

RADIO

REG.
U.S. PAT.
OFF.

THE NATIONAL TRADE MAGAZINE

OCTOBER, 1931

» » » Another Triumph for

TRIAD

3 NEW TUBES THAT GIVE AN ENTIRELY NEW CONCEPTION OF RADIO ENJOYMENT

TRIAD'S three new tubes, like their distinguished predecessors, are proving their superior worth.

Tone quality? Proved in the first week of their appearance . . . Long life? They have established their claim with a minimum of service calls and replacements in the past six months . . . There's only one reason—uniform high quality maintained by rigid tests of each successive operation in the manufacturing process. Every Triad

tube is quality proved, or it never leaves the factory.

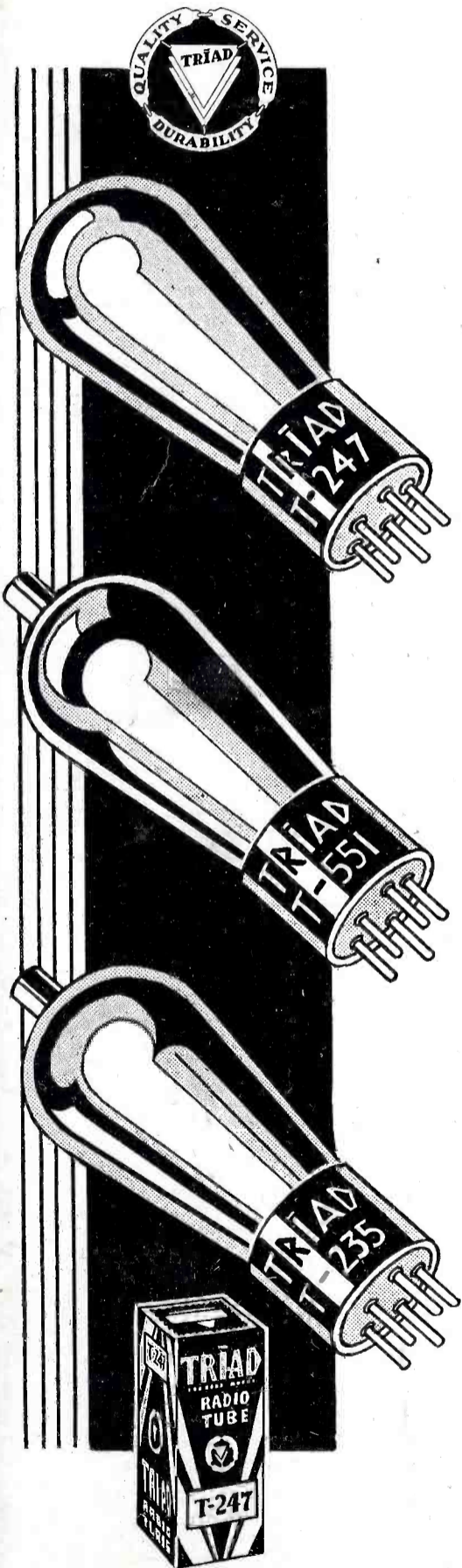
Type T-247, the new **DEPENDABLE PENTODE**, achieves extraordinary sensitivity by combining extremely high amplification and power output.

Type T-551 eliminates cross talk and distortion and reduces static to a minimum.

Type T-235 has characteristics of the 224 type but has new features that make it adaptable for use in automatic volume control circuits.

Triad also produces Shortwave and Television tubes.

Triad offers a quality tube for every radio need.

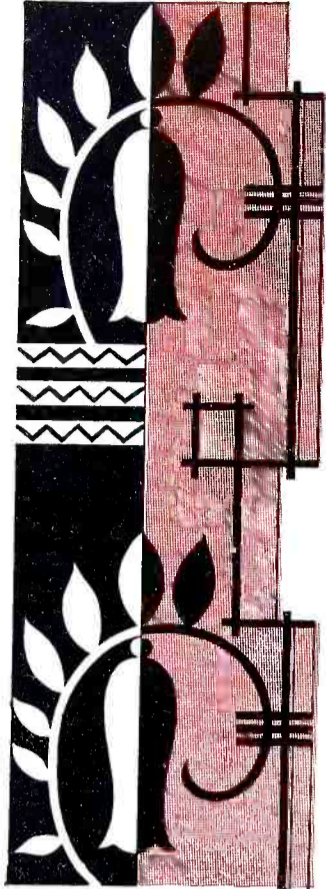


LICENSED under patents of Radio Corp. of America, General Electric Co. and Westinghouse Electric & Mfg. Company.

TRIAD MANUFACTURING CO., INC.

PAWTUCKET, RHODE ISLAND

PACIFIC COAST SALES OFFICES—R. J. Noel Co., 800 E. Gage St., Los Angeles, 704 Larkin St., San Francisco, 1518 1st Ave. South, Seattle, Wash.

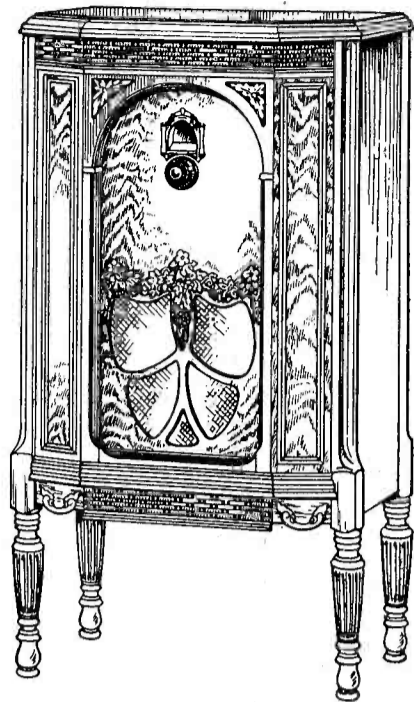


THIS fine instrument, due to its large speaker and greater number of tubes permits greater volume... 9 tube Super-Heterodyne circuit equipped with latest Screen-Grid, Variable-Mu, and Pentode tubes, together with Uni-Selector, Tone Control, Turret-type Tuning Condenser, Automatic Volume Control, Power Detector, and DeLuxe 12" Dynamic Speaker... Cabinet, lowboy of unusually distinctive appearance.

MODEL 17

List price \$139.50 · Complete with Bruuswick Tubes

Other models \$39.50 to \$225.00



BRUNSWICK RADIO



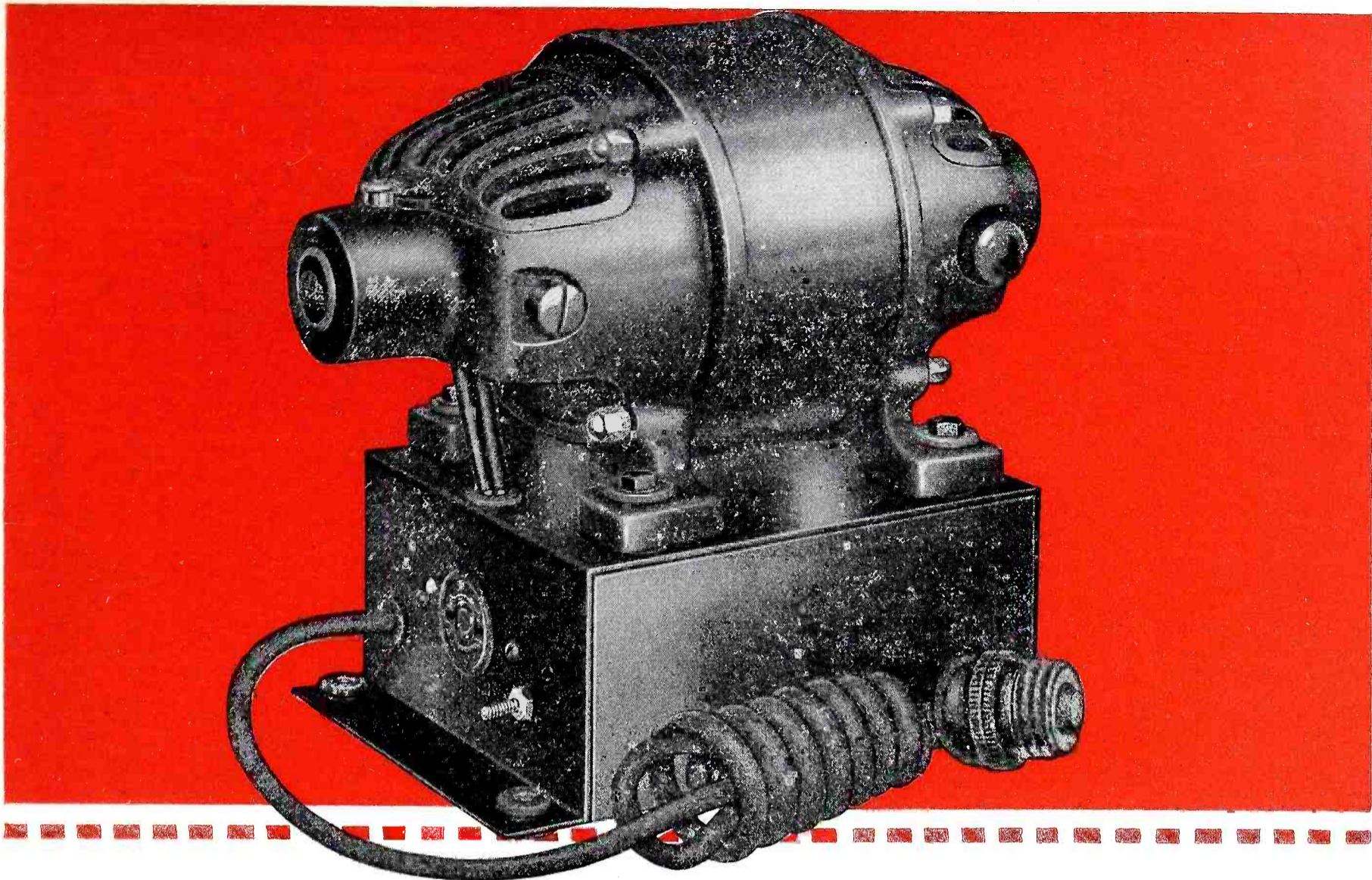
THERE are eight new models in the Brunswick line—priced so as to enable you to prosper, yet give your customers the ultimate value for their dollars... If you want to sell radios profitably during these times, let us lay before you the 1932 Brunswick sales and merchandising plans... They are simple, constructive, and profitable. Write!

BRUNSWICK RADIO CORPORATION

Division of Warner Bros. Pictures, Inc.

NEW YORK · CHICAGO · TORONTO





THIS IS OUR ANSWER!

Thousands in the radio industry have had uppermost in their minds this question:
 "Where and how can I sell more A.C. Radio Sets?"

Our answer is: "Sell them in D.C. districts!" More than half a million American farmers are the owners of 32 and 110 volt D.C. lighting plants. Every one of them automatically becomes an A.C. radio prospect through the

JANETTE ROTARY CONVERTER

In addition to the rural market, there are literally hundreds of thousands of prospects living in the D.C. districts of our large cities—a vast, untouched market. Millions of new A.C. radio prospects have been created overnight with the introduction of the new Janette Rotary Converter.

Janette Mfg. Co.,
 557 W. Monroe St.,
 Chicago, Ill.

