4 |
| 172 | 20 | 4 |
| $17^{1}$ | 22 | 4 |
| $7^{1} 2$ | 24 | 4 |
| 712 | 30 | 4 |
| 71 ' | 32 | 4 |
| $17^{1}$ | 34 | 4 |
| $7{ }^{1} 2$ | 36 | 4 |
| 716 | 40 | 4 |
| 71 | 44 | 4 |
| 71/3 | 46 | 4 |
| 712 | 48 | 4 |
| 71.2 | 52 | 4 |
| 712 | 54 | 4 |
| 7)2 | 56 | 4 |


| 4.10 | 25.10 | 29.30 | 35.20 | 39.60 |
| :--- | :--- | ---: | ---: | ---: |
| $4 . .51$ | 31.50 | 35.90 | 42.10 | 46.60 |
| 4.70 | 37.00 | 41.50 | 48.00 | 52.50 |
| 4.90 | 42.40 | 47.00 | 53.60 | 58.20 |
| 5.10 | 48.00 | 52.60 | 59.50 | 64.20 |
| 5.60 | 56.70 | 61.60 | 69.00 | 73.90 |
| 5.80 | 62.30 | 67.20 | 74.00 | 79.80 |
| 6.00 | 67.90 | 72.90 | 80.80 | 85.80 |
| 6.10 | 73.70 | 78.80 | 86.60 | 91.70 |
| 6.50 | 82.30 | 87.80 | 96.10 | 99.20 |
| 6.94 | 94.30 | 99.80 | 1188.70 | 112.50 |
| 7.10 | 100.60 | 106.10 | 115.20 | 119.30 |
| 7.30 | 106.30 | 111.90 | 121.30 | 125.80 |
| 7.70 | 112.80 | 118.50 | 128.50 | 133.60 |
| 7.90 | 118.80 | 124.50 | 134.80 | 140.10 |
| 8.10 | 124.90 | 130.60 | 141.30 | 146.90 |

## 60 60 50 .20 .20 90 .80 .80 .70 .20 .50 30 .80 .60 .10 90

FUSIBLE MAIN SWITCH

[^94]
## CROUSE-HINDS TYPE DD PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-Wire. Branches-Double, Arranged for Edison Plug Fuses


[^95]
## CROUSE-HINDS TYPE DD PANELS

3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, Arranged for Edison Plug Fuses

| Panels furnished with main connections at top, if so ordered, without extra charge. | Panel only |  |  |  |  |  |  |  | $\left\lvert\, \frac{\text { SLATE }}{\text { SRAME }}\right.$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | List Price | Sizein In. |  |  | $\begin{aligned} & \text { cap. } \\ & \text { Mains } \end{aligned}$ | $\begin{aligned} & \text { Bor } \\ & \text { Ref. } \end{aligned}$ |  | Type AK | Type | $\begin{aligned} & \text { Types } \\ & \mathrm{BM}_{\mathrm{K}}-\mathrm{BN} \end{aligned}$ | $\begin{gathered} \text { Type } \\ \text { BI } \end{gathered}$ |
|  |  |  |  | W. | H. | D. |  |  |  |  |  |  |  |
|  | MAIN LUCS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170101 | 84.90 | 8 | 8 | 4 | 30 | H 8 | \$2.70 | \$12.20 | \$16.00 | \$19.80 | \$24.30 |
|  | 4 | 170102 | 7.20 | 8 | 10 | 4 | 30 | H10 | 2.90 | 14.93 | 18.70 | 22.70 | 27.30 |
|  | 6 | 170103 | 9.20 | 8 | 14 | 4 | 30 | H14 | 3.30 | 17.60 | 21.60 | 26.00 | 30.90 |
|  | 8 | 170104 | 11.60 | 8 | 16 | 4 | 30 | H16 | 3.50 | 20.20 | 24.30 | 29.10 | 34.10 |
| 8 | 10 | 170105 | 14.00 | 8 | 20 | 4 | 30 | 1120 | 3.90 | 23.30 | 27.60 | 32.80 | 38.00 |
| 4 | 12 | 170106 | 16.80 | 8 | 24 | 4 | 60 | H 24 | 4.30 | 26.60 | 31.20 | 36.90 | 42.30 |
| 5 | 14 | 170107 | 18.90 | 8 | 26 | 4 | 60 | 1126 | 4.50 | 29.10 | 33.70 | 39.70 | 45.20 |
| 5 | 16 | 170108 | 21.30 | 8 | 30 | 4 | 60 | 1130 | 4.90 | 32.20 | 37.00 | 43.50 | 49.20 |
|  | 18 | 170109 | 23.50 | 8 | 32 | 4 | 60 | H32 | 5.10 | 34.70 | 39.60 | 46.40 | 52.20 |
| $\checkmark$ | 20 | 170110 | 25.90 | 8 | 36 | 4 | 60 | H36 | 5.40 | 37.80 | 42.80 | 50.00 | 55.90 |
|  | 22 | 170111 | 29.70 | 8 | 40 | 4 | 100 | 1140 | 5.80 | 44.80 | 50.10 | 58.50 | 61.30 |
|  | 24 | 170112 | 32.10 | 8 | 42 | 4 | 100 | H42 | 5.90 | 47.80 | 53.00 | 61.50 | 64.50 |
|  | 26 | 170113 | 34.50 | 8 | 46 | 4 | 100 | H46 | 6.30 | 51.20 | 56.50 | 65.50 |  |
|  | 28 | 170114 | 36.70 | 8 | 48 | 4 | 100 | 1148 | 6.50 | 53.90 | 59.30 | 68.50 | 71.90 |
|  | 30 | -170115 | 39.00 | 8 | 52 | 4 | 100 | $\mathrm{H}^{15}$ | 6.90 | 57.20 | 62.70 | 72.40 | 76.40 |
|  | 32 | 170116 | 41.40 | 8 | 54 | 4 | 100 | 1154 | 7.10 | 60.20 | 65.70 | 75.50 | 79.90 |
|  | FUSIBLE MAITS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170121 | 7.20 | 8 | 10 | 4 | 30 | H110 | 2.90 | 14.90 | 18.70 | 22.70 | 27.20 |
|  | 4 | 170122 | 9.50 | 8 | 12 | 4 | 30 | H12 | 3.10 | 17.50 | 21.50 | 25.70 | 30.40 |
|  | 6 | 170123 | 11.50 | 8 | 16 | 4 | 30 | H16 | 3.50 | 20.10 | 24.20 | 29.00 | 34.00 |
|  | 8 | 170124 | 13.90 | 8 | 18 | 4 | 30 | H18 | 3.70 | 22.80 | 27.10 | 32.00 | 37.10 |
| 哏 5 | 10 | 170125 | 16.30 | 8 | 22 | 4 | 30 | 1122 | 4.10 | 25.80 | 30.20 | 35.70 | 41.00 |
|  | 12 | 170126 | 19.50 | 8 | 28 | 4 | 60 | H28 | 4.70 | 30.00 | 34.80 | 41.00 | 46.60 |
|  | 14 | 170127 | 21.60 | 8 | 30 | 4 | 60 | H30 | 4.90 | 32.50 | 37.30 | 43.80 | 49.50 |
|  | 16 | 170128 | 24.00 | 8 | 34 | 4 | 60 | 1134 | 5.20 | 35.50 | 49.50 | 47.40 | 53.30 |
|  | 18 | 170129 | 26.20 | 8 | 36 | 4 | 60 | H36 | 5.40 | 38.10 | 43.10 | 50.30 | 56.20 |
|  | 20 | 170130 | 28.60 | 8 | 40 | 4 | 60 | H140 | 5.80 | 43.70 | 49.00 | 57.40 | 60.20 |
|  | 22 | 170131 | 33.80 | 8 | 46 | 4 | 100 | 1146 | 6.30 | 59.50 | 55.80 | 64.80 | 68.00 |
|  | 24 | 170132 | 36.20 | 8 | 48 | 4 | 100 | H48 | 6.50 | 53.40 | 58.80 | 68.00 | 71.40 |
|  | 26 | 170133 | 38.60 | 8 | 52 | 4 | 100 | H52 | 6.90 | 56.80 | 62.30 | 72.00 | 76.00 |
|  | 28 | 170134 | 40.80 | 8 | 54 | 4 | 100 | 1154 | 7.10 | 59.60 | 65.10 | 74.90 | 79.30 |
|  | 30 | 170135 | 43.10 | 8 | 58 | 4 | 100 | 1558 | 7.50 | 62.90 | 68.50 | 78.60 | 84.00 |
|  | 32 | 170136 | 45.50 | 8 | 60 | 4 | 100 | I169 | 7.70 | 65.70 | 71.40 | 81.70 | 87.60 |
|  | FUSELESS MAIN SWITCH |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170141 | 11.40 | 8 | 16 | 4 | 30 | H16 | 3.50 | 20.00 | 24.10 | 28.90 | 33.90 |
|  | 4 | 170142 | 13.70 | 8 | 18 | 4 | 30 | H18 | 3.70 | 22.60 | 26.90 | 31.80 | 36.90 |
|  | 6 | 170143 | 15.70 | 8 | 22 | 4 | 30 | H22 | 4.10 | 25.20 | 29.60 | 35.10 | 40.40 |
|  | 8 | 170144 | 18.10 | 8 | 24 | 4 | 30 | 1124 | 4.30 | 27.90 | 32.50 | 38.20 | 43.60 |
|  | 10 | 170145 | 20.50 | 8 | 28 | 4 | 30 | 1128 | 4.70 | 31.00 | 35.80 | 42.00 | 47.60 |
|  | 12 | 170146 | 24.60 | 8 | 32 | 4 | 60 | H32 | 5.10 | 35.80 | 40.70 | 47.50 | 53.30 |
|  | 14 | 170147 | 26.70 | 8 | 36 | 4 | 60 | H36 | 5.40 | 38.60 | 43.60 | 50.80 | 56.70 |
|  | 16 | 170148 | 29.10 | 8 | 38 | 4 | 60 | H38 | 5.60 | 41.40 | 46.60 | 54.00 | 59.80 |
|  | 18 | 170149 | 31.30 | 8 | 42 | 4 | 60 | 1142 | 5.90 | 47.00 | 52.20 | 60.70 | 63.70 |
|  | 20 | 170150 | 33.70 | 8 | 44 | 4 | 60 | H44 | 6.10 | 49.80 | 55.10 | 63.90 | 67.00 |
|  | 22 | 170151 | 41.70 | 8 | 50 | 4 | 100 | ${ }^{1150} 0$ | 6.70 | 59.50 | 64.90 | 74.30 | 77.90 |
|  | 24 | 170152 | 44.10 | 8 | 52 | 4 | 100 | H52 | 6.90 | 62.30 | 67.80 | 77.50 | 81.50 |
|  | 26 | 170153 | 46.50 | 8 | 56 | 4 | 100 | H56 | 7.30 | 65.80 | 71.40 | 81.30 | 86.20 |
|  | 28 | 170154 | 48.70 | 8 | 58 | 4 | 100 | H58 | 7.50 | 68.50 | 74.10 | 84.20 | 89.60 |
|  | 30 | 170155 | 51.00 | 8 | 62 | 4 | 100 | H62 | 7.90 | 71.80 | 77.50 | 88.00 | 94.30 |
|  | 32 | 170156 | 53.40 | 8 | 64 | 4 | 100 | H64 | 8.10 | 74.60 | 80.40 | 91.10 | 97.80 |
|  | FUSIBLE MAIN SWITCH |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170181 | 13.50 | 8 | 16 | 4 | 30 | 1116 | 3.50 | 22.10 | 26.20 | 31.00 | 36.00 |
|  | 4 | 170162 | 15.80 | 8 | 18 | 4 | 30 | 1118 | 3.70 | 24.70 | 29.00 | 33.90 | 39.00 |
|  | 6 | 170163 | 17.80 | 8 | 22 | 4 | 30 | H22 | 4.10 | 27.30 | 32.70 | 37.20 | 42.50 |
|  | 8 | 170164 | 20.20 | 8 | 24 | 4 | 30 | 1724 | 4.30 | 30.00 | 34.60 | 40.30 | 45.70 |
|  | 10 | 170165 | 22.60 | 8 | 28 | 4 | 30 | 1128 | 4.70 | 33.10 | 37.90 | 44.10 | 49.70 |
|  | 12 | 170166 | 26.70 | 8 | 32 | 4 | 60 | H32 | 5.10 | 37.90 | 42.80 | 49.60 | 55.40 |
|  | 14 | 170167 | 28.80 | 8 | 36 | 4 | 60 | H36 | 5.40 | 40.70 | 45.70 | 52.90 |  |
|  | 16 | 170168 | 31.20 | 8 | 38 | 4 | 60 | II38 | 5.63 | 43.53 | 48.70 | 56.10 | 61.90 |
|  | 18 | 170169 | 33.40 | 8 | 42 | 4 | 60 | H42 | 5.90 | 49.10 | 54.30 | 62.80 | 65.80 |
|  | 20 | 170170 | 35.80 | 8 | 44 | 4 | 60 | H44 | 6.10 | 51.90 | 57.20 | 66.00 |  |
|  | 22 | 170171 | 46.50 | 8 | 52 | 4 | 100 | 1152 | 6.90 | 64.70 | 70.20 | 79.90 | 83.90 |
|  | 24 | 170172 | 48.90 | 8 | 56 | 4 | 100 | H56 | 7.30 | 68.20 | 73.80 | 83.70 | 88.60 |
|  | 26 | 170173 | 51.30 | 8 | 58 | 4 |  | H58 | 7.50 | 71.10 | 76.70 | 86.80 | 92.20 |
|  | 28 | 170174 | 53.50 | 8 | 62 | 4 | 100 | H62 | 7.90 | 74.30 | 80.00 | 90.50 | 96.80 |
|  | 30 | 170175 | 55.80 | 8 | 64 | 4 | 100 | H64 | 8.10 | 77.00 | 82.80 | 93.50 | 100.20 |
|  | 32 | 17017 ¢ | 58.20 | 8 | 68 | 4 | 100 | H68 | 8.50 | 80.30 | 86.20 | 97.40 | 105.20 |

[^96]
## CROUSE-HINDS TYPE DK PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Branches-Double, with 30-Ampere Knife Switches, Arranged for Edison Plug Fuses

| Panels furnished with main connections at top, if so ordered, withont extra charge. | Panel only |  |  |  |  |  |  |  | $\begin{array}{\|c\|} \hline \text { SLATE } \\ \hline \text { FRMME } \\ \hline \text { List } \\ \hline \end{array}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cat. No. | - List Price | $\frac{\text { Size I }}{\text { W. }}$ |  |  | $\begin{aligned} & \text { Cap. } \\ & \text { Mains } \end{aligned}$ | $\begin{aligned} & \text { BoI } \\ & \text { Ref. } \end{aligned}$ |  | Type | $\begin{aligned} & \text { Type } \\ & \text { AL } \end{aligned}$ | $\begin{aligned} & \text { Types } \\ & \text { BM }-\mathrm{BN} \end{aligned}$ | $\begin{gathered} \text { Type } \\ \text { B! } \end{gathered}$ |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170201 | 85.50 | 121/2 | 8 | 4 | 30 | J 8 | 83.10 | 313.80 | \$17.60 | \$22.20 | \$26.60 |
|  | 4 | 170202 | 8.50 | 121/2 | 10 | 4 | 30 | J10 | 3.30 | 17.20 | 21.10 | 26.00 | 30.50 |
|  | 6 | 170203 | 11.60 | 121/2 |  | 4 | 60 | J14 | 3.70 | 21.20 | 25.30 | 30.60 | 35.30 |
|  | 8 | 170204 | 14.80 | 121/2 | 18 | 4 | 60 | J18 | 4.10 | 25.30 | 29.60 | 35.20 | 40.10 |
|  | 10 | 170205 | 17.70 | 121/2 | 20 | 4 | 60 | J20 | 4.331 | 28.60 | 33.00 | 38.90 | 43.90 |
|  | 12 | 170206 | 21.30 | 121/2 | 24 | 4 | 100 | J24 | 4.70 | 33.10 | 37.70 | 44.00 | 49.10 |
|  | 14 | 170207 | 24.90 | 121/2 | 28 | 4 | 100 | J28 | 5.10 | 37.70 | 42.50 | 49.20 | 54.60 |
|  | 115 | 17.0298 | 27.90 | 121/2 | 31 | 4 | 100 | J. 0 | 5.30 | 41.20 | 46.10 | 53.10 | 58.50 |
|  | 18 | 170209 | 32.60 | 121/2 | 34 | 4 | 200 | J34 | 5.60 | 46.90 | 52.10 | 59.30 | 64.80 |
|  | 20 | 170210 | 35.80 | 121/2 | 36 | 4 | 200 | J36 | 5.80 | 50.60 | 55.90 | 63.20 | 68.70 |
|  | 22 | 17() 211 | 39.10 | 121/2 | 40 | 4 | 200 | J 49 | 6.20 | 57.40 | 62.70 | 70.70 | 73.70 |
|  | 24 | 170212 | 42.20 | 121/2 | 42 | 4 | 200 | J42 | 6.30 | 61.20 | 66.60 | 74.40 | 77.70 |
|  | 26 | 170213 | 45.50 | 121/2 | 46 | 4 | 200 | J46 | 6.70 | 65.70 | 71.20 | 79.60 | 83.40 |
|  | 28 | 171214 | 48.70 | 121/2 | 48 | 4 | 200 | J48 | 6.90 | 69.59 | 75.00 | 83.70 | 87.80 |
|  | 30 | 170215 | 51.80 | 121/2 | 52 | 4 | 200 | J5: | 7.30 | 73.80 | 79.40 | 88.50 | 93.40 |
|  | 32 | 170216 | 55.00 | $12^{1 / 2}$ | 54 | 4 | 200 | J54 | 7.50 | 77.60 | 83.20 | 92.60 | 97.70 |
| - 518 | FUSIBLE MAINS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170221 | 7.00 | 121/2 | 10 | 4 | 30 | J10 | 3.30 | 15.70 | 19.10 | 24.50 | 29.00 |
|  | 4 | 170222 | 10.00 | 121/2 | 12 | 4 | 30 | J12 | 3.50 | 19.20 | 23.20 | 28.30 | 32.90 |
|  | 6 | 170223 | 13.40 | 121/3 | 18 | 4 | 60 | J18 | 4.10 | 23.90 | 28.20 | 33.80 | 38.70 |
|  | 8 | 170224 | 16.60 | 121/ | 22 | 4 | 60 | J22 | 4.50 | 27.90 | 32.40 | 38.50 | 43.50 |
|  | 10 | 170こ25 | 19.50 | $121 / 2$ | 24 | 4 | 60 | J24 | 4.70 | 31.30 | 35.90 | 42.20 | 47.30 |
|  | 12 | 170226 | 24.00 | 121/2 | 30 | 4 | 100 | J30 | 5.30 | 37.30 | 42.20 | 49.20 | 54.60 |
|  | 14 | 170227 | 27.60 | 121/2 | 34 | 4 | 100 | J34 | 5.60 | 41.90 | 47.10 | 54.30 | 59.80 |
|  | 16 | 170228 | 30.60 | 121/2 | 36 | 4 | 1 (,0) | Júf | 5.70 | 45.40 | 50.70 | 58.00 | 63.50 |
|  | 18 | 170229 | 36.90 | 121/2 | 40 | 4 | 200 | J40 | 6.20 | 55.20 | 60.50 | 68.50 | 71.50 |
|  | 20 | 170230 | 40.10 | 121/2 | 44 | 4 | 200 | J44 | 6.50 | 59.70 | 65.10 | 73.40 | 76.80 |
|  | 22 | 170231 | 43.40 | 121. | 46 | 4 | 200 | J46 | 6.70 | 63.60 | 69.10 | 77.50 | 81.30 |
|  | 24 | 170232 | 46.50 | 121/2 | 50 | 4 | 200 | J50 | 7.10 | 67.90 | 73.40 | 82.30 | 86.80 |
|  | 26 | 170233 | 49.80 | 121/2 | 52 | 4 | 200 | J 52 | 7.30 | 71.80 | 77.40 | 86.50 | 91.40 |
|  | 28 | 170234 | 53.00 | 121/2 | 56 | 4 | 200 | J 56 | 7.70 | 76.30 | 82.00 | 91.60 | 97.10 |
|  | 30 | 170235 | 56.10 | 121/2 | 58 | 4 | 200 | J58 | 7.90 | 80.00 | 85.80 | 95.60 | 101.60 |
|  | 32 | 170236 | 59.30 | 121/2 | 62 | 4 | 200 | J62 | 8.30 | 84.40 | 90.30 | 100.80 | 107.60 |
|  | FUSELESS MAIN SWITCH |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 170241 | 9.80 | 121/2 | 16 | $4{ }^{4} 30$ |  | J16 | SWITCH |  | $24.00$ | $29.50$ | 34.30 |
|  |  | 171242 | 12.80 | 121/2 | 18 | 4 | 30 | J18 | 4.10 | 23.30 | 27.60 | 33.20 | 38.10 |
|  |  | 170243 | 16.80 | 121/2 | 24 | 4 | 60 | J24 | 4.70 | 28.60 | 33.20 | 39.50 | 44.60 |
|  | 8 | 170244 | 20.00 | 121/2 | 26 | 4 | 60 | J26 | 4.90 | 32.30 | 37.00 | 43.50 | 48.80 |
|  | 10 | 170245 | 22.90 | 124 | 30 | 4 | 60 | J30 | 5.30 | 36.20 | 41.10 | 48.10 | 53.50 |
|  | 12 | 170246 | 29.30 | 121/2 | 34 | 4 | 160 | J34 | 5.60 | 43.60 | 48.80 | 56.00 | 61.50 |
|  | 14 | 170247 | 32.90 | 121/2 | 38 | 4 | 100 | J38 | 6.00 | 48.20 | 53.60 | 61.20 | 66.60 |
|  | 16 | 171248 | 35.90 | $12^{1}$, ${ }^{\text {a }}$ | 40 | 4 | 160 | J40) | 6.2i) | 54.20 | 59.50 | 67.50 | 70.50 |
|  | 18 | 170249 | 43.80 | 121/2 | 48 | 6 | 200 | J48 | 9.10 | 66.50 | 72.00 | 82.40 | 86.50 |
|  | 20 | 170250 | 47.00 | 121/2 | 50 | 6 | 200 | J50 | 9.40 | 70.30 | 75.80 | 86.50 | 91.00 |
|  | 22 | 171251 | 50.30 | 124 | 54 | 6 | 200 | J. 4 | 9.90 | 75.00 | 80.60 | 91.80 | 96.90 |
|  | 24 | 170252 | 53.40 | 121/2 | 56 | 6 | 200 | J56 | 10.20 | 78.80 | 84.50 | 95.90 | 101.40 |
|  | 26 | 170253 | 56.70 | 121暞 | 60 | 6 | 200 | J60 | 10.70 | 83.50 | 89.30 | 101.10 | 10750 |
|  | 28 | 170254 | 59.90 | 12, | 62 | 6 | 200 | J62 | 11.00 | 87.30 | 93.20 | 105.60 | 112.40 |
|  | 30 | 170255 | (63. 00 | 1212 | $6{ }^{6}$ | 6 | 200 | J66 | 11.50 | 91.70 | 97.70 | 110.70 | 118.60 |
|  | 32 | 170256 | 66.20 | 121/2 | 68 | 6 | 200 | J68 | 11.70 | 95.60 | 101.70 | 114.80 | 123.30 |



| 2 | 170261 | 11.20 | $121 / 2$ | 10 | 4 |
| ---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 170262 | 14.20 | $121 / 2$ | 13 | 4 |
| 6 | 170263 | 18.20 | $121 / 2$ | 24 | 4 |
| 8 | 170264 | 21.40 | $121 / 2$ | 26 | 4 |
| 10 | 170265 | 24.30 | $121 / 2$ | 30 | 4 |
| 12 | 170266 | 32.50 | $121 / 2$ | 38 | 4 |
| 14 | 170267 | 36.10 | $121 / 2$ | 40 | 4 |
| 16 | 170268 | 39.10 | $121 / 2$ | 44 | 4 |
| 18 | 170269 | 48.30 | $12 \frac{1}{2}$ | 50 | 6 |
| 20 | 170270 | 51.50 | $121 / 2$ | 52 | 6 |
| 22 | 170271 | 54.80 | $121 / 2$ | 50 | 6 |
| 24 | 170272 | 57.90 | $121 / 2$ | 58 | 6 |
| 26 | 170273 | 61.20 | $121 / 2$ | 62 | 6 |
| 28 | 170274 | 64.40 | $12 \frac{1}{2}$ | 64 | 6 |
| 30 | 170275 | 67.50 | $12 \frac{1}{2}$ | 68 | 6 |
| 32 | 170276 | 70.70 | $121 / 2$ | 70 | 6 |

SIBLE MAIN SWITCH

[^97]
## CROUSE-HINDS TYPE DK PANELS 3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, with 30-Ampere Knife Switches, Arranged for Edison Plug Fuses
panels furnished with main conneo-
tions at top, if so ordered, without oxtra chargo.

| Panel Oniy |  |  |  |  |  |  |  | $\begin{aligned} & \text { SLATB } \\ & \frac{\text { RRAM }}{} \\ & \hline i \operatorname{sit} \end{aligned}$ |  | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\left.\begin{array}{\|c\|} \hline \mathrm{HoO} \\ \mathrm{Cir} \end{array} \right\rvert\,$ | $\begin{aligned} & \mathrm{Cak} \\ & \mathrm{Mo} \\ & \mathrm{No} \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\frac{\mathrm{Size}}{\mathrm{W} .}$ | $\frac{15 I \mid}{\|\mathrm{E} .\|}$ |  | ap | $\begin{aligned} & \text { Bor } \\ & \text { Rof. } \end{aligned}$ |  |  | Type | ${ }^{17}{ }^{\text {P }}$ | Types | ${ }^{\text {7ppe }}$ | MAIN LUGS



| 2 | 170301 | $\$ 6.20$ | $121 / 2$ | 8 |
| ---: | ---: | ---: | ---: | ---: |
| 4 | 170302 | 9.30 | $121 / 2$ | 10 |
| 6 | 170303 | 12.20 | $121 / 2$ | 14 |
| 8 | 170304 | 15.70 | $121 / 2$ | 16 |
| 10 | 170305 | 19.00 | $121 / 2$ | 20 |
| 12 | 170306 | 22.70 | $121 / 2$ | 24 |
| 14 | 170307 | 25.90 | $121 / 2$ | 26 |
| 16 | 170308 | 29.30 | $121 / 2$ | 30 |
| 18 | 170309 | 32.50 | $121 / 2$ | 32 |
| 20 | 170310 | 35.90 | $121 / 2$ | 30 |
| 22 | 170311 | 40.60 | $121 / 2$ | 40 |
| 24 | 170312 | 44.00 | $121 / 2$ | 42 |
| 26 | 170313 | 47.30 | $121 / 2$ | 46 |
| 28 | 170314 | 50.50 | $121 / 2$ | 48 |
| 30 | 170315 | 53.70 | $121 / 2$ | 52 |
| 32 | 170316 | 57.10 | $121 / 2$ | 54 |


| 8 | 4 | 30 | $J 8$ |
| ---: | ---: | ---: | ---: |
| 10 | 4 | 30 | $J 10$ |
| 14 | 4 | 30 | J 14 |
| 16 | 4 | 30 | J 16 |
| 20 | 4 | 3 | J 20 |
| 24 | 4 | 60 | J 24 |
| 26 | 4 | 60 | J 26 |
| 30 | 4 | 60 | J 60 |
| 32 | 4 | 60 | $J 32$ |
| 36 | 4 | 60 | $J 36$ |
| 40 | 4 | 100 | J 40 |
| 42 | 4 | 100 | J 42 |
| 46 | 4 | 100 | $J 46$ |
| 48 | 4 | 100 | J 48 |
| 52 | 4 | 100 | J 52 |
| 54 | 4 | 100 | J 54 |


| 3.10 | $\$ 14.50$ | $\$ 18.30$ | $\$ 22.90$ | $\$ 27.3$ |
| :---: | :---: | :---: | :---: | :---: |
| 3.30 | 18.63 | 21.90 | 26.80 | 31.30 |
| 3.70 | 21.80 | 25.90 | 31.20 | 35.90 |
| 3.90 | 25.70 | 29.90 | 35.40 | 40.20 |
| 4.30 | 29.93 | 34.30 | $40.2 J$ | 45.20 |
| 4.70 | 34.50 | 39.10 | 45.40 | 50.50 |
| 4.90 | 38.20 | 42.90 | 49.40 | 54.70 |
| 5.30 | $42 . C J$ | 47.59 | 54.53 | 59.9 |
| 5.40 | 46.30 | 51.40 | 58.40 | 63.90 |
| 5.80 | 50.70 | 56.00 | 63.30 | 68.80 |
| 6.20 | 58.93 | 64.20 | 72.23 | 75.2 |
| 6.30 | 63.00 | 68.40 | 76.20 | 79.5 |
| 6.70 | 67.50 | 7.00 | 81.40 | 85.2 |
| 6.90 | 71.30 | 76.80 | 85.50 | 89.60 |
| 7.30 | 75.70 | 81.30 | 90.40 | 95.3 |
| 7.50 | 79.70 | 85.30 | 94.70 | 99.8 | .30

.30
.90
.20
5.20
4.70
.90
3.90
8.80
5.20
9.50
5.20
9.60
99.80


FUSIBLE MAINS

| 2 | 170321 | 8.50 | $121 / 2$ | 10 | 4 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 4 | 170322 | 10.60 | $121 / 2$ | 12 | 4 |
| 6 | 170323 | 13.50 | $121 / 2$ | 16 | 4 |
| 8 | 170324 | 18.00 | $121 / 2$ | 18 | 4 |
| 10 | 170025 | 21.30 | $121 / 2$ | 22 | 4 |
| 12 | 170326 | 25.40 | $121 / 2$ | 28 | 4 |
| 14 | 170327 | 28.60 | $121 / 2$ | 30 | 4 |
| 16 | 170328 | 32.00 | $121 / 3$ | 24 | 4 |
| 18 | 170329 | 35.20 | $121 / 2$ | 36 | 4 |
| 20 | 170330 | 38.60 | $121 / 2$ | 40 | 4 |
| 22 | 170331 | 44.70 | $121 / 2$ | 40 | 4 |
| 24 | 170332 | 48.10 | $121 / 2$ | 48 | 4 |
| 26 | 170333 | 51.40 | $121 / 3$ | 52 | 4 |
| 28 | 170334 | 54.60 | $121 / 2$ | 54 | 4 |
| 30 | 170335 | 57.80 | $121 / 3$ | 58 | 4 |
| 32 | 170336 | 61.20 | $121 / 3$ | 60 | 4 |


| 4 | 30 | J10 | 3.30 |
| :---: | :---: | :---: | :---: |
| 4 | 30 | J12 | 3.50 |
| 4 | 30 | J16 | 3.90 |
| 4 | 30 | J18 | 4.10 |
| 4 | 30 | J22 | 4.50 |
| 4 | 60 | J28 | 5.10 |
| 4 | 60 | J30 | 5.30 |
| 4 | 63 | Jこ4 | 5.60 |
| 4 | 60 | J36 | 5.80 |
| 4 | 60 | J 40 | 6.20 |
| 4 | 100 | J46 | 6.70 |
| 4 | 100 | J48 | 6.90 |
| 4 | 100 | J52 | 7.30 |
| 4 | 100 | J54 | 7.50 |
| 4 | 100 | J58 | 7.90 |
| $4$ | 100 | J60 | 8.10 |


| 3.30 | 17.20 | 21.10 | 26.00 | 30.50 |
| ---: | ---: | ---: | ---: | ---: |
| 3.50 | 19.80 | 23.80 | 28.90 | 33.50 |
| 3.90 | 23.50 | 27.70 | 33.20 | 38.00 |
| 4.10 | 28.50 | 32.80 | 38.40 | 43.30 |
| 4.50 | 32.60 | 37.10 | 43.20 | 48.20 |
| 5.10 | 38.20 | 43.00 | 49.70 | 55.10 |
| 5.30 | 41.90 | 46.80 | 53.80 | 59.20 |
| 5.60 | 46.30 | 51.5. | 58.70 | 64.20 |
| 5.80 | 50.00 | 55.30 | 62.60 | 68.10 |
| 6.20 | 56.90 | 62.20 | 70.20 | 73.20 |
| 6.70 | 64.03 | 70.40 | 78.80 | 82.60 |
| 6.90 | 68.90 | 74.40 | 83.10 | 87.20 |
| 7.30 | 73.40 | 79.00 | 88.10 | 93.00 |
| 7.50 | 77.20 | 82.80 | 92.20 | 97.30 |
| 7.90 | 81.70 | 87.50 | 97.30 | 103.30 |
| 8.10 | 85.70 | 91.50 | 101.60 | 108.00 |

FUSELESS MAIN SWITCH


| 2 | 170341 | 12.70 | $121 / 2$ | 16 | 4 |
| ---: | :--- | :--- | :--- | :--- | :--- |
| 4 | 170.42 | 15.80 | $121 / 2$ | 18 | 4 |
| 6 | 170343 | 18.70 | $121 / 3$ | 22 | 4 |
| 8 | 170344 | 22.20 | $121 / 2$ | 24 | 4 |
| 10 | 170345 | 25.50 | $121 / 2$ | 28 | 4 |
| 12 | 170346 | 30.50 | $121 / 2$ | 32 | 4 |
| 14 | 170347 | 33.70 | $121 / 2$ | 36 | 4 |
| 16 | 170.48 | 37.10 | $121 / 2$ | 38 | 4 |
| 18 | 170349 | 40.30 | $121 / 2$ | 42 | 4 |
| 20 | 170350 | 43.70 | $121 / 8$ | 44 | 4 |
| 22 | 170.51 | 52.60 | $121 / 2$ | 53 | 4 |
| 24 | 170352 | 56.00 | $121 / 2$ | 52 | 4 |
| 26 | 170353 | 59.30 | $121 / 2$ | 56 | 4 |
| 28 | 170354 | 62.50 | $121 / 2$ | 58 | 4 |
| 30 | 170355 | 65.70 | $121 / 2$ | 62 | 4 |
| 32 | 170356 | 69.10 | $121 / 2$ | 64 | 4 |


| 30 | J16 |
| :---: | :---: |
| 30 | J18 |
| 30 | J22 |
| 30 | J24 |
| 30 | J_8 |
| 60 | J32 |
| 60 | J36 |
| 60 | J 58 |
| 60 | J42 |
| 60 | J44 |
| 100 | J. 50 |
| 100 | J52 |
| 100 | J56 |
| 100 | J58 |
| 100 | J62 |
| 100 | J64 |


| 3.90 | 22.70 | 26.90 | 32.40 | 37.20 |
| ---: | ---: | ---: | ---: | ---: |
| 4.10 | 26.30 | 30.60 | 36.20 | 40.10 |
| 4.50 | 30.00 | 34.50 | 40.60 | 45.60 |
| 4.70 | 34.00 | 38.60 | 44.90 | 50.00 |
| 5.10 | 38.30 | 43.10 | 49.80 | 55.20 |
| 5.40 | 44.30 | 49.40 | 56.40 | 61.90 |
| 5.80 | 48.50 | 53.80 | 61.10 | 66.60 |
| 6.00 | 52.40 | 57.80 | 65.40 | 70.80 |
| 6.30 | 59.30 | 64.70 | 72.50 | 75.80 |
| 6.50 | 63.30 | 68.70 | 77.00 | 80.40 |
| 7.10 | 74.00 | 79.50 | 88.40 | 92.90 |
| 7.30 | 78.00 | 83.60 | 92.70 | 97.60 |
| 7.70 | 82.60 | 88.30 | 97.90 | 103.40 |
| 7.90 | 86.40 | 92.20 | 102.00 | 108.00 |
| 8.30 | 90.80 | 96.70 | 107.20 | 114.00 |
| 8.50 | 94.80 | 100.70 | 111.50 | 118.90 |
| $\mathbf{S W I T C H}$ |  |  |  |  |
| 3.90 | 24.80 | 29.00 | 34.50 | 39.30 |
| 4.10 | 28.40 | 32.70 | 38.30 | 43.20 |
| 4.50 | 32.10 | 36.60 | 42.70 | 47.70 |
| 4.70 | 36.10 | 40.70 | 47.00 | 52.10 |
| 5.10 | 40.40 | 45.20 | 51.90 | 57.30 |
| 5.40 | 46.40 | 51.50 | 58.50 | 64.00 |
| 5.80 | 50.60 | 55.90 | 63.20 | 68.70 |
| 6.00 | 54.50 | 59.90 | 67.50 | 72.90 |
| 6.30 | 61.40 | 66.80 | 74.60 | 77.90 |
| 6.50 | 65.40 | 70.80 | 79.10 | 82.50 |
| 7.30 | 79.40 | 85.00 | 94.10 | 99.00 |
| 7.70 | 84.10 | 89.80 | 99.40 | 104.90 |
| 7.90 | 88.00 | 93.80 | 103.60 | 109.60 |
| 8.30 | 92.40 | 98.30 | 108.80 | 115.60 |
| 8.50 | 96.20 | 102.10 | 112.90 | 120.30 |
| 8.90 | 100.80 | 106.90 | 118.20 | 126.70 |