Please send me full information and discount on your new type CA-20-F Converter.

LOWEST PRICED CONVERTER EVER OFFERED!

\$49.50 is a record low price for a converter—and this price includes filter, cord, plug and A.C. receptacle.

The JANETTE operates quietly. Has double-wound armature. Perfect filtering — not a trace of ripple or interference in the receiving set.

Mail the coupon today!

Name.....

City and State.....

Street and No.....



JANETTE

MFG. CO.

557 W. MONROE ST., CHICAGO, ILLINOIS

Singer Bldg., 149 Broadway, New York, N. Y.

Harrison Sales Co., 314 Ninth Ave., N., Seattle, Wash.

Real Estate Trust Bldg., Philadelphia, Pa.

Lombard Smith Co., 328 N. San Pedro Ave., Los Angeles, Calif.

25c the Copy

ESTABLISHED
1 9 1 7

RADIO

REGISTERED
U. S. PAT. OFF.

\$2.00 the Year

Volume 13, Number 10

THE NATIONAL TRADE MAGAZINE

October, 1931

P. S. LUCAS, *Editor*
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86 St. Botolph St., Boston, Mass. — 580 Crane Boulevard, Los Angeles, Calif.

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Entered as second class matter at the Post Office at San Francisco, California, under the Act of March 3, 1879.

FORECAST!

"How the RCA RADIOTRON CO. HELPS ITS DEALERS SELL TUBES" will be one of the feature merchandising articles in November "RADIO." "HOW THE COLIN B. KENNEDY CO. HELPS ITS DEALERS SELL THE SHORT WAVE GLOBE-TROTTER" is another feature of next month's issue. "RADIO" will tell you, each month, what the manufacturers are doing to help YOU sell more merchandise. Complete sales

and advertising campaigns will be discussed and analyzed. By this means you will know what all of the worth-while manufacturers offer you in the form of sales helps, window displays, advertising assistance and the creation of consumer demand for their products.

You will find the pages of "RADIO" well worth *studying* . . . and preserving for future reference.

Your Business Associates may desire to subscribe to "RADIO" for one year. The price is \$2.00. Will you pass this copy along to a friend in the trade?

SUBSCRIPTION ORDER

Publishers of "RADIO,"
415 Lexington Avenue,
New York, N. Y.

Send "RADIO" for one year. I enclose \$2.00 in full payment.

Name.....

Address.....

City and State.....

Instant LEADERSHIP!

WEEPING far beyond every previous standard of comparison in tone and automatic operation, Capehart Series "400," combining automatic phonograph with a specially engineered 13-tube Super-Heterodyne Radio, has achieved indisputable leadership among musical instruments for the home.

"Pride of Possession"



Because of the substantial profit which is realized on the sale of every Capehart "400" . . . and because these new instruments make a compelling appeal to people who are able and ready to buy . . . outstanding dealers are giving Capehart the lead in fall selling plans.

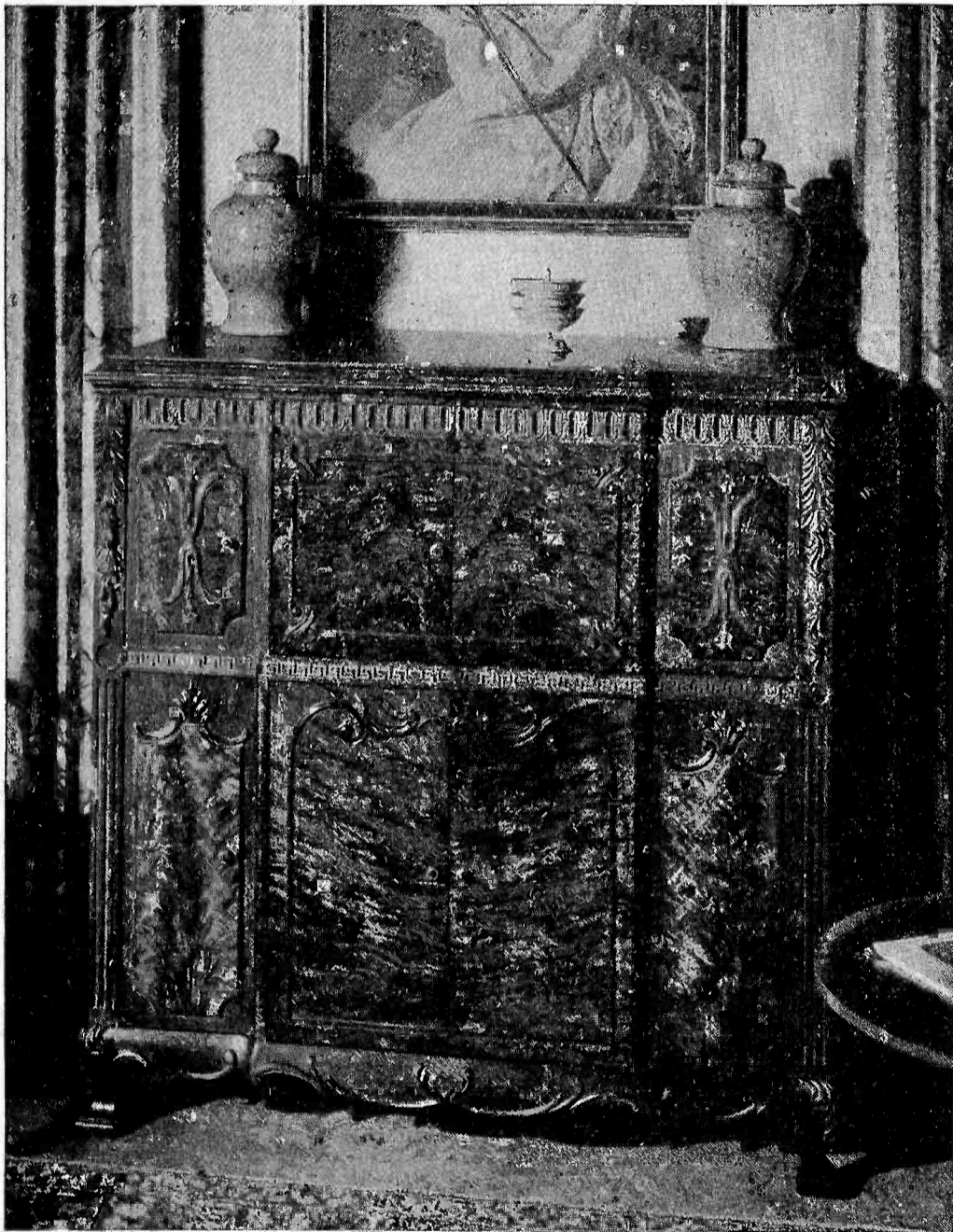
The Capehart "400" has an exclusive rotator which re-

verses and changes double-faced records — of either size or both intermixed — plays entire albums of recorded music in proper sequence.

A fitting companion to the "400" is the Capehart Model "21," priced for a broader market but still yielding substantial profit to the merchant. Model "21" combines an 8-tube Super-Heterodyne Radio with automatic phonograph, including the famous Capehart 10-12 record changer.

Beyond question Capehart is the line of leadership and of profit. Prospects in your community will buy Capeharts this fall. *Will you get the profit?* Write now for complete information, without the slightest obligation to you.

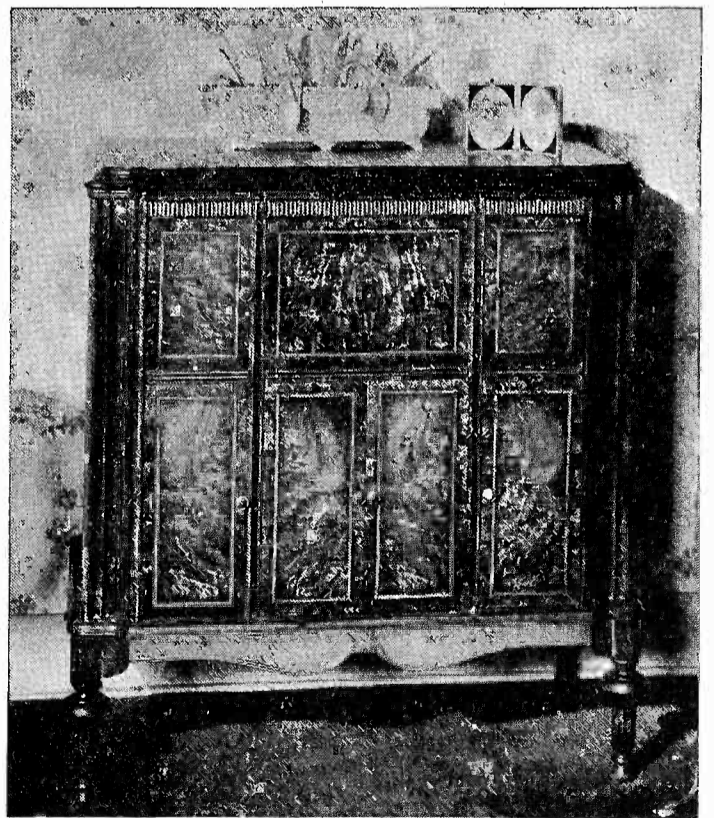
THE CAPEHART CORPORATION
Fort Wayne, Indiana



THE CAPEHART MODEL NO. "400"
Plays all makes of Records

CAPEHART

A GREAT NAME IN MUSIC



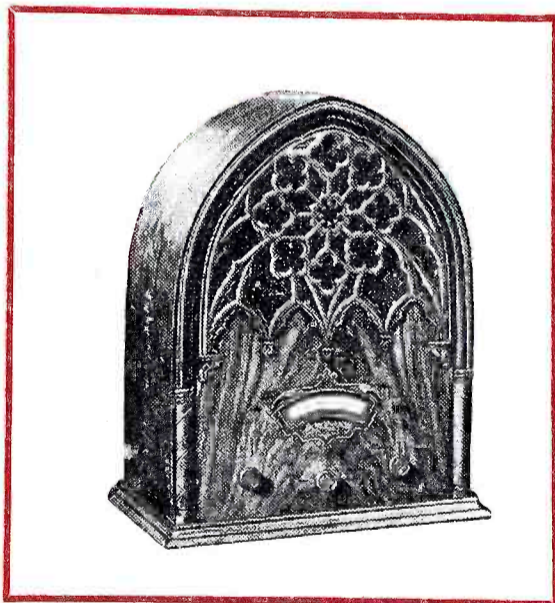
THE CAPEHART MODEL "21"
Plays all makes of Records

Tell them you saw it in RADIO

Echophone stops the prospects and Starts the Sales

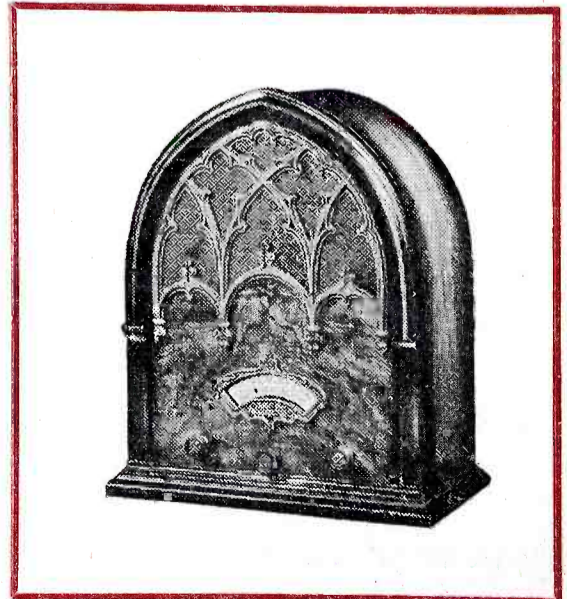


Model "90" Superheterodyne—Large Type Chassis, Eight tubes including two Pentodes Push Pull and four Variable-Mu, Pre-selector, 4-gang Condenser, 10-inch Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, Burl Walnut Panel.
\$89.50 Complete