[^98]
## CROUSE-HINDS TYPE DR PANELS

2 TO 2-WIRE, 125 VOLTS
Mains-2-wire. Branches-Double, with 10-Amp. Rotary Snap Switches, Arranged for Edison Plug Fuses


[^99]
## CROUSE-HINDS TYPE DR PANELS

## 3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, with 10-Amp. Rotary Snap Switches, Arranged for Edison Plug Fuses

| Panels furnished with main connoctions at top, if so ordered, without extra charge | Panel Only |  |  |  |  |  |  |  | $\begin{aligned} & \text { SLATR } \\ & \text { PRAME } \\ & \hline \text { List } \end{aligned}$ | Panel with Cabinet* |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \hline \text { No. } \\ & \text { Cir. } \end{aligned}$ | Cat. $\mathrm{Ho}$ | List Price | Size | H. I | D. | $\begin{aligned} & \text { Cap. } \\ & \text { Mains } \end{aligned}$ | $\begin{aligned} & \text { Boy } \\ & \text { Rof. } \end{aligned}$ |  | $\begin{aligned} & \text { Typo } \\ & \text { RR } \end{aligned}$ | Type | Types <br> $\mathrm{BM}-\mathrm{BN}$ | $\begin{aligned} & \text { Type } \\ & \text { Bris } \end{aligned}$ |
|  | MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170501 | \$ 7.80 | 121/2 | 8 | 4 | 30 | J 8 | \$3.10 | \$16. 10 | \$19.90 | \$24.50 | \$28.90 |
|  | 4 | 170502 | 12.50 | 121/2 | 10 | 4 | 30 | J10 | 3.30 | 21.20 | 25.10 | 30.00 | 34.50 |
|  | 6 | 170503 | 17.00 | 121/2 | 14 | 4 | 30 | J14 | 3.70 | 26.60 | 30.70 | 36.00 | 40.70 |
| nukpourever | 8 | 170504 | 22.10 | 121/2 | 16 | 4 | 30 | J16 | 3.90 | 32.10 | 36.30 | 41.80 | 46.60 |
| Th8 | 10 | 170505 | 27.00 | 121/8 | 20 | 4 | 30 | J20 | 4.30 | 37.90 | 42.30 | 48.20 | 53.20 |
| r | 12 | 170506 | 32.30 | 121/2 | 24 | 4 | 60 | J24 | 4.70 | 44.10 | 48.70 | 55.00 | 60.10 |
|  | 14 | 170507 | 37.10 | 121/2 | 26 | 4 | 60 | J26 | 4.90 | 49.40 | 54.10 | 60.60 | 65.90 |
|  | 16 | 170508 | 42.10 | 121/2 | 30 | 4 | 60 | J30 | 5.30 | 55.40 | 60.30 | 67.30 | 72.70 |
| 550 | 18 | 170509 | 46.90 | 121/2 | 32 | 4 | 60 | J32 | 5.40 | 60.70 | 65.80 | 72.80 | 78.30 |
|  | 20 | 170510 | 51.90 | 121/2 | 36 | 4 | 60 | J36 | 5.80 | 66.70 | 72.00 | 79.30 | 84.80 |
|  | 22 | 170511 | 58.20 | 121/2 | 40 | 4 | 100 | J40 | 6.20 | 76.50 | 81.80 | 89.80 | 92.80 |
| - 1 - | 24 | 170512 | 63.20 | 121/2 | 42 | 4 | 100 | J42 | 6.30 | 82.20 | 87.60 | 95.40 | 98.70 |
|  | 26 | 170513 | 68.10 | 121/2 | 46 | 4 | 100 | J46 | 6.70 | 88.30 | 93.80 | 102.20 | 106.00 |
|  | 28 | 170514 | 72.90 | 121/2 | 48 | 4 | 100 | J48 | 6.90 | 93.70 | 99.20 | 107.90 | 112.00 |
|  | 30 | 170515 | 77.70 | 121/2 | 52 | 4 | 100 | J52 | 7.30 | 99.70 | 105.30 | 114.40 | 119.30 |
|  | 32 | 170516 | 82.70 | 121/2 | 54 | 4 | 100 | J54 | 7.50 | 105.30 | 110.90 | 120.30 | 125.40 |



| 2 | 170521 | 1 |
| ---: | ---: | ---: |
| 4 | 170522 | 14 |
| 6 | 170523 | 1 |
| 8 | 170524 | 24 |
| 10 | 170525 | 2 |
| 12 | 170526 | 3 |
| 14 | 170527 | 3 |
| 16 | 170528 | 4 |
| 18 | 170529 | 4 |
| 20 | 170530 | 5 |
| 22 | 170531 | 62 |
| 24 | 170532 | 6 |
| 26 | 170533 | 7 |
| 28 | 170534 | 7 |
| 30 | 170535 | 81 |
| 32 | 170536 | 8 |


|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 1 | 10.10 | $121 / 2$ | 10 | 4 |
| 2 | 14.80 | $121 / 2$ | 12 | 4 |
| 3 | 19.30 | $121 / 2$ | 16 | 4 |
| 4 | 24.40 | $121 / 2$ | 18 | 4 |
| 6 | 29.30 | $121 / 2$ | 22 | 4 |
| 7 | 35.00 | $121 / 2$ | 28 | 4 |
| 7 | 39.80 | $121 / 2$ | 30 | 4 |
| 8 | 44.80 | $121 / 2$ | 34 | 4 |
| 9 | 49.60 | $121 / 2$ | 36 | 4 |
| 0 | 54.60 | $121 / 2$ | 40 | 4 |
| 1 | 62.30 | $121 / 2$ | 46 | 4 |
| 2 | 67.30 | $121 / 2$ | 48 | 4 |
| 3 | 72.20 | $121 / 2$ | 52 | 4 |
| 4 | 77.00 | $121 / 2$ | 54 | 4 |
| 5 | 81.80 | $121 / 2$ | 58 | 4 |

FUSIBLE MAINS

| 30 | J 10 | 3.30 |
| ---: | :---: | ---: |
| 30 | J 12 | 3.50 |
| 30 | J 16 | 3.90 |
| 30 | J 18 | 4.10 |
| 30 | J 22 | 4.50 |
| 60 | J 28 | 5.10 |
| 60 | J 30 | 5.30 |
| 60 | J 34 | 5.60 |
| 60 | J 36 | 5.80 |
| 60 | J 40 | 6.20 |
| 100 | J 46 | 6.70 |
| 100 | J 48 | 6.90 |
| 100 | J 52 | 7.30 |
| 100 | J 54 | 7.50 |
| 100 | J 58 | 7.90 |
| 100 | J 60 | 8.10 |


| 18.80 | 22.70 | 27.60 | 32.10 |
| ---: | ---: | ---: | ---: |
| 24.00 | 28.00 | 33.10 | 37.70 |
| 29.30 | 33.50 | 39.00 | 43.80 |
| 34.90 | 39.20 | 44.80 | 49.70 |
| 40.60 | 45.10 | 51.20 | 56.20 |
| 47.80 | 52.60 | 59.30 | 64.70 |
| 53.10 | 58.00 | 65.00 | 70.40 |
| 59.10 | 64.30 | 71.50 | 77.00 |
| 64.40 | 69.70 | 77.00 | 82.50 |
| 72.90 | 78.20 | 86.20 | 89.20 |
| 82.50 | 88.00 | 96.40 | 100.20 |
| 88.10 | 93.60 | 102.30 | 106.40 |
| 94.20 | 99.80 | 108.90 | 113.80 |
| 99.60 | 105.20 | 114.60 | 119.70 |
| 105.70 | 111.50 | 121.30 | 127.30 |
| 111.30 | 117.10 | 127.20 | 133.60 |

FUSELESS MAIN SWITCH


[^100]
## CROUSE-HINDS TYPE DP PANELS

## 2 TO 2-WIRE, 125 VOLTS

Mains-2-wire. Branches-Double, with 10-Amp. Push Button Switches, Arranged for Edison Plug Fuses


[^101]
## CROUSE-HINDS TYPE DP PANELS

## 3 TO 2-WIRE, 125 VOLTS

Mains-3-wire. Branches-Double, with 10-Amp. Push Button Switches, Arranged for Edison Plug Fuses

| Pazels furnished with main connections at hap, if so ordered, without extra charge. | Panel only |  |  |  |  |  |  |  | SLATE PRAMR List | Panel with Cabinet ${ }^{\text {- }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | List Price | $\frac{\text { Size }}{} \frac{\text { W. }}{}$ |  | D. | $\begin{gathered} \text { Cap } \\ \text { Mains } \end{gathered}$ | Box Ref. |  | Type | Type | $\begin{aligned} & \text { Types } \\ & \text { BM BN } \end{aligned}$ | $\begin{gathered} \text { Type } \\ \text { Bt } \end{gathered}$ |
|  | MAIN LUGGS |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 170701 | \$8.20 | 121/2 | 8 | 4 | 30 | J 8 | \$3.10 | \$16 50 | \$20.30 | \$24.90 | \$29.30 |
|  | 4 | 170702 | 13.30 | $12{ }^{\frac{1}{2}}$ | 10 | 4 | 310 | J10 | 3.30 | 22 (6) | 25.90 | 30.80 | 35.30 |
|  | 6 | 170703 | 18.20 | $12^{1}{ }_{2}$ | 14 | 4 | 30 | J14 | 3.70 | 27.80 | 31.90 | 37.20 | 41.96 |
|  | 8 | 170704 | 23.70 | 121\% | 16 | 4 | 30 | J 16 | 3.90 | 33.70 | 37.90 | 43.40 | 48.20 |
|  | 10 | 170705 | 29.00 | $12{ }^{1}$ | 20 | $t$ | 30 | J 20 | 4.30 | 39.00 | 44.30 | 50.20 | 55.20 |
|  | 12 | 170706 | 34.70 | 1232 | 24 | 4 | 60 | J24 | 4.70 | 46.50 | 51.10 | 57.40 | 62.50 |
|  | 14 | 170707 | 39.90 | 1216 | 26 | 4 | 60 | J 26 | 4.90 | 52.20 | 56.90 | 63.40 | 68.70 |
|  | 16 | 1707018 | 45.30 | 1212 | 311 | 4 | (2) | J30 | 5.30 | 58.60 | 63.50 | 70.50 | 75.00 |
|  | 18 | 170709 | 50.50 | 1212 | 32 | 4 | 60 | J32 | 5.40 | 64.30 | 69.40 | 76.40 | 81.90 |
|  | 20 | 170710 | 55.90 | 1216 | 36 | 4 | 60 | J36 | 5.80 | 70.70 | 76.00 | 83.30 | 88.80 |
|  | 22 | 170711 | 62.60 | 1212 | 40 | 4 | $11.1)$ | J40 | 6.20 | 80.90 | 86.20 | 94.20 | 97.20 |
|  | 24 | 170712 | 68.00 | 1212 | 42 | 4 | 100 | J 42 | 6.30 | 87.00 | 92.40 | 100.20 | 103.50 |
|  | 26 | 170713 | 73.30 | 1212 | 46 | 4 | 100 | J46 | 6.70 | 93.50 | 99.00 | 107.40 | 111.20 |
|  | 28 | 170714 | 78 510 | 1212 | 48 | 4 | 110 | J48 | 6.90 | 99.30 | $1(14.80$ | 113.50 | 117.60 |
|  | 30) | 170715 | 83.70 | 1212 | 52 | 4 | 100 | J52 | 7.30) | 105.70 | 111.30 | 120.40 | 125.30 |
|  | 32 | 170716 | 89.10 | 1218 | 54 | 4 | 100 | J51 | 7.51) | 111.70 | 117.30 | 126.70 | 131.80 |



| 2 | 170721 | 1050 | $12^{1} 2$ | 10 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 170722 | $15.60)$ | $12^{1} 2$ | 12 | 4 |
| 6 | 170723 | 20.50 | 1212 | 16 | 4 |
| 8 | 170724 | 26.00 | $12^{1}$ 亿 | 18 | 4 |
| 10 | 170725 | 31.30 | $12^{1} 2$ | 22 | 4 |
| 12 | 170726 | 37.40 | $12 \frac{1}{2}$ | 28 | 4 |
| 14 | 170727 | 42.60 | 1216 | 30 | 4 |
| 16 | 171728 | 4.0.00 | 1212 | 34 | 4 |
| 18 | 170729 | 53.20 | 1212 | 36 | 4 |
| 20 | 170730 | 58.60 | $12^{1} / 2$ | 40 | 4 |
| 22 | 170731 | 66.70 | $12^{1} 2$ | 46 | 4 |
| 24 | 170732 | 72.10 | $12 \frac{1}{2}$ | 48 | 4 |
| 26 | 170733 | 77.40 | 1216 | 52 | 4 |
| 28 | 170734 | 82.60 | $12^{2}$ | 54 | 4 |
| 30 | 170735 | 87.80 | 1212 | 58 | 4 |
| 32 | 170736 | 93.20 | 121\% | 30 | 4 |

FUSIBLE MAINS

| 30 | J 10 |  |  |
| ---: | :---: | :---: | :---: |
| 30 | J 12 | 3.30 | 19.20 |
| 30 | J 16 | 3.90 | 24.80 |
| 30 | J 18 | 4.10 | 36.50 |
| 30 | J 22 | 4.50 | 42.60 |
| 60 | J 28 | 5.10 | 50.20 |
| 60 | J 30 | 5.30 | 55.90 |
| 60 | J 34 | 5.60 | 62.30 |
| 60 | J 36 | 5.80 | 68.00 |
| 60 | J 40 | 6.20 | 76.90 |
| 100 | $J 46$ | 6.70 | 86.90 |
| 100 | J 48 | 6.90 | 92.90 |
| 100 | $J 52$ | 7.30 | 99.40 |
| 100 | $J 54$ | 7.50 | 105.20 |
| 100 | $J 58$ | 7.90 | 111.70 |
| 100 | $J 60$ | 8.10 | 117.70 |


| 23.10 | 28.00 | 32.50 |
| ---: | ---: | ---: |
| 28.80 | 33.90 | 38.50 |
| 34.70 | 40.20 | 45.00 |
| 40.80 | 46.40 | 51.30 |
| 47.10 | 53.20 | 58.20 |
| 55.00 | 61.70 | 67.10 |
| 60.80 | 67.80 | 73.20 |
| 67.50 | 74.70 | 80.20 |
| 73.30 | 80.60 | 86.10 |
| 82.20 | 90.20 | 93.20 |
| 92.40 | $1(10.80$ | 104.60 |
| 98.40 | 107.10 | 111.20 |
| 105.00 | 114.10 | 119.00 |
| 110.80 | 120.20 | 125.30 |
| 117.50 | 127.30 | 133.30 |
| 123.50 | 133.60 | 140.00 |
|  |  |  |



| 2 | 170741 | 1470 | $12^{1} 2$ |
| :---: | :---: | :---: | :---: |
| 4 | $171) 742$ | 19.80 | 121.2 |
| 6 | 170743 | 24.70 | 121/2 |
| 8 | $1707 \cdot 4$ | 30.20 | 121 ${ }^{\text {2 }}$ |
| 10 | 170745 | 35.50 | $12^{1} 2$ |
| 12 | 170746 | 42.50 | 1212 |
| 14 | 170747 | 47.70 | $12^{1} \frac{1}{2}$ |
| 16 | 170748 | 53.10 | $12^{1} 3$ |
| 18 | 170749 | 58.30 | 12/2 |
| 20 | 170750 | 63.70 | $12^{1}{ }_{2}$ |
| 22 | 170751 | 74.60 | $12{ }^{1} 2$ |
| 24 | 170752 | 80.00 | 121.2 |
| 26 | 170753 | 85.30 | $121 \%$ |
| 28 | 170754 | 90.50 | 1212 |
| 30 | 170755 | 95.70 | 121.2 |
| 32 | 170756 | 101.10 | 12, ${ }_{2}$ |

switch

[^102]FUSELESS MAIN SWITCH

$$
\overline{20}
$$

| 28.90 | 34.40 | 39.20 |
| ---: | ---: | ---: |
| 34.60 | 40.20 | 45.10 |
| 40.50 | 46.60 | 51.60 |
| 46.60 | 52.90 | 58.00 |
| 53.10 | 59.80 | 65.20 |
| 61.40 | 68.40 | 73.90 |
| 67.80 | 75.10 | 80.60 |
| 73.80 | 81.40 | 86.80 |
| 82.70 | 90.50 | 93.80 |
| 88.70 | 97.00 | 100.40 |
| 101.50 | 110.40 | 114.90 |
| 107.60 | 116.70 | 121.60 |
| 114.30 | 123.90 | 129.40 |
| 120.20 | 130.60 | 136.00 |
| 126.70 | 137.20 | 144.00 |
| 133.30 | 143.50 | 150.90 |
|  |  |  |

FUSIBLE MAIN SWITCH

|  | 2 |  |  |  |  |  | 30 | J16 | 3.40 | 26.80 | 31.00 | 36.50 | 41.30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4 | 170762 | 21.90 | $121{ }^{1}$ | 18 | 4 | 30 | J18 | 4.10 | 32.40 | 36.70 | 42.30 | 47.20 |
|  | 6 | 170763 | 26.80 | 1212 | 22 | 4 | 30 | J22 | 4.50 | 38.10 | 42.60 | 48.70 | 53.70 |
|  | 8 | 170764 | 32.30 | 121 2 | 24 | 4 | 30 | J24 | 4.70 | 44.10 | 48.70 | 55.00 | 60.10 |
|  | 10 | 170765 | 37.00 | $1 \% 2$ | 28 | 4 | 30 | J28 | 5.10 | 50.40 | 55.20 | 61.90 | 67.30 |
|  | 12 | 170766 | 44.60 | $12^{1}{ }^{2}$ | 32 | 4 | 60 | J32 | 5.40 | 58.40 | 63.50 | 70.50 | 76.00 |
|  | 14 | 170767 | 49.80 | 121 \% | 36 | 4 | 60 | J36 | 5.80 | 64.60 | 69.90 | 77.20 | 82.70 |
| \% | 16 | 170768 | 55.20 | 12, ${ }^{3}$ | 38 | 4 | 60 | J38 | 6.10 | 70.50 | 75.90 | 83.50 | 88.90 |
|  | 18 | 170769 | 60.40 | 12, ${ }^{\prime}$ | 42 | 4 | 60 | J42 | 6.30 | 79.40 | 84.80 | 92.60 | 95.90 |
|  | 20 | 170770 | 65.80 | 121/2 | 44 | 4 | 60 | J44 | 6.50 | 85.40 | 90.80 | 99.10 | 102.50 |
|  | 22 | 171771 | 79.40 | 1212 | 52 | 4 | 100 | J52 | 7.30 | 101.40 | 1107.00 | 116.10 | 121.00 |
|  | 24 | 170772 | 84.80 | $12^{1} \frac{1}{2}$ | 56 | 4 | 100 | J56 | 7.70 | 108.10 | 113.80 | 123.40 | 128.90 |
|  | 26 | 170773 | 90.10 | 1212 | 58 | 4 | 100 | J58 | 7.90 | 114.00 | 119.80 | 129.60 | 135.60 |
|  | 28 | 170774 | 95.30 | $12^{1} \frac{1}{2}$ | 62 | 4 | 100 | J 62 | 8.30 | 120.40 | 126.30 | 136.80 | 143.60 |
|  | 30 | 170775 | 100.50 | $12^{1}{ }^{2}$ | 64 | 4 | 100 | J64 | 8.50 | 126.20 | 132.10 | 142.90 | 150.30 |
|  | 32 | 170776 | 105.90 | 1212 | 68 | 4 | 100 | J68 | 8.90 | 13280 | 138.90 | 150. 20 | 158.70 |

[^103]
## CROUSE-HINDS METER LOOP PANELS <br> METER LOOPS FOR STANDARD PANEL BOARDS

Frequently it is desirable to have a panel board arranged with meter loop. We therefore give below a schedule of the extra list prices to be added to the list prices of standard panel boards when they are to be equipped with meter locps. The addition of meter loop does not change size of standard panel board.


STANDARD PANEL BOARDS, 125 VOLTS
The Following List Prices are to be Added to the List Prices of Standard Panel Boards

| No. of Circuits on Pancl Board | Extra <br> List Price | No. of Circuits on Pancl Board | Extra List Prices | Nc. of Circuits on Panel Board | Extra <br> Lis1 Price | No. of Circuits on Pancl 13oard | Extra <br> List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 to 4 | 82.00 | 6 to 10 | 82.20 | 12 to 16 | 89.60 | 18 to 32 | \$3.00 |



A 3 TO 2-wire Double-branch Panel with Meter Loops
${ }^{\prime}$ LIST PRICES OF METER LOOPS FOR ALL 3 TO 2-WIRE DOUBLE-BRANCH STANDARD PANEL BOARDS, 125 VOLTS
The Following List Prices are to be Added to the List Prices of Standard Panel Boards

| No. of Circuits <br> on Panel Board | Extra <br> List Price | No. of Circuits <br> on Pancl Board | Exira <br> List Price | No. of Circuits <br> on Panel Board | Extra <br> List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 to 10 | $\$ 2.10$ | 121020 | 82.30 | 22 to 32 | 82.70 |

LIST PRICES OF METER LOOPS FOR ALL 3 TO 2-WIRE DOUBLE-BRANCH CONVERTIBLE PANEL EOARDS, 125 VOLTS
The Following List Prices are to be Added to the List Prices of Convertible Panel

| No. of Circuits on Panel Board | Extra <br> List Price | No. of Circuits on Panel Board | Extra List Price | Nc . of Circu is on Panel Board | Extra <br> List Price | No. of Circuits on Panel Board | Extra <br> List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 to 4 | \$2.10 | 6 to 10 | \$2.30 | 121.1016 | \$2. 70 | 18 to 32 | \$3.10 |

When ordering a panel board with meter loop give catalogue number of standard panel board and state that it is to have a meter loop. List prices for meter loops do not include the wire connections between panel board and meter.

## CROUSE-HINDS CONVERTIBLE PANELS

THREE-WIRE, ALL TYPES


A 3 to 2-Wire Panel with Convertible Mains
If specifically ordered, three to two-wire panel boards of any type will he furnished with eonvertible mains having a capacity of 6 amperes per branch on the neutral pole and 3 amperes per branch on the positive and negative poles.

General specifications of various types of panel boards apply to convertible pancl boards, except in capacity of mains.

PANEL BOARDS WITH CONVERTIBLE MAINS
Schedule of Extra Heights and List Prices to be Added to 3 to 2 -wire Standard Panel Boards Widths Remain the Same

| Description of Mains | No. of Circuits | $\begin{gathered} \text { Capacity of Mains } \\ \text { Amperes } \\ \hline \end{gathered}$ |  | Additional Height (width sameas Standard) As standard) | Additional List Price of Panel | Additional List Price of Slate Frame |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Outzides | Neutral |  |  |  |
| Lugs only | 2 to 4 | 319 | 30 | 0 | \$0.00 | 80.00 |
|  | 6 to 10 | 30 | 60 | 0 | . 70 | . 00 |
|  | 12 to 16 | 60 | 100 | 2 | 1.00 | . 20 |
|  | 18 and 20 | 60 | 200 | 2 | 1.80 | . 20 |
|  | 22 to 32 | 100 | 200 | 2 | 2.00 | . 20 |
| Fused Mains | 2 to 4 | 30 | 30 | 0 | . 00 | . 00 |
|  | 6 to 10 | 30 | 60 | 2 | 1.00 | . 20 |
|  | 12 to 16 | 60 | 100 | 4 | 2.00 | . 40 |
|  | 18 and 20 | 60 | 200 | 4 | 3.00 | . 40 |
|  | 22 to 32 | 100 | 200 | 2 | 2.80 | 20 |
| Fuseless Switch | 2 to 4 | 30 | 30 | 0 | . 00 | . 00 |
|  | 6 to 10 | 30 | 60 | 2 | 2,00 | . 20 |
|  | 12 to 16 | 60 | 100 | 2 | 5.20 | . 20 |
|  | 18 and 20 | 60 | 200 | 4* | 10.80 | 3.20 |
|  | 22 to 32 | 100 | 200 | 2* | 6.80 | 2.90 |
| Fusible Switeh | 2 to 4 | 30 | 30 | 0 | . 00 | 00 |
|  | 6 to 10 | 30 | 60 | 2 | 2.20 | . 20 |
|  | 12 to 16 | 60 | 100 | 6 | 8.00 | . 50 |
|  | 18 and 20 | 60 | 200 | 8* | 15.50 | 3.60 |
|  | 22 to 32 | 100 | 200 | 2* | 8.80 | 2.90 |

*These panel boards will require slate frames and boxes 6 inches deep.
To obtain box reference, use the same reference letter as for standard panel board and the total height of panel board as reference numeral.

Use catalogue number of standard panel board when ordering and specify that it is to be convertible.

CROUSE-HINDS METERING PANELS


Stx-circuit, 3 to 2 -wire, Multimeter Panel with Type H Circuits, Mounted in Cabinet Arranged for Six Meters Meter Compartment Cabinet not Furnished unless Specified

## MULTIMETER PANELS

The Crouse-Hinds Multimeter is the latest and most improved type of metering panel board yet designed. The generail specifications as regards material, workmanship, finish, etc., conform to the general specifications of standard panel boards.

The terminals feeding to the meters are arranged on each side of the mains at the bottom of the panel board and are arranged for N. E. C. cartridge or Edison plug fuses, as specified. On each side of the panel board above the meter leads is placed a binding nut for potential wire connections.

The individual meter bars are arranged in two vertical laminated sets placed in the center of the panel board and are supported and separated by insulating pillars and spacers. The upper ends of the meter bars are equipped with terminals for receiving the return wires from the meters. One pole of each circuit on the panel board connects directly to a common bus bar which is divided after leaving the main connection ant extends vertically at each side of the meter bars. The other pole of each circuit extends to a pillar placed in the center of the Panel Board between the two sets of meter bars. These pillars are built up with spacers in such a manner that connections with the meter bars can be made by connection clips. One end of each clip engages a meter bar and the other end is clamped between the spacers of a pillar. The connection pillar is surrounded by an insulating sleeve with openings for the connection clip on only one side of the pillar. This arrangement permits connection to be made to only one meter bar at a time. The insulating sleeve is arranged so that it can easily be turned to allow connections to any one meter bar of either set. The spacers of the pillar are arranged so that the separation between any two spacers is only large enoligh to allow the insertion of one connection clip, thus making it impossible to make connection to any comnecting pillar from mare than one meter bar. The connection clip is equipped with an insulating handle, and the entire construction of the panel board is such that it is unnecessary to use toxle of any kind when making changes in connections between circuits and meter bars, thus elimingting the possibility of a short circuit by accident, as frequently happens when using a screwdriver or other tool about the live parts of a panel board. These panel bosds are of uniform width regardless of the number of meter connections required.

Prices for metering panel boards and cabinets will be quoted upon request. Inquiry must give complete information 35 to requirements, stating number of circuits, number of meter bars, system, voltage, style of main connections, style of fuses, and whether with or without switches (knife or snap) in branches, also complete description of cabinet.

Cabinets: Multimeter Panel Boards can be installed in cabinets of standard design, illustrated elsewhere in this catalogue, when it is intended to mount meters outside of cabinet, or in cabinets with compartments for meters, as illustrated above.

## CROUSE-HINDS CABINETS

## CABINET SPECIFICATIONS

Crouse-Hinds Standard cabinets include types AK, AL, BM, BN and BT, all of which are illustrated on the following page.

Each cabinet is made up of two main parts, a steel box and a steel or wooden trim.

## BOXES, TYPES A AND B

Construction.-Each box is formed from one piece of No. 10 U. S. standard gauge sheet steel, overlapped and riveted at corners.

Type A boxes, for types AK and AL cabinets, are made in sizes to allow a 2-inch space between the sides of the box and the panels for which they are intended. As this space makes it unnecessary to line the box, no lining is furnished.

Type B boxes, for types $\mathrm{BM}, \mathrm{BN}$ and BT cabinets, are made to allow a 3 -inch wiring compartment or gutter between the sides of the box and the slate frame surrounding the panel. These boxes are unlined, as no lining is necessary.

Finish.-Boxes are painted both inside and outside with a dead black lacquer. Boxes finished in baked black enamel will be furnished at an advance of 20 per cent in the list price, if specifically ordered.

Drilling.-Boxes will be drilled for conduit without extra charge, if complete drilling information accompanies order. Boxes will be drilled and porcelain hushings furnished for open work at an advance in the list price of $15^{\circ}$ cents per hole. Blank drilling forms will be furnished upon request, without charge.

## STEEL TRIMS, TYPES K, L, M AND $N$

Construction.-Steel trims are made from single pieces of No. 10 U. S. standard gauge sheet steel and are intended for mounting in vertical position.

Lock.-Doors are fitted with combination locks and spring catches, and where door is over 40 inches high, it is equipped with vault handle and shoot-bolts.

Finish.-Trims are painted both inside and outside with a dead black lacquer. A baked black enamel finish will be furnished at an advance of 20 per cent in the list price, if specifcally ordered.

Type K door, for type AK (surface) cabinet, has a $3 / 4$-inch flange around all four edges, overlapping the box. This form of construction makes the box dust-proof and provides a rigid door. The door is hinged directly to the box and, for this reason, should always be ordered with the box.

Type L trim, for type AL (flush) cabinet, has a $3 \frac{1}{2}$-inch mat on all four sides. This mat is cut from one piece of sheet steel, with door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

Type M trim, for type BM (surface) cabinet, has a 4 -inch mat on all four sides. This mat is cut from one piece of sheet steel, with the door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

Type N trim, for type BN (flush) cabinet, has a $51 / 8$-inch mat on all four sides. This mat is cut from one piece of sheet steel with the door opening the same size as panel board. The door is in one piece and secured to the mat by flush butt hinges. An ornamental molding is welded around the edge of the door and overlaps the mat, thereby forming a rabbet.

## TYPE T WOODEN TRIM, FOR TYPE BT (FLUSH) CABINETS

Construction.—Wooden trims are made of kiln-dried white oak, $7 / 8$ inch thick. The mat is $55 / 8$ inches wide, made with square mortised joints, with door opening the same size as panel board. The door is made with square mortised joints at the corners and has wooden panel. The door sets flush with the mat and closes against a rabbet.

Lock.-Doors are fitted with combination locks with spring catches.
Finish.-Trims are painted on unfinished surfaces with dead black lacquer, and filled and varnished on the outside. A polished finish will be furnished at an advance of 15 per cent in the list price, if specifically ordered. Door knobs and escutcheons are finished in polished brass.

Lining.-Standard wooden trims, both mat and door, are lined with No. 16 gauge sheet steel, the door lining being finished in black enamel, the mat lining in dead black lacquer.

Glass Panel.-The use of a glass panel in door is not recommended, but, if specifically ordered, this trim will be furnished with a double-thick glass panel in door at an advance of 10 per cent; with plain plate glass, at an advance of 15 per cent; or with beveled plate glass, at an advance of 20 per cent.

## CROUSE-HINDS CABINETS



If slate frame is required, order should so state and give number of panel with which it is to be used.

In listings of panels, prices under heading "Panel with Cabinet" include panel complete with box and trim and slate frame, if one is reguired. Therefore, the price of a cabinet complete with slate frame is derived by deducting the price of the panel from the price of the panel with cabinet.

Example: Pane No. 50001 (list price $\$ 4.10$ ), deducted from panel with (type B.I) cabinet (list price, $\$ 20.10$., leaves the list price of type BM cabinet, which is $\$ 16.00$ inculling slate frame.

The price o a cabinet without slate frame, where one is ordinarily supplie. l, is derived by deducting the price of the panel and price of slate frame from the price of the perel with cabinet.

Example: l'anel No. 50001 (list price, $\$ 4.10$ plus slate frame (list price, $\$ 3.00$ ), deducted from panel with (type BMI) cabinet (list price, $\$ 20.10$ ), leaves list price of type BMI cabinet without slate franic, which is \$13.00.

The box reference (Box Ref.) appeariug opposite every panel board listed is a key for ordering the proper cabinet, box or trim for use with that particular panel board.

Examples: To order a complete type BMI cabinet for panel No. 50001, add to the panel's box reference: C8, the cabinet's type letters, BM, making C8BM.

To order' a 13 box only, for panel No. 50001 , add to the panel's box reference, C 8 , the box's type letter. $B$, making Csj,

To order an M trim only, for panel No. 5000, add to the panel's box reference, C8, the trim's type leiter M, making C8M.

Prices for hack gutter cabinets will be furnished upon request.
Prices for looses and trims separately will be furnished upon request.

## CROUSE-HINDS RESIDENCE PANELS

For One and Two-family Houses


2-wire, Single Survice Panel in Cabinet


3-wire, Single or Double Service Panel in Cabinet

| 2-WIRE, SINGLE SERVICE |  |  |  |  |  |  |  | 3-WIRE, SINGLE OR DOUBLE SERVICE |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Panel Only |  |  |  |  |  | Panelwith Cabin et |  | Panel Only |  |  |  |  |  | $\begin{gathered} \text { Panel } \\ \text { with } \\ \text { Cabinet } \end{gathered}$ |
| No. | Cat. | List | Sizein | N6:HE | Box* | List | Price | No. | Cat. | List | Sizeix | Ches |  | List Price |
| Cir. | No. | Price | W. | H. | Ref. | Surface | Flush | Cir. | , | Price | W | H. | R $\mathrm{C}_{\text {f }}$ | Surface Flush |
| 3 | 165975 | \$5.20 | 9 | 10 | A10 | 88.60 | \$11.80 | 6 | $\overline{165978}$ | 89.20 | 151/2 | 10 | E10 | \$13.20 $\$ 17.20$ |
| 4 | 165976 | 6.10 |  | 14 | A14 | 9.90 | 13.40 | 8 | 165979 | 10.90 | 151/2 | 14 | E14 | 15.3019 .50 |
| 5 | 165977 | 7.00 | 9 | 16 | A16 | 11.20 | 15.00 | 10 | 165980 | 12.60 | 151/2 | 16 | E16 | 17.4021 .80 |

*Box reference is the key to the proper combination of panel and cabinet.
The Crouse-Hinds Residence Panel Board equipment combines the main service switch, meter loop and circuit fuses in a single steel cabinet. The meter loop is provided with a sealing arrangenent which prevents theft of current and makes it unnecessary to remove the meter with each change of occupancy.

The satisfactory results, in safety, efficiency and durability, obtained by the use of this type of installation, at only a slight, if any, additional cost, should receive favorable consideration.

Residence panel beards have a capacity of 30 amperes at 125 volts, and conform to the general panel board specifications given on another page.

Cabinets are provided with knock-outs, opposite wire terminals on panels, which can be used for either bushings or conduit. Doors are hinged at tap, so as to close by gravity, and are held shut by a snap catch.

Boxes are formed from one piece of No. 14 U. S. gauge steel, overlapped and riveted at the corners. They are made to allow a 1 -inch space between the sides of panel and box, and are provided with all necessary knack-outs, which can be used for conduit or bushings.

Trims are made from one piece of No. 14 U . S. gauge steel. Doors for surface boxes are flanged on all four edges to overlap the box, and have the hinges welded to both door and box. Trims for flush boxes have mats $21 / 2$ inches wide and door openings of the same size as panel. Doors for flush cabinets have a strip welded around the edges to overlap the mat, and hinges that are welded to hoth floor and mat. Mats are fastened to boxes by screws that thread into flanges on the boxes.

Cabinets are regularly furnished as illustrated above, with knock-outs opposite terminals on panels. If it is desired to mount panel in any other position and the necessary information is given on the order, the calinet will be furnished with the hinging of door anal the knock-outs arranged accordingly, all without extra charge.

## SAFETY PANELS AND CABINETS



Type EPS 3 to 2-wire Panel Board with Main Lugs, Branch Switch Cover Removed


Type B Steel Box, showing Panel and Slate Frame Installed

Crouse-Hinds safety panels and cabinets allow unrestricted use of the circuit switches without the possibility of the operator touching any live part of the pancl. Fuses and live parts are accessible only to persons holding the key to the separate compartment in which they are located.

Two types of panel boards are listed on following pages-type DPS arranged for Edison plug fuses in the branches, and type EPS panels, arranged for N. E. C. cartridge fuses in the branches. Both types of panels and cabinets conform in all respects to CrouseHinds high standards of construction, described on preceding pages.

Circuits are controlled by 10 -ampere, 250 -volt, indicating push button switches enclosed in porcelain cases. These switches are arranged in pairs horizontally, each pair being connected by a twin yoke which holds the switches the proper distance apart. A steel spacer bar runs vertically between the switches and is attached to the center of each yoke, thus spacing and aligning the switches so that the switch plate or cover may be easily placed in position and held by screws threading into the spacer bar at each end. The switch cover is made of No. 14 U. S. gauge steel and finished in oxidized copper. The number of each circuit is stamped on the switch cover, under the push buttons.

Mains on all 3 to 2 -wire, 125 -volt, and 2 to 2 -wire, 250 -volt panels are figured at 3 amperes per circuit. On 2 to 2 -wire, 125 -volt panels they are figured at 6 amperes per circuit. Panels can be furnished with main switches at top, but this necessitates increases in both price and size of panels.

Type B steel boxes may be used for either flush or surface mounting. They are of proper size to form a 3 -inch wiring compartment or gutter between the sides of the box and the slate frame surrounding the panel.

Boxes will be drilled for conduit without extra charge, provided complete drilling information accompanies the order. Knockouts will be furnished at the following additions per knockout to list prices: $1 / 2,3 / 4$ or 1 -inch, 10 cents; $11 / 4,1 \frac{1}{2}$ or 2 -inch, 15 cents.

## SAFETY PANELS AND CABINETS

Trims for Safety panel cabinets are made in two standard forms-S1 and S2.
Form $\$ 1$ trims have one large door, the same size as the panel, giving access to the entire panel. This door is provided with a combination Yale lock and spring eatch with polished hrass vault handle. In the large door is hung a small door giving access only to the push buttons of the switches. This door is provided with a snap catch and polished brass vault handle. Attached to the back of the large door is a plate with an opening which telescopes the switch cover. This plate makes it impossible to reach other parts of the panel through the small door.

Form s 2 trims have an outer door which gives access only to the push buttons of the switches. This door is provided with a snap catch only with polished brass vault handle. Back of the outer door is an inner door having an opening which telescopes the switch cover. This door is provided with a Yale lock and gives access to the entire panel.


Both Doors Closed


Outer Door Closed

FORM S1 STEEL TRIM


Small Door Open, Giving Access to Switches

FORM S2 STEEL TRIM


Outer Door Open, Giving Access to Switches


Large Door Open, Giving Access to Fuses


Both Doors Open, Giving Access to Fuses

## SAFETY PANELS AND CABINETS



Form S2 wood trim (type TS2) has a steel inside door, identical with the inside door of form S 2 steel trim.
*Form S3 steel trim has but one door, which is cut away to allow the switch plate to project slightly through the opening, thus giving immediate access to the push buttons. This construction also allows the use of a box four inches deep, and, if specified, will be furnished on $\mathrm{M}, \mathrm{N}$ or T trims at a discount of five per cent from list prices for form S 1 construction.

FORM Sl— SAFETY PANEL CABINETS ——ORM S2


Type BMSI
Front and Sectional Views

Type letters for safety panel trims are arrived at by taking the type letters $\mathrm{M}, \mathrm{N}$ and T and adding the form letters S1 or S2 as required.

Type MS1 is a steel trim for surface mounting with form S1 construction.

Type MS2 is a steel trim for surface mounting with form S 2 construction.

Type NS1 is a steel trim for flush mounting with form Sl construction.

Type NS2 is a steel trim for flush mounting with form S2 construction.

Type TS1 is a wood trim for flush mounting with form S1 construction.

Type TS2 is a wood trim for flush mounting with form S2 construction.


Type BMS 2
Front and Sectional Views
Cahinets shown here are for surface mounting (type M) design and have the same face measurements as the box. Flush mounting trims (type N) have mats which extend three inches higher and wider than the box.

Example: A safety panel with plug fuse receptacles in the branches and mounted in a flush cabinet with a wood trim (B box and T trim) of form $\boldsymbol{S} 2$ construction would be a type DPS panel mounted in a BTN2 cabinet.

## 3 to 2-WIRE—TYPE DPS SAFETY PANELS-125 VOLTS

Double Branches with 10-Ampere Push Button Switches Arranged for Edison Plug Fuses

| Illustrations of Type DPS Panels | PANEL ONLY |  |  |  | BOX DIMENSIONS Outaide in Inches |  |  | PANEL WITH CABINET* <br> List Price |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cr . | Catalogua Number | 11 st Prics | Cap Mains Amps | Types S1 and S2 |  |  | Types BMSI BMSI | $\begin{aligned} & \text { Types } \\ & \text { BMS2 } \\ & \text { BNS2 } \end{aligned}$ | $\begin{aligned} & \text { Type } \\ & \text { BTSI } \end{aligned}$ | $\begin{aligned} & \text { TyDe } \\ & \text { BTS2 } \end{aligned}$ |
|  |  |  |  |  | Wide | High | Daวp |  |  |  |  |
|  | PANELS WITH MAIN LUGS |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 71101 |  | 30 | 20 |  |  | \$ 34.50 | \$ 36.80 | \$ 40.30 | \$ 42.00 |
|  | 4 | 71102 | 12.30 | 30 | 20 | 1712 | . $1_{12}$ | 40.60 48.30 | 43.20 51.70 | 46.60 | 48.50 |
|  | 6 | 71103 |  |  | 20 | 2112 |  | 48.30 | 51.70 | 54.50 |  |
|  | 8 | 71104 | 23.70 | 30 | 20 | 2312 | 51. | 54.50 | 58.20 | 60.80 | 63.40 |
|  | 10 | 71105 | 29.00 | 30 | 20 | 271 | 512 | 61.60 | 66.10 | 68.10 | 71.20 |
|  | 12 | 71106 |  | 60 | 20 | 3112 | $5{ }^{1} 2$ | 68.90 | 74.00 | 75.70 | 79.30 |
|  | 14 | 71107 | 39.90 | 60 | 20 | $331 /$ | 51. | 74.90 | 80.30 | 82.00 | 85.80 |
|  | 16 | 71108 | 45.30 | 60 | 20 | 3712 | 512 | 82.10 | 88.20 | 89.70 | 93.90 |
|  | 18 | 71109 | 50.50 | 60 | 20 | 3912 | $5{ }^{1} 2$ | 90.20 | 94.60 | 96.00 | 100.30 |
|  | 20 | 71110 | 55.90 | f0 | 20 | $43^{12}$ |  | 97.30 | 102.20 | 103.50 | 108.00 |
|  | 22 | 71111 | 62.60 | 100 | 20 | 4712 | 512 | 108.40 | 116.30 | 112.70 | 120.10 |
|  | 24 | 71112 | 68.00 | 100 | 20 | 4912 | 512 | 114.90 | 123.10 | 119.50 | 126.90 |
|  | 26 | 71113 | 73.30 | 100 | 20 | 5316 | 512 | 122.40 | 131.40 | 128.10 | 135.70 |
|  | 28 | 71114 | 78.50 | 100 | 20 | 551 | 512 | 128.70 | 138.10 | 135.10 | 142.80 |



| 2 | 71117 | \$ 9.20 | 30 | 20 | 1712 | 513 | \$ 37.50 | \$ 40.10 | \$ 43.50 | \$ 45.40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71118 | 14.60 | 30 | 20 | 1912 | 51. | 43.80 | 46.80 | 49.90 | 52.10 |
| 6 | 71119 | 19.50 | 30 | 20 | $2: 3!2$ | 512 | 50.30 | 54.00 | 56.60 | 59.20 |
| 8 | 71120 | 26.00 | 30 | 20 | 251/2 | $\mathrm{Si}^{12}$ | 57.70 | 61.80 | 64.10 | 66.90 |
| 10 | 71121 | 31.30 | 30 | 20 | 291. | 512 | 64.70 | 69.50 | 71.30 | 74.60 |
| 12 | 71122 | 37.40 | 60 | 20 | 3.512 | $5{ }^{1} 3$ | 73.30 | 79.10 | 80.50 | 84.60 |
| 14 | 71123 | 42.60 | 60 | 20 | 371 | 512 | 79.40 | 85.50 | 87.00 | 91.20 |
| 16 | 71124 | 48.00 | 60 | 20 | 411 | 512 | 88.60 | 93.20 | 94.60 | 98.90 |
| 18 | 71125 | 53.20 | 60 | 20 | 431/2 | 512 | 94.60 | 99,50 | 100.80 | 105.30 |
| 20 | 71126 | 58.60 | 60 | 20 | 47 魹 | う! | 104.40 | 112.30 | 108.70 | 116.10 |
| 22 | 71127 | 66.70 | 100 | 20 | $531 / 2$ | 512 | 115.80 | 124.80 | 121.50 | 129.10 |
| 24 | 71128 | 72.10 | 100 | 20 | $551 / 2$ | 51 | 122.30 | 131.70 | 128.70 | 136.40 |
| 26 | 71129 | 77.40 | 100 | 20 | 59112 | 51 | 132.20 | 139.90 | 137.20 | 145.20 |
| 28 | 71130 | 82.60 | 100) | 20 | $61 \%$ | $5{ }^{12}$ | 138.60 | 146.70 | 144.00 | 152.20 |



| 2 | 71133 | $\$ 12.80$ |
| ---: | ---: | ---: |
| 4 | 71134 | 18.80 |
| 6 | 71135 | 24.70 |
| 8 | 71136 | 30.20 |
| 10 | 71137 | 35.50 |
| 12 | 71138 | 42.50 |
| 14 | 71139 | 47.70 |
| 16 | 71140 | 53.10 |
| 18 | 71141 | 58.30 |
| 20 | 71142 | 63.70 |
| 22 | 71143 | 74.60 |
| 24 | 71144 | 80.00 |
| 26 | 71145 | 85.30 |
| 28 | 71146 | 90.50 |

PANELS WITH FUSELESS MAIN SWITCH

PANELS WITH FUSIBLE MAIN SWITCH

| 2 | 71149 | \$15.40 | 30 | 20 | $2: 312$ | 515 | \$ 46.20 | \$ 49.90 | \$ 52.50 | \$ 55.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71150 | 20.90 | 30 | 20 | 2.512 | 512 | 52.60 | 56.70 | 59.00 | 61.80 |
| 6 | 71151 | 26.80 | 30 | 20 | 2918 | $5{ }^{5}$ | 60.20 | 65.00 | 66.80 | 70.10 |
| 8 | 71152 | 32.30 | 30 | 20 | $31^{1}$, | 51 i | 66.50 | 71.60 | 73.30 | 76.90 |
| 10 | 71153 | 37.60 | 30 | 20 | 351 | 512 | 73.50 | 79.30 | 80.70 | 84.70 |
| 12 | 71154 | 44.60 | 60 | 20 | 391 ' | $512^{1}$ | 84.30 | 88.70 | 90.10 | 94.40 |
| 14 | 71155 | 49.80 | 60 | 20 | $411 / 2$ | $5{ }^{1}$ 2 | 91.20 | 96.10 | 97.40 | 101.90 |
| 16 | 71156 | 55.20 | 60 | 20 | 451 | 512 | 97.60 | 102.70 | 104.00 | 108.60 |
| 18 | 71157 | 61.40 | 60 | 20 | 491, | $5 \frac{1}{2}$ | 108.30 | 116.50 | 112.90 | 120.30 |
| 20 | 71158 | 65.80 | 60 | 20 | $51^{1 / 2}$ | 512 | 113.80 | 122.60 | 118.80 | 126.50 |
| 22 | 71159 | 74.90 | 100 | 20 | 5912 | 512 | 129.70 | 137.40 | 134.70 | 142.70 |
| 24 | 71160 | 84.80 | 100 | 20 | 63 1 | $51 / 2$ | 142.00 | 150.60 | 148.10 | 156.60 |
| 26 | 71161 | 90.10 | 100 | 20 | $65^{1 / 2}$ | $51 / 2$ | 148.50 | 157.40 | 155.50 | 163.90 |
| 28 | 71162 | 95.30 | 100 | 20 | $691 / 2$ | $5{ }^{12}$ | 156.00 | 166.10 | 164.60 | 173.30 |

[^104]
## 2 TO 2-WIRE-TYPE DPS SAFETY PANELS-125-VOLT

Double Branches with 10-Ampere Push Button Switches Arranged for Edison Plug Fuses

| Illustrations of Type DPS Panels | PANEL ONLY |  |  |  | BOX DIMENSIONS Outside in Inches |  |  |  | PANEL WITH CABINET* List Price |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. | Catalogua Number | tist Price | Cap. Mains Amps. | Types \$1 and S2 |  | $\begin{gathered} \text { Typa } \\ \text { S1 } \end{gathered}$ | $\begin{gathered} \text { Type } \\ 82 \end{gathered}$ | $\begin{aligned} & \text { Types } \\ & \text { BMS1 } \\ & \text { BNS1 } \end{aligned}$ | $\begin{aligned} & \text { Types } \\ & \text { BMS2 } \\ & \text { BNS2 } \end{aligned}$ | TypeBIS1 | $\begin{aligned} & \text { Iype } \\ & \text { BTS2 } \end{aligned}$ |
|  |  |  |  |  | Wide | High | Dego | Degp |  |  |  |  |
|  | PANELS WITH MAIN LUGS |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 71001 | \$ 7.50 | 30 | 20 | $15^{1 / 2}$ | $51 / 2$ | 51/2 | \$ 35.00 | \$ 37.30 | \$40.80 | \$42.50 |
|  |  | 71002 | 12.50 | 30 | 20 | 171/2 | $51 / 2$ | 51/2 | + 40.80 | + 43.40 | +46.80 | +48.70 |
|  | 6 | 71003 | 17.60 | 60 | 20 | $211 / 2$ | $511 / 2$ | $51 / 3$ | 47.70 | 51.10 | 53.90 | 56.30 |
|  | 8 | 71004 | 22.80 | 60 | 20 | $251 / 2$ | $51 / 2$ | $51 / 2$ | 54.50 | 58.60 | 60.90 | 63.70 |
|  | 10 | 71005 | 27.70 | 60 | $20$ | $271 / 2$ | $51 /$ | $51 / 2$ | 60.30 | 64.80 | 66.80 | 69.90 |
|  | 12 | 71006 |  | 100 | 20 | $311 / 2$ | $51 / 2$ | $51 / 2$ | 67.50 | 72.60 | 74.30 | 77.90 |
|  | 14 | 71007 | 38.90 | 100 | 20 | $351 / 2$ | $51 / 2$ | $51 / 2$ | 74.80 | 80.60 | 82.00 | 86.10 |
|  | 16 | 71008 | 43.90 | 100 | 20 | $371 / 2$ | $51 / 2$ | $51 / 2$ | 80.70 | 86.80 | 88.30 | 92.50 |
|  | 18 | 71009 | 50.60 | 200 | 20 | $411 / 2$ | $51 / 2$ | 512 | 91.20 | $\mathbf{9 5 . 8 0}$ | 97.20 | 101.50 |
|  | 20 | 71010 | 55.80 | 200 | 20 | 43112 | $51 / 2$ | $51 / 2$ | 97.20 | 102.10 | 103.40 | 107.90 |
|  | 22 | 71011 | 61.10 | 200 | 20 | $471 / 2$ | $51 / 2$ | $51 / 3$ | 106.90 | 114.80 | 111.20 | 118.60 |
|  | 24 | 71012 | 66.20 | 200 | 20 | $491 / 2$ | 51/2 | $51 / 2$ | 113.10 | 121.30 | 117.70 | 125.10 |
|  | 26 | 71013 | 71.50 | 200 | 20 | $531 / 2$ | $51 / 2$ | $51 / 2$ | 120.60 | 129.60 |  | 133.90 |
|  | 28 | 71014 | 76.70 | 200 | 20 | $551 / 2$ | $51 / 2$ | $51 / 2$ | 126.90 | 136.30 | 133.30 | 141.00 |
|  | PANELS WITH FUSIBLE MAINS |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 71017 | \$ 9.00 | 30 | 20 | $171 / 2$ | $51 / 2$ | $51 / 2$ | \$37.30 | \$ 39.90 | \$ 43.30 | \$ 45.20 |
|  | 4 | 71018 | 14.00 | 30 | 20 | 191/2 | $51 / 2$ | $51 / 2$ | 43.20 | 46.20 | + 49.30 | 51.50 |
|  | 6 | 71019 | 19.40 | 60 | 20 | $251 / 2$ | $51 / 2$ | $51 / 2$ | 51.10 | 55.20 | 57.50 | 60.30 |
|  | 8 | 71020 | 24.60 | 60 | 20 | 29315 | 5112 | $51 / 2$ |  |  |  |  |
|  | 10 | 71021 | 29.50 | 60 100 | 20 | $311 / 2$ | $51 / 2$ | $51 / 2$ | 64.00 | 68.80 | 70.50 | 74.10 |
|  | 12 | 71022 | 36.00 | 100 | 20 | $371 / 2$ | $51 / 2$ | $51 / 8$ | 72.80 | 78.90 | 79.90 | 84.60 |
|  | 14 | 71023 71024 |  | 100 100 | 20 | $411 / 2$ |  | $51 / 2$ | 82.20 | 86.80 | 88.20 | 92.50 |
|  | 16 | 71024 | 46.60 54.90 | 100 200 | 20 | $431 / 2$ $471 / 2$ | $51 / 2$ | $51 / 2$ | 88.00 | 92.90 | 94.20 | 98.70 |
|  | 18 | 71025 | 54.90 | 200 | 20 | $471 / 2$ | $51 / 2$ | $51 / 2$ | 100.70 | 108.60 | 105.00 | 112.40 |
|  | 20 | 71026 | 60.10 | 200 | 20 | $511 / 3$ | $51 / 2$ | $51 / 2$ | 108.10 | 116.90 | 113.10 | 120.80 |
|  | 24 | 71027 | 65.40 70.50 | 200 | 20 | $571 / 2$ | $51 / 2$ | $51 / 2$ $51 / 2$ | 114.50 124.20 | 123.50 131.50 | 120.20 | 127.80 136.50 |
|  | 26 | 71029 | 75.80 | 200 | 20 | $591 / 2$ | 51/2 | $51 / 2$ | 130.60 | 138.30 | 135.60 | 143.60 |
|  | 28 | 71030 | 81.00 | 200 | 20 | 031/2 | $51 / 2$ | $51 / 2$ | 138.20 | 146.80 | 144.30 | 152.80 |
|  | PANELS WITH FUSELESS MAIN SWITCH |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | 71033 | \$11.80 | 30) | 20 | $2311 / 2$ | 5 1 , | $51 / 2$ | \$42.60 | \$ 46.30 | \$ 48.90 | \$ 51.50 |
|  | 4 | 71034 | 16.80 | 30 | 20 | $251 / 2$ | $51 / 2$ | 512 | 48.50 | 52.60 | 54.90 | 57.70 |
|  | 6 | 71035 | 22.80 | 60 | 20 | $311 / 2$ | $51 / 2$ | $51 / 2$ | 57.00 | 62.10 | 63.80 | 67.40 |
|  | 8 | 71036 | 28.00 | 60 | 20 | $3.31 / 2$ | 51/2 | $51 / 2$ | 63.00 | 68.40 | 70.10 | 73.90 |
|  | 10 | 71037 | 32.90 | $60$ | 20 | $371 / 2$ | 512 | $51 / 2$ | 69.70 | 75.80 | 77.30 | 81.50 |
|  | 12 | 71038 | 41.30 | 100 | 20 | $411 / 2$ | $51 / 2$ | $51 / 2$ | 81.90 | 86.50 | 87.90 | 92.20 |
|  | 14 | 71039 | 46.90 | 100 | 20 | 4.51/2 | $51 / 2$ | $51 / 2$ | 89.30 | 94.40 | 95.70 | 100.30 |
|  | 16 | 71040 | 51.90 | 100 | 20 | $471 / 2$ | $531 / 2$ | 53 | 97.70 | 105.60 | 102.00 | 108.90 |
|  | 18 | 71041 | 61.80 | 200 | 20 | $551 / 2$ | $61 / 2$ | $81 / 2$ | 114.10 | 127.20 | 120.50 | 131.90 |
|  | 20 | 71042 | 67.00 | 200 | 20 | $571 / 2$ | $61 / 2$ | $81 / 2$ | 123.00 | 134.10 | 127.40 | 139.10 |
|  | 22 | 71043 | 72.30 | 200 | 20 | $611 / 2$ | $61 / 2$ | $81 / 2$ | 130.80 | 142.80 | 136.20 | 148.30 |
|  | 24 | 71044 | 77.40 | 200 | 20 | $631 / 2$ | $61 / 2$ | $81 / 2$ | 137.20 | 149.70 | 143.30 | 155.70 |
|  | 26 | $71045$ | 82.70 | 200 | 20 | $671 / 2$ | $61 / 2$ | $81 / 2$ | 144.90 | 158.40 | 152.60 | 165.30 |
|  | 28 | 71046 | 87.90 | 200 | 20 | $691 / 2$ | $61 / 2$ | $81 / 2$ | 151.30 | 165.90 | 159.90 | 173.10 |



PANELS WITH FUSIBLE MAIN SWITCH

| 2 | 71049 | $\$ 13.20$ | 30 | 20 | $231 / 2$ | $51 / 2$ | $51 / 2$ | $\$ 44.00$ | $\$ 47.70$ | $\$ 50.30$ | $\$ 52.90$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 4 | 71050 | 18.20 | 30 | 20 | $251 / 2$ | $51 / 2$ | $51 / 2$ | 49.90 | 54.00 | 56.30 | 59.10 |
| 6 | 71051 | 24.20 | 60 | 20 | $311 / 2$ | $51 / 2$ | $51 / 2$ | 58.40 | 63.50 | 65.20 | 68.80 |
| 8 | 71052 | 29.40 | 60 | 20 | $331 / 2$ | $51 / 2$ | $51 / 2$ | 64.40 | 69.80 | 71.50 | 75.30 |
| 10 | 71053 | 34.30 | 60 | 20 | $371 / 2$ | $51 / 2$ | $51 / 2$ | 71.10 | 77.20 | 78.70 | 82.90 |
| 12 | 71054 | 44.50 | 100 | 20 | $451 / 2$ | $51 / 2$ | $51 / 2$ | 86.90 | 92.00 | 93.30 | 97.90 |
| 14 | 71055 | 50.10 | 100 | 20 | $471 / 2$ | $51 / 2$ | $51 / 2$ | 95.90 | 103.80 | 100.20 | 107.60 |
| 16 | 71056 | 55.10 | 100 | 20 | $511 / 2$ | $51 / 2$ | $51 / 2$ | 103.10 | 111.90 | 107.30 | 115.80 |
| 18 | 71057 | 66.30 | 200 | 20 | $571 / 2$ | $61 / 2$ | $81 / 2$ | 122.30 | 133.40 | 126.70 | 138.40 |
| 20 | 71058 | 71.50 | 200 | 20 | $591 / 2$ | $61 / 2$ | $81 / 2$ | 128.80 | 140.20 | 133.80 | 145.60 |
| 22 | 71059 | 76.80 | 200 | 20 | $631 / 2$ | $61 / 2$ | $81 / 2$ | 136.60 | 149.10 | 142.70 | 155.10 |
| 24 | 71060 | 81.90 | 200 | 20 | $651 / 2$ | $61 / 2$ | $81 / 2$ | 142.80 | 155.90 | 149.80 | 162.40 |
| 26 | 71061 | 87.20 | 200 | 20 | $691 / 2$ | $61 / 2$ | $81 / 2$ | 150.60 | 165.20 | 159.20 | 172.40 |
| 28 | 71062 | 92.40 | 200 | 20 | $711 / 2$ | $\mathbf{6} 1 / 2$ | $81 / 2$ | 156.90 | 173.00 | 166.40 | 180.80 |

[^105]
## 2 TO 2－WIRE—TYPE EPS SAFETY PANELS—125 VOLTS

Double Branches with 10－Ampere Push Button Switches Arranged for N．E．C．Cartridge Fuses

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow{3}{*}{Illustrations of Type EPS Panels} \& \multicolumn{4}{|c|}{PANEL ONLY} \& \multicolumn{4}{|l|}{BOX DIMENSIONS Outside in Inches} \& \multicolumn{4}{|l|}{PANEL WITH CABINET＊ List Price} \\
\hline \& \multirow[t]{2}{*}{No． Cir．} \& \multirow[t]{2}{*}{Catalogua Number} \& \multirow[t]{2}{*}{Llst Price} \& \multirow[t]{2}{*}{\begin{tabular}{l}
Cap． \\
Malns \\
Amp．
\end{tabular}} \& \multicolumn{2}{|l|}{Types \(\$ 1\) and S2} \& \[
\begin{aligned}
\& \text { Type } \\
\& \mathbf{\$ 1}
\end{aligned}
\] \& \[
{ }_{\text {Type }}
\] \& \multirow[t]{2}{*}{Types
BMSI} \& \multirow[t]{2}{*}{\[
\begin{aligned}
\& \text { Types } \\
\& \text { BMS2 } \\
\& \text { BNS2 }
\end{aligned}
\]} \& \multirow[t]{2}{*}{\[
\begin{aligned}
\& \text { Tpp } \\
\& \text { BTS1 }
\end{aligned}
\]} \& \multirow[t]{2}{*}{Tрри BTS2} \\
\hline \& \& \& \& \& Wide \& High \& Deep \& Desp \& \& \& \& \\
\hline \& \multicolumn{12}{|c|}{PANELS WITH MAIN LUGS} \\
\hline \multirow[t]{13}{*}{} \& 2 \& 71201 \& \＄7．50 \& 30
30 \& 20 \& \(15^{1 / 2}\) \& 51暞 \& 51／2 \& \＄ 35.00 \& \＄

47.30
43.40 \& \＄ 40.80 \& <br>
\hline \& 4 \& 71202 \& 12.50 \& 30 \& 20 \& $171 / 2$ \& $51 / 2$
$51 / 2$ \& $51 / 2$
51 \& 40.80
47.70 \& 43.40
51.10 \& 46.80
53.90 \& 48.70
56.30 <br>
\hline \& 6 \& 71203 \& 17.60 \& 60 \& 20 \& $211 / 2$ \& $51 / 2$ \& $51 / 2$ \& 47.70 \& 51.10
58.60 \& 53.90

60.90 \& $$
56.30
$$ <br>

\hline \& 8 \& 71204 \& 22.80 \& 60 \& 20 \& $251 / 2$ \& $51 / 2$
51 \& $51 / 3$ \& 54.50
60.30 \& 58.60
64.80 \& 60.90
66.80 \& 63.70
69.90 <br>
\hline \& 10 \& 71205 \& 27.70
33.30 \& 60
100 \& 20
20 \& $2711 / 2$ \& $51 / 3$
$51 / 2$ \& 5 513 \& 60.30
67.50 \& 64.80
72.60 \& 66.80
74.30 \& 69.90
77.90 <br>
\hline \& 12 \& 71206 \& 33.30
38.90 \& 100
100 \& 20
20 \& $311 / 2$
$351 / 2$ \& 51／2 \& 51／2 \& 67.50
74.80 \& 72.60
80.60 \& 74.30
82.00 \& 77.90
86.10 <br>
\hline \& 14 \& 71207
71208 \& 38.90
43.90 \& 100
100 \& 20
20 \& $351 / 2$
$371 / 2$ \& 51／2 \& $51 / 2$
$51 / 2$ \& 74.80
80.70 \& 80.60
86.80 \& 82.00
88.30 \& 86.10
92.50
10150 <br>
\hline \& 18 \& 71209 \& 50.60 \& 200 \& 20 \& $411 / 2$ \& $51 / 2$ \& $51 / 2$ \& 91.20 \& 95.80 \& 97.20 \& 101.50 <br>
\hline \& 20 \& 71210 \& 55.80 \& 200 \& 20 \& $431 / 2$ \& 51／9 \& $51 / 2$ \& 97.20 \& 102.10 \& 103.40 \& 107.90 <br>
\hline \& 22 \& 71211 \& 61.10 \& 240 \& 20 \& $471 / 2$ \& $51 / 2$ \& $51 / 2$ \& 106.90 \& 114.80 \& 111.20 \& 118.60 <br>
\hline \& 24 \& 71212 \& 66.20 \& 200 \& 20 \& $491 / 2$ \& $51 / 2$ \& $51 / 2$ \& 113.10 \& 121.30 \& 117.70 \& 125.10 <br>
\hline \& 26 \& 71213 \& 71.50 \& 200 \& 20 \& $531 / 2$ \& 5廹 \& 512 \& 120.60 \& 129.60 \& 126.30 \& 133.90 <br>
\hline \& 28 \& 71214 \& 76.70 \& 2,0 \& 20 \& $551 / 2$ \& $51 / 3$ \& $51 / 2$ \& 126.90 \& 136.30 \& 133.30 \& 141.00 <br>
\hline \& \multicolumn{12}{|c|}{PANELS WITH FUSIBLE MAINS} <br>
\hline \multirow[t]{14}{*}{} \& 2 \& 71217 \& \＄ 9.00 \& 30 \& 20 \& $171 / 2$ \& 51／2 \& 51／2 \& \＄ 37.30 \& \＄ 39.90 \& \＄ 43.30 \& \＄ 45.20 <br>
\hline \& 4 \& 71218 \& 14.00 \& 30 \& 20 \& 191／3 \& $51 / 2$ \& $51 / 2$ \& 43.20 \& 46.20 \& 49.30 \& 51.50 <br>
\hline \& 6 \& 71219 \& 19.40 \& 60 \& 20 \& $251 / 2$ \& $51 / 2$ \& $51 / 2$ \& 51.10 \& 55.20 \& 57.50 \& 60.30 <br>
\hline \& 8 \& 71220 \& 24.60 \& 60 \& 20 \& 291／2 \& $51 / 2$ \& 51年 \& 58.00 \& 62.80 \& 64.60 \& 67.90 <br>
\hline \& 10 \& 71221 \& 29.50 \& 60 \& 20 \& 31 1＇2 \& $51 / 2$ \& $51 / 2$ \& 64.00 \& 68.80 \& 70.50 \& 74.10 <br>
\hline \& 12 \& 71222 \& 36.00 \& 100 \& 20 \& $371 / 2$ \& $51 / 2$ \& $51 / 2$ \& 72.80 \& 78.90 \& 79.90 \& 84.60 <br>
\hline \& 14 \& 71223 \& 41.60 \& 100 \& 20 \& $411 / 2$ \& $51 / 2$ \& $51 / 2$ \& 82.20 \& 86.80 \& 88.20 \& 92.50 <br>
\hline \& 16 \& 71224 \& 46.60 \& 100 \& 20 \& $431 / 2$ \& $51 / 3$ \& $51 / 2$ \& 88.00 \& 92.90 \& 94.20 \& 98.70 <br>
\hline \& 18 \& 71225 \& 54.90 \& 200 \& 20 \& $471 / 2$ \& $51 / 2$ \& $51 / 2$ \& 100.70 \& 108.60 \& 105.00 \& 112.40 <br>
\hline \& 20 \& 71226 \& 60.10 \& 200 \& 20 \& $511 / 2$ \& 51／2 \& $51 / 2$ \& 108.10 \& 116.90 \& 113.10 \& 120.80 <br>
\hline \& 22 \& 71227 \& 65.40 \& 200 \& 20 \& $531 / 2$ \& $51 / 2$ \& $51 / 2$ \& 114.50 \& 123.50 \& 120.20 \& 127.80 <br>
\hline \& 24 \& 71228 \& 70.50 \& 200 \& 20 \& $571 / 2$ \& 51／2 \& $51 / 2$ \& 124.20 \& 131.50 \& 128.60 \& 136.50 <br>
\hline \& 25 \& 71229 \& 75.80 \& \& 20 \& \& \& \& 130.60 \& 138.30 \& 135.60 \& 143.60 <br>
\hline \& 23 \& 71230 \& 81.00 \& 200 \& 20 \& $631 / 2$ \& $51 / 2$ \& 51／2 \& 138.20 \& 146.80 \& 144.30 \& 152.80 <br>
\hline \multirow[t]{15}{*}{} \& \multicolumn{12}{|c|}{PANELS WITH FUSELESS MAIN SWITCH} <br>
\hline \& 2 \& 71233 \& \＄11．80 \& \multirow[t]{14}{*}{20
30
60
60
60
100
100
100
200
200
290
200
200
200} \& 20 \& $231 / 2$ \& $51 / 2$ \& $51 / 2$ \& \＄ 42.60 \& \＄ 46.30 \& \＄ 48.90 \& \＄ 51.50 <br>
\hline \& 4 \& 71234 \& 16.80 \& \& 20 \& $251 / 2$ \& $51 / 2$ \& $51 / 2$ \& 48.50 \& 52.60 \& 54.90 \& 57.70 <br>
\hline \& 6 \& 71235 \& 22.80 \& \& 20 \& $311 / 1$ \& $51 / 2$ \& $51 / 2$ \& 57.00 \& 62.10 \& 63.80 \& 67.40 <br>
\hline \& 8 \& 71236 \& 28.00 \& \& 20 \& $33^{1 / 2}$ \& $51 / 2$ \& $51 / 2$ \& 63.00 \& 68.40 \& 70.10 \& 73.90 <br>
\hline \& 10 \& 71237 \& 32.90 \& \& 20 \& $371 / 2$ \& $51 / 2$ \& $51 / 2$ \& 69.70 \& 75.80 \& 77.30 \& 81.50 <br>
\hline \& 12 \& 71238 \& 41.30 \& \& 20 \& $411 / 2$ \& $51 / 2$ \& $51 / 2$ \& 81.90 \& 86.50 \& 87.90 \& 92.20 <br>
\hline \& 14 \& 71239 \& 46.90 \& \& 20 \& 451／3 \& $51 / 2$ \& $51 / 2$ \& 89.30 \& 94.40 \& 95.70 \& 100.30 <br>
\hline \& 16 \& 71240 \& 51.90 \& \& 20 \& 471／2 \& $51 / 2$ \& $51 / 2$ \& 97.70 \& 105.60 \& 102.00 \& 108.90 <br>
\hline \& 18 \& 71241 \& 61.80 \& \& 20 \& $551 / 2$ \& $61 / 2$ \& $81 / 2$ \& 114.10 \& 127.20 \& 120.50 \& 131.90 <br>
\hline \& 20 \& 71242 \& 67.00 \& \& 20 \& $571 / 2$ \& $61 / 2$ \& $81 / 2$ \& 123.00 \& 134.10 \& 127.40 \& 139.10 <br>
\hline \& 22 \& 71243 \& 72.30 \& \& 20 \& $611 / 3$ \& $61 / 2$ \& $81 / 2$ \& 130.80 \& 142.80 \& 136.20 \& 148.30 <br>
\hline \& 24 \& 71244 \& 77.40 \& \& 20 \& $631 / 2$ \& $61 / 2$ \& 81／2 \& 137.20 \& 149.70 \& 143.30 \& 155.70 <br>
\hline \& 26 \& 71245 \& 82.70 \& \& 20 \& $671 / 2$ \& 61／5 \& $81 / 2$ \& 144.90 \& 158.40 \& 152.60 \& 165.30 <br>
\hline \& 28 \& 71246 \& 87.50 \& \& 20 \& $69 \frac{1}{2}$ \& $61 / 2$ \& $81 / 2$ \& 151.30 \& 165.90 \& 159.20 \& 173.10 <br>
\hline
\end{tabular}



PANELS WITH FUSIBLE MAIN SWITCH

| 2 | 71249 | $\$ 13.20$ | 30 | 20 | $231 / 2$ | $51 / 2$ | $51 / 2$ | $\$ 44.00$ | $\$ 47.70$ | $\$ 50.30$ | $\$ 52.90$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 4 | 71250 | 18.20 | 30 | 20 | $251 / 2$ | $51 / 2$ | $51 / 2$ | 49.90 | 54.00 | 56.30 | 59.10 |
| 6 | 71251 | 24.20 | 60 | 20 | $311 / 2$ | $51 / 2$ | $51 / 2$ | 58.40 | 63.50 | 65.20 | 68.80 |
| 8 | 71252 | 29.40 | 60 | 20 | $331 / 2$ | $51 / 2$ | $51 / 2$ | 64.40 | 69.80 | 71.50 | 75.30 |
| 10 | 71253 | 34.30 | 60 | 20 | $371 / 2$ | $51 / 25$ | $51 / 2$ | 71.10 | 77.20 | 78.70 | 82.90 |
| 12 | 71254 | 44.50 | 100 | 20 | $451 / 2$ | $511 / 2$ | $51 / 2$ | 86.90 | 92.00 | 93.30 | 97.90 |
| 14 | 71255 | 50.10 | 100 | 20 | $471 / 2$ | $51 / 2$ | $51 / 2$ | 95.90 | 103.80 | 100.20 | 107.60 |
| 16 | 71256 | 55.10 | 100 | 20 | $511 / 2$ | $51 / 2$ | $51 / 2$ | 103.10 | 111.90 | 107.30 | 115.80 |
| 18 | 71257 | 66.30 | 200 | 20 | $571 / 2$ | $61 / 2$ | $81 / 2$ | 122.30 | 133.40 | 126.70 | 138.40 |
| 20 | 71258 | 71.50 | 200 | 20 | $591 / 2$ | $61 / 3$ | $81 / 2$ | 128.80 | 140.20 | 133.80 | 145.60 |
| 22 | 71259 | 76.80 | 200 | 20 | $631 / 2$ | $61 / 2$ | $81 / 2$ | 136.60 | 149.10 | 142.70 | 155.10 |
| 24 | 71260 | 81.90 | 200 | 20 | $651 / 2$ | $61 / 2$ | $81 / 2$ | 142.80 | 155.90 | 149.80 | 162.40 |
| 26 | 71261 | 87.20 | 200 | 20 | $691 / 2$ | $61 / 2$ | $81 / 2$ | 150.60 | 165.20 | 159.20 | 172.40 |
| 28 | 71262 | 92.40 | 200 | 20 | $71 / 2$ | $61 / 2$ | $81 / 2$ | 156.90 | 173.00 | 166.40 | 180.80 |

[^106]
## 3 TO 2-WIRE-TYPE EPS SAFETY PANELS- 125 VOLTS

Double Branches with 10-Ampere Push Button Switches Arranged for N. E. C. Cartridge Fuses

| Illustrations of Type EPS Panels | PANEL ONLY |  |  |  | BOX DIMENSIONS Outside in Inches |  |  | PANEL WITH CABINET* <br> List Price |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. Cir. | Catalogue Number | List Price | C8p. <br> Malns <br> Amps. | Types S1 and S2 |  |  | $\begin{aligned} & \text { Types } \\ & \text { BMS1 } \\ & \text { BNSI } \end{aligned}$ | $\begin{aligned} & \text { Types } \\ & \text { BMS2 } \\ & \text { BNS2 } \end{aligned}$ | Type BIS1 | Type BTS? |
|  |  |  |  |  | Widg | High | De8p |  |  |  |  |
|  | PANELS WITH MAIN LUGS |  |  |  |  |  |  |  |  |  |  |
|  |  | 71301 | \$ 7.00 | 30 | 20 | $151 / 2$ | $51 / 3$ | \$ 34.50 | \$ 36.80 | \$ 40.30 | \$ 42.00 |
|  | 4 | 71302 | 12.30 | 30 | 20 | 171/2 | $5{ }^{1}$ | 40.60 | + 43.20 | +46.60 | + 48.50 |
|  | 6 | 71303 | 18.20 | 30 | 20 | $211 /$ | $51 / 2$ | 48.30 | 51.70 | 54.50 | 56.90 |
|  | 8 | 71304 | 23.70 | 30 | 20 | $23^{1 / 2}$ | $51 / 2$ | 54.50 | 58.20 | 60.80 | 63.40 |
|  | 10 | 71305 | 29.00 | 30 | 20 | $22^{71 / 2}$ | $5 \frac{1}{2}$ | 61.60 | 66.10 | 68.10 | 71.20 |
|  | 12 | 71306 | 34.70 | 60 | 20 | $311 / 2$ | $51 / 2$ | 68.90 | 74.00 | 75.70 |  |
|  | 14 | - 71307 | 39.90 | (i) | 20 | $3: 31 / 2$ | $51 / 2$ | 74.90 | 80.30 | 82.00 | 85.80 |
|  | 16 | 71308 | 45.30 | 60 | 20 | $33^{1,0}$ | 512 | 82.10 | 88.20 | 89.70 | 93.90 |
|  | 18 | 71309 | 50.50 | 60 | 20 | 3912 | 512 | 90.20 | 94.60 | 96.00 | 100.30 |
|  | 20 | 71310 | 55.90 | 60 | 20 | $431 / 2$ | $51 / 2$ | 97.30 | 102.20 | 103.50 | 108.00 |
|  | 22 | 71311 | 62.60 | $100$ | 20 | $471 / 2$ | $51 / 2$ | 108.40 | 116.30 | 112.70 | 120.10 |
|  | 24 | 71312 | 68.00 | 160 | 20 | $491 / 2$ | $51 / 2$ | 114.90 | 123.10 | 119.50 | 126.90 |
|  | 26 | 71313 | 73.30 | 100 | 20 | $531 / 2$ | $51 / 2$ | 122.40 | 131.40 | 128.10 | 135.70 |
|  | 28 | 71314 | 78.50 | 100 | 20 | $551 / 2$ | $51 / 2$ | 128.70 | 138.10 | 135.10 | 142.80 |