Model "60" Superheterodyne (above) — Seven tubes including Pentode and three Variable-Mu, Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, Walnut Cabinet—6 inches deep . . .
\$53.75 Complete

Model "80" Superheterodyne (right)—Eight tubes including two Pentodes Push Pull and three Variable-Mu, Pre-selector, Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, 4-gang Condenser, Burl Walnut Cabinet—6 inches deep . . .
\$69.50 Complete



Echoette Model "40"—Four tubes including Pentode and Variable-Mu. Dynamic Speaker, Walnut Panelled. . . .
\$ 32.75 Complete

Model "70" Direct Current Superheterodyne — 7 tubes including D.C. Pentodes and D.C. Variable-Mu. Jensen Dynamic Speaker . . .
\$59.50 Complete

The new Echophone line is now doing business in a big way. It is getting attention in the largest cities and smallest towns. You should take heed—there's worthwhile money to be made with this new line. Echophone receivers have always started and kept the "ball rolling." Echophone has been successful since 1921—you can tie-in with Echophone now and get profitable sales results. Echophone is today's "live-wire" receiver. There's a wide range of models including our "midget" Echoette and beautiful consoles. There's an Echophone to meet every buyer's need. You can stock Echophone receivers in perfect safety—they'll sell—you'll profit.

ECHOPHONE RADIO MFG. CO., Ltd.

Executive Offices and Factory
WAUKEGAO, ILLINOIS

Export Division—Echophone Company Export
44 Whitehall Street New York, N. Y.

Get in touch with our nearest distributor or write us direct for complete details. Our new line represents the best we have yet produced — our 10-year record should convince you that it's wise to get now.

Tell them you saw it in RADIO

The Biggest Thing In

Radio Service Since '28



- ← Super DIAGNOMETER
- ← plus
- ← Shielded OSCILLATOR
- ← plus
- ← Advanced TUBE TESTER
- ← plus
- ← OHM-MEGOHMMETER
- ← plus
- ← CAPACITOR TESTER

SUPREME DIAGNOMETER AAA1

Dealers' Net Price
F.O.B. Greenwood, Miss.

\$147.50

5 Ultra-modern, essential, testing instruments in **1**, for the price of **1**

A combined test panel and portable laboratory; mounts on the wall as easily as removing the lid.

SUPREME INSTRUMENTS CORPORATION
418 Supreme Building
Greenwood, Miss.

Please send me full particulars on SUPREME DIAGNOMETER AAA1, without obligation.

Name.....
Address.....
City.....State.....
Name of Jobber.....
City.....State.....

- QUICK FACTS**
1. Analytical A. C. and D. C. voltage ranges of 0/2.5/10/-25/100/250/1000 v. 1000 ohms per volt sensitivity.
 2. External D. C. voltage ranges of 0/40 and 0/200 volts at 2500 ohms per volt for automotive and aeroplane installations.
 3. External A. C. and D. C. voltage range of 0/2500 volts.
 4. Resistance ranges 0/5000/-500,000 ohms, continuity ranges 0 / 5 / 25 megohms with zero corrector.
 5. Capacity measurements .002 to 10 mid. Condenser tests at 250 volts D. C.
 6. A.C. power transformer with primary selector for line voltages between 100 to 240 volts.
 7. Tests ALL tubes. Oscillation test, gas test, cathode-heater leakage 0 / 100,000 ohms, and short test.
 8. Completely shielded modulated and attenuated Oscillator individually calibrated 90 to 1500 kilocycles. Equipped with vernier tuning dial.

THAT'S what leading service-men, technicians and dealers are saying of the new SUPREME DIAGNOMETER AAA1—"the Biggest Thing in Radio Service Since '28." Not since that season, which introduced the first DIAGNOMETER, has the service world welcomed such a revolutionary and versatile testing instrument. The BIG 5 of service—SUPER-DIAGNOMETER, OSCILLATOR, TUBE TESTER, OHM-MEGOHMMETER, CAPACITOR TESTER,—combined and condensed into one smaller, handier case!

No matter how much you have heard of the wonders of this "Supreme" product, you will be amazed at an actual demonstration. The instrument that the radio world wanted and waited for SUPREME to sponsor. You must see it—compare it—

Ask Your Jobber to Demonstrate

Jobbers everywhere are prepared to demonstrate. Send the accompanying coupon for complete details and name of nearest jobber. Not because it offers you 5 vital instruments in 1, at the economical price of 1, but because your own standards of modern service demand it, do you need this, the greatest testing instrument in history. Soon pays for itself in savings of time and labor and increased profits. An investment for profits and prestige!

*SUPREME INSTRUMENTS CORP.

418 Supreme Bldg., Greenwood, Miss.
*Distributors in all Principal Cities
Foreign Division 130 West 42nd St., New York City
Cable Address LOPREH, New York*

Tell them you saw it in RADIO

ELECTRIC CLOCKS

TO RETAIL AT
\$100
 EACH



Model No. 800—Model No. 810 with Alarm
 (Illustrated above in Actual Size)

THREE Complete Electric Models—for the home. The most amazing values ever offered. Smart in appearance—equal to many clocks retailing as high as \$7.00 or more—and dependable for accuracy and performance. Incorporate every worth while feature expected in a perfect Electric Clock.

Mr. **JOBBER** write for *Jobbing Proposition*
 Mr. **DEALER** write for *Complete Data* advising your nearest Jobber

also

write for complete information on the complete line of
 LINCOLN ELECTRIC CLOCKS.

OVER 30 MODELS FOR EVERY REQUIREMENT

ELECTRIC CLOCK CORPORATION of AMERICA

Division of **FAY MANUFACTURING CO.**

General Offices and Factory

510 S. Throop Street - - - - - Chicago, Ill.

Branch Offices and Warehouses

260 Fifth Avenue
 New York City

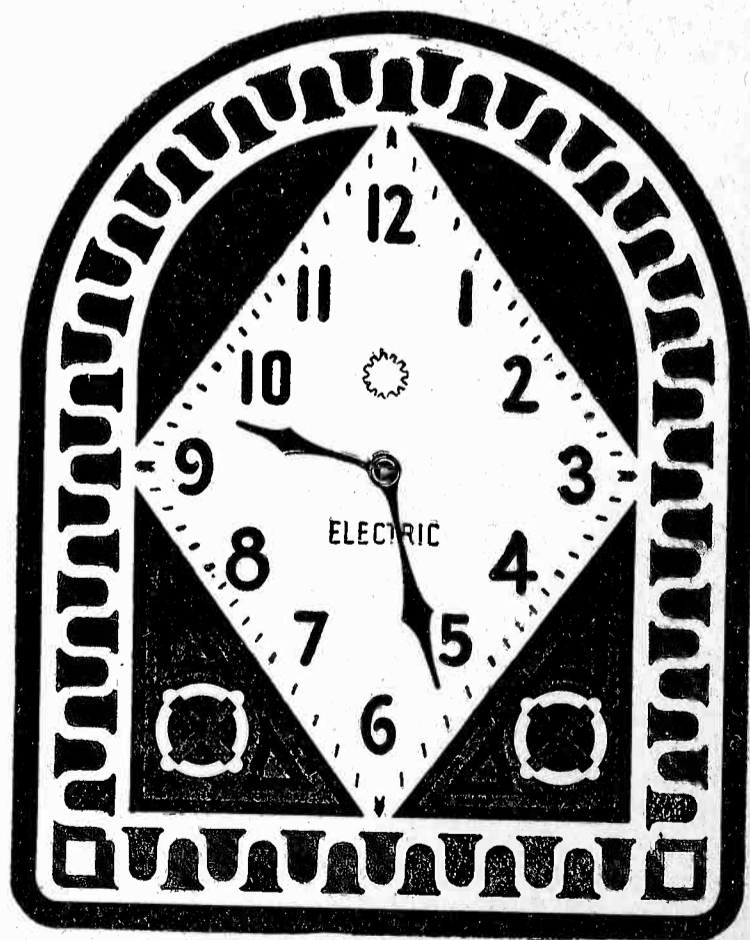
271 7th Street
 San Francisco, Calif.

A *Boudoir Model* with
BAKELITE CASE

A *Sparkling*
KITCHEN MODEL

An **ALARM Model**
 with **BAKELITE CASE**

TO RETAIL AT
\$150

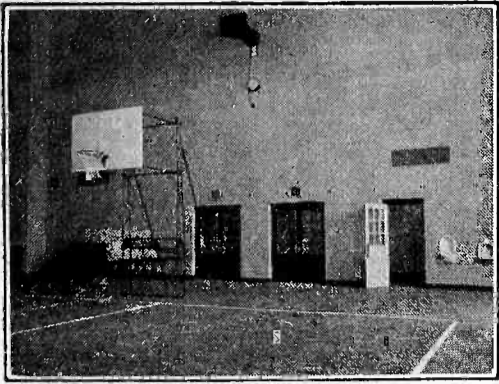


Model No. 900 **KITCHEN CLOCK**

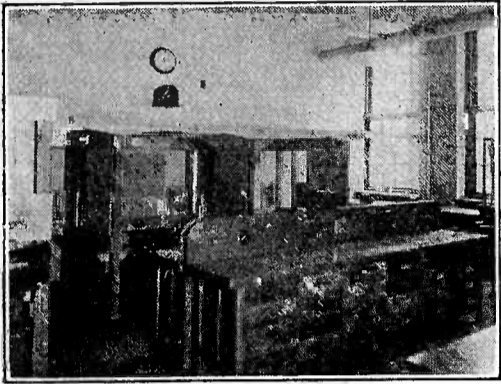
Full size 9" high—width 7½"

Color Scheme

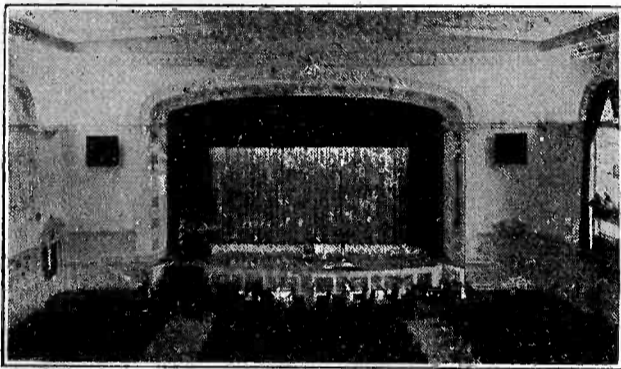
Light Blue—Dark Blue and White



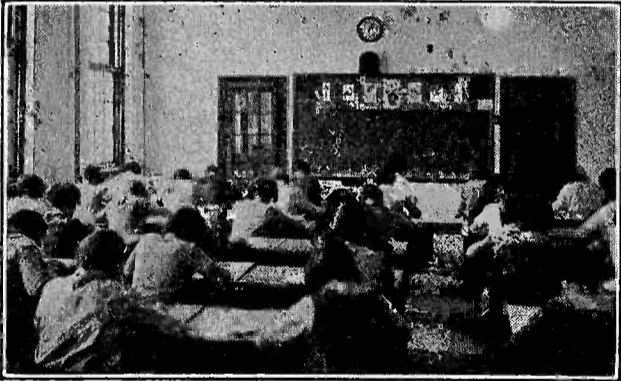
A No. 9 Horn with No. 207 Wright-DeCoster Chassis furnishes reproduction in the gymnasium of the Upper Darby Junior High School.