PANELS WITH FUSIbLE MAINS

| 2 | 71317 | $\$ 9.20$ |  |
| ---: | ---: | ---: | ---: |
| 4 | 71318 | 14.60 |  |
| 6 | 71319 | 19.50 |  |
| 8 | 71320 | 26.00 |  |
| 10 | 71321 | 31.30 |  |
| 12 | 71322 | 37.40 |  |
| 14 | 71323 | 42.60 |  |
| 16 | 71324 | 48.00 |  |
| 18 | 71325 | 53.20 |  |
| 20 | 71326 | 58.60 |  |
| 22 | 71327 | 66.70 | 1 |
| 24 | 71328 | 72.10 | 1 |
| 26 | 71329 | 77.40 | 1 |
| 23 | 71330 | 82.60 | 1 |


| 20 | $171 / 2$ |
| :--- | :--- |
| 20 | $191 / 2$ |
| 20 | $231 / 2$ |
| 20 | $251 / 2$ |
| 20 | $291 / 2$ |
| 20 | $351 / 2$ |
| 20 | $351 / 2$ |
| 20 | $411 \frac{2}{2}$ |
| 20 | $431 / 2$ |
| 20 | $471 \frac{1}{2}$ |
| 20 | 5312 |
| 20 | 5512 |
| 20 | 5912 |
| 20 | 6112 |


| 5 | $1 / 2$ |
| :--- | :--- |
| 5 | 2 |
| 5 | $1 / 2$ |
| 5 | $1 / 2$ |
| 5 | 12 |
| 5 | 1 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 2 |
| 5 | 6 |
| 5 | $1 / 2$ |


| $\$ 37.50$ | $\$ 40.10$ |
| ---: | ---: | ---: |
| 43.80 | 46.80 |
| 50.30 | 54.00 |
| 57.70 | 61.80 |
| 64.70 | 69.50 |
| 73.30 | 79.10 |
| 79.40 | 85.50 |
| 88.60 | 93.20 |
| 94.60 | 99.50 |
| 104.40 | 112.30 |
| 115.80 | 124.80 |
| 122.30 | 131.70 |
| 132.20 | 139.90 |
| 138.60 | 146.70 |


| $\$ 43.50$ | $\$ 45.40$ |
| ---: | ---: |
| 49.90 | 52.10 |
| 56.60 | 59.20 |
| 64.10 | 66.90 |
| 71.30 | 74.60 |
| 80.50 | 84.60 |
| 87.00 | 91.20 |
| 94.60 | 98.90 |
| 100.80 | 105.30 |
| 108.70 | 116.10 |
| 121.50 | 129.10 |
| 128.70 | 136.40 |
| 137.20 | 145.20 |
| 144.00 | 152.20 |



PANELS WITH FUSELESS MAIN SWITCH

| 2 | 71333 | \$12.80 | 30 | 20 | 2:31/2 | 518 | \$ 43.60 | \$ 47.30 | \$ 49.90 | \$53.20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71334 | 18.80 | 30 | 20 | $25^{1 / 2}$ | 512 | 50.50 | 54.60 | 56.90 | 59.70 |
| 6 | 71335 | 24.70 | 30 | 20 | 2916 | $51 / 2$ | 58.10 | 62.90 | 64.70 | 68.00 |
| 8 | 71336 | 30.20 | 30 | 20 | $311 / \frac{1}{}$ | -12 | 64.40 | 69.50 | 71.20 | 44.80 |
| 10 | 71337 | 35.50 | 30 | 20 | 3.512 | $5{ }^{1}$ | 71.40 | 77.70 | 78.60 | 82.70 |
| 12 | 71338 | 42.50 | 60 | 20 | 391 | $51 / 2$ | 82.20 | 86.60 | 88.00 | 92.30 |
| 14 | 71339 | 47.70 | 60 | 20 | 431/2 | 5 多 | 89.10 | 94.00 | 95.30 | 99.80 |
| 16 | 71340 | 53.10 | (6) | 20 | $451 / 2$ | 51. | 95.50 | 100.60 | 101.90 | 106.50 |
| 18 | 71341 | 58.30 | 60 | 20 | $491 / 2$ | $51 / 2$ | 105.20 | 113.40 | 109.80 | 117.20 |
| 20 | 71342 | 63.70 | 60 | 20 | $511 / 2$ | 51 \% | 111.70 | 120.50 | 116.70 | 124.40 |
| 22 | 71343 | 74.60 | 110) | 20 | $571 \frac{1}{2}$ | 51 \% | 128.30 | 135.60 | 132.70 | 140.60 |
| 24 | 71344 | 80.00 | 100 | 20 | 5912 | 512 | 136.00 | 142.40 | 141.40 | 147.80 |
| 26 | 71345 | 85.30 | 100 | 20 | $6: 31$ 12 | 51 \% | 142.50 | 151.10 | 148.60 | 157.10 |
| 28 | 71346 | 90.50 | 100 | 20 | $651 / 3$ | 5 $1 / 2$ | 150.00 | 157.80 | 157.70 | 164.30 |



PANELS WITH FUSIBLE MAIN SWITCH

| 2 | 71349 | \$15.40 | 30 | 20 | 2:31.2 | $6_{1}{ }^{2}$ | \$ 46.20 | \$ 49.90 | \$ 52.50 | \$55.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71350 | 20.90 | 30 | 20 | $25^{1}$ | 512 | 52.60 | 56.70 | 59.00 | 61.80 |
| 6 | 71351 | 26.80 | 30 | 20 | $2)^{1}{ }_{2}$ | $51 / 2$ | 60.20 | 65.00 | 66.80 | 70.10 |
| 8 | 71352 | 32.30 | 30 | 20 | $31^{1 / 2}$ | 512 | 66.50 | 71.60 | 73.30 | 76.90 |
| 10 | 71353 | 37.60 | 30 | 20 | $35^{1} 2$ | $51 / 2$ | 73.50 | 79.30 | 80.70 | 84.70 |
| 12 | 71354 | 44.60 | 60 | 20 | $3)^{1 / 2}$ | 512 | 84.30 | 88.70 | 90.10 | 94.40 |
| 14 | 71355 | 49.80 | (0) | 20 | $411 / 2$ | $51 / 2$ | 91.20 | 96.10 | 97.40 | 101.90 |
| 16 | 71356 | 55.20 | 60 | 20 | $451 / 3$ | $5{ }^{1}$ | 97.60 | 102.70 | 104.00 | 108.60 |
| 18 | 71357 | 61.40 | 60 | 20 | 4912 | $51 / 2$ | 108.30 | 116.50 | 112.90 | 120.30 |
| 20 | 71358 | 65.80 | 60 | 20 | 311 'z | $51 / 2$ | 113.80 | 122.60 | 118.80 | 126.50 |
| 22 | 71359 | 74.90 | 100 | 20 | 591 | $51 / 2$ | 129.70 | 137.40 | 134.70 | 142.70 |
| 24 | 71360 | 84.80 | 100 | 20 | $63^{1 / 2}$ | $51 / 2$ | 142.00 | 150.60 | 148.10 | 156.60 |
| 26 | 71361 | 90.10 | 100 | 20 | $651 / 2$ | $51 / 2$ | 148.50 | 157.40 | 155.50 | 163.90 |
| 28 | 71362 | 95.30 | 100 | 20 | ( 991.2 | $51 / 2$ | 156.00 | 166.10 | 164.60 | 173.30 |

[^107]
## 2 TO 2-WIRE-TYPE EPS SAFETY PANELS-250 VOLTS

Double Branches with 10-Ampere Push Button Switches Arranged for N. E. C. Cartridge Fuses



PANELS WITH FUSELESS MAIN SWITCH

| 2 | 71433 | \$13.40 | 30 | 20 | 23: | 512 | \$ 44.20 | \$ 47.93 | \$ 50.50 | \$ 53.10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71434 | 17.10 | 30 | 20 | 2712 | $5{ }^{12}$ | 49.70 | 54.20 | 56.20 | 59.30 |
| 6 | 71435 | 22.30 | 30 | 29 | $23^{13}$ | 51. | 55.70 | 60.50 | 62.30 | 65.60 |
| 8 | 71436 | 27.60 | 30 | 20 | 3312 | 512 | 62.60 | 68.00 | 69.70 | 73.50 |
| 10 | 71437 | 32.70 | 30 | 20 | 3.512 | 51. | 68.60 | 74.40 | 75.80 | 79.90 |
| 12 | 71438 | 39.30 | 60 | 20 | +112 | J) $^{2}$ | 79.90 | 84.50 | 85.90 | 90.20 |
| 14 | 71439 | 44.60 | 60 | 20 | 4312 | 512 | 86.00 | 90.90 | 92.20 | 96.70 |
| 16 | 71440 | 49.70 | 60 | 20 | $47 \%$ | 512 | 95.50 | 103.40 | 99.80 | 107.20 |
| 18 | 71441 | 55.10 | 60 | 20 | 491. | 512 | 102.00 | 110.20 | 106.60 | 114.00 |
| 20 | 71442 | 60.60 | 60 | 20 | 5312 | 516 | 109.70 | 118.70 | 115.40 | 123.00 |
| 22 | 71443 | 69.70 | 100 | 20 | 57.2 | 512 | 123.40 | 130.70 | 127.80 | 135.70 |
| 24 | 71444 | 75.10 | 100 | 20 | $61{ }_{2}$ | 51. | 131.10 | 139.20 | 136.50 | 144.70 |
| 26 | 71445 | 80.30 | 100) | 20 | 6i3 ${ }^{1}$ | $5{ }^{1 / 2}$ | 137.50 | 146.10 | 143.60 | 152.10 |
| 28 | 71446 | 85.70 | 100) | 20 | $67_{12}^{2}$ | $5{ }^{1}$ | 147.00 | 154.50 | 152.90 | 161.40 |



PANELS WITH FUSIBLE MAIN SWITCH

| 2 | 71449 | \$14.90 | 30 | 20 | 2312 | 512 | \$ 45.70 | \$ 49.40 | \$ 52.00 | \$ 54.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4 | 71450 | 18.50 | 30 | 20 | 2713 | [) ${ }^{2} 2$ | 51.10 | 55.60 | 57.60 | 60.70 |
| 6 | 71451 | 24.00 | 30 | 20 | 2912 | 512 | 57.40 | 62.20 | 64.00 | 67.30 |
| 8 | 71452 | 29.00 | 30 | 20 | 3312 | $51 \frac{18}{6}$ | 64.00 | 69.40 | 71.10 | 74.90 |
| 10 | 71453 | 34.10 | 30 | 20 | 3.512 | 512 | 70.00 | 75.80 | 77.20 | 81.30 |
| 12 | 71454 | 40.70 | 60 | 20 | $41{ }^{1}$ | 515 | 81.30 | 85.90 | 87.30 | 91.60 |
| 14 | 71455 | 46.00 | 60 | 20 | 4312 | 512 | 87.40 | 92.30 | 93.60 | 98.10 |
| 16 | 71456 | 51.10 | (i) | 20 | 4712 | .) 12 | 96.90 | 104.80 | 101.20 | 108.60 |
| 18 | 71457 | 56.50 | 60) | 20 | 4912 | 5 | 103.40 | 111.60 | 108.00 | 115.40 |
| 20 | 71458 | 62.00 | 60 | 20 | 5312 | 512 | 111.10 | 120.10 | 116.80 | 124.40 |
| 22 | 71459 | 72.90 | 1010 | 21) | 611 | 512 | 128.90 | 137.00 | 134.30 | 142.50 |
| 24 | 71460 | 78.30 | 110 | 20 | 63312 | .) $1_{2}$ | 135.50 | 144.10 | 141.60 | 150.10 |
| 26 | 71461 | 83.50 | 10) | 20 |  | 51 | 143.00 | 152.30 | 150.70 | 159.20 |
| 28 | 71462 | 88.90 | 1(1) | 20 | 6913 ${ }^{1}$ | 51 | 149.60 | 161.30 | 158.20 | 166.90 |

[^108]
## USEFUL TABLES



## USEFUL FORMULAS

## C. G. S. Units

The electrical units are derived from the following mechanical units of the metric system:
Centimeter-Unit of length-One thousand millionth part of a quadrant of the earth's surface.
Gramme-Unit of Weight-Weight of a cubic centimeter of water at a temperature of 4 degrees centigrade.

Second-Unit of Time - The time of one swing of a pendulum making 86,400 swings in a solar day. The unit of area is the square centimeter. The unit of volume is the cubic centimeter.

## The Electrical Units Are as follows

Volt-The Unit of Electro-Motive Force-Force required to send one ampere of current through one ohm of resistance.

Ohm-Unit of Resistance-The resistance offered to the passage of one ampere when impelled by one volt.

Megohm- $1,000,000$ ohms.
Ampere-Unit of Current-The current which one volt can send through a resistance of one ohm.
Coulomb-Unit of Quantity-Quantity of current which, impelled by one volt, would pass through one ohm in one second.

Farad-Unit of Capacity-The capacity of a conductor or a condenser which will hold one coulomio under the pressure of one volt.

Microfarad (Mfd.)-One millionth of a farad.
Watt-Unit of Power - The power to do work when one ampere passes through one ohm under pressure of one volt. ( 746 watts equal one horse power.)

Joule-Unit of Work-The work done by one watt in one second.

## Ohm's Law

Ohm's law is a method of expressing the relationship existing between the electro-motive force, current and resistance, and is practically the basis of most electrical computations. It is expressed in various forms, as follows:

Current flow equals the electro-motive force divided by the resistance.

$$
\text { Current flow }=\frac{\text { Electro-motive force. }}{\text { Resistance }} \text { or } \mathrm{C}=\frac{\mathrm{E}}{\mathrm{R}}
$$

Electro-motive force equals the current flow multiplied by the resistance.
Electro-motive force $=$ Current flow x Resistance or $\mathrm{E}=\mathrm{C} \times \mathrm{R}$.
Resistance equals the electro-motive force divided by the current flow.

$$
\text { Resistance }=\frac{\text { Electro-motive force }}{\text { Current flow }} \text { or } \mathrm{R}=\frac{\mathrm{E}}{\mathrm{C}}
$$

Flectro-motive foree varies directly as the current and resistance.
Resistance varies directly with the electro-motive force and inversely as the current.
Current varies directly with the electro-motive force and inversely as the resistance.

## Mil

The "mil," whose expressed value is one (.001) of an inch, is the practical basis for one-thousandth
determining the diameters and thereby the areas of all wires used as electric conductors. The diameter being given, the area is obtained by the well-known rule, "the area of a circle, in circular units, is equal to the squarc of its diameter," hence, the square of the diameter of a wire expressed in mils equals the area of its cross section. $\mathrm{d} 2=\mathrm{A}$, which area is expressed in circular mils or CM ; hence, $\mathrm{D} 2=\mathrm{CM}$.

## Wiring Formulas

Ohm's law is practically the basis for the various formulas in general use for determining the proper sizes of wire to use to carry various currents. It is essential to know the amount of current expressed in amperes, the distance, and to decide upon the loss to allow in transmission; the best rule is as follows:

The cross section (CM) of the necessary wire is found by multiplying twice the distance one way (2D) by amount of current expressed in amperes (C) and this by the resistance of one mil-foot (10.7) and dividing by the loss in transmission expressed in volts ( V ).

$$
\text { Or } \mathrm{CM}=\frac{2 \mathrm{D} \times \mathrm{C} \times 10.7}{\mathrm{~V}} \text { Or } \mathrm{CM}=\frac{\mathrm{D} \times \mathrm{C} \times 21.4}{\mathrm{~V}}
$$

## General Equivalents

$\mathrm{CM}=$ Circular mils.
$\mathrm{SqM}=$ Square mils.
$1 \mathrm{CM}=7854 \mathrm{SqM}$.
1 SqM. $=1.2732 \mathrm{CM}$.
1 Sq. in. $=1,000,000 \mathrm{SqM}$.

1 Sq. in. $=1,273,200 \mathrm{CM}$.
$1 \mathrm{Sq} . \mathrm{in} .=$ area of a circle $1.128^{\prime \prime}$ diam.
Area of a circle $1^{\prime \prime}$ diam. $=1,000,000 \mathrm{CM}$.
Area of a circle $1^{\prime \prime}$ diam. $=785,400 \mathrm{SqM}$.

## Table of Multiples

Diameter of a circle $\times 3.1416=$ Circumference.
Radius of a circle $\times 6.283185=$ Circumference.
Square of the radius of a circle $\times 3.1416=$ area.
Square of the diameter of a circle $\times 0.7854=$ Area.

Square of the circumference of a circle $x 0.07958$
$=$ Area.
Half the circumference of a circle $x$ by half its diameter $=$ Area.

Circumference of a circle $\times 0.159155=$ Radius.
Square root of the area of a circle $\times 0.56419=$ Radius.

Circumference of a circle $\times 0.31831=$ Diameter. Square root of the area of a circle $\times 1.12838=$ Diameter.

Diameter of a circle $\times 0.86=$ Side of inscribed equilateral triangle.

Diameter of a circle $x 0.7071=$ Side of an inseribed square.

Circumference of a circle $\times 0.225=$ Side of an inscribed square.

Circumference of a circle $\times 0.282=$ Side of an equal square.

Diameter of a circle $\times 0.8862=$ Side of an equal square.

Base of a triangle $x$ by $1 / 2$ the altitude $=$ Area.
Multiplying both diameters and .7854 together = Area of an ellipse.

Surface of a sphere $x$ by 1-6 of its diameter $=$ Solidity.

Circumference of a sphere x by its diameter $=$ Surface.

Square of the diameter of a sphere $\times 3.1416=$ Surface.

Square of the circumference of a sphere $x 0.3183$ $=$ Surface.

Cube of the diameter of a sphere $0.5236=$ Solidity.

Cube of the radius of a sț here $\mathrm{x} 4.1888=$ Solidity.
Cube of the circumference of a sphere $x 0.016887$
$=$ Solidity.
Square root of the surface of a sphere $\times 0.56419$
$=$ Diameter.
Square root of the surface of a sphere $\times 1.772454$
$=$ Circumference.
Cube root of the solidity of a sphere $x 1.2407$
$=$ Diameter.
Cube root of the solidity of a sphere $\times 3.8978=$ Circumference.

Radius of a sphere $\times 1.1547=$ Side of inscribed cube.

Square root of ( $1 / 3$ of the square of) the diameter of a sphere $=$ Side of inscribed cube.

Arca of its base x by $1 / 3$ of its altitude $=$ Solidity of a cone or pyramid, whether round, square or triangular.

Area of one of its sides $x 6=$ the surface of a cube.

Altitude of trapezoid $x 1 / 2$ the sum of its parallel sides $=$ Area.

## Horsepower for Belting

In general the load per inch width for single dynamo belts should not exceed 40 pounds for belt speeds under 4000 feet per minute and should not exceed 32 pounds for speeds from 4000 to 6000 feet, which is the practical limit of working. The total working pull on a belt may be found from the formulas:
H.P. x 33000

Pull in pounds=
Belt speed in feet per min.
Belt speed=Pulley diameter in inches $\times .262 \times$ R.P.M.
The maximum ratio between driving and driven pulleys should not exceed $6: 1$ for ordinary conditions. The distance between centers will depend on the ratio, good proportions being approximately as follows:

| Ratio | Min. Dist. between centers |
| :--- | :---: |
| $2: 1$ | 8 |
| $3: 1$ | 10 |
| $4: 1$ | 12 |
| $5: 1$ | 15 |
| $6: 1$ | 20 |

# USEFUL FORMULAS <br> Field Current in D. C. Dynamos 

| It has been found that a fair average for the field amperes of different sized dynamos is as follows: |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| K.W. |  |  |  |  |  |  |  |  |
| Per Cent. | 1 | 5 | 10 | 20 | 30 | 50 | 7.5 | 100 |

The ficld current (expressed as a percentage of full load current on lines) is determined with all of the resistance out, that is, with rheostat on first notch.

## Copper Wire Resistance

The basis for computation of resistance of copper wires is a wire one foot long and one circular mil of cross section known as a mil-foot, and which has a resistance at $24^{\circ} \mathrm{C}$. or $75^{\circ} \mathrm{F}$. of about 10.7 ohms. The resistance of a copper wire varies directly as its length and inversely as its cross section: hence,

The resistance (R) of a copper wire is equal to its length (D) multiplied by the resistance of a mil-foot and divided by the cross section in circular mils (CM).

$$
\text { Or, } \mathrm{R}=\frac{\mathrm{D} \times 10.7}{\mathrm{CM}}
$$

The cross section (CM) in circular mils of a wire is equal to its length (D) multiplied by the resistance of a mil-foot, divided by its resistance (R).

$$
\mathrm{CM}=\frac{\mathrm{D} \times 10.7}{\mathrm{R}} \text { also }
$$

The length ( D ) of a wire is equal to the cross section in circular mils (CM) multiplied by its resistance K ) and divided by the resistance of a mil-foot.

$$
\mathrm{D}=\frac{\mathrm{CM} \times \mathrm{R}}{10.7}
$$

## Metric Conversion Table

Code- $\mathrm{A}=$ (factor) $\times \mathrm{B}$, thus-Metre $=39,3698$ Inches

## Simple Units

## Length

Cm. 3937 In.

Metre $=3.28 \mathrm{Ft}$.
Metre $=1.09$ Yds.
Kilom. $=.621$ Mile
$\mathrm{In} .=2.54 \mathrm{Cm}$.
Ft. $=305$ Metre
Yd. $=.914$ Metre Mile $=1.61$ Kiloms .

## Area

Sq. Cm. $=1.155 \mathrm{Sq}$. in.
Sq. M. $=10.764 \mathrm{Sq}$. ft.
Sq. M. $=1.196 \mathrm{Sq}$. yds.
Sq . Kilom $=.386 \mathrm{Sq}$. Mi. Sq. mi $=2.59$ Sq. Kiloms.

## Volume

Cu. Cin. $=.061 \mathrm{Cu}$. in.
Cu. in. $=16.4 \mathrm{Cu} . \mathrm{Cms}$.
Cu. M. $=35.29 \mathrm{Cu} . \mathrm{ft}$.
$\mathrm{Cu} . \mathrm{ft}=.028 \mathrm{Cu} . \mathrm{M}$.
$\mathrm{Cu} . \mathrm{M} .=1.308 \mathrm{Cu}, \mathrm{yds}$.
$\mathrm{Cu} . \mathrm{yd} \mathrm{d}=.765 \mathrm{Cu} . \mathrm{n}$.

## Capacity

| Litre $=.0353 \mathrm{Cu}$. ft. $\mathrm{Cu}^{\text {ft. }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Litre $=.2642$ Gal. (U.S.) Gal. $=3.785$ Litres
Litre $=61.023 \mathrm{Cu}$. in. $\quad \mathrm{Cu}$. in. $=.0164$ Yitre
(Litre $=2.202 \mathrm{lbs}$. of water at $62^{\circ} \mathrm{F}$.)

## Weight

Gram $=15.432$ Grains
Gram $=0.353$ Ounce
Kilog' $m=2.205$ Lbs.
Kilog'm =. 0011 Ton
Tonne $=1.1025$ Tons

Grain $=.0648$ Gram Ounce $=28.35$ Grams $\mathrm{Lb} .=.454$ Kilog'm Ton $=907.03$ Kilog'ms Ton $=.907$ Tonne

## Compound Units

## Pressure

Kilog'm per Sq. Cm. $=14.225$ lhs. per Sq. in.
Lb . per Sq. in. $=.0703 \mathrm{Kilog}$ 'm per Sq. Cm.
Kilog'm per Sq. M. $=205 \mathrm{lb}$. per Sq. Ft.
Lb . per $\mathrm{Sq} . \mathrm{Ft} .=4.88$ Kilog'ms per Sq. II.
Kilog'm per Sq. Cm. $=.968$ Atmosphere
Atmosphere $=1.033$ Kilog'ms per Sq. Cm.

## Weight

Gram per Cu. Metre $=.437$ Grains per Cu. ft .
Grain per Cu . ft . $=2.288$ Grams per Cu . M . Kilog'm per Cu. M. $=.0624 \mathrm{lbs}$. per Cu. ft. Lb . per Cu . ft. $=16.02$ Kilog'm per Cu. M. Kilog'm per Litre $=8.33 \mathrm{lbs}$. per U. S. Gal. l.b. per gal. $=.12$ Kilog'm per Litre

## Hear

Centigrade (Deg.) $=5 / 9$ Fahr. Deg.-32
Fahrenheit (Deg.) $=9 / 5$ Cent. Deg. +32
Calorip $=3.968$ 13. T. U.
B. T. U. $=.252$ Calorie

Calorie per Kilog'm $=1.8 \mathrm{~B} . \mathrm{T}$. U. per lb.
B. T. U. per lh. $=5556$ Caloric per Kilog'm

Cal. per Litre. $=112.366$ B. T. U. per C. ft.
B. T. U. per Cu. ft. $=.00889$ Cal. per Litre

Calorie per $\mathrm{Cu} . \mathrm{M} .=8.99 \mathrm{~B}$. T. U. per Cu. ft .
13. T. U. per Cu. ft. $=1125$ Cal. per Cu. M.

## Miscellaneous

Kilogram-Metre $=7.233 \mathrm{Ft}$. lbs .
Ft. 1b. $=.1384$ Kilogram-Metre
Cheral $($ Franch H. P.) $=.986 \mathrm{H} . \mathrm{P}$.
H. P. 1.014 Cheval

Litre per second $=2.12 \mathrm{Cu}$. ft. per minute litre per second $=4.74 \mathrm{U}$. S. Gal. per minute
Litre per Cu. Metre = 798 U . S. Gal. per Cu. ft.
Gal. per Cu . ft. $=1.254$ Litres per Cu. Metre

## USEFUL FORMULAS

## Alternating Current Formulas

The power factor of an alternating current circuit is the number by which the apparent power in the circuit (volts times amperes), must be multiplied in orter to ascertain the true power. When an alternating current circuit contains inductance, the current lags behind the li. 11.1 ., and when it contains capacity the current rises ahead of the E.M.F.; in each case the current and E.M. $\mathrm{F}^{\circ}$. reach their maximum values at different instants, and the product of the E.M. F. and current at any instant is less than it, would be if the two were in phase with each other. If the V...D.F. and current be ineasured scparately the voltmeter and ammeter will give the indivilual mean effective values; if they are measurel by a wattmeter, the instrument indicates their combined effect synchrononsly, not the product of their effective values which occur at different instants. Consequently, the wattueter indication will be less than the produrt of the separate voltmeter and ammeter readings; the ratio of the power to this product is the power factor of the circuit. Expressed as a formula:

$$
=\frac{\text { Amperes } \times \text { Volts. }}{\text { Watts. }}
$$

This gives rise to the two methods of rating electrical apparatus, one on the basis of watts or kilowatts, and the other on the basis of volt-amperes or kilovolt-amperes ( $\mathcal{I} \boldsymbol{V} . \mathrm{A}$. ).

The former represents the actual power, usually in K.II., the latter the apparent power, usually in K.V.A., generated, transmitted or used by the apparatus. The latter or K.V.I. rating is coming into more general use since it represents more adequately the voltage and current conditions to which the apparatus is subjecterl.

## Current per Phase in Various Systems

E. x P.IV.

$$
\mathrm{I}=0.50 \times \frac{W}{F \times P . F} \text { for two-phase circuit. }
$$

W for three-phase cirenit.

$$
\mathrm{I}=0.58 \times \overline{\mathrm{E} \times \mathrm{P} . \mathrm{r}^{\circ} .} \mathrm{f}
$$

Temp. F . $=9 / 5 \mathrm{~T}$ Temp. $\mathrm{C} \cdot-32$
Temp. C. $-5 / 9$ (Temp. F. - 32 )
$\mathrm{I}=$ Current in line in amperes; $\mathrm{W}=$ energy delivered in watts; $\mathrm{E}=$ potential between mains in volts; P.F. = power factor. When power factor cannot be accurately determined it may be assumed as follows: Lighting load with no motors, 0.95 ; lighting and motors, 0.85 ; motors only, 0.80 .

Centigrade and Fahrenheit Scales

| Temperature |  | Temperature |  | Temperature |  | Temperature |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Centigrade | Fahrenheit | Centigrade | Fahrenheit | Centigrade | Fahrenheit | Centigrade | Fahrenheit |
| 0 | 32 | 30 | 86 | 50 | 122 | 80 | 176 |
| 5 | 41 | 35 | 95 | 55 | 131 | 85 | 185 |
| 10 | 50 | 38 | 100.4 | 60 | 140 | 90 | 194 |
| 15 | 59 | 40 | 104 | 65 | 149 | 95 | 203 |
| 20 | 68 | 42 | 107.6 | 70 | 158 | 100 | 212 |
| 25 | 77 | 45 | 113 | 75 | 167 |  | ... |

## Melting Point and Relative Electrical Conductivity of Different Metals and Alloys

| Metals | Relative Conductivity | $\begin{aligned} & \text { Melting } \\ & \text { Point }{ }^{\circ} \mathrm{F} . \end{aligned}$ | Metals | Relative Conductivity | Melting <br> Point ${ }^{\circ} \mathrm{F}$. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pure silver | 100. | 1873 | Phosphor-tin | 17.7 |  |
| Pure copper | 100. | 2550 | Alloy of gold and silver (50\%). | 16.12 |  |
| Refined and crystallized copper | 99.9 |  | Swedish iron. | 16.4 | 4000 |
| Telegraphic silicious bronze. | 98. |  | Pure Banca 'l'in. | 15.5 | 442 |
| Alloy of copper and silver (50\%) | 86.65 |  | Antimonial copper | 12.7 |  |
| Pure gold. . | 78. | 2016 | Aluminum bronze (10\%) | 12.6 |  |
| Silicide of copper, $4 \% \mathrm{Si}$ | 75. |  | Siemens stecl. | 12. |  |
| Silicide of copper, 12.0 Si | 54.7 |  | Pure platinum. | 10.6 | 4100 |
| Pure aluminum....... | 54.2 | 1160 | Copper with $10 \%$ of nickel | 10.6 |  |
| Tin with $12 \%$ of sodium. | 46.9 |  | Cadmium Amalgam (15\% | 10.2 |  |
| Telephonic silicious bronze | 35. |  | Ironier mercurial bronze. . | 10.14 |  |
| Copper with $10 \%$ of lead. | 30. |  | Arsenical copper (10\%) | 9.1 |  |
| Purezinc. . . . . . . . . . | 29.9 | 773 | Pure lead | 8.88 | 630 |
| Telephonic phosphor-bron | 29. |  | Bronze with $20 \%$ of tin | 8.4 |  |
| Silicious brass, $25 \%$ zinc. | 26.4 |  | Pure nickel | 7.89 | 2800 |
| Brass with $35 \%$ zinc. . | 21.59 |  | Phosphor-bronzc. $10 \%$ tin | 6.5 |  |
|  |  |  | Phosphor-copper, $9 \%$ phos. Antimony | $\begin{aligned} & 4.9 \\ & 3.88 \end{aligned}$ | 84 |

## Electrical Devices for Individual Households

At a 10 cent rate the cost is a cent per hundred watts per hour.

## In the Dining Room

Toaster Stove. Almost an entire meal can be cooked on one of these little stoves. 500 watts or 5 cents an hour.

Grill. Breakfast or luncheon can be easily supplied by a combination grill, 600 watts or 6 cents an hour.

Disc Stove or Hot Plate, upon which any flat saucepan or dish can be heated. 500 watts or 5 cents an hour.

Combination Set. This provides a chafing dish, double boiler, tea samovar and coffee percolator, all fitted with a single heating unit, 500 watts, or 5 cents an hour.

Table Range, 550 watts or $51 / 2$ cents an hour.
Coffee Percolator, 400 watts or 4 cents an hour.
Tea Samovar, 400 watts or 4 cents an hour.
Egg Boiler, 360 watts, or 3.6 cents an hour.
Immersion Heater, 500 watts, or 5 cents an hour.
Water Cups, for heating quickly a small quantity of water, 500 watts, or 5 cents an hour.
Soup Tureen, 360 watts, or 3.6 cents an hour.
Toaster, 450 watts, or 4.5 cents an hour.

## In the Kitchen

Double Boiler for cereals, 400 watts, or 4 cents an hour.
Electric Frying Pan, 400 watts, or 4 cents an hour.
Waffle Iron, 800 watts, or 8 cents an hour.
Egg Beater, 60 watts, or .6 cents an hour.
Plate Warmer, 300 watts and up, or 3 cents an hour.

## In the Cleaning Closet

Vacuum Cleaner for carpets, rugs, etc., 75 watts, or $3 / 4$ cents an hour.
Buffing Wheel for polishing silver, brasses, etc., 100 watts, or 1 cent an hour.

## In the Laundry

Iron, 500 watts, or 5 cents an hour.
Washing Machine, 200 watts, or 2 cents an hour.

## In the Living Room

Radiator, 800 watts, or 8 cents an hour.
Fan, 100 watts or 1 cent an hour.
Lamps of all varieties, decorative, study, etc., 25 watts per bulb, or $1 / 4$ cent an hour.

## In the Bed Room

Hair Dryer, with hot and cold air blast, 100 watts, or 1 cent an hour.
Curling Iron, 25 watts, or $1 / 4$ cent an hour.
Heating Pad, 50 watts, or $1 / 2$ cent an hour.
Vibrator, 50 watts, or $1 / 2$ cent an hour.
Nursery Milk Warmer, 440 watts, or 4.4 cents an hour.

## In the Bath Room

Luminous Radiator, 500 watts and up, or 5 cents an hour and up.
Shaving Mug, 50 watts, or $1 / 2$ cent an hour.
Shaving Mirror, with lamps at cither side, 50 watts, or $1 / 2$ cent an hour.
Cosmetic Heater, 80 watts, or .8 cents an hour.
Hot Water Heater, to be attached to faucet, 5000 watts, $21 / 2$ gallons boiling water per minute.

## In the Sewing Room

Pressing Iron, 250 watts and up, or $21 / 2$ cents an hour.
French Hat Iron, 50 watts and up, or $1 / 2$ cent an hour.
Fluting Iron, 150 watts, or $11 / 8$ cents an hour.
Sewing Machine, motor driven, 50 watts, $1 / 2$ cent an hour.

## USEFUL DATA

## Electrical Devices for Individual Households (Continued)

One cent's worth of electricity at ten cents per kilowatt-hour will operate
A 16 candle power Mazda lamp for five hours.
A 6 -pound flatiron fifteen minutes.
An electric washer, having a capacity of 12 sheets per washer, long enough to wash 20 sheets.
An electric vacuum cleaner long enough to clean 450 square fect of carpet.
A pump long enough to raise 100 gallons of water 100 feet.
A radiant toaster long enough to produce ten slices of toast.
A sewing machine for two hours.
A fan 12 inches in diameter for two hours.
An electric percolator long enough to produce three cups of coffec.
A heating pad from two to four hours.
A domestic buffer and grinder for one and one-quarter hours.
A chafing dish 12 minutes.
A foot warmer for one half hour.
A water heater and bring to boil one quart of water.
An electric hroiler six minutes.
An electric griddle for eight minutes.
A 4 inch dise stove for 12 minutes.
A radiant grill for 10 minutes.
An electric curling iron once a day for two weeks.
The following table gives a clear idea of average cost of various electrical appliances, hours used per month and amount of current consumed:

| Appliances | Hours use pi Mo. | Wattage | Crost per Mo. at 10 c . per Kw. Hr | Cost per Mo. at 8 c . par Kw. Itr. |
| :---: | :---: | :---: | :---: | :---: |
| Flatiron. | 12 | 500 | \$0.60 | 80.48 |
| Toaster | 5 | 450 | 23 | $1 \times 5$ |
| Percolator | 10 | 400 | 10 | 32 |
| Chafing dish. | 4 | 500 | 20 | 16 |
| Shaving mug | 8 | 150 | 12 | 1) |
| Washing machine. | 8 | 200 | 16 | 13 |
| Vacuum cleaner. | 15 | 75 | 11 | 09 |
| Fan.... | 120 | 33 | 40 | 32 |
| Sewing machine motor. | 20 | 33 | .17 | . 06 |
| Dish washer. . . . . . . . | 14 | 150 | 21 | . 17 |
|  |  |  | \$2.55 |  |

The " 1 cent" card where figures are based on rate of 5 cents per kilowatt hour in Indianapolis, (Merchants Heat \& Light Co.)

## A CENT'S WORTH OF OUR SERVICE WILL

Toast 30 slices of bread.
Brew 14 cups of tea.
Make 14 cups of coffee.
Warm 6 bottles of baby's milk.
Light a 4 ()-watt lamp 5 hours.
Operate a flatiron for 25 minutes.
Operate a vacuum cleaner $1^{11}$ hours.
Sew 60,000 stitches on a machine.
Operate a warming pad 2 hours.

## WHAT A NICKEL'S WORTH OF ELECTRICITY WILL DO

The Rutland Vermont Railway Light and Power Company thus sets forth the low cost of various domestic uses of electricity:

Do you know that with electricity, for the price of a street car ride, you can:
Light an average room with Mazda lamps 3 hours a night for 12 days?
Clean your house six times?
Do your family washing eight times?
Run your scwing machine 3 hours a day for a week?
Operate an electric fan 3 hours a day for 6 days?
Make toast for family breakfast each morning for a week?

## USEFUL TABLES

## Wiring Tables

The wiring tahles will be found most useful when the electric light outfit is located over one hundred feet or so from where the current is to be used. In distributing electricity there is always a loss, owing to the resistance in the wires, which causes a drop in the voltage just as a pipe too small will cause a drop in water pressure. In order to keep this loss as small as possible, the size of the wire should be suitably chosen.

Table I is based on allowing a friction loss of two volts, which would give on the 32 volt plant, 30 volts at the end of the line or 108 volts where the service voltage was 110.

No. 12 B. \& S. copper wire is suitable in most houses for 12 or 15 lights and No. 10 B. \& S. copper wire will bring the current from the plant to the house. No. 14 B. dES. may be used where only few lights and short wires are used, hut the larger wire gives brighter lights on low voltage current and allows use of electrical appliances without re-wiring.

To find size of wire from plant to house:
Add up from Table IV the amperes of each lamp, motor, etc., that will likely be used at one time. Find the total figure in the first. or ampere column of Table 1. Then, in a column in the same line across the page, find the number of feet nearest to that between the plant and the house. Right at the head of that column is the size number of the wire to use.

This table is also useful if you find it necessary to locate your generator and engine or water wheel away from the switchboard and battery.

Example 1. Suppose the house will have 16 lights of 16 C.P., 10 of which are to burn at one time, a $61 / 2 \mathrm{~B}$ flat iron, and a washing machine. The house is 80 feet from the plant.

The total amperes from Tahle IV will be 32 amperes. In Table I a No. 6 wire is shown to carry 30 amperes for 80 feet, which is sufficiently close to the exact size.

Example 1I. Suppose the generator output is 20 amperes and the distance from the battery 100 feet, No. 6 B. ©S. wire should be used, which is good for 120 feet.

Example III. A motor of $1 / 4$ H.P. is to be operated 90 feet from the plant, what size wire.
Table IV gives 9 amperes for $1 / 4$ H.P. motor. In Table I, on the 10 ampere line, which is the nearest, 95 feet is in the No. 10 B. \& S. column, which is the size to use.

## TABLE I

Showing the size of copper wire to carry a given number of amperes at any voltage to a point a given distance from the electric plant or public service entrance switch, loss 2 volts.

Size of Wire in B. \& S. Gauge

| Amperes | $\text { No. } 14$ | No. Ft. | No. 10 Ft. | No. 8.8 Ft. | No. 6 Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 400 |  |  |  |  |
| 2 | 200 | 300 | 475 | $\cdots$ | $\cdots$ |
| 3 | 133 | 200 |  |  |  |
| 4 | 100 | 150 |  | 400 |  |
| 5 | 80 | 120 | 190 | 320 |  |
| 6 |  |  |  | 266 |  |
| 8 | 50 | 75 | 118 | 200 | 300 |
| 10 | 40 | 60 | 95 | 160 | 240 |
| 12 |  |  |  |  | 200 |
| 15 | $\cdots$ | $\ldots$ | 63 | 107 | 160 |
| 20 | $\ldots$ | $\ldots$ | 48 | 80 | 120 |
| 25 |  |  | ... |  | 96 |
| 30 |  |  | ... | 53 | 80 |
| 40 | ,.. | $\cdots$ | ... | ... | 60 |

## TABLE II

Carrying Capacities and Areas of Insulated Wires and Cables Published in National Electrical Code of 1909

| B. \& S. Gauge Number | Capacity Circular Mills | Amperes |  |
| :---: | :---: | :---: | :---: |
|  |  | Rubber | Other |
|  |  | Insulation | Insulation |
|  |  | Amperes | Amperes |
| 18 | 1624 | 3 | 5 |
| 16 | 2583 | 6 | 10 |
| 14 | 4107 | 15 | 20 |
| 12 | 6530 | 20 | 25 |
| 10 | 10380 | 25 | 30 |
| 8 | 16510 | 35 | 50 |
| 6 | 26250 | 50 | 70 |
| 5 | 33100 | 55 | 80 |
| 4 | 41740 | 70 | 90 |
| 3 | 52630 | 80 | 100 |
| 2 | 66370 | 90 | 125 |
| 1 | 83690 | 100 | 151 |
| 0 | 105500 | 125 | 200 |
| 00 | 133100 | 150 | 225 |
| 000 | 167800 | 175 | 275 |
|  | 200000 | 200 | 300 |
| 0000 | 211600 | 225 | 325 |

Number of feet shown above in table I is the distance from source of current to appliance to be operated. The total length of wire, therefore, will be twice the above, as there are two wires to the circuit.

Table II shows the size of wire necessary to carry a given current at any voltage without heating, and is generally used when the wires are shorter than 30 fect. If lamps or motors are more than 30 feet from plant, larger wires should be used from Table I, in which the safe load for the wire is already included.

The power required to operate most electrical appliances is marked in watts. The number of watts so marked multiplied by the hours in use, gives the watt hours of basis upron which the public service companies charge for electricity.

Watts are volts multiplied by amperes. To use 30 volt table of amperes for 110 volt, divide amperes given by $31 / 3$ as 110 volts is practically $31 / 3$ times as strong as 30 volts. Likewise to use any 110 volt table of amperes for a 30 volt circuit, multiply the amperes given for 110 volt circuit by $31 / 3$.

TABLE III
Minimum size wire for direct current motor wiring when wires are coneealed or partly concealed, also good practice for open wires.

|  | Size Wire B. \& S. Gauge- |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 30 Volts | 110 Volts | 220 Volts |  |
| H.P. | 14 | $\ldots$ | $\ldots$ |  |
| 14 | 10 | 14 | 14 |  |
| $1 / 4$ | 8 | 14 | 14 |  |
| $1 / 2$ | $\cdots$ | 12 | 14 |  |
| 1 | $\cdots$ | 10 | 14 |  |
| 2 | $\cdots$ | 8 | 12 |  |
| 3 | $\cdots$ | 6 | 10 |  |
| 4 | $\cdots$ | 4 | 8 |  |
| 5 | $71 / 2$ |  | 3 |  |

This table only shows safe size wire to avoid overheating. If motor is over 30 feet from plant larger wire must be used. Find amperes in Table IV and select size of wire by using T'able 1 .
Amperes

| 6 in. 4 blade, fan motors. . 12 in., 6 blade fan motors. |  | 80 |
| :---: | :---: | :---: |
|  |  | 100 |
| Flatir |  | 164 |
| $5 \times 25$ | Toaster | 1.). 0 |
| 3210 | Disc heater | 15.0 |
| 32.31 | Dise heater | 20.0 |
| 5205 | Water heater. | 9.4 |

TABLE IV
Approximate Amperes Taken at 30 Volts



A motor is rated by the power it delivers, not by the power it takes. The figures given are the approximate amperes when the motor is working at full load.
23.516 Coffee percolator. . . . . . . . . . . . . . 14.0

5:215 Water heater. . . . . . . . . . . . . . . . . 15.6
3130 Soldering iron . . . . . . . . . . . . . . . . 10.0
No. 11 Western Blectric cleaner. . . . . . . . 4.0
Type I Washing machine. ..... ......... 8.0
Western Electric sewing machine.

The tolal amount of current taken from the regular key sorket or pull chain socket should not exreed $21 / 2$ amperes. We supply sockets which will carry up to 6 amperes. Above this, special wall receptacles or haseboard receptacles should be used.

## Figuring in Watts Instead of Amperes

The power required to operate most electrical appliances is marked in watts. The number of watts so marked multiplied by the hours in use gives the watt hours or basis upon which the public service companies charge for electricity.

## TABLE OF WATT FEET FOR 30 VOLTS <br> TABLE V

To find size of wire to carry so many watts a given distance, multiply the distanc s in feet by the total number of watts to be carried, thus obtaining the "watt feet," and use the size of wire in the table against the nearest number of watt feet. Example, 10 lamps 20 watts each to be burnod in a barn 200 feet distant.
$10 \times 20 \times 200-40,000$ watt feet. Nearest wire is Number 8.

| Between | 0 ant | 70 watt ft. use No. 12 wire |
| :---: | :---: | :---: |
| Between | 18871 and | 29000 watt ft. use No. 10 wire |
| Between | 29000 and | 46545 watt ft. use No. 8 wire |
| Between | 46545 and | 73018 watt ft. use No. 6 wire |
| Between | 73018 and | 16363 watt ft. use No. 4 w |

Between 116363 and 186180 watt ft. use No. 2 wire Between 186180 and $2: 327^{\circ} 27$ watt ft. use No. 1 wire Between 232727 and $2!10000$ watt ft. use No. 0 wire Between 290000 and 372362 watt $f$ t. use No. 00 wire

## TABLE FOR 110 VOLTS

In using the table for 110 volt circuits, either the watts carried or the distance may be multiplied by $31 / 3$, or smaller wire be used, as 110 volts is almost $31 / 3$ times as strong as 30 volts.

Above example: 10 lamps, 20 watts in barn 200 feet distant, equals 40,000 watt feet. Divided by $31 / 3$ is 12,000 watt feet. Nearest wire is No. 12.

## CURRENT RATINGS IN WATTS

A motor is rated by the power it delivers, not by the jower it takes. The figures given are the approximate watts when the motor is working at full load.

|  | Wat's |  | Watts |
| :---: | :---: | :---: | :---: |
| 1/16 H.P. motor | 75 | Dolly washing machine, $1,6 \mathrm{H} . \mathrm{P}$. | 230 |
| 1/8 11.P. motor | 150 | Dish washer, 1/7 H.P. ........ | 200 |
| 1/6 H.P. motor. | 210 | 6 in. fan.. . . . . | 23 |
| $1 / 4$ H.P. motor. | 270 | 9 in. fan, non-oscillating | 25 |
| Western Electric sewing machine | 20 | No. 1 W'estern Electric iron | $5(1)$ |
| Jack labbit motor for sewing machine | 20 | No. 5825 toaster. | 440 |
| No. 11 vacuum cleaner, 1/12 If.P | 120 | No. 3210 disc heater. | 450 |
| No. 1 vacuum cleaner, 1/12 II.P. | 120 | No. 3221 dise heater | 5.0 |
| No. 2 vacuum cleaner, 1/6 H.P.. | $230$ | No. 3231 disc heater. | 600 |
| No. A washing machine, 1/6 H.P. | 230 |  |  |
| Watts are volts multiplied by ampe given by $31 / 3$, as 110 volts is practical table of amperes for a 30 volt circuit, m | To use 3 time the a | 0 volt table of amperes for 110 volt as strong as 30 volts. Likewise to peres given for 110 volt circuit by | peres 0 volt |

Carrying Capacities of Insulated Wires and Cables
Published in latest National Electrical Code (1915)

| B. \& S. Gauge Number | Diameter of Solid Wire in Mils | Area in Circular Mils | Table A Rubber Insulation Amperes | Table B Other Insulation Amperes |
| :---: | :---: | :---: | :---: | :---: |
| 18 | 40.3 | 1624 | 3 | 5 |
| 16 | 50.8 | 2583 | 6 | 10 |
| 14 | 64.1 | 4107 | 15 | 20 |
| 12 | 80.8 | 6530 | 20 | 25 |
| 10 | 101.9 | 10380 | 25 | 30 |
| 8 | 128.5 | 16510 | 35 | 50 |
| 6 | 162.0 | 26250 | 50 | 70 |
| 5 | 181.9 | 33100 | 55 | 80 |
| 4 | 204.3 | 41740 | 70 | 90 |
| 3 | 229.4 | 52630 | 80 | 100 |
| 2 | 257.6 | 66370 | 90 | 125 |
| 1 | 289.3 | 83690 | 100 | 150 |
| 0 | 325. | 105500 | 125 | 200 |
| 00 | 364.8 | 133100 | 150 | 225 |
| 000 | 409.6 | 167800 | 175 | 275 |
|  |  | 200000 | 200 | 300 |
| 0000 | 460. | 211600 | 225 | 325 |
| . . . | .... | 300000 | 275 | 400 |
| $\ldots$ | . . . . | 400000 | 325 | 500 |
| . . . | . . . ${ }^{\text {a }}$ | 500000 | 400 | 600 |
| . . . | ... $\cdot$ | 600000 | 450 | 680 |
| . . . | . . . $\cdot$ | 700000 | 500 | 760 |
| $\ldots$ | .... | 800000 | 550 | 840 |
| . $\cdot$ | . . . . | 900000 | 600 | 920 |
|  | $\ldots$ | 1000000 | 650 | 1000 |
| - | . . . . | 1100000 | 690 | 1080 |
| ... | ..... | 1200000 | 730 | 1150 |
| . . . . | . . . . | 1300000 | 770 | 1220 |
| ... | $\ldots$ | 1400000 | 810 | 1290 |
| ... | . . . . | 1500000 | 850 | 1360 |
| ... | . . . . | 1600000 | 890 | 1430 |
|  |  | 1700000 | 930 | 1490 |
|  |  | 1800000 | 970 | 1550 |
|  |  | 1900000 | 1010 | 1610 |
| … | $\ldots$ | 2000000 | 1050 | 1670 |

## $1 \mathrm{Mil}=0.001$ inch.

Drop of potential is not taken into consideration in the above table. These amperages for rubhercovered wires are adopted because to exceed them may cause gradual deterioration of the insulation even though the change of ignition from overheating may be small.

Wires smaller than No. 14 should not be used except as prescribed in Underwriters' rules.

## Current Required to Fuse Wires and Copper, German Silver and Iron

| B. \& S. Gauge | Copper Amperes | German Silver Amperes | $\begin{gathered} \text { Iron } \\ \text { Amperes } \\ \hline \end{gathered}$ | B. \& S. Amperes | Copper Amperes | German Silver Amperes | $\begin{array}{r} \text { Iron } \\ \text { Amperes } \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 333. | 169. | 101. | 26 | 20.6 | 10.6 | 6.22 |
| 11 | 284. | 146. | 86. | 27 | 17.7 | 9.1 | 5.36 |
| 12 | 235. | 120.7 | 71.2 | 28 | 14.7 | 7.5 | 4.45 |
| 13 | 200. | 102.6 | 63. | 29 | 12.5 | 6.41 | 3.79 |
| 14 | 166. | 85.2 | 50.2 | 30 | 10.25 | 5.26 | 3.11 |
| 15 | 139. | 71.2 | 42.1 | 31 | 8.75 | 4.49 | 2.65 |
| 16 | 117 | 60. | 35.5 | 32 | 7.26 | 3.73 | 2.2 |
| 17 | 99. | 50.4 | 32.6 | 33 | 6.19 | 3.18 | 1.88 |
| 18 | 82.8 | 42.5 | 25.1 | 34 | 5.12 | 2.64 | 1.55 |
| 19 | 66.7 | 34.2 | 20.2 | 35 | 4.37 | 3.24 | 1.33 |
| 20 | 58.3 | 29.9 | 17.7 | 30 | 3.62 | 1.86 | 1.09 |
| 21 | 49.3 | 25.3 | 14.9 | 37 | 3.08 | 1.58 | +.93 |
| 22 | 41.2 | 21.1 | 12.5 | 38 | 2.55 | 1.31 | 77 |
| 23 | 34.5 | 17.7 | 10.9 | 39 | 2.20 | 1.13 | . 67 |
| 24 | 28.9 | 14.8 | 8.76 | 40 | 1.86 | . 95 | 56 |
| $\underline{25}$ | 24.6 | 12.6 | 7.46 | . . | .... | .... |  |

USEFUL TABLES
Comparative Sizes Wire Gauges in Decimals of an Inch

| No. of Wire Gauge | American Steel and Wire Gauge | Browne \& Sharpe Gauge | Birmingham Stubs' | British Imperial Standard* | Old English or London | French |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0000000 | . 4900 |  |  | 500 | ...... |  |
| (00000) | 4615 | 58000 |  | 464 | ...... |  |
| ()0)(0) | . 4305 | 51650 | 500 | 432 |  |  |
| 0000 | . 3938 | . 46000 | . 454 | 400 | . 4540 |  |
| 000 | . 3625 | 409\%t 4 | 425 | 372 | . 4250 |  |
| 10 | . 3310 | .36480 | . 380 | 348 | . 3800 |  |
| 0 | 3065 | . 32486 | 310 | . 324 | 3400 |  |
| 1 | 2830 | . 28930 | . 300 | . 300 | 3000 | . 033 |
| 2 | 2625 | . 25763 | 284 | . 276 | 2840 | . 040 |
| 3 | 2437 | . 22942 | 259 | . 252 | 2590 | . 050 |
| 4 | 2253 | 20431 | . 238 | . 232 | 2380 | . 063 |
| 5 | 2070 | . 18194 | 220 | . 212 | 22(1) | . 068 |
| 6 | 1920 | 16202 | . 203 | 192 | 2030 | . 083 |
| 7 | 1770 | .14428 | 180) | . 176 | 1800 | . 097 |
| 8 | 1620 | . 12819 | . 165 | . 160 | 1650) | . 110 |
| 9 | 1483 | . 11443 | . 148 | . 144 | . 1480 | . 120 |
| 10 | 1350 | . 10189 | . 134 | 128 | . 1340 | . 135 |
| 11 | 1205 | . 09074 | . 120 | 116 | . 1200 | . 149 |
| 12 | 105\% | . 08081 | . 109 | . 104 | 1090 | . 162 |
| 13 | 0915 | . 07196 | . 095 | . 092 | . 0950 | . 172 |
| 14 | 0810 | 06408 | . 083 | 080 | 0830 | . 185 |
| 15 | 0720 | . 0.5706 | . 072 | . 072 | . 0720 | . 197 |
| 16 | 062.5 | . 05082 | . 065 | 061 | . 01550 | . 212 |
| 17 | 0540 | . 04525 | . 058 | . 056 | . 0.580 | . 225 |
| 18 | 0475 | . 01030 | . 049 | . 048 | . 0490 | . 238 |
| 19 | 0410 | . 03589 | . 042 | . 040 | . 0400 | . 250 |
| 20 | 0348 | . 03196 | . 035 | . 0316 | . 0350 | . 263 |
| 21 | 0317 | . 02816 | . 032 | .03: | 0315 | . 279 |
| 22 | 0286 | . 02535 | . 028 | . 028 | . 0295 | . 290 |
| 23 | 0258 | . 02257 | . 025 | . 024 | . 0270 | 303 |
| 24 | 0230 | . 02010 | . 022 | . 029 | . 0250 | . 316 |
| 25 | 0204 | . 01790 | . 020 | 020 | . 0230 | . 331 |
| 26 | 0181 | . 01594 | . 018 | . 018 | . 0205 | . 342 |
| 27 | 0173 | . 01420 | . 016 | (0164 | . 01875 | . 356 |
| 28 | 0162 | . 01264 | . 014 | 0148 | . 01650 | . 371 |
| 29 | 0150 | 01126 | . 013 | 0136 | . 01550 | . 383 |
| 30 | 0140 | . 01003 | . 012 | .0124 | .01375 | . 394 |
| 31 | 0132 | 00803 | . 010 | 0116 | . 01225 | . 408 |
| 32 | . 0128 | . 00795 | . 009 | 0108 | . 01125 | . 419 |
| 33 | 0118 | . 00708 | . 008 | 0100 | . 01025 | 431 |
| 34 | . 0104 | . 00630 | . 007 | 0092 | . 00950 | . 448 |
| 35 | . 0095 | . 00561 | . 005 | 0081 | . 00900 | . 458 |
| 36 | . 0090 | . 00500 | . 004 | 0076 | . 00750 | . 472 |
| 37 | . 0085 | . 004.15 | . . . | 0068 | . 010650 | . 485 |
| 38 | . 00080 | 00396 | - | 0060 | .00575 | . 499 |
| 39 | . 0075 | . 00353 | . . | 0052 | . 00500 | . 509 |
| 40 | . 0070 | . 00314 | . . . | 0048 | . 00450 | . 524 |

*Also called New British or English Legal Standard.
Minimum Size Wire for Motor Services
When Concealed or Partly Concealed Wires Are Used

| H.P. | Size Wire B. \& S. Gauge |  |  | H.P. | Size Wire B. \& S. Gauge |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 110 Volts | 220 Volts | 550 Volts |  | 110 Volts | 220 Volts | 500 Volts |
| 1/2 | 14 | 14 | 14 | 30 | 0000 | 0 | 5 |
| 1 | 14 | 14 | 14 | 40 |  | 00 | 3 |
| 2 | 12 | 14 | 14 | 50 | . . . | (000) | 2 |
| 3 | 10 | 14 | 14 | 60 | . . . . | 0000 | 1 |
| 4 | 8 | 12 | 14 | 70 | . . . . | . . . | 0 |
| 5 | 6 | 10 | 14 | 80 | . . . | . . . | 00 |
| 71/2 | 4 | 8 | 14 | 90 | . . . | . . . | 000 |
| $10^{-}$ | 3 | 6 | 12 | 100 |  | . . . | 0000 |
| 15 | 0 | 5 | 10 | 120 | . . . | . . . |  |
| 20 | 00 | 3 | 8 | . . . |  | . . . | . . . . |
| 25 | 000 | 1 | 6 | . . . | .... | . . . | .... |

## USEFUL TABLES

## Stranded Conductors

| $\begin{gathered} \text { Size } \\ \text { B. \& S. } \end{gathered}$ |  | Weatherproof Wire |  |  | Slow-Burning Weatherproof Wire |  |  | Slow-Burning Wire |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | W't. per 1000 Ft . | Wt. per Mile | Diameter <br> Over All | Wt. per 1000 Ft . | Wt. per Mile | Diameter Over All | W't. per 1000 F't. | Wt. per Mile | Diameter Over All |
| 20190000 | C.M. | 7000 | 37000 | 2 | 7300 | 38.500 | $27 / 8$ | 7800 | 41000 | 2 |
| 17.00000 | C.M. | 6200 | 327.50 | 2 | 6550 | 31600 | $17 / 8$ | 6900 | 36300 | $17 / 8$ |
| 1500000 | C.M. | 5400 | 28.5) 0 | 1 7/8 | 5675 | 30000 | $13 / 4$ | 6000 | 31300 | $13 / 4$ |
| 1250000 | C. M. | 4500 | 23:00 | $13 / 4$ | 4780 | 25200 | $111 / 16$ | 5000 | 26400 | 111/16 |
| 1000000 | C.M. | 3675 | 19400 | $121 / 32$ | 3860 | 20400 | $139 / 64$ | 3980 | 21000 | $139 / 64$ |
| 900000 | C.M. | 3330 | 17600 | $139 / 64$ | 3.520 | 18600 | $19 / 16$ | 3640 | 19200 | 1 19/16 |
| 800000 | C.M. | 3000 | 15800 | $19 / 16$ | 3180 | 16800 | 133/64 | 3280 | 17300 | $133 / 64$ |
| 700000 | C. M. | 26.50 | 14000 | 115/32 | 2820 | 14900 | $127 / 64$ | 2920 | 154()) | $127 / 64$ |
| 600000 | C. M . | 223.5 | 11800 | $121 / 64$ | 23.50 | 24000 | $19 / 32$ | 2460 | 13000 | $19 / 32$ |
| 500000 | C.M. | 1900 | 10000 | $11 / 4$ | 1990 | 10500 | $113 / 64$ | 2080 | 11000 | $113 / 64$ |
| 450000 | C.M. | 172\% | 9100 | $13 / 16$ | 1820 | 9600 | $19 / 64$ | 1909 | 10000 | $19 / 64$ |
| 400000 | C.M. | 1550 | 8200 | $19 / 64$ | 1650 | 8700 | $13 / 32$ | 1700 | 9900 | $13 / 32$ |
| 350000 | C.M. | 1345 | 7100 | 1 | 1440 | 7600 | $11 / 32$ | 1500 | 7900 | 31/32 |
| 300000 | C.M. | 1175 | 6200 | $31 / 32$ | 1270 | 6700 | 15/16 | 1310 | 6900 | 15/16 |
| 250000 | C.M. | 985 | 5200 | 29/32 | 10t50 | 5600 | 7/8 | 1120 | $5!100$ | 7/8 |
| 0000 |  | 800 | 4220 | 55/64 | 90 | 4750 | 53/64 | 940 | 5070 | 53/64 |
| 000 |  | 653 | 3450 | 51/64 | 735 | 3880 | 49/64 | 785 | 4150 | 49/64 |
| 00 |  | 522 | 2760 | 43/64 | 583 | 3080 | 41/64 | 62.5 | 3300 | 41/64 |
| 0 |  | 421 | 2240 | 39/64 | 480 | 2530 | 37/64 | 510 | 2700 | 37/64 |
| 1 |  | 328 | 173:) | 35/64 | 3.55 | 1870 | 33/64 | 380 | 2000 | 33/64 |
| 2 |  | 270 | 142\% | 33/64 | 290 | 1540 | 31/64 | 335 | 1770 | $31 / 64$ |
| 3 |  | 206 | 1090 | 15/32 | 240 | 1270 | 29/64 | 280 | 1480 | 29/64 |
| 4 |  | 170 | 900 | 7/16 | 195 | 1030 | 27/64 | 230 | 1220 | 27/64 |
| 5 |  | 140 | 740 | 3/8 | 160 | 84.5 | 3/8 | 195 | 1030 | 3/8 |
| 6 |  | 115 | 610 | 11/32 | 132 | 695 | 11/32 | 165 | 870 | 11/32 |
| 8 |  | 78 | 410 | $9 / 32$ | 87 | 460 | $9 / 32$ | 105 | 555 | 9/32 |

## Annunciator Wire

Size B. \& S. Pounds per 1000 Ft.

| 14 | 15. |
| :--- | ---: |
| 16 | 9.5 |
| 18 | 9.5 |
| 20 | 4.5 |

Fixture Wire-Heavy Wall

|  |  |  | Pounds per Mile. |  |
| :---: | :---: | :---: | :---: | :---: |
| 14 | 27 |  | $3 / 16$ | 0000 |
| 16 | 17 | $5 / 32$ | 000 | 3376 |
| 18 | 12 | $1 / 32$ | 00 | 2677 |
| 19 | 11 | $1 / 8$ | 0 | 2123 |
| 20 | 10 |  | $1 / 8$ |  |

Light Wall

| 16 | 12 |
| ---: | ---: |
| 18 | 9 |
| 19 | 8 |
| 20 | 7 |

Diameter Over All
Damp-Proof Office Wire

| Size B. \& S. | Pounds per |
| :---: | :---: |
| 12 | 34. |
| 14 | 24. |
| 16 | 13.5 |
| 18 | 10. |
| 20 | 8. |

Trolley Wire

Weatherproof Twisted Pairs
Per 1000 Ft.
53
32
23
20

Weatherproof Iron Wire

Size B. \& S.
8
9
10
12
14

Pounds per Mile.
470
400
350
230
150

All weights are approximate, but are exact enough for all practical purposes.

## USEFUL TABLES

Weatherproof Wires
Solid Conductors

| $\begin{gathered} \text { Size } \\ \text { B. \& S. } \end{gathered}$ | Weatherproof Wire |  |  | Slow-Burning Weatherproof Wire |  |  | Slow-Burning Wire |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wt. per 1000 Ft . | Wt. per Mile | Diameter Over All | Wt. per 1000 Ft . | Wt. per Mile | Diameter Over All | Wt. per 1000 Ft . | Wt. per Mile | Diameter Over All |
| 0000 | 767 | 4050 | 25/32 | 86.2 | 4550 | 3/4 | 925 | 4890 | $3 / 4$ |
| 000 | 630 | 3220 | 47/64 | 710 | 3750 | 45/64 | 760 | 4020 | 45/64 |
| 00 | 502 | 2650 | 39/64 | .562 | 2970 | 37/64 | 600 | 3170 | $37 / 14$ |
| 0 | 407 | 2150 | 9/16 | 462 | 2440 | 17/32 | 495 | 2610 | 17/32 |
| 1 | 316 | 1670 | $1 / 2$ | 340 | 1800 | 15/32 | 365 | 1930 | 15/32 |
| 2 | 260 | 1370 | 15/32 | 280 | 1480 | 7/16 | 320 | 1690 | 7/16 |
| 3 | 200 | 1050 | 27/64 | 230 | 1220 | 13/32 | 270 | 1425 | 13/32 |
| 4 | 164 | 865 | 25/64 | 190 | 1000 | 3/8 | 220 | 1160 | 3/8 |
| 5 | 134 | 710 | 11/32 | 155 | 820 | 11/32 | 190 | 1000 | 11/32 |
| 6 | 112 | 590 | 5/16 | 127 | 670 | 5/16 | 160 | 845 | 5/16 |
| 8 | 75 | 395 | 17/64 | 85 | 450 | 7/64 | 100 | 530 | 17/64 |
| 10 | 53 | 280 | 1/4 | 60 | 315 | 1/4 | 80 | 420 | 1/4 |
| 12 | 35 | 185 | $7 / 32$ | 42 | 220 | $7 / 32$ | 55 | 290 | 7/32 |
| 14 | 25 | 130 | 3/16 | 30 | 160 | 3/16 | 40 | 210 | 3/16 |
| 16 | 14 | 75 | 5/32 | 15 | 80 | 5/32 | 18 | 95 | 5/32 |
| 18 | 11 | 58 | 1/8 | 12 | 63 | 1/8 | 14 | 75 | 1/8 |

## Rubber Covered Wire

Solid Conductors

| Size <br> B. \& S. | Diameter of Conductors, Mils | Capacity <br> Circular Mils | Single Braid |  | Double Braid |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Diameter Over All | $\begin{gathered} \text { Weight } \\ \text { per } 1000 \mathrm{Ft} \text {. } \end{gathered}$ | Diameter Over All | Weight per 1000 Ft . |
| ()000 | 460 | 211600 | 47/64 | 809 | 55/64 | 832 |
| 000 | 410 | 167803 | 11/16 | 666 | 13/16 | 690 |
| 00 | 365 | 133079 | 5/8 | 546 | 47/64 | 568 |
| 0 | 325 | 105524 | 19/32 | 453 | 45/64 | 476 |
| 1 | 289 | 83695 | 33/64 | 355 | $5 / 8$ | 376 |
| 2 | 258 | 66373 | 29/64 | 275 | 9/16 | 295 |
| 3 | 230 | 52634 | $27 / 64$ | 227 | 33/64 | 245 |
| 4 | 204 | 41743 | 25/64 | 186 | 15/32 | 200 |
| 5 | 182 | 33102 | 23/64 | 160 | 7/16 | 170 |
| 6 | 162 | 26250 | 5/16 | 128 | 25/64 | 135 |
| 8 | 129 | 16510 | 17/64 | 80 | 11/32 | 86 |
| 10 | 102 | 10382 | 15/64 | 58 | 19/64 | 64 |
| 12 | 81 | 6530 | 7/32 | 43 | 9/32 | 48 |
| 14 | 64 | $410{ }^{7}$ | 13/64 | 32 | 1/4 | 37 |
| 16 | 51 | 2583 | 3/16 | 20 | . . . | . . |
| 18 | 40 | 1624 | 11/64 | 16 | . . . . | ... |
| 19 | 36 | 1288 | $5 / 32$ | 15 | . . . . | ... |
| 20 | 32 | 1022 | 9/64 | 14 | ..... | $\ldots$ |

## Rubber Covered

## Duplex

| Size B. \& S. | Solid |  | Stranded |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Diameter Over All | Weight per 1000 Ft . | Diameter Over All | Weight per 1000 Ft . |
| 1 |  |  | $11 / 4$ | 810 |
| 2 | . . . . . . | $\cdots$ | $11 / 8$ | 638 |
| 3 | . . . . . | ... | $11 / 32$ | 528 |
| 4 |  | ... | 31/32 | 442 |
| 5 |  | . . . | 29/32 | 375 |
| 6 |  |  | 53/64 | 307 |
| 8 | 11/16 | 170 | 49/64 | 203 |
| 10 | 37/64 | 125 | 5/8 | 143 |
| 12 | 1/2 | 94 | 9/16 | 107 |
| 14 | 27/64 | 73 | 15/32 | 78 |

All weights are approximate, but are exact enough for all practical purposes.