Hyflux Speakers are also installed in the shop rooms of the Upper Darby Junior High School.



The large auditorium of the Upper Darby Junior High School is equipped with two No. 4 Baffles with No. 207 Wright-DeCoster Chassis.



One of the class rooms in the Upper Darby Junior High School, with Hyflux Speaker.

Schools have many uses for SOUND Installations

THE COMPLETE sound amplification system at Upper Darby, Pa., Junior High School . . . including speakers in gymnasium, shop rooms, auditorium and class rooms . . . is a good example of the possibilities for

selling Sound Equipment to Schools. Among the many other prospects are airports, arenas, amusement parks, ball parks, beaches, fair grounds, dance pavilions, golf courses and stadiums.

WRIGHT-DECOSTER Reproducers

are giving remarkably satisfactory service in all of these different types of installations, outdoor and indoor, because of their superior tonal quality, clarity and volume. Cash in on the many opportunities for selling sound equipment.

Write for complete information and address of nearest sales office

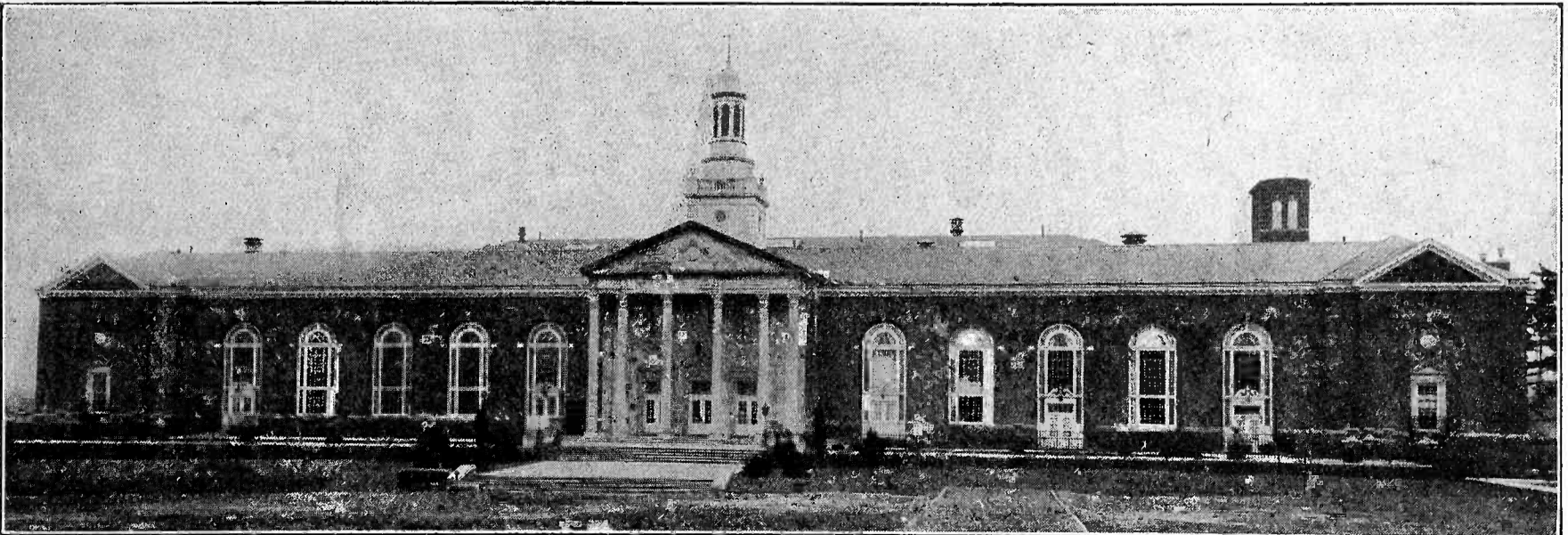
Wright-DeCoster, Inc.

2217 UNIVERSITY AVENUE

ST. PAUL, MINN.

Export Dept., M. SIMONS & SON CO., 25 Warren St., New York City

Cable Address: SIMONTRICE, New York



No school sound equipment is more modern or more efficient than that installed in the Upper Darby Junior High School.

Tell them you saw it in RADIO

ARROW ELECTRIC COMPANY
5112 Whitby Avenue
Philadelphia, Pennsylvania

February 23, 1931

Wright-DeCoster, Inc.
Saint Paul, Minn.
Gentlemen:

Regarding the sound installation which we made at the Upper Darby Junior High School, Upper Darby, Pa., there were 54 Hyflux speakers installed in the class rooms and shops. A No. 9 Horn with No. 207 Chassis was installed in the Gymnasium and two No. 4 Baffles with No. 207 Chassis were installed in the large auditorium.

The system was tested by Dr. Josiah H. Penniman, Provost of the University of Pennsylvania and many others on the formal opening and dedication of the school. The Wright-DeCoster Speakers gave entire satisfaction and have been giving excellent service since they were installed.

We have had several favorable comments in the press regarding this installation and we feel it will be only a short time when this system will become the standard equipment of all schools in this section.

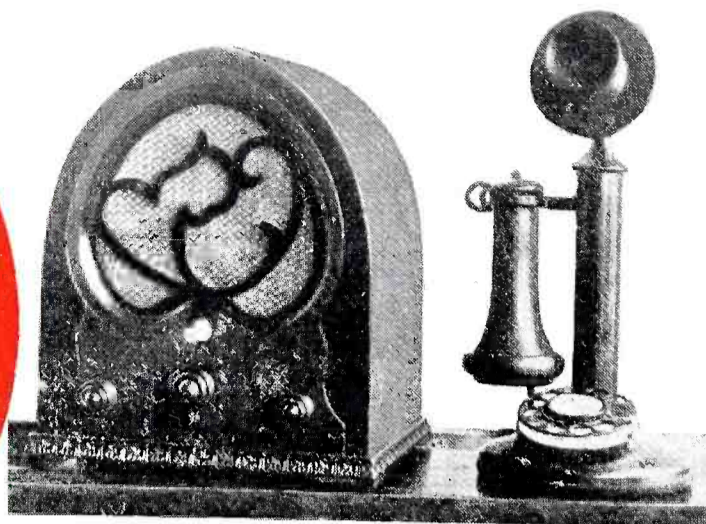
Yours Respectfully,
ARROW ELECTRIC COMPANY
By: George W. Carns.

Paramount Dealers Are Making Money

Sold Direct
to Dealers at a Net Price of

\$13.95

CASH WITH
ORDER



PARAMOUNT
"KEWPIE"

Retail Price
\$29.95

NOTE: Owing to additional factory space, and increased production, we can quote this low price. We are now shipping the Kewpie radio to most all points of the world and dealers everywhere report exceptional volume of sales.

Complete with Arcturus Tubes
or \$12.95 in quantities of 12

The Smallest Radio Made

Size 9 $\frac{3}{8}$ " High, 7 $\frac{1}{2}$ " Wide (inside measurements)

1932 FEATURES - - - SELL ON SIGHT

1 Pentode Tubes

Equal to 2-245 plus 1-227. This radio, smallest in size, incorporates the new pentode tube.

2 Full Dynamic Speaker

Perfect tone quality.

3 Screen Grid Circuit

Using 2 screen grid tubes to their utmost efficiency.

4 Tone Control

The sales talking point of 1931. We use the new full range control.

5 Selectivity Plus Distance

We have reports of distance of 1500 miles.

6 Quality All Through

Steel chassis, cadmium plated, oversized power transformers (shielded), heavy service resistors, electrolytic, self-healing filter condenser. Cornell oversized bypass condenser and many features found only in high priced sets.

Fully Guaranteed for Three Months

THE PARAMOUNT LINE IS COMPLETE

We also Manufacture the following

11 tube superheterodyne chassis to mount in your console cabinets.

10 tube superheterodyne midget, \$69.50 list.

9 tube all-wave superheterodyne midget, \$79.50 list.

7 tube superheterodyne midget, \$39.95 list.

and an automobile radio, \$49.95 list.

PROFITS: Our discounts are large and allow you ample margin of profit to advertise.

Member of
Los Angeles
Chamber of Commerce

LOS ANGELES RADIO MFG. CO.

3681 So. San Pedro Street
Los Angeles, Calif.

Manufacturers of
Quality Radios
Since 1925

**MORE
BETTER
EASIER**

COLLECTIONS

*A Radically New—Entirely Original—Collection Plan
For delinquent Installment Accounts*

ACCLAIMED BY THE RADIO INDUSTRY

ENDORSED

BY

**IMPORTANT FACTORS IN THE TRADE . . .
RETAILER - JOBBER - ASSOCIATION
FINANCE**

PAYS FOR ITSELF

What's In the Plan?

Over thirty years of merchandising experience.

Seven years of exclusive radio retail and collections.

Years of experimentation and hundreds of dollars spent in various and variegated collection methods. Each developing its numerous and assorted "ifs," which, in actual use, had to be eliminated, one by one, until a 10 POINT SOLUTION was found:

1. Simplicity.
2. A basic idea.
3. A good will approach.
4. A third party element.
5. Payments made direct to the dealer.
6. Cost of Service paid by the customer.
7. A follow-through keeps payments coming regularly.
8. Flexibility makes it adaptable to any contingency.
9. Enhances efficiency of any regular collection routine.
10. Simplified perpetual audit of all delinquent accounts.

It is available for use in any locality, by individuals, groups, or organizations, who may use or produce the service for sale. It is within itself a complete formula for a business of unlimited profit possibilities. It should pay for itself within 30 days.

This entire service is For Sale — A complete portfolio down to the last detail, showing each move in its most effective sequence. Judging by an experience gained in the handling of thousands of accounts, its success is foretold and positive.

We urge an immediate inquiry regarding this new vital merchandising element and are offering a special ninety day trial rate—sufficient time and material for a thorough test—by which can be proven its efficiency.

RESULTS ATTAINED AND ATTAINABLE—

A CROSS SECTION OF DEALERS ACCOUNTS handled by the San Francisco Bay District Representative shows up as follows:

•
COLLECTIONS DEALER No. 1
9 Accounts—past 30 days \$ 7.00

System Collections
Same accounts—next 30 days 82.50

•
COLLECTIONS DEALER No. 2
10 Accounts—past 30 days None

System Collections
Same accounts—next 30 days 50.87

•
COLLECTIONS DEALER No. 3
12 Accounts—past 30 days 9.88

System Collections
Same accounts—next 30 days 50.01

•
COLLECTIONS DEALER No. 4
10 Accounts—past 30 days 9.15

System Collections
Same accounts—next 30 days 58.50

•
COLLECTIONS DEALER No. 5
12 Accounts—past 30 days 12.96

System Collections
Same accounts—next 30 days 128.98

•
This office shows an average collection increase of 351 per cent on all dealer accounts handled to date.

Names of above and other dealers are submitted for reference on inquiry.

Sample work sheet showing details are included.

WRITE FOR INFORMATION

Your signature on your letter-head is all that's necessary.

**Address:--System Collection Service
1739 Webster Street
Oakland, Calif.**

Radiotorial Comment

By The Editor

AMONG the newer low-priced accessories that can consistently be sold by a radio dealer is the small microphone for home use. This carries nearly as much profit as a midget set. Almost any owner of a radio set can be sold one of these, just for the fun of the thing. Then when this amusement-loving market is exhausted there remains a large undeveloped market among the hard-of-hearing. A brief explanation should suffice.

Almost all deaf people can enjoy a radio program with the aid of a pair of head-phones closely clamped over their ears so that the bones of the head carry the sound vibrations to the center of hearing. By this means also, with the insertion of a cheap microphone ahead of the audio-frequency circuit of a radio set, they can hear the spoken word of members of their family. This is a little-known boon to the hard-of-hearing.

Their names and addresses are listed in every town. They have various clubs and associations. An enterprising dealer can readily make the desired contacts and sell one of these instruments after every demonstration, selling direct to the prospect who is usually overjoyed at being able to hear. Furthermore if the prospect does not own a radio, a demonstration with the dealer's portable set will sell both set and microphone.

• •

THE little suggestion by no means exhausts the possibilities of new sales by wide-awake salesmen. Many people are interested in hearing short-wave stations, not only the distant foreign ones but also the local police and aeroplane stations. It is a simple matter to connect a good

short-wave adapter to any existing set and simpler still to use one of the new combination sets. The additional cost of one of these new combinations is only about twenty dollars. They open a new vista of thrills and romance to the broadcast listener who is surfeited with the advertising on the regular broadcast channels. Here is a new opportunity of profit for the dealer. Here is a new talking-point for the salesman, a new avenue of approach to old and new customers. Use it.

• •

WHILE thinking of new sales ideas for stimulating his business, the dealer should not overlook some of the modern means for improving collections on old accounts. It has been well said that a good credit collection system is worth as much as a good salesman. Selling the set is half the job and getting the money for it is the other and often the hardest half.

Every dealer ought to contact his nearest radio trade association in order to learn the most effective means for collecting slow-pay or non-pay accounts. One beneficial effect of the financial depression has been the development of real systems that insure collections and of real methods of salesmanship. While the pages of a trade magazine are too public for an exposition of recent sure-fire collection methods, any dealer can benefit himself by consulting his trade association.

Shakespeare was right, as usual, when he wrote "Sweet are the uses of adversity, which, like the toad, ugly and venomous, wears yet a precious jewel in his head." Let us find that jewel and apply it not only to relieve the days of adversity but also to hasten the time of prosperity.



Tube Patent War Ends

Independent Radio Tube Manufacturers Effect Settlement of Their Patent and Anti-Trust Law Litigations With The Radio Corporation of America

**Statement by
DAVID SARNOFF,
President of RCA**

"An amicable understanding has been reached for the adjustment of the Clause 9 litigation pending between the Radio Corporation of America and a number of manufacturing companies in the radio tube field and the cases will be discontinued.

"In a number of instances patent infringement suits brought by the Radio Corporation of America have been pending against companies seeking damages in the Clause 9 cases. The active manufacturing companies that are parties to the settlement have recognized patent rights of RCA by acquiring licenses under its patents, and these patent infringement suits will be dropped. The Radio Corporation of America has also obtained rights for use both by itself and its tube licensees under radio tube patents owned by the DeForest Radio Company.

"The termination of this large number of suits, on terms satisfactory to all parties involved, will do much to free the radio industry from litigation with which it has been burdened and impeded for several years, and which entailed heavy expense to all concerned. It will enable the industry to devote more of its attention to the development of new products and new services for the public and should have a stimulating effect on business as a whole."

**ARCTURUS'
President Expresses
Satisfaction**

To promote immediate stabilization of the radio industry, C. H. Braselton, President of Arcturus Radio Tube Company announces that his company, together with a number of other radio tube manufacturers, reached an amicable settlement of its litigation with the Radio Corporation of America.

This concludes a lengthy controversy relating to patents, developments and the so-called "clause 9" license agreement which interrupted to a marked extent the progress of the industry.

This settlement, including in part a licensing agreement of practically all the tube manufacturers, obviates existing discord and permits greater progressive effort in the art.

**DARBY & DARBY
Tell of Legal
Status**

Samuel E. Darby, Jr. of the firm of Darby and Darby, announced that an understanding has been reached for the settlement of all of the anti-trust law suits instituted against the Radio Corporation by radio vacuum tube manufacturers who were not operating under license of the patents of the Radio Corporation of America. This understanding is with reference to actions brought against the Radio Corporation for alleged violation of the Clayton Act, by reason of the so-called "Clause 9" license agreement between the Radio Corporation of America and radio receiving set manufacturers.

The companies who joined in the understanding with the Radio Corporation are: DeForest Radio Company, Mellotron Tube Company, Vesta Battery Company, The Van Horne Company, Schickerling Products Corporation, Gold Seal Electrical Company, Universal Electric Lamp Company, Republic Radio Tube Company, Mutual Electric Lamp Company, Continental Corporation, The Sunlight Lamp Company, Marvin Radio Tube Corporation, Radex Corporation, Globe Electric Company, Arcturus Radio Tube Company, Duratron Radio Tube Corporation, Gold Seal Manufacturing Company, Supertron Manufacturing Company, Cleartron Vacuum Tube Company, Diamond Radio Tube Company, and Poughkeepsie Gold Seal Company.

The settlement will include among its terms the acquisition of licenses under the patents of the Radio Corporation by active companies involved in the settlement, including the DeForest Radio Company, Gold Seal Electrical Company, Arcturus Tube Company, Republic Radio Tube Company and Diamond Radio Tube Company.

The arrangement will be very advantageous, not only to the parties, but also to the radio industry as a whole, because not only will disturbing litigation be satisfactorily terminated, but practically all important tube manufacturers will be licensed on equal terms under Radio Corporation patents with the result that the industry should rapidly become stabilized.

A
New Development
In Refrigeration
and a Refrigerator That
Retails for
\$87.70

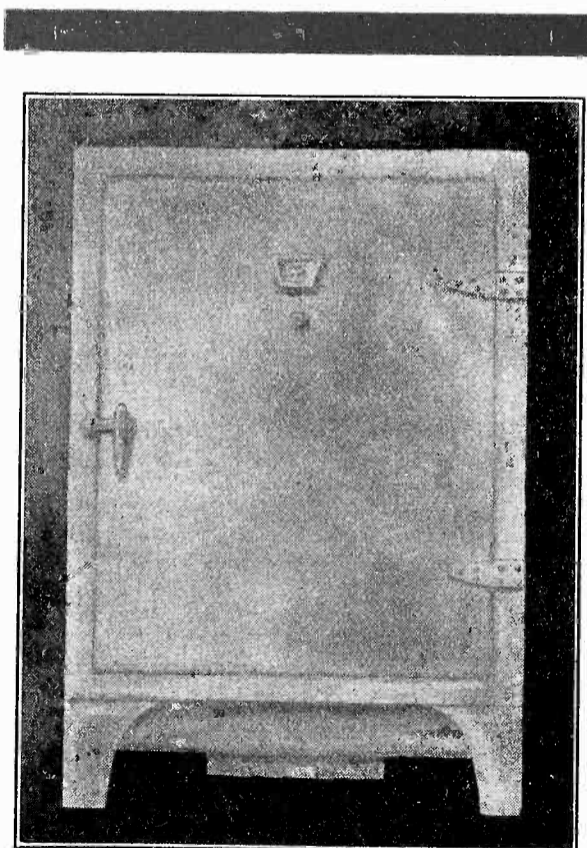
**Electric Refrigeration By Means of Electrolysis and the
Elimination of Moving Parts**

The First Story Ever Released on the New Electrolysis Method of Refrigeration.

**By the Engineering Staff
SERVICE ELECTRIC CO.**

IN 1908, after years of research and experiment, Prof. Kammerlingh Omnes, of Holland, developed a system that would produce cold sufficient to condense helium. The system was very elaborate and unpractical, however, for any use outside the laboratory, but it was a beginning, upon which Service scientists have based their experiments through the years, assured that here and here alone was the system that would make refrigeration available to the millions.

The method of refrigeration to which the name "Colde" has been applied does not rely upon mechanical compression of liquids or gases, employing instead the principle of electrolysis of an endothermic liquid in hermetically sealed steel tubes. The process uses no moving parts, and results in unusual efficiency, with nearly perfect production of cold. Almost insuperable difficulties had to be overcome in its development; handicaps that were insurmountable until modern science made available such refined materials and equipment as stainless steel, dry oxide rectifiers, etc. Each of these have contributed their bit toward the engineering perfection of what Service designers were to claim later as their ultimate in the refrigera-



*First Commercially Successful Refrigerator
Using Electrolysis Method.*

tion art. The welding of the stainless steel tubing had to be devised by Service technicians.

After the unit had been perfected, countless experiments had to be made to determine the best insulator for the cold produced by it, experiments that brought strange materials from Africa and Asia, from South America and the South Seas. Many new and beautiful woods were tried in the attempt to combine efficiency in insulation with beauty of cabinet.

The unit now ready for the market is compact, measuring 5x5x13 inches, has no dehydration effects, contains a 100 per cent vertical radiator surface, and has an ice cube capacity of from 60 to 120 cubes. The complete refrigerator, with the unit, contains approximately 7 cubic feet and has a 12 square foot shelf area. These refrigerators are now being manufactured for national distribution through refrigerator and radio dealers. The units, by themselves, are available to manufacturers who make their own cabinets, according to terms of a license plan that is soon to be announced. In actual practise the refrigeration unit is placed within the cabinet, while the transformer and rectifier are placed below, as in the case of the Colde midget refrigerator, or in a monitor top.

(Continued on page 26)

Advertise a Sensible Price —and Sell DOWN if Driven to It

THE most popular way of combating the small profit situation brought about by the dirt cheap radio set seems to be to build the ad around the \$24.95 set and sell *up* when the customer is enticed into the store. That practice can hardly be called an unsound merchandising principle; practically every dealer in the country has been doing it, or approving of it; and it is about the best that can be done under the circumstances, UNLESS all the dealers in a certain territory get together and agree to adopt a more far sighted and psychologically sound merchandising plan.

Consider the Gas Range, for instance

STUDY your newspapers for several weeks back and clip out all the advertisements in which gas ranges are featured. You will find, probably with a bit of surprise, that there is hardly an ad that lists gas ranges at much below a hundred dollars. This has been true for years and years, yet you know very well that you can, by a bit of scouting around, buy a range for thirty dollars.

Gas ranges don't cost as much to produce as they did ten or fifteen years ago. Distribution is greater. Competition is keener. But the advertised prices haven't dropped one iota. What's the cause? Simply that many years ago when it began to appear that gas ranges were going the way of all good merchandise the manufacturers and their representatives got together with the dealers all over the country and agreed to put a limit to the minimum price that should be used in their advertising. And they have stuck to it through all these years.