## USEFUL TABLES

PROPERTIES OF COPPER WIRE

| Size B. \& S. | Diam. in Miis. | Mils. C. M. $=$ D <br> Areas in Cir. | Weights |  | Resistance per 1000 Ft. In International Ohms |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1000 Ft . | Mile | At $60^{\circ} \mathrm{F}$. | At $70^{\circ} \mathrm{F}$. |
| 0000 | 460. | 211600. | 641. | 3382. | 04811 | . 04966 |
| 000 | 410. | 168100. | 509. | 2687. | .06056 | .06251 |
| 00 | 365 | 133225. | 403. | 2129. | . 07642 | . 07887 |
| 0 | 325. | 105625. | 320. | 1688. | . 09639 | . 09948 |
| 1 | 289. | 83521. | 253. | $13: 35$. | . 1219 | . 1258 |
| 2 | 259. | 66564. | 202. | 1064. | . 1529 | 1579 |
| 3 | 229. | 52441. | 159. | 838. | . 1911 | . 2004 |
| 4 | 204. | 41616. | 126. | 665. | . 2446 | . 2525 |
| 5 | 182 | 33124. | 100. | 529. | . 3074 | . 3172 |
| 6 | 1,62. | 26244. | 79. | 419. | . 3879 | . 4004 |
| 7 | 144. | 20736. | 63. | 331. | . 491 | . 5067 |
| 8 | 128. | 16384. | 50. | 262. | . 6214 | . 6413 |
| 9 | 114. | 12996. | 39. | 208. | . 7834 | . 8085 |
| 10 | 102. | 10404. | 32. | 1615. | . 9785 | 1.01 |
| 11 | 91. | 8281. | 25. | 132. | 1.229 | 1:269 |
| 12 | 81. | 6561. | 20. | 105. | 1.552 | 1.601 |
| 13 | 72 | 5184. | 15.7 | 83. | 1.964 | 2.027 |
| 14 | 64. | 4096. | 12.4 | 65. | 2.485 | 2.565 |
| 15 | 57. | 3249. | 9.8 | 52. | 3.133 | 3.234 |
| 16 | 51. | 2601. | 7.9 | 42. | 3.914 | 4.04 |
| 17 | 45. | 2025. | 6.1 | 32. | 5.028 | 5.159 |
| 18 | 40. | 1600. | 4.8 | 25.6 | 6.363 | 6.567 |
| 19 | 36. | 1296. | 3.9 | 20.7 | 7.855 | 8.108 |
| 20 | 32. | 1024. | 3.1 | 16.4 | 9.942 | 10.26 |
| 21 | 28.5 | 812.3 | 2.5 | 13. | 12.53 | 12.94 |
| 22 | 25.3 | 640.1 | 1.9 | 10.2 | 15.9 | 16.41 |
| 23 | 22.6 | 510.8 | 1.5 | 8.2 | 19.93 | 20.57 |
| 24 | 20.1 | 404. | 1.2 | 6.5 | 25.2 | 26.01 |
| 25 | 17.9 | 320.4 | . 97 | 5.1 | 31.77 | 32.79 |
| 26 | 15.9 | 252.8 | . 77 | 4. | 40.27 | 41.56 |
| 27 | 14.2 | 201.6 | .61 | 3.2 | 50.49 | 52.11 |
| 28 | 12.6 | 158.8 | . 48 | 2.5 | 64.13 | 66.18 |
| 29 | 11.3 | 127.7 | . 39 | 2. | 79.73 | 82.29 |
| 30 | 10. | 100. | . 3 | 1.6 | 101.8 | 105.1 |
| 31 | 8.9 | 79.2 | . 24 | 1.27 | 128.5 | 132.7 |
| 32 | 8. | 64. | . 19 | 1.02 | 159.1 | 164.2 |
| 33 | 7.1 | 50.4 | 15 | . 81 | 202. | 208.4 |
| 34 | 6.3 | 39.7 | 12 | . 63 | 256.5 | 264.7 |
| 35 | 5.6 | 31.4 | 0.95 | . 5 | 324.6 | 335.1 |
| 36 | 5. | 25. | 0.76 | . 4 | 407.2 | 420.3 |

STRANDS OF COPPER WIRE

| $\begin{gathered} \text { Size } \\ \text { B. \& S. } \end{gathered}$ | Circular Mils | Diameters |  | Weights |  | Resis. at $75^{\circ}$ Fabr. per 1000 Feet |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Decimal Parts of Inch | Nearest 32d | $\begin{aligned} & 1000 \\ & \text { Feet } \end{aligned}$ | Mile |  |
| ... | 1000000 | 1.152 | $1{ }^{\text {a }}$, | 3050 | 16104 | . 01051 |
| .... | 950000 | 1.125 | 118 | 2898 | 15299 | . 01106 |
| . . . | 900000 | 1.092 | 13 | 2745 | 14.494 | . 01167 |
|  | 850000 | 1.062 | $1{ }_{16}^{1}$ | 2593 | 13198 | . 01236 |
| ... | 800000 | 1.035 | $1 \frac{1}{32}$ | 2440 | 12883 | . 01313 |
| . . . | 750000 | . 999 | 1 | 2288 | 12078 | . 01401 |
| . . . | 700100 | . 993 | ${ }^{\frac{3}{3} 2}$ | 2135 | 1293 | . 01501 |
| .... | 650000 | . 927 | $\frac{15}{16}$ | 1983 | 10168 | . 01617 |
| .... | 600000 | . 891 | - | 1830 | 9662 | . 01751 |
| .... | 550000 | . 855 | $7 / 8$ | 1678 | 8857 | . 01910 |
|  | 500000 | 819 | 13 | 1525 | 8052 | . 02101 |
|  | 450000 | 770 | ${ }^{25}$ | 1373 | 7247 | . 02335 |
| . . . | 400000 | :28 | $3 / 4$ | 1220 | 6442 | . 02627 |
|  | 350000 | . 679 | 14 | 1068 | 5636 | . 03002 |
|  | 300000 | . 630 | 5/8 | 915 | 4831 | . 03502 |
|  | 250000 | . 590 | ${ }^{\frac{1}{3} \frac{9}{2}}$ | 762 | 4026 | . 04203 |
| 0000 | 211600 | . 530 | $\frac{17}{32}$ | 645 | 3405 | . 04966 |
| 000 | 168100 | . 470 | $\frac{15}{32}$ | 513 | 2709 | . 06251 |
| 00 | 133225 | 420 | $\frac{7}{16}$ | 406 | 2144 | . 07887 |
| 0 | 105625 | 375 | 3/8 | 322 | 1700 | . 09948 |
| 1 | 83521 | 330 | $\frac{13}{3}$ | 255 | 1346 | . 1258 |
| 2 | 66564 | . 291 | $\frac{5}{16}$ | 203 | 1072 | 1579 |
| 3 4 | 52441 | .261 | $\frac{9}{32}$ | 160 | 845 | 2004 |
| 4 | 41616 | 231 | 1/4 | 227 | 671 | 2525 |

USEFUL TABLES
Fine Magnet Wire

| No. B. \& S. Gauge | Diameter | Ohms per Lb. |  | Feet per Lb. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Single Cotton | Double Cotton | Single Cotton | Double Cotton |
| 20 | . 0319 | 3.15 | 302 | 311 | 298 |
| 21 | . $0284{ }^{\circ}$ | 4.97 | 4.72 | 389 | 370 |
| 22 | . 0253 | 7.87 | 7.44 | 491 | 461 |
| 23 | . 0225 | 12.45 | 11.7 | 624 | 584 |
| 24 | . 0201 | 19.65 | 18.25 | 778 | 745 |
| 25 | . 0179 | 30.9 | 28.45 | 958 | 903 |
| 26 | . 0159 | 48.5 | 44.3 | 1188 | 1118 |
| 27 | . 0142 | 76.5 | 68.8 | 1533 | 1422 |
| 28 | . 0126 | 120 | 106.5 | 1903 | 1759 |
| 29 | . 0112 | 190.5 | 164. | 2461 | 2207 |
| 30 | . 0100 | 294.5 | 252. | 2893 | 2534 |
| 31 | . 0089 | 461. | 384.5 | 3483 | 2768 |
| 32 | . 0079 | 717. | 585. | 4414 | 3737 |
| 33 | . 0070 | 111.5 | 880. | 5688 | 4697 |
| 34 | .0063 | 1715 | 1315 | 6400 | 6168 |
| 35 | 0056 | 2610 | 1960 | 8393 | 6737 |
| 36 | . 0050 | 4070 | 2890 | 9846 | 7877 |
| 37 | . 0044 | 6180 | 4230. | 11636 | 9309 |
| 38 | 0039 | 9430 | 6150. | 13848 | 10666 |
| 39 | . 0035 | 14200 | 8850. | 18286 | 11907 |
| 40 | 0031 | 21300 | 12500. | 24381 | 14222 |

Table of Decimals Equivalent to
8ths, 16 ths, 32 nds and 64ths


## USEFUL TABLES

Copper Bus Bar Data
Sizes, Weights and Resistances

| Thickness Inches | Width Inches | Weights per Ft. at 3.213 Lbs. per Cubic Inch | Area in Square Inch | Ohms per Ft. at 8.341 per Square Mil. Ft. | Capacity in Ampere |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1.16 | $1 / 2$ | .1205 | . 0313 | . 00026691 | 30 |
| $\frac{1}{16}$ | $3 / 4$ | .1807 | . 0469 | . 00017790 | 50 |
| 16 | 1 | 2410 | 0625 | . 00013341 | 60 |
| ${ }_{1}^{16}$ | 11/2 | . 3615 | . 0938 | .00008897 | 90 |
| 1/8 | 1/2 | . 2110 | 0625 | . 00013344 | 75 |
| $1 / 8$ | $3 / 4$ | . 3615 | . 0938 | (00)08897 | 90 |
| $1 / 8$ | 1 | . 4820 | 125 | . 000006672 | 125 |
| $1 / 8$ | $11 / 2$ | . 7230 | 1875 | . 000004448 | 200 |
| $1 / 8$ | 2 | . 9440 | 25 | . Of)(03336 | 250 |
| $1 / 4$ | $3 / 4$ | . 7230 | . 1875 | .00)(14448 | 185 |
| 1/4 | 1 | . 9640 | 25 | . 00003:336 | 250 |
| 11 | $11 / 4$ | 1.205 | . 3125 | . 000002669 | 315 |
| 1/4 | $11 / 2$ | 1.446 | 3.75 | .00002224 | 375 |
| $1 / 4$ | $13 / 4$ | $1.68{ }^{\prime}$ | . 4375 | 00001964 | 43.5 |
| $1 / 4$ | 2 | 1.928 | . 5 | (0)001668 | . 500 |
| $1 / 4$ | $21 / 4$ | 2.169 | . 5625 | 00001482 | 565 |
| $1 / 4$ | 21/2 | 2.410 | . 625 | . 00001331 | 630 |
| $1 / 2$ | 3.4 | 1.446 | . 375 | . 0000022224 | 370 |
| $1 / 2$ | 1 | 1.928 | . 5 (\%) | . 00001668 | 500 |
| $1 / 2$ | $11 / 1$ | 2.410 | . 625 | . 00001331 | 625 |
| $1 / 2$ | $11 / 2$ | 2.892 | . 750 | . 000001112 | 750 |
| 12 | 13/4 | 3.374 | . 875 | 00000953 | 875 |
| $1 / 2$ | 2 | 3.856 | 1. | (0)(000834 | 1000 |
| $1 / 2$ | 214 | 4.338 | 1.125 | . 00000741 | 1185 |
| $1 / 2$ | $21 / 2$ | 4.820 | 1.25 | . 000006667 | 1250 |
| 12 | 23.4 | 5.304 | 1.375 | . 000006043 | 1375 |
| 12 | 3 | 5.784 | $1.5(\%)$ | (0)000556 | 1800 |
| $1 / 2$ | $31 / 4$ | 6.266 | 1.625 | (0)K00513 | 1625 |
| $1 / 2$ | $31 / 2$ | 6.748 | 1.750 | (000)0475 | 1750 |
| $1 / 2$ | $33 / 4$ | 7.23 | 1.875 | . 00000444 | 1875 |
| 1/2 | 4 | 7.712 | 2000 | . O00004 17 | 1000 |
| $3 / 4$ | 1 | 2.892 | . 750 | 00001112 | 1750 |
| $3 / 4$ | 11/2 | 4.338 | 1.125 | (90)000741 | 1125 |
| $3 / 4$ | 2 | 5.784 | 1.500 | 30000556 | 2500 |
| $3 / 4$ | 21/2 | 7.23 | 1.875 | 3000444 | 2875 |
| $3 / 4$ | 3 | 8.676 | 2.250 | . $000 \times 00370$ | 3250 |
| $3 / 4$ | 31/2 | 10.122 | 2.625 | . 000000317 | 2650 |
| $3 / 4$ | 4 | 11.568 | 3.000 | ()0000278 | 3000 |

Carrying eapacity is figured at 1000 amperes ner square inch.

## Current per Phase in Motor Circuits

This table, which will be found useful in determining the size of wire, carrying eapacity of fuses, and setting of cireuit-breakers, considers the average efficieney and power factor of the notor in each ease and indicates, in amperes, the current flowing in each wire of the motor circuits.

| H.P. | 110 Volts |  |  | 220 Volts |  |  | 440 Volts |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1-ph. | 2-ph. | 3-ph. | 1-ph. | 2-ph, | 3-ph. | -ph. | $2-\mathrm{ph}$. | 3-ph. |
| 1 | 12.72 | 5.57 | 6.43 | 6.36 | 2.78 | 3.22 | 3.18 | 1.39 | 1.61 |
| 2 | 23.80 | 10.10 | 11.54 | 11.90 | 5.05 | 5.77 | 5.95 | 2.52 | 2.89 |
| 3 | 34.30 | 14.24 | 16.44 | 17.15 | 7.12 | 8.22 | 8.53 | 3.56 | 4.11 |
| 5 | 52.30 | 22.92 | 26.50 | 26.15 | 11.46 | 13.25 | 13.07 | 5.73 | 6.63 |
| 7192 | 68.75 | 34.42 | 39.70 | 34.37 | 17.21 | 19.85 | 17.19 | 8.60 | 9.93 |
| 10 | 90.60 | 45.30 | 52.40 | 45.30 | 22.65 | 26.20 | 22.65 | 11.32 | 13.10 |
| 15 | 132.8 | 66.40 | 76.80 | 66.4 | 33.20 | 38.40 | 33.2 | 16.60 | 19.20 |
| 20 | 175.2 | 87.4 | 101.3 | 87. 6 | 43.70 | 50.70 | 43.8 | 21.85 | 25.35 |
| 25 | 219.0 | 109.6 | 126.7 | 109.5 | 54.8 | 63.4 | 54.7 | 27.4 | 31.70 |
| 30 | 263.0 | 131.5 | 152.0 | 131.5 | 65.8 | 76.0 | 65.8 | 32.9 | 38.0 |
| 35 | 321.0 | 160.5 | 185.8 | 160.5 | 80.2 | 92.9 | 80.0 | 40.1 | 46.4 |
| 40 | 350.0 | 175.0 | 202.1 | 175.0 | 87.5 | 101.0 | $87.5{ }^{\circ}$ | 43.7 | 50.5 |
| 45 | 394.0 | 197.0 | 227.6 | 197.0 | 98.5 | 113.8 | 98.5 | 49.3 | 56.9 |
| 50 | 428.0 | 214.0 | 247.2 | 214.0 | 107.0 | 123.6 | 107.0 | 53.5 | 61.8 |
| 60 | 513.0 | 256.5 | 296.2 | 256.5 | 128.2 | 148.1 | 128.2 | 64.1 | 74.1 |
| 70 | 611.0 | 306.0 | 353.0 | 305.5 | 153.0 | 176.5 | 152.7 | 76.3 | 88.3 |
| 75 | 656.0 | 328.0 | 379.1 | 328.0 | 164.0 | 189.5 | 164.0 | 82.0 | 94.7 |

## USEFUL TABLES

## Trolley and Feeders for D.C. Practice

When the volts dron, the ampere load and the distance from the power house are known, the size of feeders can be reatily determined from the table following. Example: 87 volts drop, 300 amperes and 6 miles. This gives 29 volts per 100 amperes and under 6 mile columin 29 volts correspond with $1,195,000$ C. M., the required size of conductor. A suitable size of wire for the trolley is found as follows: Since in most cases the table would give too large a wire, the size of trolley is taken at No. 000 B.\&S. and the remaining copper required is put in the feeders. Feeders are tapped in every quarter mile or oftener. It is to be noted that thie drop used above must he the allowable drop in the feediers only and must not include the drop in the track return circuit. The drop in the rail must be allowed for by determining the track resistance. If the track drop is too high, the required size of cable for the return circuit can be determined by a proper use of the table. The total drop is sum of the drops in feeders and track.

## Horsepower of Traction

The horsepower required at the car axle to propel a car weighing II tons at a specd S in miles per hour, is given by the following formula:

$$
\text { 11.P. }=\frac{W \times R \times S}{375}
$$

Where $R$ - the tractive effort of train resistance. (See accompanying table.)
Thus, for a 40 ton car at 50 miles per hour on a level where R - 23 . (See table.)

$$
\mathrm{H} . \mathrm{P} .=\frac{40 \times 23 \times 50}{375}=122.7
$$

Volts Drop per 100 Amperes
Table Compiled by W. E. and M. Co.

| Size of Conductors | Miles |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| B\&S | 52 | 104 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 00 | 42 | 81 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 000 | 33 | 66 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0000 | 26 | 52 | 78 |  |  |  |  |  |  |  |  |  |  |  |  |
| Circular Mills 300000 | 18 | 37 | 55 |  |  |  |  |  |  |  |  |  |  |  |  |
| 400000 | 11 | 27 | 41 | 55 | 69 | 82 | 96 |  |  |  |  |  |  |  |  |
| $500)(0) 0$ | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 |  |  |  |  |  |  |  |
| 600000 | 9 | 18 | 27 | 37 | 46 | 55 | 64 | 73 | 82 | 91 |  |  |  |  |  |
| 700000 | 8 | 16 | 24 | 31 | 39 | 47 | 55 | $6: 3$ | 70 | 78 | 86 | 94 |  |  |  |
| 800000 | 7 | 14 | 20 | 27 | 34 | 41 | 48 | 55 | 62 | 69 | 75 | 82 | 89 |  |  |
| 900000 | 6 | 12 | 18 | 21 | 30 | 37 | 43 | 49 | 5.5 | 61 | 67 | 73 | 79 | 85 | 91 |
| 40 Lb . Rails |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000000 | 6 | 11 | 16 | 22 | 27 | 33 | 38 | 44 | 49 | 55 | (6) | 66 | 71 | 77 | 82 |
| 1025000 | 6 | 11 | 16 | 22 | 27 | 32 | 38 | 43 | 49 | 54 | (i) | 65 | 70 | 76 | 81 |
| 45 Lb . Rails |  |  |  |  |  | 29 |  | 39 | 44 |  | 54 | 59 | 64 |  |  |
| 50 Lb . Rails | 5) | 10 | 15 | 20 | 25 | 29 | 34 | 39 | 44 | 49 | 04 | 59 | 64 | 69 | 74 |
| 1360000 | 4 | 8 | 12 | 16 | 21 | 25 | 29 | 33 | 37 | 41 | 45 | 49 | 53 | 58 | 62 |
| 60 Lb . Rails |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1590000 | 4 | 7 | 11 | 14 | 18 | 21 | 25 | 28 | 32 | 35 | 39 | 42 | 46 | 49 | 53 |
| 70 Lb . Rails 182000 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 |
| 80 Lb. Rails |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2040 ()0 | 3 | 6 | 8 | 11 | 14 | 16 | 19 | 22 | 24 | 27 | 30 | 32 | 35 | 38 | 41 |
| 90 Lb . Rails |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2270000 | 3 | 5 | 7 | 10 | 12 | 14 | 17 | 19 | 22 | 24 | 26 | 29 | 31 | 34 | 36 |

[^109]
## USEFUL FORMULAS

## Pulleys and Gears

For single reduction or increase of speed by means of belting where the speed at which each shaft should run is known, and one pulley is in place:

Multiply the diameter of the pulley which you have by the number of revolutions per minute that its shaft makes; divide this product by the speed in R.P.M. at which the second shaft should run. The result is the diameter of pulley to use.

Where both shafts with pulleys are in operation and the speed of one is known:
Multiply the speed of the shaft by diameter of its pulley and divide this product by diameter of pulley on the other shaft. The result is the speed of the second shaft.

Where a count ershaft is used, to obtain size of main driving or driven pulley, or speed of main driving or driven shaft, it is necessary to calculate, as above, between the known end of the transmission and the countershaft, then repeat this calculation between the countershaft and the unknown end.

A set of gears of the same pitch transinit, speeds in proportion the the number of teeth they contain. Count the number of teeth in the gear wheel and use this quantity instead of the dianeter of pulley, mentioned above, to obtain number of teeth cut in unknown gear, or speed of second shaft.

## Rule for Finding Size of Pulleys

$$
d=\frac{D \times S}{S^{\prime}}
$$

$$
D=\frac{\mathrm{d} \times \mathrm{S}^{\prime}}{\mathrm{S}}
$$

$\mathrm{d}=$ diameter of driven pulley.
$D=$ diameter of driving pulley.
$S=$ number of revolutions per minute of driving pulley.
$\mathbf{S}^{\prime}=$ number of revolutions per minute of driven pulley.

USEFUL TABLES
Fine Magnet Wire

| No. <br> B. \& S <br> Gauge | Diameter | Ohms per Lb. |  | Feet per Lb. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Single Cotton | Double Cotton | Single Cotton | Double Cotton |
| 20 | . 0319 | 3.15 | 3.02 | 311 | 298 |
| 21 | . 0284 | 4.97 | 4.72 | 389 | 370 |
| 22 | . 0253 | 7.87 | 7.44 | 491 | 461 |
| 23 | . 0225 | 12.45 | 11.7 | 624 | 584 |
| 24 | . 0201 | 19.65 | 18.25 | 778 | 745 |
| 25 | . 0179 | 30.9 | 28.45 | 958 | 903 |
| 26 | . 0159 | 48.5 | 44.3 | 1188 | 1118 |
| 27 | . 0142 | 76.5 | 68.8 | 1533 | 1422 |
| 28 | . 0126 | 120. | 106.5 | 1903 | 1759 |
| 29 | . 0112 | 190.5 | 164. | 2461 | 2207 |
| 30 | 0100 | 294.5 | 252. | 2893 | 2534 |
| 31 | . 0089 | 461. | 384.5 | 3483 | 2768 |
| 32 | .0079 | 717. | 585. | 4414 | 3737 |
| 33 | . 0070 | 1115. | 880. | 5688 | 4697 |
| 34 | . 0063 | 1715. | 1315. | 6400 | ¢ 6168 |
| 35 | .0056 | 2640 . | 1960. | 8393 | 6737 |
| 36 | . 0050 | 4070. | 2890. | '9846 | 7877 |
| 37 | . 0044 | 6180. | 4230. | 11636 | 9309 |
| 38 | .0039 | 9430. | 6150. | 13848 | 10)366 |
| 39 | . 0035 | 14200 . | 88.50. | 18286 | 11907 |
| 40 | . 0031 | 21300. | 12500. | 24381 | 14222 |

# Western Electric <br> <br> USEFUL FORMULAS 

 <br> <br> USEFUL FORMULAS}

## Electrical Machinery

Relation of speed, alternations and number of poles in A. C. generators.
Alternations per minute $=$ Number of poles x revolutions per minute.
Cycles per second=Alternations $\div 120$.

## Temperature Rise by Resistance.

$$
\text { Rise in degrees Centigrade }=\frac{\mathrm{Rt}-\mathrm{Rt}_{\mathrm{o}}}{.004 \mathrm{Rt}_{。}}
$$

$\mathrm{Rt}=$ Resistance when hot.
$R t_{0}=$ Resistance at room temperature .
The hot and cold resistances are found from simultaneous volt and ammeter readings.

Volts or Amperes Necessary for Given H. P. of D. C. Motcrs.

$$
\mathrm{V}=\frac{746 \times \mathrm{HP}}{\mathrm{I} \times \mathrm{E}} \quad 1=\frac{746 \times \mathrm{HP}}{\mathrm{~V} \times \mathrm{E}}
$$

$\mathrm{V}=\mathrm{Voltage}$ of circuit.
$\mathrm{I}=$ Amperes.
$\mathrm{E}=$ Machine efficiency.
Motor Efficiency by Brake Horsepower
Efficiency $=\frac{746 \mathrm{HP} \quad \mathrm{T} \times \mathrm{N}}{\mathrm{V} \times \mathrm{I}=7 \times \mathrm{V} \times \mathrm{I}}$
$\mathrm{N}=$ Revolutions per minute.
$\mathrm{T}=$ Torque in lbs. at distance of one foot from center of pulley.
A more accurate method is to measure the input and the losses separately; then,

$$
\text { Efficiency }=\frac{\text { Input }- \text { Losses }}{\text { Input }}
$$

Conduit Sizes for Different Size Wires

| $\begin{gathered} \text { No. } \\ \text { B. } \& S . \end{gathered}$ | Circular Mils | Amperes Rubber | Size of Pipe |  |  | $\begin{gathered} \text { No. } \\ \text { B. } \& \text { S. } \end{gathered}$ | Circular Mils | Amperes Rubber | Size of Pize |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 Wire | 2 Wire | 3 Wire |  |  |  | 1 Wire | 2 Wire | 3 Wire |
| 18 | 1020 | 3 | 1/2 | 1/2 | 1/2 |  | 500000 | 390 | 2 | 3 | $31 / 2$ |
| 16 | 2583 | 6 | 12 | 1/2 | 1/2 |  | 550000 | 420 | 2 | $31 / 2$ |  |
| 14 | 4107 | 12 | $1 / 2$ | $1 / 2$ | $3 / 4$ |  | 600000 | 450 | 2 | $31 / 2$ | 4 |
| 12 | 6530 | 17 | 1/2 | $3 / 4$ | $3 / 4$ |  | 650000 | 475 | 2 | $31 / 2$ | 4 |
| 10 | 10380 | 24 | $1 / 2$ | $3 / 4$ | 1 |  | 700000 | 500 | 2 | $31 / 2$ | 4 |
| 8 | 16510 | 33 | 1/2 | , | 1 |  | 750000 | 525 | 2 | $31 / 2$ | 4 |
| 6 | 26250 | 46 | $3 / 4$ | 1 | $11 / 4$ |  | 800000 | 550 | 2 | $31 / 2$ | 4 |
| 5 | 33100 | 54 | $3 / 4$ | $11 / 4$ | $11 / 4$ |  | 850000 | 575 | $21 / 2$ | 4 | 4 |
| 4 | 41740 | 65 | $3 / 4$ | $11 / 4$ | $11 / 2$ |  | 900000 | 600 | $21 / 2$ | 4 | $41 / 2$ |
| 3 | 52630 | 76 | $3 / 4$ | $11 / 4$ | $11 / 2$ |  | 950000 | 625 | 21/9 | 4 | $41 / 2$ |
| 2 | 66370 | 90 | $3 / 4$ | 11/2 | 2 |  | 1000000 | 650 | $21 / 2$ | 4 | $41 / 2$ |
| 1 | 83690 | 107 | 1 | 11/2 | 2 |  | 1100000 | 690 | $21 / 2$ | 4 | 5 |
| 0 | 105500 | 127 | 1 | 2 | 2 |  | 1200000 | 730 | $21 / 2$ | 4 | 5 |
| 00 | 133100 | 150 | 1 | 2 | 2 |  | 1300000 | 770 | 21/2 | $41 / 2$ | 5 |
| 000 | 167800 | 177 | $11 / 4$ | 2 | $21 / 2$ |  | 1400000 | 810 | 3 | $41 / 2$ | 6 |
| 0000 | 211600 | 210 | 11/4 | 2 | $21 / 2$ |  | 1500000 | 850 | 3 | 5 | 6 |
|  | 200000 | 200 | $11 / 4$ | 2 | $21 / 2$ |  | 1600000 | 890 | 3 | 5 | 6 |
|  | 250010 | 235 | $11 / 2$ | $21 / 2$ | $21 / 2$ |  | 1700000 | 930 | 3 | 5 | 6 |
|  | 300000 | 270 | $11 / 2$ | $21 / 2$ | 3 |  | 18001000 | 970 | 3 | 6 | 7 |
|  | 350000 | 300 | $11 / 2$ | $21 / 2$ | 3 |  | 1900000 | 1010 | 3 | 6 | 7 |
|  | 400000 | 330 | $11 / 2$ | 3 | 3 |  | 2000000 | 1050 | 3 | 6 | 7 |
|  | 450000 | 380 | 2 | 3 | $31 / 2$ |  |  |  |  |  |  |

## USEFUL TABLES

## Machine Bolts

Approximate Weight in pounds of 100 bolts of sizes enumerated below

| Length Inches | 1/4 | $\frac{5}{16}$ | $3 / 8$ | ${ }_{1}{ }^{7}$ | 120 | 16 | 5/8 | $3 / 4$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 116 | 3.7 | 6.0 | 9.0 | 15.2 | 19.6 | 27.5 | 34.3 | 54.3 |
| 2 | 4.2 | 7.0 | 10.5 | 172 | 22.2 | 31.0 | 38.4 | 60.0 |
| 21/2 | 4.8 | 8.0 | 12.0 | 19.2 | 24.8 | 34.5 | 42.5 | 6.5 .7 |
| $3{ }^{2}$ | 5.5 | 90 | 13.5 | 21.2 | 27.5 | 38.0 | 46.7 | 71.4 |
| $31 / 2$ | 61 | 100 | 150 | 23.2 | 30.1 | 41.5 | 50.8 | 77.1 |
| 4 | 6.8 | 110 | 16.5 | 25.2 | 32.8 | 45.0 | 55.0 | 82.8 |
| $41 / 2$ | 7.4 | 120 | 18.0 | 27.2 | 35.4 | 48.5 | 59.1 | 88.9 |
| 5 | 8.1 | 130 | 19.5 | 29.2 | 38.1 | 52.0 | 63.3 | 95.0 |
| $51 / 2$ | 8.7 | 14 () | 210 | 312 | 40.7 | 55.5 | 67.4 | 101.1 |
| 6 | 94 | 150 | 22.5 | $33 \cdot$ | 43.4 | 59.0 | 71.6 | 107.2 |
| $61 / 2$ | 101 | 16.0 | 24.1 | 352 | 46.0 | 62.5 | 75.7 | 113.3 |
| 7 | 108 | 17.0 | 25.7 | 372 | 48.7 | 66.0 | 79.9 | 119.4 |
| $71 / 2$ | 11.5 | 180 | 27.3 | 392 | 51.3 | 69.5 | 84.0 | 125.5 |
| 8 | 12.2 | 19.0 | 28.9 | 41.2 | 54.0 | 73.0 | 88.2 | 131.6 |
| 9 |  |  | 32.1 | 452 | 59.5 | 80.0 | 96.5 | 143.8 |
| 10 |  |  | 353 | 492 | 65.0 | 87.0 | 1048 | 156.0 |
| 11 |  |  | 38.5 | 53. | 70.5 | 94.0 | 113.1 | 168.2 |
| 12 |  |  | 41.7 | 57.2 | 76.0 | 101.0 | 121.4 | 180.4 |
| 13 |  |  |  |  | 81.5 | 108.0 | 129.7 | 192.6 |
| 14 |  |  |  |  | 87.0 | 115.0 | 138.0 | 204.8 |
| 15 |  |  |  |  | 925 | 122.0 | 146.3 | $\underline{217.0}$ |
| 16 |  |  |  |  | 98.0 | 129.0 | 154.6 | 229.2 |
| 17 |  |  |  |  | 103.5 | 136.0 | 162.9 | 241.4 |
| 18 |  |  |  |  | 109.0 | 143.0 | 171.2 | 253.6 |
| 19 |  |  |  |  | 114.5 | 150.0 | 179.5 | 265.8 |
| 20 |  |  |  |  | 120.0 | 157.0 | 187.8 | 278.0 |

## Carriage Bolts

Approximate Weight in pounds of 100 bolts of sizes enumerated below

| Lengtr. Inches | 1/4 | $\frac{3}{16}$ | 3'8 | $\frac{7}{16}$ | 1/2 | 5\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2.8 | 4.8 | 6.9 | 9.4 | 14.5 | 28.0 |
| 114 | 31 | 52 | 7.6 | 10.4 | 1.5 .9 | 30.0 |
| 11/2 | 3.4 | 5.7 | 8.3 | 11.4 | 17.3 | 32.0 |
| $13 / 4$ | 3.7 | 6.1 | 9.0 | 12.4 | 18.6 | 34.0 |
| 2 | 4.0 | 6.6 | 9.7 | 13.3 | 20.0 | 36.0 |
| 214 | 4 | 70 | 10) 4 | 143 | 21.4 | 38.0 |
| 21. | 47 | 7.5 | 11.1 | 15.3 | 22.8 | 40.0 |
| 23 | 5.0 | 7.9 | 11.8 | 163 | 24.2 | 42.0 |
| 3 | 5. 3 | 8.4 | 12.5 | 17.3 | 25.5 | 44.0 |
| 3 ! 2 | 5.9 | 9.3 | 13.9 | 19.3 | 28.3 | 48.0 |
| 4 | 6.6 | 10.2 | 15.3 | 21.3 | 31.0 | 52.0 |
| 41.2 | 7.2 | 11.1 | 16.7 | 233 | 33.8 | 56.0 |
| 5 | 7.8 | 12.0 | 18.0 | 2.3 | 36.5 | 600 |
| $51 / 2$ | 8.4 | 12.9 | 19.4 | 27.3 | 39.3 | 640 |
| 6 | 9.0 | 13.8 | 20.8 | 29.3 | 42.0 | 68.0 |
| 61/2 | 9.7 | 14.7 | 21.2 | 31.2 | 448 | 72.0 |
| 7 | 10.3 | 15.6 | $\because 3.6$ | 33.2 | 47.5 | 76.0 |
| $71 / 2$ | 10.9 | 16.5 | 250 | 35.2 | 503 | 80.0 |
| 8 | 11.6 | 17.4 | 26.4 | 37.2 | 53.0 55.8 | 84.0 88.0 |
| $81 / 2$ |  | 18.4 | 27.8 | 39.2 | 5.5 .8 | 88.0 |
| 9 |  | 19.3 | 29.2 | 41.2 | 585 613 | 92.0 |
| $9{ }^{1} 2$ |  | 20.2 | 30.6 | 43.1 | 613 | 960 1000 |
| 10 |  | 21.0 | 320 | 45.1 | 64.0 | 1000 |
| $10^{1 / 2}$ |  |  | 33.4 34.8 | 47.1 49.1 | 66.8 69.5 | 1010 108 10 |
| $1111 / 2$ |  |  | 34.8 36.2 | 49.1 51.0 | 69.5 72.3 | 108.0 1120 |
| 12 |  |  |  | 53.0 | 75.0 | 116.0 |

## USEFUL TABLES

## WIRE NAILS-THEIR DIMENSIONS AND PROPERTIES

The electrician has frequent occasion to order wire nails for certain purposes, and to do this intelligently he must be familiar with the dimensions of each of the trade sizes, which are usually expressed in "pennies." For instance, a size for D nail is read "a four-penny nail." For these purposes the two accompanying tables will be found valuable, in that they give the length in inches and the diameter and wire gauge for each of the sizes of nails which the electrician is apt to have occasion to use.

TABLE 1. DIMENSIONS OF COMMON NAILS AND BRADS

| Size | Length | $\begin{aligned} & \text { Gauge } \\ & \text { No. } \end{aligned}$ | Diameter in Decimals | Approx. <br> Diameter <br> in Inche | Nearest B. \& S. Gauge | Approx. <br> to Lb |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2.1 | 1 | 15 | . $07 \times 2$ |  | 13 | 876 |
| 31 | 114 | 14 | Os00 |  | 12 | 568 |
| $4{ }^{1}$ | $11 / 2$ | 121. | .0985 | $\frac{7}{64}$ | 10 | 316 |
| 5 d | $13 / 4$ | 1212 | .0985 | ${ }_{6}^{9}$ | 10) | 271 |
| $6{ }^{1}$ | 2 | 1112 | 1130 | $\frac{1}{6}$ | 9 | 181 |
| 7 d | 214 | 1112 | 1130 | ${ }_{6}^{6}$ | 9 | 161 |
| 81 | $21 / 2$ | ${ }^{101}{ }^{+}$ | 1314 | 1,8 | 8 | 106 |
| 9 d | 23.4 | $10^{1}$ | . 1314 | 1/8 | 8 | 96 |
| 10 d | 3 | 9 | . 1483 | $\frac{8}{64}$ | 7 | 69 |
| 12d | 31 | 9 | . 1483 | $\frac{8}{6+4}$ | 7 | (63) |
| 16 d | 31.2 | 8 | . 1620 | $\frac{b_{5}}{\frac{6}{85}}$ | 6 | 49 |
| 20,1 | 4 | ${ }_{5}$ | . 1620 | $\frac{3_{5}^{3}}{\frac{3}{32}}$ | ${ }_{6}$ | 31 |
| 30 d | $41 / 2$ | 5 | . 2070 | $\frac{13}{17}$ | 4 | 24 |
| 40 dl | 5 | 4 | . 2253 |  | 3 | 18 |
| ${ }_{60 \mathrm{~d}}^{50}$ | $6^{51 / 2}$ | 3 2 | . 26438 | 年 | 2 | 114 |
| 60 d |  |  | 2625 |  | 2 | 11 |

Wire nails are formed from steel wire of the same diameter as the shank of the nail is to be. Ordinary nails have a "bright" finish. Copper, brass and galvanized steel nails can be obtained. The wire from which nails are made, hence the nail diameters, are measured by the American Steel \& Wire Company's gauge.

TABLE 2. DIMENSIONS OF CASING, FINISHING, SHINGLE AND FINE NAILS

| Size | Length Inches | Casing |  | Finishing |  | Shingle |  | Fine |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Gauge | Approx. No. per Lb | Gauge | Approx. No. per Lb. | Gauge | $\begin{aligned} & \text { Approx. } \\ & \text { No. } \\ & \text { per Lb. } \end{aligned}$ | Gauge | $\left\lvert\, \begin{gathered} \text { Approx } \\ \text { No- } \\ \text { per Ibb. } \end{gathered}\right.$ |
| 21 | 1 | $15^{1} 2$ | 1010 | $16^{1}{ }_{2}$ | 1351 |  |  | $16 \frac{1}{2}$ | 1351 |
| 3 d | 11. | 1412 | 635 | 1.512 | 807 | 13 | 429 | $\dagger 1.5$ | 778 |
| $31 / 2 \mathrm{~d}$ | 13.8 |  |  |  |  | $11^{1} 2$ | 34.5 |  |  |
| 4 d | 11.2 | 14 | 473 | 15 | 58.4 | 12 | 27.4 | 14 | 473 |
| 5 d | 13 | 14 | 406 | 15 | 500 | 12 | 235 |  |  |
| 6 id | 2 | $12^{1 / 2}$ | 236 | 13 | 309 | 12 | 204 |  |  |
| 7 d | $21 / 4$ | 1212 | 210 | 13 | 238 | 11 | 139 |  |  |
| 81 | 21 \% | 1112 | 145 | 121.2 | 189 | 11 | 125 |  |  |
| 9 d | 234 | 1112 | 132 | 1212 | 172 | 11 | 114 |  |  |
| 10 d | 3 | $10^{1} 2$ | $9 \pm$ | 1112 | 121 | 10 | 83 |  |  |
| 12d | $31 / 4$ | 1012 | 87 | 1112 | 113 |  | ... |  |  |
| 161 | $31 / 2$ | 10 | 71 | 11 | 90 |  |  |  |  |
| 20 d | 4 | 9 | 52 | 10 | 62 |  | ... |  |  |
| 301 | $4^{1 / 2}$ | 9 | 46 |  |  |  |  |  |  |
| 40 l | 5 | 8 | 35 |  |  |  |  |  |  |
| *2d | 1 |  |  |  |  |  |  | 17 | 1560 |
| *3d | 11/8 |  | $\ldots$ |  | .... |  |  | 16 | 101:) |

*These sizes are called "Extra Fine." $\dagger$ 'This nail is only 1 1’́8 inches long.

Discount Tables

As many of the goods embraced in this book are sold by discounts, or a serics of discounts from their list of prices, it will be found convenient to refer to a table and ascertain at once the equivalent and net remainder.

For instance, a discount of 50,10 and 5 per cent. (erroneously supposed by many to equal 65 per cent.) is equivalent to $571 / 4$ per cent., and the net remainder, $423 / 4$ per cent., is the multiplier with which to ascertain the net price.