Remarkable as it seems to us radio merchandisers, the gas range people even stick together through their sales. When a gas range sale is held in any locality it is participated in simultaneously by all stores in all the cities and towns within that area, and every store advertises ranges at just about the same price as its nearest competitor. There is no cutthroat price slashing in that business. Gas range merchandisers are evidently not in the business to make a quick clean-up, but to earn a good, substantial livelihood. They stick together like glue. Before any major merchandising move is attempted they get their heads together and begin a concerted drive all as a big unit.

THIS upholding of price has to do with advertising only, remember. Walk into a store and ask for a thirty-dollar range—stick to your figures—and you will probably end up by buying one. You can pay two hundred for one if you wish. Gas ranges, like radio sets, are to be had at all figures. But the word "gas range," *un*-like the word "radio," usually calls to mind a figure pretty close to a hundred dollars, while the word "radio" is beginning to become too closely associated with the amount of money that jingles in one's pocket.

Why do we advertise our cheap radio sets instead of featuring our higher priced ones? Probably in order to get the prospect into *our* store instead of our competitor's; that is, until the latter slices off a nickel. Some of us don't

bother with trying to outdo our competitors, but operate on the principle that the cheap set will draw the victim into the store and give us a chance to sell him a real set when we get him there. We haven't been thinking about this dan-

QUESTIONNAIRE

Do you favor setting a minimum price at which a radio shall be advertised?.....Why.....

What minimum advertising price would you suggest for the midget type radio?.....

What minimum advertising price would you suggest for a console type radio?.....

Do you believe that if the public saw only higher priced midgets and consoles advertised that it would elevate their ideas regarding the price a good radio can be purchased for?

Suggestions and remarks:

Please answer this questionnaire because on it depends the future activity of the California Radio Retailers Council concerning radio advertising, and it affects every man selling radio, no matter how large or small.

Name.....

Firm.....

Address.....

"Don't advertise any set that sells for less than \$50," says a spokesman for a retail association. Stock them and sell as many low priced sets as you can . . . but don't give the customer the impression that nothing over \$24.50 is for sale in your store.

gerous subconscious association that has been going on within the public mind; the association of radio and \$24.50. It will not be long now before people will consider this figure the average price for a radio set and will think that anyone who tries to sell them a sixty-dollar set either takes them for millionaires or suckers. *There is danger ahead and plenty of it!*

THE first move, that has come to our attention, to overcome this possibility of impending disaster has been taken by the California Radio Retailers' Council. After carefully studying the gas range business, and others like it, this council has inaugurated a campaign to see if the same system may not be worked in the radio business. As this magazine goes to press a letter and a questionnaire are being mailed to all members of the association in an effort to determine whether or not they would favor such a move and what minimum advertising price should be set. Next month we shall be able to report on the results of the voting. Meanwhile we should be pleased to hear from our readers on the subject, for a nation-wide expression of approval or disapproval may serve to guide other trade associations in the country in similar campaigns. While we do not urge it, we'd be glad to have you use this replica of the questionnaire sent out by the California Radio Retailers' Council, filling it in and mailing it to us. Might as well let the whole nation vote.

It seems hardly necessary for a person to buy a \$24.50 radio set, when with a small down payment and a smaller monthly payment he can have a set to be proud of. If the dealer isn't too hard boiled in making the terms; if he will skip the December payment, perhaps, and the one that arrives with the taxes or some other expense the customer looks forward to with dread; or otherwise indicate that he does not want the customer to be burdened, he might not find the total price differential such a stumbling block as it has been painted. There are people, of course, who have no right to spend more than twenty-five dollars for a radio set; people who should be spending that money on things ten times as important, but who can't forgo the temptation of radio entertainment. To these people the cheap midget is a godsend. All of which is merely reiteration of RADIO's stand that there is a place for every type of radio set—midget, console and large combination.

California Radio Retailers Council

Affiliated with



GEO. S. CURTISS
Secretary
BELLEVUE HOTEL
San Francisco
PROSPECT 0800

September 23, 1931

IF YOU WANT TO LOSE MONEY THROW THIS LETTER AWAY

As a good radio dealer the California Radio Retailers Council would appreciate an expression from you on a most vital subject.

What minimum priced radio shall we advertise? Mind you, we don't say sell, we say advertise.

As long as the market and demand are here we all must carry and sell the \$24.95 midget, etc. But, shall we advertise and by our advertising endorse and lead the buying public to expect a good radio for this amount of money?

Every member of the California Radio Retailers Council is in favor of establishing a minimum price at which to advertise radios. We want your opinion and your thoughts on this vital matter.

Please answer the enclosed questionnaire—it binds you to nothing but will indicate your feelings in the matter. Remember, what is good for one is usually good for all.

Fellows, the \$25.00 radio set is like the black camel; it has kneeled at your own door, and we are directly responsible for it—it can live only as long as we sell them.

Very truly yours,

L. B. QUIMBY,

Chairman.

BUT JUST because we have cheap sets in stock, and because the public is much more readily attracted to a \$24.50 offering than to a set calling for \$124.50, we offer them the former and hope that we can raise the ante on them before they leave the store. Sometimes we do and sometimes we don't. Statistics, if there were any, would probably show that it's getting harder and harder to "sell up," merely because the public is being taught that radio sets should sell for twenty or thirty dollars. Here is an interesting fact about human beings: while they like to buy things they can be proud of, they also take pride in the bargains they make. If a person spends forty dollars for a radio set and learns that his neighbor has bought one for thirty, he will probably not brag about his set for fear that his neighbor will accuse him of getting stung. That is assuming that both radio sets were just "radio sets," as a cheap set must be, without that certain distinction that attaches itself to each brand of the more expensive type of

(Continued on next page)

set. Thus when a set is advertised for \$24.50, that is the maximum price the average man who wants to consider himself a good bargainer will pay.

During the past few months the advertised fact that you could buy a radio complete with tubes for \$24.50 has been startling. It contained one of the most important elements of advertising success; it made the reader lift his eyebrows. But you can't startle the world with the same fact for very long; the thing becomes commonplace. Therefore, while the advertised price of \$24.50 has pulled for a few months, its effect is bound to be negligible within a very short time.

Not only is the very low price idea becoming of negligible advertising value; it is, and always has been, the creator of great sales resistance to those dealers who hope

to sell their prospects more expensive radio sets. There are lots of things to say about a good radio set and about radio entertainment in general that will create desire to buy, regardless of price, but not one ad in a dozen has room for anything but an appeal to the empty pocketbook.

It isn't necessary to wait for your nearest competitor to abandon this practise, although admittedly a concerted action will be most effective. Why don't *you* direct your appeal to the desire for a well furnished living room, to the love of good music? Why not talk quality, enjoyment, and let your competitor have the cheap trade if he can get it with his worn-out price appeal? Try it. Meanwhile RADIO will watch the results of the California Radio Retailers' Council campaign and other similar campaigns, and keep you informed as to the results.

Hot Tips on Program Preferences

Let Them Guide You in Your
Demonstrations

Here's What They Want

Mothers and Grown-up Daughters listen most

Mothers like comic characters best

Men like Athletic Contests

Grown-up Daughters prefer dance music

Beauty talks and stock reports are taboo

THE Minneapolis Council for Adult Education made a survey recently the results of which can be made very profitable to the radio dealer from the standpoint of advertising appeal and sales propaganda. Questionnaires were distributed through children in the public schools to 10,000 radio-owning families of Minneapolis; 4,375 replies were received and some interesting facts adduced.

Dealers who make use of the first axiom in writing advertising copy, i. e., keep the type of person to which they are trying to appeal constantly in mind as they write; and dealers who are far-seeing enough to toot their horns about the marvelous entertainment that is available to all owners of modern radio receivers, will find the facts brought to light by the survey of unusual value to them.

In the first place it was learned that the women folks are the most enthusiastic radio fans, mothers and grown-up daughters being preponderant among those who listen more than four hours daily, which group included more than 21 per cent of those who answered the questionnaire. Sixteen and five-tenths per cent said they listened from three to four hours daily; 17.8 per cent said two to three hours; 19.7 per cent said from one to two hours, and 7.5 per cent said they listened less than one hour per day. Fathers and grown-up sons led the group in the one to two-hour category.

The most popular hours for listening, it was found, are from 6 to 9 p.m., during which time 65.5 per cent of the persons included in the study said they listen; from 9 to 12 p.m., when 45.3 per cent listen, and from 6 to 9 a.m.,

when 18.9 per cent listen. Asked their preferences as to types of programs, mothers gave first place to comic characters like Amos 'n' Andy, and placed financial reviews in the last place; fathers and sons alike placed athletics first and beauty talks last; grown-up daughters placed dance music first and birthday parties last. All groups combined ranked comic characters first and birthday parties last.

Ten Most Popular Programs—10 pt Boldface

Of the fifty types of programs suggested on the questionnaire, the ten most popular, in order of preference by the groups as a whole, were: 1, comic characters; 2, popular music; 3, athletic contests; 4, dance music; 5, classical music; 6, light drama; 7, talks of the Lowell Thomas-Floyd Gibbons type; 8, news flashes; 9, plays, and 10, church services. The least popular types of programs, ranking from forty-first to fiftieth, were: 41, stock market reports; 42, fashion talks; 43, readings; 44, health exercises; 45, beauty talks; 46, farm and horticultural programs; 47, language lessons; 48, finance reviews; 49, bridge games, and 50, birthday parties. There is meat in this paragraph.

From this survey the Minneapolis Council on Adult Education concludes that much leisure time is spent listening to the radio, and that the different members of the household must be considered in arranging for the time, method of appeal and program to be broadcast. The survey is very enlightening to the dealer who wants to know what he should enthuse most about when talking the subject of radio entertainment to his prospects.

Long-Playing Record Will Reproduce An Entire Symphony

Half-Hour Programs From Double Disc Record
At 33½ R. P. M.

Another Profit-Maker for the radio and music dealer . . . complete musical score of the Broadway hit show, "The Band Wagon," to be one of first new recordings on this "half-hour record."

BEFORE a select audience of more than a hundred musical celebrities, prominent editors, educators, and business executives gathered at the Savoy-Plaza Hotel on September 17th, the RCA Victor Company held the first demonstration of a remarkable new long-playing record capable of reproducing an entire symphony, a complete vaudeville act, or a musical program lasting a full half hour.

Distinguished speakers, among whom were Dr. Leopold Stokowski, Director of the Philadelphia Orchestra, Edward E. Shumaker, President of the RCA Victor Company, and Dr. Alfred N. Goldsmith, Vice-President and General Engineer of the Radio Corporation of America, hailed the introduction of the new record as a remarkable advance which is destined to revolutionize the radio-phonograph art, stimulate the industry to new growth, and open up new fields of possibilities in the world of music.

It was pointed out that the new long-playing records will solve the problem that has long been regarded as retarding the popularity of the phonograph as compared to other modern home entertainment devices in that it will relieve the listener of the manual effort of changing records more than every fifteen minutes. Heretofore, this problem was met only with expensive automatic record changing instruments. The new records are to be known as "Program Transcriptions," and are titled as complete "performances" in contradistinction to the ordinary records which reproduce only excerpts or portions of the musical composition.