## Discount Tables



## Discount Table

The table beneath shows Nete of one dollar (\$1.00) when subject to the various discount combicions shown asross the heads of columns and down the margins.

|  | 10\% | 15\% | 20\% | 25\% | 30\% | 33\%\% | 35\% | 40\% | 45\% | 1\% | 55\% | 60\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$0.855 | (1) | 0.7648 ${ }^{\text {\$ }}$ | 7125 | . 665 |  | ${ }^{0.6175}{ }^{6051}$ | 5586 | 50.5225 |  | . 1189 | 380 3724 |
|  | [8379 | 78973 |  | 69882 6947 | 6547 <br> 6484 |  | 6020 | 5557 | 5094 | 4631 | 4168 | 3724 <br> 3705 |
| 5 | 7331 | 6923 | ${ }^{6516}$ | ${ }_{6109} 610$ | 5701 | 543 | 5294 | 4887 | 448 | 4073 | 3665 | 3258 |
|  | -6962 | ${ }_{799}^{6995}$ | ${ }_{752}^{6207}$ | ${ }_{705}^{5818}$ | . 6488 |  | ${ }_{611}$ | 564 | 517 | 47 | ${ }_{423}$ | . 376 |
|  | 837 | 7905 | 744 | $\begin{array}{r}6975 \\ \hline 685 \\ \hline\end{array}$ | ${ }_{651}^{651}$ |  | 6045 <br> 5924 | [55888 | 5115 | 455 | . 4185 | . 3648 |
|  | 8203 81 81 | 7746 <br> 765 | ${ }_{72}^{7291}$ | 6835 675 |  | . 6 | 585 | 540 | 495 |  |  |  |
|  | 7938 | 7497 | 7056 | ${ }^{6615}$ | ${ }_{6174}$ |  | 573 | ${ }_{5292}^{529}$ | 4851 |  | 3969 | ${ }^{3528}$ |
|  | 7897 | ${ }_{7} 7488$ | .782 | .6581 | 6143 |  | 5759 <br> 509 | ${ }^{5265}$ | ${ }_{473}$ |  | -387 |  |
|  | 7747 | ${ }_{7421}$ | ${ }_{6984}$ | ${ }_{6547} 6$ | 6111 |  | 5674 | 5238 | 4801 | 4365 | . 3928 | ${ }^{3} 392$ |
|  |  | ${ }_{7267}$ | 684 | 6413 | . 5985 | 57 | 5557 | 513 | 4703 | 4275 | 3847 | . 342 |
|  |  |  |  | 6252 | 5803 |  | . 5418 | - 46302 | - 3244 | 3858 | ${ }_{3472}^{3351}$ | . 308 |
|  | ${ }_{44}$ | 6559 6747 | ${ }_{6}^{6173}$ | 5787 <br> 5954 | -5457 |  | 5159 | 4763 | 4366 | 3969 |  |  |
| 10 | 7108 | . 6773 | ${ }_{6}^{6318}$ | 5923 | (5528 |  | 5134 <br> 5107 <br>  <br>  <br> 1020 | ${ }_{4714}$ | 4344 | 28 | 3554 | ${ }_{3143} 315$ |
|  | $\begin{array}{r}7071 \\ \hline 695 \\ \hline\end{array}$ | -6541 | -6286 | 5771 | $\begin{array}{r}5386 \\ \hline\end{array}$ | . 513 | 5002 | 4617 | ${ }_{4232}$ | 3848 | ${ }_{3463}$ | . 3078 |
|  | 6787 | 641 | 6033 | 5656 | 5279 |  | 4902 | 4525 | ${ }_{4147} 412$ | ${ }^{3771}$ | 3393 | . 3016 |
| 10 | 6952 <br> 6268 <br> 688 | - 6937 | -5571 | ${ }_{5223}$ | - 4875 |  | 4527 | 4178 | 383 | 3482 | . 3134 | . 2786 |
| $10-10-5-215-2-7 / 2$ | 6111 | ${ }_{5771}^{5721}$ | 5432 | ¢5092 | 514 |  | 4473 <br> 473 | 4405 | 3038 | ${ }^{33971}$ | -3304 | ${ }_{\text {. } 2931}^{2716}$ |
| - | 6651 | $\begin{array}{r}6241 \\ 6196 \\ \hline\end{array}$ | 58824 | 5468 | ${ }_{5} 5103$ | . 486 | 4738 | 4374 | 401 | ${ }^{3645}$ | . 3281 | 2916 |
|  | 643 6397 | 6073 | $\begin{array}{r}5715 \\ 5686 \\ \hline\end{array}$ | [53381 | ${ }^{\text {}} 4975015$ |  | ${ }_{462}$ | 4265 | 3909 | 3554 | . 3199 | ${ }_{2843}^{2888}$ |
| 10 | 623 | .5887 | 554 | 5194 | 4848 | ${ }_{415}^{4617}$ | -4502 | ${ }_{374}^{4155}$ | -3428 | ${ }^{34163}$ | - 28116 | $\stackrel{249}{ }$ |
| , $10-10-10-10-5 \%$. | 5049 | . 4768 | ${ }_{4488}$ | ${ }_{4208}$ | 3927 | . 374 | 3646 | 3366 | 3085 | 2804 | 2524 | 224 |
| 10 | .6747 | ${ }^{6372}$ | $\begin{array}{r}5998 \\ \hline 569 \\ \hline\end{array}$ | - 53623 | - $\begin{array}{r}5248 \\ 4961 \\ \hline\end{array}$ |  | ${ }_{4606}$ | 4251 | 3897 | 3543 | -3189 | ${ }_{2834}$ |
| 10-1633-5-2/2\% | ${ }_{6} 652$ | 5905 | 5557 | 5210 | 4863 |  | ${ }^{4516}$ | 4168 | 3821 | 3473 | ${ }_{\text {- }} 3126$ | -2779 |
|  | . 7877 | - ${ }_{7437}$ | 70 | ${ }_{6563}$ | ${ }_{6125}$ |  | 5687 | . 525 | 4813 | 1375 | . 3937 | ${ }^{23} 5$ |
|  | 7717 | 7288 | ${ }_{686} 68$ | 6431 <br> 638 | -6003 | 717 | +5574 | [ 5118 | 4692 | ${ }^{1266}$ | ${ }_{\text {-3839 }}$ |  |
|  | 7481 | 7065 | 665 | 6234 | 5819 | ${ }_{5}^{5421}$ | ${ }_{5}^{5403}$ | 4988 | 4572 |  | . 3740 | - 3325 |
|  | 7331 7294 | -6924 | 6517 <br> 6484 <br>  <br> 68 | 6109 6078 | 5673 5673 | .5403 | 52988 | ${ }_{4863}$ | 445 | 1052 | . 3647 | . 3242 |
|  | 765 | 7225 | ${ }_{68}^{68}$ | ${ }_{6} 6375$ | 595 | 5666 | 5525 | ${ }_{4} 598$ | ${ }_{4}^{4685}$ |  | -3725 | . 343 |
|  | $\begin{array}{r}7497 \\ 7458 \\ \hline\end{array}$ | 7044 | 6646 663 | 6246 | 5801 | . 5524 | ${ }_{5} 5387$ | ${ }_{4973}$ | 455 |  | . 3729 | 3315 |
|  | 7086 | 6692 | -62988 | $8{ }^{\text {85 }}$ | ${ }_{5248}^{5511}$ |  |  | 4498 | ${ }_{4123}$ |  | - 3374 | 3149 <br> 2999 |
|  | ${ }_{75}^{6747}$ | -7838 | 6667 | -625 | 5833 |  | 5417 | 50 | 458 |  | . 375 | . 3333 |
|  | 735 <br> 694 | 6942 6561 | $\begin{array}{r}6534 \\ .6175 \\ \hline\end{array}$ | - 5788 | 5403 |  | ${ }_{5017} 5308$ | 4631 | 424 |  | . 3473 | . 3087 |
|  | ${ }_{7321}$ | 6914 | 6507 | 61 | 5694 |  | 5287 | 4880 | 444 |  | ${ }_{.}^{366}$ | ${ }_{32} 324$ |
|  | ${ }_{7056}^{72}$ | ${ }_{6664}^{688}$ | ${ }_{6272}$ | 588 | 5488 |  | 5096 | 4704 | 4312 |  | . 3528 | 3136 |
|  | ${ }_{6}^{702}$ | 663 <br> 6331 | 624 <br> 5958 | $\begin{array}{r}585 \\ \hline 586 \\ \hline\end{array}$ | 5464 |  | - 4841 | ${ }_{4469}$ | 409 |  | ${ }_{-3352}$ | - 2979 |
|  | 6669 669 | ${ }_{6} 6398$ | 5928 | $8{ }^{\text {. } 5557}$ | 5182 |  | 4816 | 4446 | 4 |  | . 3334 | ${ }_{2964}^{2964}$ |
|  | 6368 | $\begin{array}{r}6014 \\ 5984 \\ \hline\end{array}$ | 566 5632 | 22327 | ${ }_{4928}$ |  | ${ }_{4576}$ | ${ }_{4224}$ | 387 |  | -3168 | ${ }_{2816}$ |
|  | 648 | 612 | 576 | . 54 | 504 |  | 468 | 4324 | . 388 |  | 324 | 28 |
|  | 6350 | 5998 | 5645 | 5 5 | 4939 |  | ${ }_{4563}$ | ${ }_{4212}$ | . 386 |  | . 3159 | 2888 |
|  | 6033 | . 5698 | 5363 | $3{ }^{\text {3 }} 5$ | 4692 |  | 4357 | ${ }_{4022}^{402}$ | . 368 |  | 3016 | ${ }_{2681} 268$ |
| 2/2 | $\begin{array}{r}6002 \\ 675 \\ \hline\end{array}$ | $\begin{array}{r}5669 \\ 6375 \\ \hline\end{array}$ | ${ }_{6} 533$ | 5 5002 | ${ }_{525}^{4688}$ |  | +488 |  | . 412 |  | 3375 |  |
|  | 6615 | 6375 6247 | 7. 588 | 5512 | 5145 |  | 4782 | 441 | 404 |  | . 3307 | 294 |
|  | 6581 | 1.6506 | 6-585 | 5484 | 5119 |  | ${ }_{4}^{4758}$ | 4387 4189 | - 384 |  | ${ }_{3142}^{3291}$ | ${ }_{275}^{292}$ |
|  | 6284 6252 629 | $\begin{array}{r}5935 \\ 6181 \\ \hline 681\end{array}$ | $1{ }^{\text {¢ }}$-5557 | 6-5212 | 486 |  | 452 | 4168 | - 382 |  | ${ }_{3126}$ |  |
|  | . 597 | 5638 | 8 . 5307 | 7.4975 | 456 |  | 4316 | 398 |  |  | 2985 | ${ }^{265}$ |
| ${ }^{25-5-5-21 / 2}$ | ${ }_{5953}^{594}$ | 5871 | 5282 | ${ }_{4961}$ | 463 |  | ${ }_{43}$ | . 3969 |  |  | ${ }_{2} 2977$ | ${ }_{264}{ }^{264}$ |
|  | . 5923 | 3 . 5855 | 5265 | -4936 | 6.460 |  | 427 | 394 |  |  | 2962 | 263. |
| $25-10-5-$ | ${ }_{5627}^{5656}$ |  |  |  | $9{ }^{\text {- }}$ |  |  | . 3751 | 1 . 343 | 9126 | 3 | ${ }_{2501}$ |


[^0]:    * DS-2 parts include base, shaft, 2 pedestals with bearings. Coupling is extra. Half coupling is not recommended. Base supforts generator magnet fiameand both bearings only, It is not a common base for engine and gencrator.
    t These machmes are designated as slow speed.
    ** Generators driven by ers encines should be recommende. 1 on a D.D.-0 basis, i.e., without base, shaft or bearings.
    Prices are F.O.B. factory, including boxing and field rheostazs, and for three wire machines also compensator and collector ring. Standard connections aro locsted on under side of framc. For sny other location, add $\$ 55.00$ list per machine.

[^1]:    Rockwool paper pulleys are made uo to and including 72 in. diameter and 34 face. Frices of larger sizes than those listed

[^2]:    Two fuse boxes Cat. No. 104227 included in price. Fuse boxes for other sizes shauld be ondered separately. Prices include oil and boxing.

    The secondary of sizes 1 to 100 Kv .-A. can be arranged for series, multiple or three-wire service by connection of the secondary leads outside of the transformer tank.

    The secondary of sizes 125 to 200 Kv .-A. inclusive, is arranged for series and three-wire service.
    The 575 volt secondary line has been standardized for 550 volt motor service.
    Delivery F. O. B. Pittsfield, Mass. For warebouse deliveries write nearest house.

[^3]:    Delivery F. O. B. Factory, Schenectady. N. Y. For warehouse deiverics write nearest bause.

[^4]:    *Rheostats equipped with contactor for making and breaking the armature circuit.
    tSpeed controlling rheostat panel.
    The above prices cover rheostats with low-voltage protection only.

[^5]:    *These switches are eapable of handling 20 amperes at 110 volts, or 10 amperes at $22(+$ volts, on either alternating or direct current circuits.

    Delivery F. O. IS. Factory, I't. Wayne, Ind. For warehouse deliveries write nearest house.

[^6]:    Form A is for clamping to the inside top edge of the tank and is operated by a rod and lloat.
    Range, 10 inches to 2 feet.
    Form $B$ is for bolting to tank cover and requires a guide in the cover for the operating rod.
    Range, 10 inches to $31 / 2$ feec.
    Form $C$ is the same as Form $B$ except that no guide is required in the tank cover.
    Range, 10 inches to $31 / 2$ feet.
    Form $D$ is for bolting to tank cover and is operated by a chain and float, thus being suitable for any depth of tank or variation in water level not less than 10 inches.

    Length of chain should be specified on all orders.
    Month of $3 / 2 \mathrm{H}$. P. and less. II5 and 230 volts. can be thrown firectly on the line by means of float switch, pressure governor or knife switch.

    Delivery F. O. B. Factory, Schenectady, N. Y. For warghouse deliveries write nearest house.

[^7]:    The rheostats listed above are for use on circuits to to 115 volts maximum.
    Delivery F. (). B. Factory, Sehenertadi, N. I, For warehouse deliveries write nearest. house.

[^8]:    * Mounted on $11 / 2$ inch hase.
    $\dagger$ For mounting on $1 \frac{1}{2}$ inch panel.

[^9]:    Delivery F. O. B. Factory, Schenectady, N. Y. For warchouse deliveries write nearest house.

[^10]:    * Load which the switch will carry pondinuously at 30 dea $C$ age Switches
    tSeries coils will carry 25 per cent. civerload for two hours at 45 deg. C. rise or less.
    Can be sceured ty combining proper low voltage relcase attachment with any switch listed above. Give list No. of both switch and under voltage release.

    Delivery F. O. B. Factory, selenectady, N. Y. For warehouse deliveries write bearest house.

[^11]:    Delivery F. O. 13. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

[^12]:    -- Delivery F. O. B. Factory, Schenectady, N. Y. For warehouse deliveries write nearest house.

[^13]:    Model No. 368 polyphase indicating wat toneter (mate in semi-flush type of case only), differs from model No. 216 only in the diameter of case, lengthot pointer and seale. It has a diancter of $7 \frac{1}{1} \frac{1}{6}$ inches, a projeetion of $37 / 8$ inches, and a scale length of $51 / 4$ inches. It cuan be furnished for potentials up to 750 volts and rurrents up to 20 amperes at List prices $\$ 16.50$ less than the corresponding range of the model No. 216. External resistance is provided for all ranges.

    Delivery F. O. B. Factory, Newark, N. J. For warehuse deliveries write nearest house.

[^14]:    Nopt: Alwaystate normal voltage of cireut when ordering.
    Thomson direct current wathour meters, "'ypes $C^{C-t}$ and $(\mathcal{C}-7$ will he furnished with moukled glass covers for an additional net price of $\$ 1.00$.

    Delivery F. O. B. Factory, Lynn, Mass. For marehouse deliveries write nearest house.

[^15]:    8360-. 1 Fire Alarm
    83361-A Fire Alarm
    $1 / 2$-inch conluit 110 D.C. $\$ 12.50 \$ 20.25$
    $1 / 2$-inch conduit 110 A C . $10.50 \quad 17.01$

[^16]:    ttbn ordering sureity whether wool or metal case is dexired.
    

[^17]:    * Complete cells and jars for same not now supplied all other parts can be supplied.

[^18]:    Terminal Nuts and Washers, per cell
    80.50

    Large Wing Nute, each
    .20
    Large Wing Nute, each. .
    .10
    Hexagon Jamb Nut
    .10
    Brass Washers, each.
    .10
    Double Connectors, each
    .30
    .15
    In ordering rubber gaskets, be careful to state exactly the type of cell for which they are required.

[^19]:    Write our nearest distributing house for particulars and prices.

[^20]:    Lettering on ghss up to 10 ]etters, list $\$ 1.60$, cach additional letier, list $\$ 011$.
    For arrangemeat of drops other than listed add to list 10 per ceat.
    Note: Heuvy iaced type indisates fiaish supplied when not sper fified.
    *Delivery F. O. I3. Factory, New Yark City. For warehouse delivaries write nearest house.

[^21]:    2502 Fncloserl-Type Trouble-Bell, with outlet-box back (one bell for cach system)
    Delivery F, O, B. New York City. For warehouse deliveries write nearest house.

[^22]:    310
    Delivery F. O. B. Factory, New York City. For warehouse deliveries write nearest house.

[^23]:    Assortment of all sizes Enclosed-Type Gongs and Buzzers permitted to make up list-valuc, but Faraday and Ekla Skeleton Bells cannot be included with Enclosed-Type Gongs or Buzzers; list price additions for Special lResistance Windings nay be incluted with bells to make up list-value.

    Special resistance bells made o order. For prices, sce special listing elsewhere.
    llatinum Contacts: Add to above prices for Pure Platinum Contacts, $\$ 2.40$ for bells to and including 6 inch; $\$ 4.00$ for 7 inch and larger.

    Triplex Contaets: Add to above prices for Triplex Platinoid Contacts, $\$ 8.00$ For Triplex Puse Platinum Contacts add to above prises the following:
    lp to and including 6 inch.
    \$12.00 List
    16.00 List

[^24]:    *Delivery F. O. B. Factory, New Iork City. For warehchese deliveries write nearest house.

[^25]:    Noses may be assorted in quantities of 24 to make standard packages. If size is not specified, size $A$ will be furnished.
    Nos. 147 and 148 furnished in paper eartons, six in euch.

[^26]:    *'ype si). The above outtits eonsist in each ease of a series wound motor with totally enclosing covers, fan, tripod and motor speed so per cent. The air delivery varies in direct proportion to the speed.

[^27]:    For element for devides to operate on goltakes other than standisels given in listing eath article auld :35 rents for voltages

[^28]:    Ovens Nos. 220, 250, 300, 315 and 400 are shipped knocked down.
    Decks of ovens with tile decks have a 7 inch clearance, instead of 8 inch, unless ordered specially.
    An accurate pyrometer can be supplied at an extra price of $\$ 30.00$ list.
    These ovens can also be used for roasting meats, poultry, etc. Also for baking cores and any other work requiring uniform heat.

    We can also build special ovens for enameling and other purposes.
    Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write zearest house.

[^29]:    ${ }^{*}$ Lamps of voltages of 100 to 109 and 126 to 130 inclusive are not regularly carried in stock but may be

[^30]:    $5860 \mid$ di in. purcelain emameled steel, green outside, white inside with the exception of No. B800, which is not furnin"ed with "P" helder

[^31]:    Black enamel, for $1 / 8 \mathrm{in}$. cord, ball adjuster.

[^32]:    *Delivery, F. O. B. Factory, Boston, Mass. For warehouse deliveries write nearest house.

[^33]:    Triple Insulation Arm

[^34]:    Delivery F. O. B. South Bend, Ind. For warehouse deliveries write nearest house.

[^35]:    Note: When ordering, specify size of conduit and number of outlets required

[^36]:    Fote：When orderine；speeify size of conlu＇t and number of outlets required．

[^37]:    We hase shown here, by illustration, at typical tapping arranging which would he sperefige in an order as Tapping 32012. A moment's study of this small diagram, in connection with the information given at top of puge, will show that this method is much more simple than the usual manner of writing out the sizes. In sperifying, start eote mmbers with the top or number 1 position around elockwise, fiving loottom outlot last.

    Charges. Asstated above, Ihenjamin Jumetion or Outlit boxes are furnished not tapped unless so specified. For this work, an extra charge of 3 rents net, per outhet, will be made

    When onderims, sperify sizn of fontuit atn? number of outlets.

[^38]:    *Delivery F. O. B. Cleveland or New York. For warehouse deliveries write nearest house.

[^39]:    *When ordered in lots of 500 of one List No. and one finish, this list will be reduced $\$ 0.04$.

[^40]:    ${ }^{4}$ National Electrical Code Standard.

[^41]:    Outside diameter of base is $15 / 8$ inches.
    Holes for supporting sorews are spaced $23 / 4$ and $31 / 2$ inches on centers
    Standard finishes are brush brass, ohd brass, polished brass.
    For other finishes ser listing on socket finishes.

    * National Electrieal Code Standard.

[^42]:    Standard finish is brush brass.
    For other finishes see listing on socket finishes.
    4 National Electrical Code Stamdard.

[^43]:    ${ }^{4}$ National Electrical Code Standard.

[^44]:    Nos. 4037 and 4056 leceptacles are provided with pointed bindiag screws designed to pieree the insulation, making it unnecessary to strip the wires. Stranded wire is preferable for this use.
    ${ }^{4}$ National Electrical Code Standard.

[^45]:    ${ }^{4}$ National Electrical Code Standard

[^46]:    

[^47]:    * Outside diameter of base is $27 / 8$ inches. Holes for supporting screws are spaced $15 / 8$ inches on

[^48]:    The only speecial finish in which sheel phates can be furnished is genuine Bauer Barff, for which add
    \$0.79 per switch. Nifs. List \$0.36.
    Note: A standard package of plates for Push Button Switches consists of a sufficient number to accommodate 100 awitches.

    Standard finish, old brass finish.
    ${ }^{\wedge}$ National Electrical Code Standard.

[^49]:    Bull's Eye lights when plug is connected.
    ${ }^{4}$ National Filectrical Code Standarl.

[^50]:    * Rated at this capacity for 125 volts. 250 -volt capacity 1 ampere.
    $\dagger$ Rated at this capacity for 125 volts. 250 -volt capacity 3 amperes.
    $\ddagger$ Rated at this capacity for 125 volts. 250 -volt capacity 5 amperes.

[^51]:    Standard finishes are polished brass and brush brass. Brush brass shipped unless otherwise specified. For special finishes, see listing elsewhere.

[^52]:    Standard finishes for capr, polished brass and brush brass. I3rush brass shipped unless otherwise specified.
    For special finished brass covered caps, add to Mfrs. list 5 cents. To W. E. List 11 cents.
    When two catalog numbers appear with iltustrations, the base and cap are packed and sold as separate units, the price of the whole being the aggregate of the units. Where only one catalog appears the device is packed complete.
    *Not a practical combination.

[^53]:    will he that applying to the base. All devices listel above packed 10 to a cartoth. For special finishel, brass covered caps,

[^54]:    ## STEEL PLATE (GENUINE BAUER-BARFF FINISH)

    
    (Hutside supporting serew hodes $3_{3^{4}}{ }^{\frac{y}{2}}$ inches on centers. Inside supporting arerw liolies $2 \frac{18}{8}$ inches on centers.

    General brush brass, polished trass, polished brouze and oxidized copper are standard finishes for brass flush plates. All $\mathbf{o}^{\prime}$ ber fimishes. excepting gold and silver, add to list, per gang, \$0.22. Mfrs. I.ist $\$ 0.10$.

[^55]:    Add $\$ 0.12$ to list when supplied with !ampernp; Mifs. Last Sil. (oJ.

[^56]:    - National Electrical Code Standaril. Illustrations are ${ }^{3}$ of full size.

[^57]:    - National Electrical Code Standard.

[^58]:    ${ }^{4}$ National Electrical Code Standard.

[^59]:    -Nitional Electrical Code Standard.

[^60]:    On tindem plates, switches are spaced 38 inches between centers.
    Taudem plates fit the standird wall cases.
    *10) single plates, or the equivatent in gangs, is a standard package,
    $\dagger 100$ plates or 100 gangs is a standard package.
    $\ddagger 100$ plates or 100 gangs is a standard package.

[^61]:    ${ }^{\wedge}$ National Electrical Code Standard.

[^62]:    Note: Type R-5 box can be fitted with sersw chanp embacts, und Type R-j with knife-blade contacts if desired. In ordering fuses for boxes specify the type of box.
    *Delivery F. O. B. Factory, Providence, IR. I. F'or warehouse deliveries write nearest house.

[^63]:    *Delivery F.O. B. Facfory, Povidence, IR. I. For warchouse deliveries wite roarest house.

[^64]:    *Dellvery F. ©. B. Factory, Providence, 12. I. For marehouse leliveries write nearest house.

[^65]:    *Delivery F. O. B. Factory, Providence, 1R. 1. For warehouse deliveries write nearest house.

[^66]:    Conduits in 10 foot lengths, threaded on both ends with one coupling.
    Conduit pipe is known and spoken of by its nominal inside diameter.

[^67]:    The size of eover required for a type TL or TRL Comblet borly is the same size as the conduit hubs at the ends of the eover opening.
    Obround covers and Obround Conduletto fittiags of same size are interchangeable on above Condulet bolies of corresponding size.
    Proper fastening serews are furnished with Obround covers and Obround Conduletto fittings, and are so held in screw holes that they can not fall out.
    Assortments: Black enameled and galvanized Condulet boulies of the same type and with the same size cover openings may be assorted to make up a st andard package. Black enaneled and galvanized types TL, and TRR Condulet bodies with the same size cover openings may be assorted to make up a standard packace. No other assortment is allowed.
    *1/2, $3 / 4$ and 1 -inch types T, TB3 and $X$ Condulet bodies are regularly furnished with larger wiring chamber than other Obround Condulet bodies of corresponding size. These Concluiet bodies will be furnished with wiring chamber of the same size as other Obround Condulet horlies, if specifically ordered, using regular catalogue numbers and specifying Smaller Wiring Chamber.

[^68]:    Fittings for use with Condulets of the S series are notincludedin abovelist prices, but are enumerated on following page.

[^69]:    For finishes, assortments and other important information, see note on following page.

[^70]:    "See footnote on opposite page.

[^71]:    *If specified on crder, Guard IIV96, instead of Guard HV94, will be furnished with Condulets of the GV and HV series, at an advance of $\$ 0.10$ in list prices. Guard HV96 takes any incandescent lamp not exceeding $27 / 16 \times 51 / 4$ inches.

[^72]:    *If specified on order, Guard HV96, instead of Guard HV94, will be furnisher with Condults of the GV and IIV series, at an advance of $\$ 0.10$ in list price. Guard HV96 takes any incandescent lamp not exceeding $27 / 16 \times 51 / 4$ inches.
    Finishes: Black enamel is the standard finish for Condulets, and will be furnished unless another finish is specified on the or'er. Galvanized finish on exterior ard black enamel finish on interior of Condulets will be furnishr $d$, at same priee as all 1 lark enamel $f$ nish, when the order specifies galvanized finich. For special plated finishes, cast brass and cast bronze Condulets with plain and special finishes, aluminum Condulets with plaina nd black enamel finish see Manufacturer's Page No. 182.
    Black enameled and galvanized Condulets of the same type and size may be assorted to make up a standard package. No other assortment is allowed.

[^73]:    Switches are not included in above list prices, but the universal fastening plates, furnished with
    above Condulets, take Crouse-Hinds type YKK knife switches or the knife switches of other
    manufacturers, enumerated on following page.

[^74]:    The adjustable bar, furnished with each Condulet listed on this and the preceding page permits the proper mounting of any snap or pull switch

    Adapting rings, furnished with the Condulets, are required in mounting 5 or 10 ampere switches. No adapting ring is required in mounting a 20 ampere switch.
    The universal cut-out fastening plates, furnished with the Condulets listed on this and the preceding page, take the following cut-outs:

    30 Ampere, 250 Volt, Cartridge and 30 Ampere, 125 Volt, Plug Fuse Cut-outs
    2-Wire: BRYANT-(Cartridgr) 1917, (Plug) 62965. D. \& W.-(Cartridge) 91102. G. E. CO.-(Cartridge)
     -(Cartridge) 2077. TRUMBULL-(Cartridge) 29653, (Plug) 2065. WEBER-(Plug) 62965. UNION(Cartridge) 2010.
    3-Wire: BRYANT-(CartriIge) 1024, (Plug) 62165. D. \& W.-(Cartridge) 91103. G. E. CO.-(Cartridge) 34372, (Plug) 62165, NOARK-(Cartridge) 3328. PAISTE-(Cartridge) 72165, (Plug) 2165. SHAWMUT-(Cartridge) 2079. TRUMBULL-(Cartridge) 21653, (Plug) 2165. WEBER-(Plug) 62165. UNION-(Cartridge) 2012. 30 Ampere, 600 Volt, Cartridge Fuse Cut-outs
    1-Wise: BRYANT-(Cartridge) 1937. D. \& W.-(Cartridpo) 28076. G. E. CO.-(Cartridge) 34991. NOARK(Cartridge) 5600 . SHAWMUT-(Cartridge) 20735. UNION-(Cartridge) 4003.
    3 -Wire: Mount three 1 -wire cut-outs, side by side.

[^75]:    $\$ 0.90$
    .08
    1.08
    1.08
    1.35
    1.75
    1.53
    1.62
    $\$ 0.99$
    1.17
    1.17
    1.44
    1.44
    1.62
    1.71
    2.16
    31.08
    1.26
    1.26
    1.26
    1.53
    1.89
    1.71
    1.89
    2.43

[^76]:    ＊Black enamel and calvanized Pipe Taplets of the same size may be assorted to make Standard Package．Covers of the

[^77]:    Prices on application.

[^78]:    Price per

[^79]:    Delivery F. O. 13. Factory, East liverpool and Lisbon, O. For warehouse deliveries write nearest house.

    * New code will be shipped on all orders unless otherwise specified.

[^80]:    $10 \mathrm{~A}-5 / 8$ inch threaded socket at one end.
    $10 \mathrm{~B}-5 / 8$ inch threaded stem at one end.
    $10 C-5 / 8$ inch threaded socket at each end.
    $10 \mathrm{D}-\mathrm{s} / 8$ inch threaded stem socket at each end.
    10 F - it inch clevis at one end.
    10G-H inch clevis at one end.
    $10 \mathrm{H}-\mathrm{H}$ inch clevis at one end.
    Delivery F. O. B. Factory, Brooklyn, N. Y. Fur warehouse deliveries write nearest house,

[^81]:    Nos. 1.1 and 7.1 have a ${ }^{5}$ inch threaded socket at one end.
    Nos. 1H and 7B have a $\frac{5}{8}$ inm threaded stem at one end.
    Nos. 1C and 7C have a ${ }^{5}$, imeh threated socket at earh pud
    
    N cs. 1k and 7G have a ib infit clevis at one end.
    Nos. 11 and 7F have a inch clevis at each end.
    No. 14 ean be furnished with special terminals, same as the No. 7.

[^82]:    Prices on Application

[^83]:    Delivery I'. (). I3. Pittshurgh, Pa. For warehouse deliveries write nearest house.

[^84]:    *Delivery F. O. B. Factory, South Portland, Me. For warehouse deliveries write nearest house.

[^85]:    *Delivery F. O. B. Factory, Newton, Mass. For warehouse deliveries write nearest house.

[^86]:    107-1 For bare wire... . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . On application
    107-2 For sleeves
    On application

[^87]:    List per Doz. 81.28 . 74

[^88]:    No.
    0
    1
    2
    2
    3
    4
    5
    6
    7

    | Weight, | Length, | Weizht | Per |
    | :---: | :---: | :---: | :---: |
    | $\mathrm{Oz}^{2}$ | ins. | Lbss. per Doz. | Dozen |
    | 4 | 11 | 61/2 | 817 5\% |
    | 7 | 12 | $71 / 2$ | 1835 |
    | 9 | 13 | 915 | 19.11 |
    | 12 | 13 | 12 | 1985 |
    | 15 | 14 | 16 | 2070 |
    | 18 | 14 | 1812 | 223 |
    | 22 | 15 | $201 / 2$ | 23 55 |
    | 26 | 15 | $23 \%$ | 2.55 |

    ## SMALL TOOLS

    

    Lineman's Axe
    

    Hand Axe

    ## Lineman's Axe

    | List |  | List Price |
    | :---: | :---: | :---: |
    | No. |  | Each |
    | 760719 | $31 / 2$ to 5 lbs. with handle | \$3.50 |

    Hand Axe

    | List |  |  | List Price |
    | :---: | :---: | :---: | :---: |
    | No. | Weight | J3it | Each |
    | 640 | 1 lb . $80 \%$. | 4 ins. | \$3.40 |
    | 641 | 1 lb . 12 oz | $41 / 2 \mathrm{ins}$. | 3.70 |
    | 642 | 2 lbs .2 k. | 5 ins. | 4.20 |
    | 643 | 2 lbs .8 oz . | $51 / 2 \mathrm{ins}$. | 4.70 |
    | 644 | 2 lbs. $140 \%$. | 6 ins. | 5.30 |
    | 645 | $3 \mathrm{lbs} .40 \%$. | $61 / 2$ ins. | 6.00 |
    | 646 | 3 lbs. 12 oz | 7 ins. | 6.35 |
    | 647 | 4 lhs. $40 \%$. | $71 / 2 \mathrm{ins}$. | 7.00 |

    

    No. 1 Hand Vise
    

    No. 3 Hand Vise

    Hand Vices

    | List |  | Length | Width, Jaw | $\begin{gathered} \text { Jarv } \\ \text { Open } \end{gathered}$ | Weight per Doz. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | No. |  | Inches | Inches | Inches | Lbs. | Each |
    | *1 | Hand vise. | $63 / 4$ | 11/4 | .11/8 | 12 | \$5.60 |
    | *3 | Hand vise. | 5 | 11/2 | 11/2 | 131/2 | 1.90 |

    *Delivery F. O. B. Factory, Millers Falls, Mass. For warehouse deliveries write nearest house.
    Delivery F. O. B. New York. For warehouse deliveries write nearest house.

    ## SMALL TOOLS

    

    ## Chaingrip Pipe Vise

    The chaingrip pipe vise fastens to any support. A moment's work to wrap the supporting chain around the pipe, joist or column-no matter whether vertical, inelined or horizontal. The support chain, one end of which fastens to the base of the vise, passes through the tightening eye bolt of the clamp support placed at the back of the column, and a link drops into a recess on the opposite side of the vise base.

    | List |  |  | List Price |
    | :--- | :---: | ---: | ---: |
    | No. | Pipe | Weight | Each |
    | ${ }^{2} 1$ | $1 / 8 \mathrm{in} .-21 / 2 \mathrm{in}$. | 14 lhs | $\$ 15.00$ |
    | *2 | $1 / 4 \mathrm{in} .41 / 2 \mathrm{in}$. | 17 lhs. | 20.00 |

    

    ## Combination Pipe Vises

    SWIVEL EOTTOM
    The steel faces of Nos. $87-2881 / 2$ are milled and fitte: 1 to the jaws. and are renewable.

    | Iist | Weight | Jaw | Vise Opens | Holds Pipe | List Price |
    | :---: | :---: | :---: | :---: | :---: | ---: |
    | No. | Lbs. | Inches | Inches | Inches | Each |
    | +87 | 41 | $35 / 8$ | 43 | 2 | $\$ 32.00$ |
    | 488 | 59 | $41 / 8$ | 61 | 3 | 44.00 |
    | $* 2881 / 2$ | 105 | $43 / 4$ | $61 / 2$ | 4 | 64.00 |

    ## Neverbreak Vises

    REINFORCED SLIDE SOLID JAW STATIONARY VISE

    | List | Width of Jaw |
    | :---: | :---: |
    | No. | Inches |
    | $\dagger 29$ | $31 / 4$ |
    | $\dagger 39$ | $33 / 4$ |
    | +49 | $41 / 4$ |
    | +59 | $43 / 4$ |
    | +69 | $51 / 4$ |
    | +79 | $C 1 / 4$ |


    | Vise Opens, | Weight |
    | :---: | :---: |
    | Inches | Lbs. |
    | 4 | 31 |
    | $61 / 4$ | 47 |
    | 7 | 66 |
    | 8 | 81 |
    | 9 | 123 |
    | E1/2 | 150 |
    | For warehouse deliveries write nearest house. |  |
    | For warehouse deliveries write nearest house. |  |

    List Price
    Each
    $\$ 17.50$
    19.60
    25.20
    32.90
    45.50
    67.20
    *Delivery F. O. B. Factory, Chicago, Ill. For warehouse deliveries write nearest house.
    $\dagger$ Delivery F. O. B. Factory, New York. For warehouse deliveries write nearest house.
    

    I, ist No.

    Complete, with two sets of extra knives.
    Complete, with two sets of extra knives.
    C'omplete, with two sets of extra knives
    Fxtra set knives
    Extra set knives
    Extra set knives

    | Size | Weight |
    | :---: | :---: |
    | , in. to 1 im . | 8 lhs . |
    | 12 in . tol $2 \mathrm{ins}$. | 12 lbs |
    | 21.2 ins to 4 ins. | 53 lbs . |

    $\dagger$ List Price
    Hach
    On application
    ()n application On application (On application (On application ()n application
    

    Three dies in one stock. Selfecontamet. Always realy, always right. ("lean, smooth threads.
    

    Pipe Vises
    

    Pipe Threader

    | List |  |  |
    | :--- | :--- | :--- |
    | N゙o. |  | List Price |
    | Each |  |  |

    ## Wells Pipe Vises

    They are made of malleable iron. Frame and hook can be revers: 1 to open either site. Jaws made of tool steel carefully harcened and tempered.

    | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Capacity | *List Price Fach |
    | :---: | :---: | :---: |
    | 0 | $\frac{1}{8}$ in. to 2 ins. | \$7.00 |
    | 1 | $1 / 8 \mathrm{in} . \mathrm{fo}^{1} \simeq^{1} \mathrm{~S}_{2} \mathrm{ins}$. | 14.00 |
    | 2 | 1/8in. to $33_{2}^{1} \mathrm{ins}$ | 16.80 |
    | 3 | $\frac{1}{8} \mathrm{in}$. to 416 m ins. | 28.00 |

    ## Greenfield Receding Pipe Threader

    A new pipe threader which "leads on" easily, works still easier as the die atvances, and pulls straight off the pire when threa has boen finished.

    There is no unwinding, on the pipe or off. Die opens and closes instantly. Chas res quicily removed. Chasers interchangeable. If one chaser is lost it is urnecessary to buy a complete set. One single chaser can be replaced at slight cost.

    | List |  | *List Price |
    | :---: | :---: | :---: |
    | No. |  | Each |
    | 250 | Cutting 1, $11 / 4,1 \frac{1}{2}$ and 2 ins. | \$84.00 |
    | Prices on ratchet receder on request. |  |  |
    |  | IVERY: F. O. B. Factory B. Factory, Bridgeport, es write nearest house. | Ohio. warehouse |

    

    Wire Measuring Machine

    ## SMALL TOOLS

    

    Wire Meter
    

    High speed Indicator

    ## Reels and Meters*

    A most efficient device for measuring and reeling wire and cordage of various sizes.

    | List No. | Description | *List Price Each | List No. | Description | *List Price Each |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 761000 | Wire meter with reel. . . | \$18.00 | 761002 | Counter meter | ©0 |
    | $76100) 1$ | Meter only | 30.72 | 761003 | Cable meter only | 8.00 |

    ## High Speed Indicator

    This indicator may be run at highest speed required without heating, and this on account of the frictionless bearing againsi, which the inner end of the spindle revolves. The dial plate has two rows of figures, reading right or left, as the shaft may run.

    ## List No.

    $\dagger$ List Price Each
    $\$ 3.00$
    104 Complete with rubber tips
    4.00

    106 Improved indicator, same as 104 , with rubber handle and tips complete.............. 4.0 . 1.00
    109 Surface speed attachments for speed indicators.
    1.50

    109-A Leather case for speed indicator.
    

    ## Wire Gauge

    These ganges are manufactured irom the best steel. and are tempered, adjusted, and warranted accurate. Size $3 \frac{1}{4}$ inches in diameter and ${ }^{1}$ y inch thick. In order to be farniliar with the usage of these ganges with the decimal equivalents of the gatuge numbers, we furnish both sizes with these decimal equivalents expressed in thousandths on the back, opposite to the regular gauge numbers.
    list No.
    $\ddagger$ List Price Each
    688 Size wire B.\&S. gauge, 0 to 36 , American standard.
    688 Size wire B.\&N. gatuge, 5 to 36, American standard.
    199) Size wire B.W.G. gauge, 1 to 36, linglish standard

    69 Size wire B.W.G. gauge, 6 to 36, English standard
    5.00

    ## Micrometer Caliper No. 4

    ## English or Metric Measure

    Measures all sizes less than one-half inch by one-thousandth of an inch. It is also marle to measure all sizes less than 13 millimeters by hundredths of a millimeter. When so made the table of decimal equivalents is omitted.
    
    F. O. B. Fariory, Providence, R. 1. For warehouse deliveries write nearest house.

    ## SOLDERING AND BRAZING OUTFITS

    In the electrical trade, the uses for the Prest-O-Soldering Iron and the Prest-O-Torch are almost without number.

    For soldering wire connections on switchboards, all kinds of shop work, overhead wire work, etc., the Prest-O-Soldering Iron saves valuable time, labor and operating costs as well. The heating flame burns inside the copper head of the iron, maintaining an even temperature, and will not blow out in high winds. ldeal for work in cramped quarters.

    The Prest-O-Torch (Style $.1,13$ and C) is a blow torch, providing an intense heat in a concentrated flame. Very handy, instantly available and also economical.

    Extensively used for soldering and brazing work by telephone and
     electric light repairmen, plumbers and timers, automobile and motorcyele connected to an MC houses, etc. The Style A Prest-O-Torch may be connected to an MC l'rest-O-lite and fitted with bands and a handle for
    overhead work, or it inay be fitted with a hook for hanging on a crossarm.

    If either P'rest-O-Soldering Iron or I'rest-O-Torch is used with a large size tank, a shut-off may be provided at the torch by using an automatio pressure regulator at the tank, regarding which information will be furnished on request.

    Prest-O-Jite is a system furnishing pure, readymade acetylene gas in steel cylinders of convenient size. A Prest-()-Lite, when empty, may be taken to any Prest-O-Jite dealer and exchanged for a full one upon payment of a small exchange fee.
    Prest-O-Lites are manufactured under a specta, formula of The l'rest-O-Lite Co., Inc., and are backed by a universal exchange system which includes primetically all large eities and towns and most villages throughout the country.

    ## Prest-O-Soldering Iron

    lrest-O-Soldering Irou as orderel is fitted with a 1 lb . soldering head of highest quality drop forged copper. Wach outfit includes (if feet of rubber hose and a union for attaching to rither Stule MC or to style 13 and E l'rest-O-Tites, as specifich.
    List No.
    330935 Prest-O-Lite Aoldering Iron, 1 lh. size. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$14.00
    

    Prest-O-Torch. Style A. With MC Cylinder
    

    Prest-O-Torch. Style C.
    With E, 13, or A Cylinder

    ## Prest-O-Torch

    Style I torch has a heat sufficient for brazing steel up to $3 / 8$ inch diameter. Style B torch gives a flame w ith an intense heat ideal for work of jewelers, dentists, etc. Style C provides a flame about three times as large as Style A and successfully brazes solid steel bars up to 2 inches diameter.

    | Style |  | List Price Fach | Style |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | A | Torch | \$2.95 | C | 'rorch. |  |
    | 13 | Torch | 6.4.5 |  |  |  |

    

    Style MC
    

    Styles A, B, E

    Prest-O-Lites

    | Style |  | Contains | Dimensions |  |  | List Price Complete | Liat Price Less Band |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | MC | Motorcycle size | 10 cubic ft. gas |  | ins. long, 4 | ins. diam. | \$24.36 | \$21.00 |
    | Ei: | Tank.... . . . . | 30 cubic ft. gas | 16 | ins. long, 6 | ins. diam. | 37.80 | 34.30 |
    | B | Tank. | 40 cubic ft. gas | 20 | ins. long, 6 | ins. diam. | 45.50 | 42.00 |
    | A | Tank | 70 cubic ft. gas | 22 | ins. long, $71 / 4$ | ins. diam. | 60.90 | 57.40 |

    ## SOLDERING TORCHES

    

    No. 32 Torch
    

    No. 31 Torch
    

    No. 30 Torch
    

    No. 29 Torch
    

    No. 10 x
    

    No. 107

    List No.
    32) Gasoline torch with hook and support for soldering copper . . . . . . . . . . . . . . . . . . . . . . . . . . .
    The burner is of special generator metal which holds the heat longer.
    30 Gasoline torch with hook and support for soldering copper. . . . . . . 29 Same as above without hook...................................... Quart
    Has automatic pump in handle. Burner of open type and the gas is superheated before it is burned.
    108 Gavoline torch with hook and support for soldering copper....... Quart
    Weight List Price
    Same as above without hook..
    Burner mounted in center of tank.
    

    No. 104 Torch
    

    No. 96 Torch
    

    No. 95 'lorch
    

    No. 112 Torch
    

    List
    No.

    104 Gasoline torch with hook and support for soldering copper.
    Size Quart $412 \quad \$ 11.52$

    Weight
    I, bs.

    List Price Size Wach Patented automatic pump with double spring automatic check valve fitted in tank.
    90 Torch for kerosene without soldering copper attachment...... Quart 614 , 08 The improved construction of the burner and perfect combination of the fuel practically eliminates carbon deposits.

    | 9.5 | Kerosene torch without soldering copper attachme | Pint | $3{ }^{1 / 4}$ | \$11.52 |
    | :---: | :---: | :---: | :---: | :---: |
    | 112 | Gasoline torch with detachable soldering copper holder | Quart | $41 / 4$ | 11.52 |
    | 111 | Gasoline torch with detachable soldering copper holder | l'int | 3 | 10.24 |

    111 Gasoline toreh with detachable soldering copper holder.
    
    
    

    SOLDERING TORCHES
    

    No. 20
    

    No. 21

    List
    No.
    203 Equipped with latest burner with automatic pump in handle
    20 Powerful and very hot flame protuced by patent coil burner
    21 Efficient and excentionally serviceable. Very hot
    202 Furnished with hook and struy for holding soldering copper
    

    No. 202
    Shipping List Price W't. Lbs. Fach $5 \div \$ 10.80$ (i 12.60
    $51 / 2 \quad 12.00$
    $51 / 2 \quad 13.00$
    

    No. 224
    

    No. 215

    No. 223
    

    224 Fquipued for heating soldering coppers
    Automatic pump in hancle
    
    No. 425
    
    $\$ 11.40$

    425 Kerosene torch producing : powerfulblue flame
    $5 \quad 10.20$

    512
    
    

    No. 96

    Double Jo. Jet Torches, Quart Sizes
    

    92 Double jet P'roduces nearly double the heat of single jet torches............. . . 5 \$15.38
    96 Double jet burner on swivel for brazing heavy electrical cables................ $51 / 2 \quad 18.00$
    $\begin{array}{lll}97 \text { Double jet. Large burner is proterted for outdoor work by wind shield ........ } & 63 / 4 & 20.70\end{array}$
    

    No. 324
    

    No. 315
    

    No. 302
    

    No. 418

    Pint Torches, Polished Brass
    324 Lquipped with burner having soldering iron at tarhments ..... $21 / 2$ ..... $\$ 10.20$
    315 Same type as ㅅ.. 215. Meeting demand for alow-priced tool. ..... $31 / 2$
    302 Equipped with improved burner with holder and pump. . . ..................... 410.80
    418 Auto type. Will fit in tool hox. ..... 13.20

    # FIRE POTS 

    

    No. 1 Fire Pot
    

    No. 21 Fire Pot
    

    No. 20 Fire Pot
    

    No. 5 Fire Pot

    No. 71 Fire Pot
    
    

    No. 72 Fire Pot

    ## Nos. 20 and 10 Fire Pots for Gasoline

    ## Capacity

     10 Oue gallon with rubber bulb....... $93 / 4 /$ lbs. 12.00
    Fitted with galvanized cast iron top plate and bottom ring. All small or light castings are malleable iron or brass. The coil and burner are steel. The needle point valves are fitted wioh stuffing boxes and are always tight and give perfect control of the fire.

    ## Nos. 21 and 11 Fire Pots for Gasoline

    21 One gallon with antomntic, pump. . ....93í lis. \$16.06 11 One gallon with rulber bulb. . . . . . . . . 93, 1 lbs. 15.68
    The latest improved ip-to-date coil fire pot made, with seamless drawn stcel taik, large funnel and filler plug, heavy uprights, large valve, heavy malleable top plate and one-piece steel shieid.

    ## Nos. 221, 222 and 223 Fire Pots for Kerosene

    221 Seven pints capacity witl shield for holding metal put. Plumbers' style.............. $12 \mathrm{lbs} . \mathbb{\$}^{2} 6.88$ 222 Seven pints capacity with shield for soldering coppers. Tinners' style. ............. 13 lbs. § 28 . 16
    223 Seven pints capacity with heavy round shield and bale handle. Electriciuns' style. . $13 \mathrm{lbs} . \$ 30.08$
    These tanks are made of seamless drawn steel, with bottom and fittings welded in. The burner produces a powerful heat and is free from smoke; an excellent fire pot for outsite worls, or where insurance restrictions forbid the use of gasuline. Give good service under severe weather conditions.
    

    List
    No.
    S3 Seven Pints, "Hot Blast," with improved burner for kerosene.
    Turner Fire Pots
    Description$3 t$ Seven Pints, "Ilot Plast," galvanized steel tank
    $\qquad$
    Shipping List Price

    - 17 - 20.20
    $\begin{array}{lll}34 & \text { Seven Pints, "Ilot Blast," galvanized steel tank . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } 17 \\ 36 & \text { Five Pints, "Itot Blast," galvanized steel tank . . . . . . . . . . . . . . . . . } & 14\end{array}$
    14
    20.40

    66 Seven Pints, drawn steel tank with automatic pump....................... $14^{3}$ i
    

    Lineman's Torch

    ## Staysalite Lineman's Torch

    This linernan's torch stays lit in a wind. It is light and small. It is lit and extinguished in a moment as wanted. It has no adjusting parts, therefore it cannot get out of order. It is hung directly on the wire under the joint to be soldered and is provided with a cup for holding soldering paste.

    | List |  | Weisht | *List Price |
    | :---: | :---: | :---: | :---: |
    | No. |  | Each | Each |
    | 3420 | Staysalite Lineman's Torch. | $11 / 4 \mathrm{lbs}$. | \$9.1.) |

    ## "B" Telephone Kerosene Furnace

    This furnace is especially adapted to the use of telephone and telegraph companies. It is economical because 2 quarts of kerosene will burn as long and do as much work as $\frac{1}{ \pm}$ quarts of gasoline, a saving of one half. It is safe, because kerosene can be carried with much less danger of being ignited and causing danage by fire. It is durable because the reservoir (or body) is arade entirely of heavy metal, and all joints are autogenously welled by the oxy-acetylene process. The burner is so constructed that it can be easily taken apart and cleaned of any carbon deposit.
    762023 Ficrosene furnace-capacity 3 quarts .
    $\ddagger$ Iist Price Fach
    *Delivery F. O. B. Factory, Chicago, Ill. $\ddagger$ Delivery F. O. B. Factory, Newark, N. J. For warehonse deliveries write nearest house.
    

    Galvanized Iron
    Opening at top admits $i$-inch melting pot.
    liurname is provided with a grato.
    
    

    > Wiping Cloths
    > For Wiping Lead Joints, Etc.
    > $\$ 0.80$ || 8300 Ticking.
    > $\$ 0.60$
    > Pouring Ladles
    > $\$ 1.15$ || 3300-3 3 in. bowl
    > $\$ 1.4 .5$

    8301
    Moleskin
    $33001-21 / 2 \quad 2 \frac{1}{2}$ in. bowl

    ## Pony Soldering Coppers

    Fitted with Black Lacquered Handles
    Specially adapted for electrical work. Made of pure copper, tinned.

    | List |  | Length of Handle, |  | List Price | List |  | Length of Handle, |  | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | No. |  |  | Weight | Each | No. |  | Inches | Weight | Each |
    | 3200- $8 \frac{1}{2}$ | Copper | 81/2 | 1 lb . | \$0.60 | 3200-111/2 | Copper | 111/2 | 1121 lbs . | \$1.45 |
    | $3200-9$ | Copper | 9 | $11 / 8 \mathrm{lbs}$. | . 70 | $3200-12$ | Copper | 12 | 2 lhs. | 1.75 |
    | 3200-101/2 | Copper | 101/2 | 11/4 lbs. | 1.15 |  |  |  |  |  |

    3 lbs. to pair and heavier, without handles.
    $21 / 2 \mathrm{lbs}$. to pair, without handles.
    2 lbs to pair, without handles.
    $11 / 2$ lbs. to pair, without handles

    Prices
    on Application

    1 lb . to pair, without handles
    Pointed soldering coppers with handles 7 inches long by $\frac{5}{16}$ and $\frac{3}{8}$ inch diameter, weighing 2 lbs. to 6 lbs. to pair inclusive, can also be furnished.
    

    Seamass Glove-Unlined

    | List | Size | Length |
    | :---: | :---: | :---: |
    | No. | No. | Inches |
    | 760.522 | 10 | 12 |
    | 760548 | 11 | 12 |
    | 760.545 | 10 | 15 |
    | 760551 | 11 | 15 |
    | 760.543 | 10 | 12 |
    | 760550 | 11 | 12 |
    | 76050.6 | 10 | 15 |
    | 762025 | 11 | 15 |

    

    Without Gauntlet

    The seamless type gloves are made of red rubber. Only the best selected pure fine Para rubber is used in their mamufacture. Being seamless, they have no imperfection on account of lapss or joints. They are easily cleaned or dried by turning, as they have no fabric or lining to interfere. They are flexible and serviccable, while the safety is measured by the tests to which each pair is subjected before leaving the factory.

    The sizes are staudard rulber glove sizes and compare with Nos. 14 and 15 of the coated seam glove. The standard weights are tested for about 4.000 volts, heavy weights about $10,0(x)$ volts. The heavy palm have the standard weight gamntlet, but paln of this glove is tested for about $10,0(1)$ volts. Length, 11 to 15 inches.

    | Stylo | List Price Hach Pair |
    | :---: | :---: |
    | Standard | \$4.25 |
    | standard | 4.05 |
    | Standard | 5.45 |
    | Standard | 5.75 |
    | Ex. Heay Pinger \& l'am | 4.95 |
    | Ex. Heary fringer it Palm | 5.15 |
    | Ex. Heavy Finger \& Palm | 5.75 |
    | Hx. leavy Finger \& Palm | 6.40 |

    List Price $\$ 2.25$
    4.05
    $5.4 \overline{0}$
    5.75

    Ex. Heay Finger \& lam
    Ex. Heavy Finger \& Palm
    5.15
    5.75
    6.40
    

    With Gauntlet

    ## Rubber Gloves, Cloth Lined

    To determine size required, measure hand around knackles, and then add 6 inches to measurement; i.e., if hand should measure $S$ inches, orler size Nio. 14 for close fit, or No. 15 for loose fit. $\exists$

    MEN'S LIGHT ELECTRICIAN'S GLOVES

    |  |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: |
    | Inches |  | Short | Cauntlet | Gauntlet |
    | 10, 11, 12 | Light electrician's. | 82.75 | \$3.35 | \$3.85 |
    | $13,14,1.5$ | Light electrician's. | 3.30 | 3.83 | 4.40 |
    | LINEMAN'S HEAVY REINFORCED |  |  |  |  |
    | $12,13,14,15$ | Lineman's heary reinforced | \$3.00 | \$6.00 | \$7.00 |
    | 16 | Lineman's heavy reinforced | 5.40 | 6.50 | 7.50 |
    | 17 | Lineman's heary reinforced | 6.00 | 7.00 | 8.00 |
    | 18 | Lineman's heiwy reinfored. | (i.50 | 7.50 | 8.50 |

    # Western Electric <br> LINE MATERIAL Pole Brackets, Flexible 

    The following pole brackets represent the various forms called for in modern railway line construction and include the thre: styles of tube, the use of which was been approved in the best practice. The wrought iron pipe referred to in the table is standard welded ras and water pipe, and the structural tubing is a special high carbon steel tube with butt joint, which, because of twe ureat sthiness of the material, does not require a welded sean. All diameters given are the nominal inside ciameters of standard wrousht iron pipe. All parts of these brackets are finished in blaek japan.

    The followin ; table gives dimensions and weights of the various tubes employed.

    | Material | Nominal Inside | Actual Outside | Thickness of | Wt. in Lbs. |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Diam. in Ins. | Diam. in Ins. | Wall in Ins. | per Ft. |
    |  | (11/0 | 1.66 | 0.140 | 2.2 |
    | Wrousht iron pipe | $\{11 / 2$ | 1.90 | $0.14 \bar{y}$ | 2. ${ }^{\text {a }}$ |
    |  | (2 | 2.375 | 0.154 | 3.6 |
    |  | (11/4 | 1.66 | 009.5 | 1.5 |
    | " $A$ ' tuluing | 11/2 | 1.90 | 0.095 | 1. 87 |
    |  | $(2$ | 2.375 | 0.167 | 2.5 |
    |  | (11/1 | 1.66 | 0.140 | 2.2 |
    | "C' tubing | $11 / 2$ | 1.90 | 0.145 | 2.5 |
    |  | 12 | 2.375 | 0.154 | 3 5 |

    Iron poles, surh as are used in line construction, have actual outside cliameters somewhat larger than their nominal listed diameters.
    4 in . scaniarel pipe pole. actual outside diam. . . . . $41 / 2$ ins. 6 in . standard pine pole, artual outside diam........nss ins. 5 in . standarl pipe pole, actual outside diam.......tis ins. 7 in. standard pipe pole. aetual outside diam ...... $75 / 8$ ins The brackets listel are furnished complete including tube, guy rod, set of castings, cable, eyebolts and lag screws for wood poles or pole clanps for iron pole construction.
    lhrackets with wable, eyebolts and lat serews omitted may be furnished when desired.
    

    Form Al Bracket
    FORM A1 BRACKETS FOR WOOD POLES

    | $\begin{aligned} & \text { List } \\ & \text { No. } \end{aligned}$ | Description | Length | - tpprox . <br> Net Wt. per 100 | $\begin{array}{r} \text { List } \\ \text { Price } \\ \text { per } 100 \\ \hline \end{array}$ | List No. | Description | length | Approx. <br> Net 11 t. <br> per 100 | $\begin{array}{r} \text { Iist } \\ \text { fer } 100 \end{array}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 10009 | 1rin. "A" tubin | 9 ft , | 32501 bs . | \$.70.00 | $\overline{\text { E, } 6169}$ | 11/2 in. "A" tubing | 10 tt . | ¢ 501 l \% | 8. 47.00 |
    | 10010 | 11/2in. "C" tubing | 9 ft . | 3sou libs. | 803 00 | 150170 | 11/ in. "C" tubing. | 10 ft . | 412.5 llos . | sin 0.60 |
    | 10011 | ${ }_{2} 12 \mathrm{in}$. wrought iron pipe. | 9 ft . | 3900 lbs . | 80:3 60 | 156171 | 1\% in. wrought iron pipe. | 10 ft | 4225 lhs | 880.00 |
    | 40012 | 2 in. " 1 " tubing . . | 9 ft . | $34 \overline{0}$ l lbs. |  | 1.5617) | 2 in. "A"' tubing. . . . . . | 10 ft . | 37751 ls s. | (14i7 On |
    | $1(1013$ | 2 in. "C" tubing | 9 ft . | 4000 lbs. | (19)0 (m) | 1:51773 | $2_{0} \mathrm{in} .{ }^{\text {a }}$ C" ${ }^{\text {c tubin }}$ | 10 ft . | 442.51 lbs | 11100.00 |
    | 1001 t | 2 im . Wrouglit iron pipe | 9 ft . | 4100 libs. | (1910 (w) | 15 (i)7.4 | 2 in. wrought iron nipe. . | 10 ft . | 4.525 lbs . | 1100.08 |

    

    Form A2 Bracket
    FORM A2 BRACKETS FOR W OOD POLES
    This bracket differs from the Form Al onlv in that it hak alditional aljustment for tension of span wire.

    | 4101.j | 1*áin. "A"tuluin | 9 tt . | 3300 lbs. | \$314.00 | 1,6165 | 11/2 in. "A" tubing | 10 ft . | 3550 lbs . | 5.911 .00 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 10016 | 11/2 in. "C ${ }^{\text {" }}$ tubin | 9 ft . | 3850 lbs . | 8.17.00 | 1:56176 | $11 / 2$ in. "C' tubing | 10 ft . | 4175 lbs. | 9 -4.00 |
    | 40017 | $11 / 2 \mathrm{in}$, wrourht iron pipe. | 9 ft . | 39.50 lbs. | < 47.00 | 1515177 | $1 \%$ in. wrought iron pipe. | 10 ft . | 4275 lbs . | 924.00 |
    | . 40018 | 2 in. "A" tubing. | 9 tt . | 3.500 lbs . | 1091.00 | 1.56178 | 2 in " A" tubin | 10 ft . | $3 \times 25$ lbs. | 1100.00 |
    | 40019 | 2 in " " C " tubi | 9 ft . | 40.30 Jbs. | 1034.00 | 1.56179 | $2 \mathrm{in}$. "C" tubin | 10 ft . | 4475 lbs | 1133.00 |
    | 40020 | 2 in. wronghtiron $p$ | 9 fr . | $4150 \mathrm{lhs}$. | 111.34 .001 | 1.6150 | 2 in . wrouchtiron pipe | 10 ft . | 4:751 hs . | 1133.00 |

    

    # LINE MATERIAL <br> Trolley Wire Suspensions 

    

    Form 1I-3 Straight Line Suspension
    

    Section Form II-3 Suspension

    ## Straight Line, Form H-3, 600 Volt

    The Form II-3 Straight Eine Suspension is of the crimped pup type, having the stud mechanically fastened nto the hell and insulated by shect mica under compression.
    
    

    ## Form H Suspension Body With Pins

    For 1200 Volt Straight Line and 600 and 1200 Volt Double Curve Form H Suspensions

    | List <br> No. | J.ength between Centers of Clevis Holes | Diam. of shell | Diam. of Stud | Diarn. of l'in | Approx. Wt. per 100 | I.ist Prine per 100 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | (003:30 | 43 íns. | 312 ins. | $5 / 8$ ins. | 1/3 ins. | 25.5 lhs. | \$14t.00 |
    | 66320 | $4^{2 \prime}$ ins. | $31 / 2$ ins. | $3 / 4$ ins. | $1 / 2 \mathrm{ins}$. | 290 lbs | 156.00 |
    | 128424 | lemovable suspension arm | able iron | ed |  | 75 lbs. | 36.00 |

    Suspension arm for Form II Curve Suspension, Has if inch eye.

    ## Straight Line, 600 Volt

    Fach of these suspensions, heing in one piege, is held against turning by the span wire, ant canot therefore, become unscrewed as a result of vibration in service. Spertal leather walers wan be prowided to permit adjustment in seating the ear boss against the suspensioth, Overall lengh, $6 \frac{1}{2}$ inches; arm vokes aceommorlate $\frac{3 / 8}{}$ inch span wirt.

    | list | Diameter | Height | Diameter | Approx. Net Wt. | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | No. | of Shell | of shell | of Stud | per 100 | per 100 |
    | 23980 | $31 / 7$ ins. | 2 ins. | ${ }^{-1} \times$ ins. | 210 lbs . | \$120.00 |
    | 39090 | $313 \mathrm{ins}$. | $\cdots$ \% ins. | \% ins. |  | 144.00 |
    | 23979 | :: ${ }^{1}$ | $21 / 4 \mathrm{~ns}$ | \%ins. | $270 \mathrm{lbs}^{2}$ | 156.00 |
    | 1435.99 |  | 1.eather washer for |  | -) lhe | 4.80 |
    | 149060 |  | 1 wather washer for |  | if lbs. | 4.80 |

    

    Single Curve Suspension - 600 Volt
    

    Double Curve Suspension-600 Volt

    ## SINGLE CURVE-600 VOLT

    Form 11-3 single curve suspension has the same interior construction as the straight line. The shell, however, is provided with a elevis into which the removable arm is fastencel by a pin.

    The length between center line of stud and center line of pull-off eye $41 / 2$ inches; heirht above center of pull-off eye $27 / 8$ inches; diameter of pull-off eye $\frac{1}{16}$ inch; thickness of arm at eye $/ \sqrt{2}$ inch; dianeter of shell 3 inches.
    

    ## Trolley Wire Suspensions

    

    ## FORM H DOUBLE CURVE

    The Form 11 double curve suspensions are like the sincle curve suspensions, execpt that there are two elevises and arms. lenoth between centers of pull off eyes, 9 inshos: hrimt above center of prll off esen, $3^{1} 2$ inchers; diameter of shell, 312 inches; diameter of pull off eves, is inch; thickness of pull off arms at eyes, $1 / 2$ inch.
    

    ## FORM H BRIDGE OR CEILING-600 VOLT

    These suspensions have a total heisht of 2 inches above the ear seat. The supporting ears are slot ted for , inch late screws or bolts.
    
    $1904 \%$
    27370
    27370
    40961

    Combination Clamp
    
    

    11'Inch l'ipe Clamp
    

    Low Combination
    Mining Suspension

    Approx. Wt. Isist Prive

    ## Low Combination Mining

    fhis suspersion is similar to the flat top suspension, but it is only 1 , , inches hirch from (ar seat to top of fange
    

    ## Combination Mine Suspension and Clamp <br> This suspension differs from the standard Form $H$ mine suspension in the climination

    of the boss above the flange.This suspension is $2 \frac{18}{16}$ inches in height and 311 inches in diameter; diameter of top flaner is 4 inclies.
    12が330 Form If combination mine suspension, shorardized.
    lini3:31 form II combination mine suspension jopaned.... $\quad 210 \mathrm{lbs} . \$ 132.00$
    
    119829 Combination clamp, $1 \frac{1}{2} \mathrm{in}$. and $1 \frac{1}{4} \mathrm{in}$. pipes, japanned. $22 \overline{5}$ Jbs. 102.00

    ## Extension Pipe Clamp

    13.57.35 Pipe clamp, $11 / 4 \mathrm{in}$. pipe, sherardizal.................. 125 lhs .

    ##  <br> Expansion Case and Pipe Clamp for Extension Suspensions

    | 12.3324 | Fixpansion case, 34 in pipe, sherardize | 250 lbs. | \$57.60 |
    | :---: | :---: | :---: | :---: |
    | 123329 | Fxpansion case, ${ }^{\frac{1}{4} \mathrm{in} \text { in pipe, japanned }}$ | $2501 \mathrm{l} \mathrm{s}^{2}$, | 57.60 |
    | 12.3332 | Pipe clatnp, ${ }^{3}$ in. pipe, sherardized | 200 lbs. | 78 (0) |
    | Delivery F.O. 13.1 artory, Schenectady. N . I . Freirht aliowed on orders amountiny |  |  |  |
    |  |  |  |  |
    | (1) 850 | t and over to points cast of the Mississi | ble altow | made |

    

    No. 484789
    

    No. $\mathbf{4 8 4 7 9 0}$

    ## LOW STANDARD MINE SUSPENSION

    The shell portion of thin mondension is only $1^{1} \%$ inches high and 3 inches in diameter. 'fhe stud and top boes have ${ }^{5}$ g inch, Il thread.
    

    1131700 Form H1, low stal. minc suspension, japanned. .
    12.5
    $\$ 100.80$
    LOW STANDARD CEILING SUSPENSION
    This suspension has a 3 inch liameter shell and is only $1!8$ inches high from the ear seat to the top of the lugs. It is for use in mines since it has limited head room and uses the smaller sizes of trollev. wire. The stul is is inch in diameter. The lugs will arcommodate ${ }^{1}$. inch lag aerewe, and the distaneo between centers of the holes in the luis is tinelies.

    | List | Deseription | Net Wt in libs. per 1010 | I.ist Price per 100 |
    | :---: | :---: | :---: | :---: |
    | - 48.4790 | Form If low standard ceilinus suzpension, sherarilized | 110 | \$100.80 |

    484790 1431701

    Form II low standard ceilins suspension, sherarilized
    Forin II low standard eciline suspension, japanned.
    

    No, 105705
    

    Low Mining Suspension

    ## Suspensions, Form H3 LOW BRIDGE OR CEILING- 600 VOLT

    ## Description

    Diam.
    I.ist

    No.
    116061
    
     116078 Low bridge eciling nuspension Form 113 , 5 y in. stud with arms at top, japanmed

    ## LOW MINING

    Ileight from ear seat (1) top of shell, 11 inches; diameter of shell at top, 3 inches; height of boss above shell, fo inch.
    (it561 Low minimg shapension of in. stud, sherardized................................................... 150 lbs. $\$ 108.00$ 114735 low minint suspe nsien sim. stud, japanned. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 150 lbs. 108.00
    

    1200 Volt Single Curve Suspension
    600 Volt Single Curve Suspension

    ## SINGLE CURVE

    The Form H single curve suspension consists of a $31 / 2$ inch body casting, into whish the insulation holding the stud is molded. with a clevis on one side to which the pull-off arm is attached by means of a 15 inch sted pin and cotter.

    Length between center line of stud and conter of pull-off eye, $4 \frac{1}{2}$ inches: height above center of pull-off eye, $31 / 2$ inches; diameter of pull-off eye, is inch; thickness of pull-off :irm at eye, "ineh; diumeter of sheli, 3 ! 2 inches.

    | List. No. | Diameter of stud | Ipprox. Net Wt. per 10 | List Price per 100 |
    | :---: | :---: | :---: | :---: |
    | $6 \times 953$ | $5 \%$ in. | 310 lbs . | \$174.0) |
    | 6895 \% | $3 / 4 \mathrm{in}$. | 315 lbs . | 186.00 |

    SUSPENSION BODY-WITH PIN
    "
    For 600 and 1200 Volt Single Curve Form H Suspensions
    Distance between center line of stud and center of clevis hole $23 / \frac{1}{3}$ inches; diameter of shell $31 / 2$ inches; height of shell : $\}$ inches; diameter of pin $1 / 2$ inch.

    68961
    68963
    128421
    $5 / 8 \mathrm{in}$.
    $3 / 4 \mathrm{in}$.
    Removable arm (only)
    25 Jlbs.
    260 lbs.
    $\$ 138.00$
    7.5 lbs.

    5000
    36.00

    Delivery F. O. B. Factors. Schenectady, N. Y. Freight allowed on orders amountingto s50 list and over to points eatst uf the Xisaisappi River. Suitable allownere is made for shipments wet thereof.

    # LINE MATERIAL <br> Trolley Wire Suspensions, Form S 

    FORM S SUPPORTS
    

    No. 66648 with 2 inch Giant Strain Insulators, List No. 64425
    

    List Nos. 66640 and 89483 with 1 and $1 \frac{1}{4}$ inch Strain Insulators, List Nos. 16727 and 37488
    
    Single Curve Suspension with Giant Strain Insulator

    Jength Jctween
    Center of Outer Eye
    $15 \frac{5}{8}$ ins. 410 lbs.
    $155 / 8$ ins. $\quad \$ 15 \mathrm{lbs}$
    RAIN INSULATORS, LIST NO. 16727
    27 ins. 515 lhs.
    27 ins. 520 lbs.
    TRAIN INSULATORS, LIST NO. 37488

    | 27 | ins. |  |
    | :--- | :--- | :--- |
    | 27 | ins. | 50.5 jhs. |
    | 2001 |  |  |

    5001 12s.

    1200 volts 620 lbs:
    $12(\mathrm{~K})$ volts (i2a I )
    list J'riun
    per 1(1)
    (On application On applecution
    () a mpplication (On application
    (on applications
    (On ajplicatios
    (on arplictstion
    ( In appliention
    

    Single Curve Suspension
    The Form st single curvesmapmaton is adapted for use on murves in yards, and on haulate tracks on the surtate.

    | List |  |  | Aprorox. Net Wit. | I.ist I'ri*4. |
    | :---: | :---: | :---: | :---: | :---: |
    | No. |  | $1)$ eseription | per 100 | per 100 |
    | 25987 | Form is single curve shsperncioh with | Giant strain insulatar, $\frac{5}{8}$ in. stud | $\because 4011 \mathrm{~m}$ | tha application |
    | $\underline{2598} 3$ | Form \& single curvas suspernsion with | (iamt strain insulator, $3_{4} \mathrm{in}$. stud | 24.5 Ins. | ( hataplication |

    ## Double Curve Suspensions

    
    

    No. 64252, 600 Volt Single Curve Suspension
    

    Straight Line Suspension I3ody WITH $11 /$ INCH WOOD STRAIN INSULATOR, LIST NO. 37488
    

    On the above all metal parts, includinv stud, bave standard sherardized finish.
    
    

    # LINE MATERIAL TROLLEY WIRE SUSPENSIONS <br> <br> Form D 

    <br> <br> Form D[^89]:    $\begin{array}{ll}\text { List } & \\ \text { No. } & \text { Description } \\ 134743 & \text { Adjustable crossing for Nos. } 0 \text { and } 00 \text { wire, malleable iron, sherardized. } \\ 13444 & \text { Adjustable crosing for Nos. } 000 \text { and } 0000 \text { wire, malleable iron, sherardiz } \\ 150562 & \text { End tongue for } 0 \text { and } 00 \text { wire, comp }\end{array}$
    Approx. Net Wt.
    List Priae
    134744 Addustable crossing for Nos. 000 and 0000 wire, malleable iron, sherardiz per 100
    1400 lbs. per 100

    150562
    End tongue for 0 and 00 wire, comp.
    $1400 \mathrm{lbs} \quad \$ 3600.00$ 150563
    $80 \mathrm{lbs} \quad 3640.00$
    Dill............................................................ $100 \mathrm{lbs} \quad 110.00$
    over to points east of the Mississippi River. Suitable allowance is made forders amounting to $\$ 50$ list and over to points east of the Mississippi River. Suitable allowance is made for shipments west thereof.

[^90]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

    Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catalogue number.

    For description of cabinets listed above, see one of the following pages.

[^91]:    Catalogue nnmber is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with whicl they are to be used. *Prices under beading "Panel with Cabinet" inctude panel complete with cabinet, and slate frame if one is rectured.

    Prices for-gingle-brancín panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed nels, wili be quotell uron request. Pries do not include fuses. Order by catalogue number.
    panels, wili be quotel utron request por
    For description of cabinets listed above, sec one of the following pages.

[^92]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used.. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slute frame if one is required.

    Prices for singiebranch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upan request. Prices do not include fuses. Order by catalogue number.

    For description of cabinets listed above, see one of the following pages.

[^93]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of pancl with which they are to be used. *Prices under heeding "Panel with Cabinet" include panel complete with cabinst, and slate frame if one is required.

    Prices for single-branch panels, 125 or 250 volts, and for double-branch panels, 250 volts, also for through-feed panels, will be quoted upon request. Prices do not include fuses. Order by catzlogue number.

    For description of cabinets listed above, see one of the following pages.

[^94]:    Catalogue number is for panel only. If slate frame or eabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with

    Prices tor siugle-branch panels, 125 or 250 volts, and for double branch panels, 250 volts, also for through-feed panels, will be quoted upon reqnest. Prices do not include fuses. Order by catalogue number.

    For description of cabinets listed above, see pac of the following pages

[^95]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required

    Prices for single-branch and through-feed panels will be quoted upon request
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^96]:    Catalogue number is for panel only. If slate frame or cabinct is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinct, and slate frame if one is required.

    Prices for through-feed pancls will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^97]:    Catalogue number is for panel only. If slate frame or eabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with'Cabinet" include panel complete with cabinet, and slate frame if one is required.

    Priees for single-branch and through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^98]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

    Prices for through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^99]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. "Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required

    Prices for single-branch and through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^100]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.
    l'rices for through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For degcription of cabinets listed above, see one of the following pages.

[^101]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state and give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinct, end slate frame if one is required.

    Irices for single-branch and through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages.

[^102]:    0
    10
    0
    0
    0
    0
    30
    30
    00

[^103]:    Catalogue number is for panel only. If slate frame or cabinet is required, order should so state und give number of panel with which they are to be used. *Prices under heading "Panel with Cabinet" include panel complete with cabinet, and slate frame if one is required.

    Prices for through-feed panels will be quoted upon request.
    Prices do not include fuses. Order by catalogue number.
    For description of cabinets listed above, see one of the following pages,

[^104]:    *Prices under heading "Pand with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.

[^105]:    *Prices under heading "Panel with Cabinet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.

[^106]:    ＊Prices under hcading＂Panel with Cabinet＂include panel，slate frame，box and trim complete．Prices for above panels with through feeds or meter loops will be furnished upon request．Prices do notincludefuses．Order by cat－ alogue number．

[^107]:    *Prices under heading "Panel with Cabitcet" include panel, slate frame, box and trim complete. Prices for above panels with through feeds or meter loops will be furnished upon request. Prices do not include fuses. Order by catalogue number.

[^108]:    * Peices under Leading "Panel with Cabinet" include panel, slate frame, box and trim eomplete. Prices for ubove panels with through feeds or nueter loops will be furnished upon request. Priees do not include fuses. Order by catalogue number.

[^109]:    Above values are for D.C. work. The conductivity of $1,140,000$ C.M. Copper Conductor is assumed equal to a single track of 40 lb . rails. Resistance of bonding is taken equal to three times that of an equal length of single track rails. Resistance of copper at $75^{\circ} \mathrm{F}$.