The demonstration was developed to a dramatic climax by an evolutionary review of the "musical milestones" in the development of the phonograph, beginning with the now historical first phonograph developed by the founder, consisting of a simple series of wheels in gear, a crude vibratory diaphragm, and a tiny horn smaller than a megaphone, the whole mechanism being set in motion by the manual turning of a knob. When a Sousa march was placed on this toylike device, as recorded at that time, the resultant sound could hardly be described as more than an indistin-

guishable squeak of varying pitch. Continuing, the demonstrator played the same recording by that venerable dean of march composers, John Philip Sousa, who was seated among the distinguished guests, on the more familiar talking machine appearing in the famous trademark with the dog. The result, although a vast improvement because of the spring motive power and a longer horn could hardly be classed as good music. The march of progress continued through the familiar upright model up to the epochal orthophonic instrument which marked the establishment of the phonograph as a truly dependable musical instrument.

Throughout the demonstration recordings epitomizing the period of the instrument recalled such immortal voices as Melba, Adelina Patti, and Caruso. The playing of a movement of Beethoven's great Fifth Symphony on the orthophonic instrument had not yet been completed when the music came to an abrupt stop indicating the end of the record. Here attention was directed to a massive home entertainment instrument which was described as the highest achievement of the phonograph and radio arts to date, on which the new recording of the same composition was played on a single two-sided disc with remarkable tonal quality.

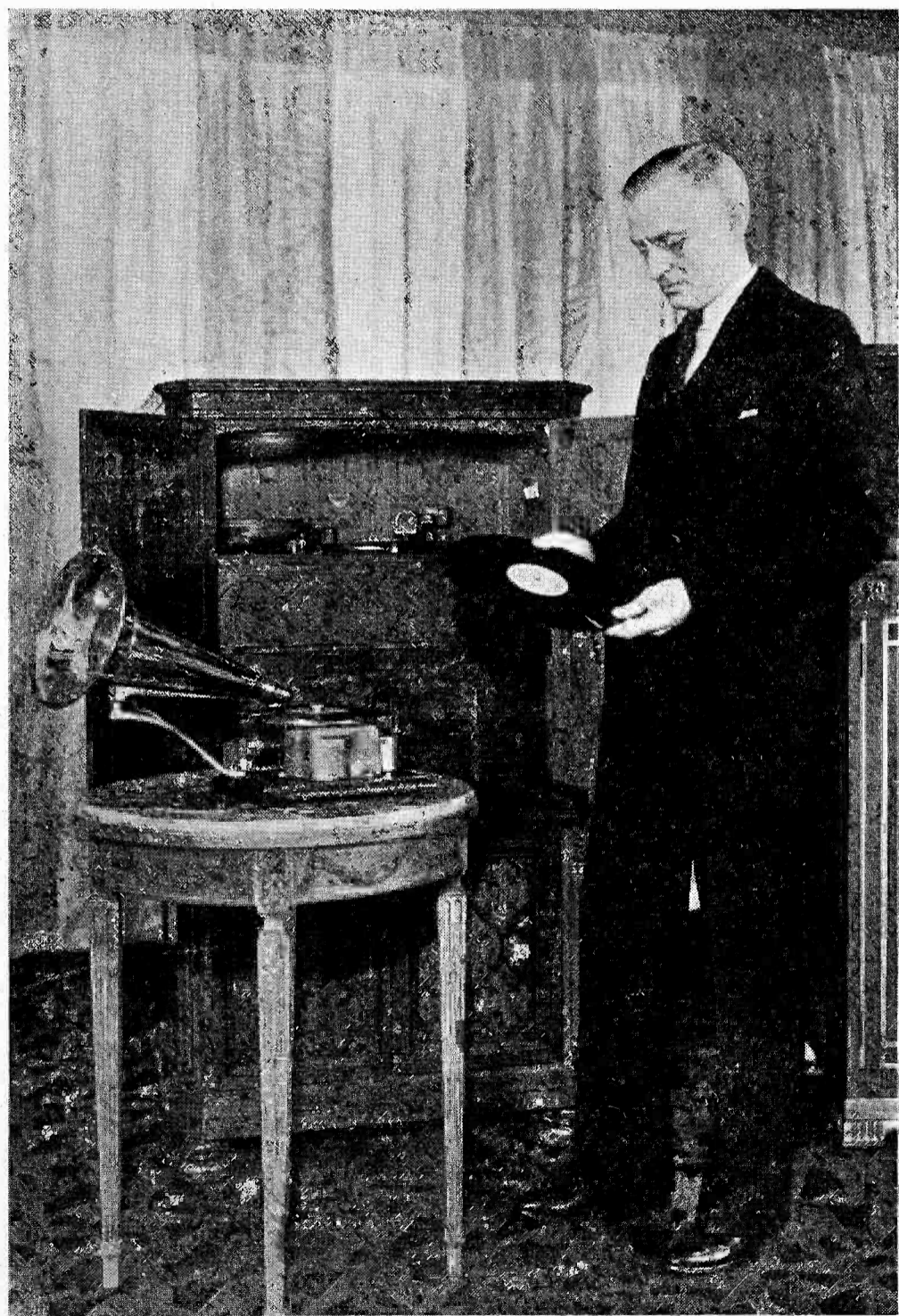
The long-playing feature is obtained by slowing down the turn-table speed from 78 to 33½ revolutions per minute and by introducing almost double the number of grooves on the playing surface. The new discs are made of an exclusive new composition called Victrolac, which is semi-flexible, and will not break when dropped. The new material makes it practicable to place finer grooves, spaced closer together, on the record and actually reduces the surface noise from the needle to less than half of that evident on the ordinary record.

The slower turntable speed essential in playing the new records is obtained by the use of a specially developed gear shift arrangement which also permits the use of the 78 R. P. M. speed as well. This gear shift mechanism, which was developed after painstaking experiment, is incorporated in the new phonograph-radio instruments which the RCA Victor Company will soon bring out. For the thousands who already have electric phonographs it was announced that an inexpensive gear shift arrangement for playing the new records, which any qualified radio service man can install, will soon be made available. These mechanisms, it is said, may be fitted to almost any of the modern phonograph instruments.

The first composition to be recorded as a program transcription was Beethoven's Fifth Symphony as performed by the Philadelphia Orchestra under the direction of Leopold Stokowski, at the Philadelphia Academy of Music. The superiority of the new records was made strikingly apparent when one of the speakers exhibited an album of four records recorded by the ordinary methods and then held up a single of the new discs with a complete recording of the same composition. According to an RCA Victor executive, thirty-four of the better known classical and semi-classical compositions have already been recorded by the new process and recording engineers are now busy expanding this list. The same executive intimated that arrangements had been completed to record the complete musical score of the Broadway hit show, "The Band

Wagon," as the first step in preserving similar performances for the many who could not ordinarily hear them.

Two new long-playing needles were also announced for use with the new program transcriptions, and with the ordinary records. Both of these needles are chromium-plated and colored differently for identification. One will play approximately twenty-five of the new long-playing records, without replacement; the other will play approximately one hundred records of the ordinary type. They are not interchangeable. The use of chromium was decided upon after exhaustive research and test had determined it the best material to provide a fine point of unyielding hardness and yet which would not impair the playing surface of the records.

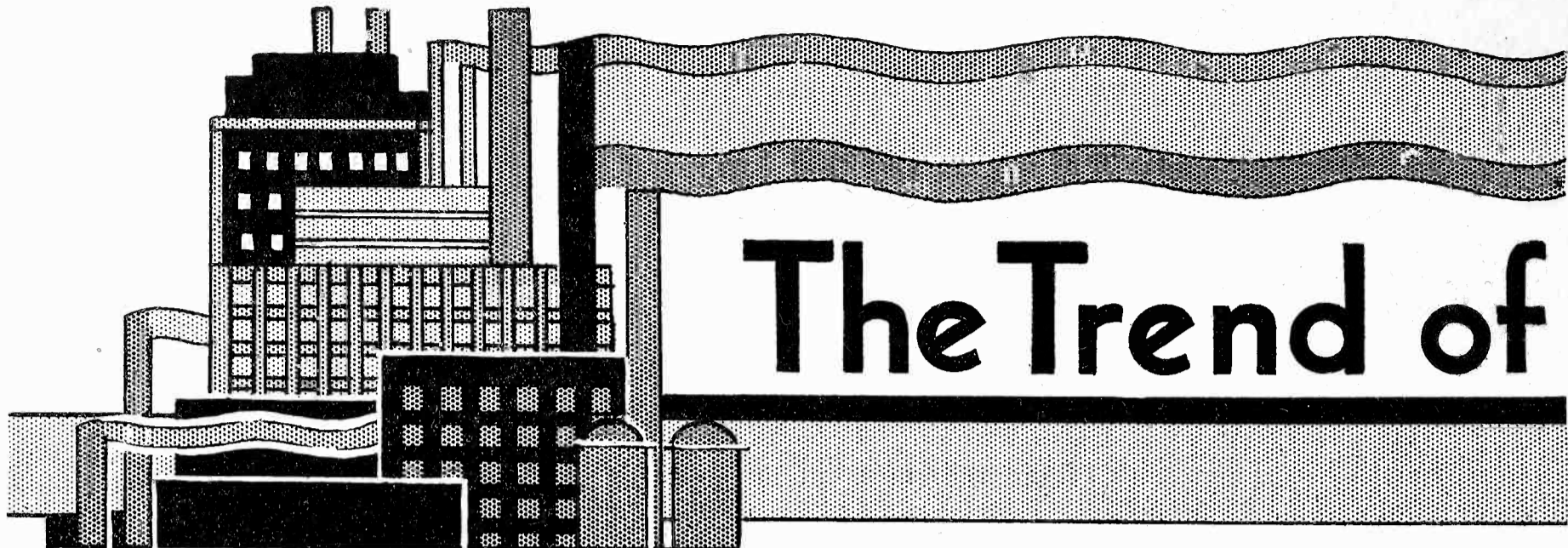


PROGRESS!

His Master's Voice

» » » Then --- and now

SHOWN here with the new half-hour Victor phonograph record is Mr. A. E. Nicholas, General Sales Manager of RCA-VICTOR. In the foreground is the original tin-horn phonograph . . . "His Master's Voice." And in the background is the new deluxe radio-phonograph instrument by RCA-VICTOR which is equipped with the new driving mechanism for playing the half-hour recordings, fifteen minutes on each side of the record. A sufficient number of these new recordings enables the listener to enjoy a full evening's entertainment without arising from his easy chair. A new day in radio-phonograph and record merchandising is here.



The Trend of

22,908 employees were at work in a total of 50 radio manufacturing plants during July. 20,773 in June. Weekly payroll for July was \$521,037 against \$504,515 in June, the Bureau of Labor Statistics reports.

The Sparks-Withington Company has announced to its organization the preliminary steps of an extensive campaign for the sale of Sparton Tubes, which are standard and may be used in practically all makes of receiving sets.

John L. "Jack" King, who has had vast experience in the Radio Tube business, has been added to the Sparton sales staff. For several years Mr. King was associated with one of the leading tube manufacturers and travelled all but four States in his contact with the jobbing trade.

Dubilier Condenser Corp. for year ended June 30, 1931, reports net loss, after expenses and other charges, of \$188,741 as against a profit of \$4,145 in the previous year.

One of the short wave adapters that is being merchandised on a "Distance" basis is the new Kennedy Globe Trotter which operates on the superheterodyne principle. Any good broadcast receiver coupled with this unit may be made to operate as a short wave superheterodyne. It performs with full efficiency with any superheterodyne receiver as well.

The Kennedy slogan to their dealers is "Sell them Distance."

The Colin B. Kennedy Corporation was one of the first to pioneer in the short wave field. In 1924 hundreds of Kennedy short wave receivers were used throughout the world on ships, coastal naval stations, by "hams," (then unknown) and many broadcast listeners who could afford \$395. Incidentally, this was about the same price that Ford chassis were selling for.

Attendance Breaks Three Year Record

A statistical check-up revealed that 28,762 persons attended the Eighth Annual Radio-Electrical World's Fair at Madison Square Garden before 9 o'clock of the opening night of the exposition. This is the best opening attendance mark for the last three years.

U. S. Radio and Television Corporation has applied for listing its shares on the New York Stock Exchange.

A consumer advertising campaign of national scope has been planned for Sylvania Division, Hygrade Sylvania Corporation. Sylvania officials have been busy for many months investigating, analyzing and planning for the future of the radio tube business. Every angle of tube sales has been carefully studied, for the purpose of giving the dealer the most effective advertising assistance.

B. G. Erskine, President of Hygrade Sylvania Corporation says: "I firmly believe that the future of every distributor's profits will be built upon constantly increasing tube sales. The continuous increase in radio tube sales is guaranteed by the continued operation of thirteen million radio receivers."

A new radio program, The Saturday Evening Post, and a nation-wide blanket of newspaper advertising will be used to carry the story of Sylvania SET-TESTED tubes to millions of homes. New window displays, mailing pieces and circulars, supplied free of charge, will enable Sylvania dealers to make an effective tie-up with the campaign.

"Charlie and Oscar," a pair of ambitions radio dealers, and owners of station PME, will go on the air for Sylvania Tubes Tuesday, October 6th, at 6:30 P.M., over the Columbia network. Their personal affairs, their disagreements, and their attempts to obtain

talent for Station PME will furnish fifteen minutes of entertainment twice each week—Tuesdays at 6:30 P.M., and Sundays at 7:15 P.M., E.S.T. The program will have an orchestra accompaniment.

A weekly contest, with prizes for radio listeners and dealers, will add interest to the broadcast. At the end of each period on the air a question will be announced. For the best and most original answer to this question a radio receiver will be awarded each week. An additional cash prize of \$50.00 will be awarded to the Sylvania dealer whose name appears in the winner's answer. The questions, which will be changed weekly, will require consideration of some phase of radio reception.

Beginning October 17th, The Saturday Evening Post will carry a series of "dramatized" advertisements, planned to impress on the minds of readers the desirability of using tubes "tested for a set like yours."

Newspaper advertising will begin October 6th, coincident with the premier appearance of "Charlie and Oscar" on the air.

DeForest Radio Co., through its president announced that the Radio Corporation of America had settled for \$1,000,000 a suit which DeForest Radio Co. had pending against R. C. A.

Columbia Phonograph Co., Inc. President H. C. Cox discussing a recent dealer transaction where a \$50 list set was sold for \$35 says, "I feel sure that the dealer did not buy that set without arguing for a longer discount from the list price. Why does he give most of that profit away? Certainly 14% will not cover his operating expenses."

A former Bureau of Standards engineer has been successful in designing a filamentless radio tube which can be adopted to both detector or amplifier circuits, same as a "hot" radio tube.



The Radio Times

Meyer N. Leibowitz, widely known in the radio world as the man who put the word "Amperite" in the radio dictionary, has announced his retirement as president, and general manager of the Amperite Corporation, New York.

"Does that mean you are withdrawing from the radio industry?" he was asked. "Not by any means" he replied. I believe in radio—I have lived its hysterical past, I appreciate its hesitant present and have full confidence in its bright future—and I am determined to remain active in an industry which will take its place as one of the leading industries of the world.

"When this industry outgrows its adolescence it will afford profitable opportunities for deserving manufacturers, and offer opportunities aplenty for merchants who are attuned to the requirements of a growing business. We will have a saner, sounder, stronger industry with a far greater future than its past has ever been.

"After ten years of concentration in one direction—I feel like the man who has been so close to the elephant that he missed the circus. For the time being I will watch the show. My future plans will be announced later."

Grigsby - Grunow Company's vice-president Don M. Compton says, "The government's suit to dissolve the 'Radio Trust' and the \$30,000,000 suit of Grigsby-Grunow are still pending and are being actively pressed."

A movement is reported under way to "tax" radio broadcast advertising revenue in proportion to the amount of power used and rates charged for time. This would put the stations on the same basis as publications which bring a revenue to the Government Post Office Department.

Atlas Plywood reports for year ended June 30, 1931, net profit of \$76,732 compared to \$449,635 in preceding year.

Baird Television interests in this country state they will soon have in operation a transmitter similar to the one used in England. A complete sports event is picked up on a "reducing" mirror and then transmitted.

New Film Company to Make 16MM Sound Subjects Available for Home

An almost unlimited number and variety of talking picture films will be made immediately available for rental to owners of home talking picture equipments, according to Rudolph Mayer, president of International Sixteen Millimeter Pictures, Inc., of 630 Ninth avenue, New York. Mr. Mayer, who is the brother of Louis B. Mayer, leading force of Metro-Goldwyn-Mayer and recognized as a pioneer and captain in the film world, intimated that the corporation which he heads has entered into an understanding with fourteen leading producers of talking motion pictures to the end that desirable subjects will be released from their libraries, and thus be available for rental to homes, commercial organizations and for industrial purposes on the sixteen-millimeter size film.

Distribution of the product, according to Mr. Mayer, will be made through approximately 150 exchanges which his company is to establish throughout the country. These exchanges, it is understood, will rent the films to local dealers, who in turn will rent them to customers at a reasonable figure.

"Our organization," said Mr. Mayer, "is, we believe, the first to come forward with a plan that includes a profit-sharing plan for producers and equipment manufacturers. We realize the potentialities of this field and recognize the fact that we must be generous if any arrangement we propose is to prove satisfactory to both equipment manufacturer and film producer.

"We can see nothing in our plan that is not highly attractive to everyone concerned. On one hand we make

available for the producer a new and tremendous source of profit. On the other we assure the equipment manufacturer of the solution of his greatest problem—availability of a great variety of live subjects. More than this, we enable the equipment manufacturer permanently to share in the ever-increasing profits to be derived from the rental of this film; and, best of all, even the smallest manufacturer can be assured of an adequate film supply plus his share of the profits from film rental.

"Certainly we could not effect a more attractive arrangement. The dealer is benefited because film is available through the local exchange at a very modest rental fee, and further because he is relieved of all worries in connection with film maintenance. The manufacturer is relieved of the burden of supplying his customers with film service, and is further benefited through profits from the rental of film. And the producer is assured of a most satisfactory profit in releasing his film; a profit which is commensurate with the earning power of the subjects he releases, and which therefore will dictate the advisability of giving the home field interesting productions."

David Sarnoff, President of the R. C. A., says "I have sent messages and received them. I do not know how they get from the sender to the receiver. I have never found anyone who knows."

Canada has fixed the discount from list at which American manufacturers may send their radio sets to dealers of the Dominion. The action was taken to prevent "dumping" of American made radio sets at less than cost, which Canadian manufacturers claim was making the manufacture of radio sets there impossible.



Interior View of Exclusive Radio Tube Store of "Radio Doctors",
San Diego, California

Stabilize Your Efforts

By L. P. NAYLOR, Sales Manager, Arcturus Radio Tube Co.

GOING back through history, we find that our experience in radio merely duplicates the progress made by any new industry. In fact, business is similar to life, in that it is born, nursed, grows through foolish days into a more experienced understanding of what it is all about.

Radio has done these things and should not be criticised. However, we have reached the age of maturity and we must begin to stabilize our efforts. I might illustrate with the history of the bicycle, the kodak, the automobile, the lawn mower, or various electrical appliances. Just the other day some one told me that there were great prospects ahead for a vacuum lawn mower. "Can you imagine that?" For years we have spent our Saturdays pushing a heavy lawn mower and then dragging a rake to pick up the loose grass. It doesn't seem today that it should require much brains to cut the grass electrically and at the same time pick up the pieces as the vacuum cleaner picks up the dust from a carpet.

The radio dealer has been too busy

cooperating with radio set manufacturers in introducing new circuits. Only a few years ago the neutrodyne was the answer and fourteen manufacturers fought for a license. A neutrodyne license was considered an asset worth thousands of dollars. Along came heterodyne and its various complicated and so called improvements—the heater type tube—the screen grid—the pentode—the variable-mu—the power detector and all of these things merely kept the business in an upset condition.

We went from extensive cabinet models of radio sets to small table models and then to the midget and now—what next? A prediction on this point would only create an argument.

What has this to do with radio tubes? The point I am reaching deals with stabilization and stabilization deals with radio tubes. Radio Tubes should be the backbone of any dealer's business. He should depend on tubes for his regular profit and allow the introduction of new radio sets and new ideas to supplement.

The fellows who bought radio sets several years ago, regardless of whether

it was a neutrodyne, heterodyne, screen grid, pentode, or midget, should be regular customers for radio tubes. Some one is taking that business and it behooves every dealer to stabilize—to understand his community and the requirements of customers living in that community. Every radio set owner is a client for radio tubes, whereas only a small proportion will buy new sets and even if they buy new sets, they must use radio tubes. Although new sets are usually equipped with radio tubes, that fact does not eliminate the set customer as being still a radio tube customer.

Every set user will need new radio tubes just as sure as every man needs new razor blades. As new set sales are made, new tube customers are created. Just as boys reach manhood, new razor blade customers come into existence.

These facts are more and more true as days go by. Therefore, the dealer who builds for the future by being ready today is building a reputation and a prestige in radio tube business which will prove valuable to him as his business stabilizes and becomes a more natural daily effort.

8,500,000 Unelectrified Homes Are Prospects for Newest Receiver

New Air-Cell Battery Set Opens Wide Market for Many Dealers

Radio Means More to the Rural Home Than to the City Home

By E. A. NICHOLAS



E. A. NICHOLAS
General Sales Manager, RCA Victor Company



RCA Model R-43

An eight-tube Superheterodyne radio with four times the output obtainable from the same tubes on the same voltage in the usual circuit. Uses the low-drain battery Radiotrons and the new Eveready "Aircell" "A" batteries and four heavy-duty "B" batteries. Batteries have 600 ampere life which provides an actual operating life of 1200 ampere hours as a result of the .48 ampere drain of the receiver. Equipped with Tone Control and permanent magnet dynamic speaker. A permanent magnet dynamic loudspeaker gives the battery receiver all the fine quality and life-like reproduction that is inherent in this type of reproducer. The R-43 is the first battery receiver to use such a reproducing instrument. Rubberfloated chassis; hand-rubbed, wax lacquer finish, walnut veneer cabinet. Dimensions: height, 41 inches; width, 25 $\frac{3}{4}$ inches; depth, 13 $\frac{3}{4}$ inches. Uses 5 RCA-230, 3 RCA-232 Radiotrons. List price, \$99.50, complete with Radiotrons, less batteries.

WHILE progress has been going steadily forward in the development of electric powered radio receivers until they have reached a stage of near perfection, little thought seems to have been given to the development of comparable receivers for the large areas that are still unelectrified.

The reason for this is plain, for of the estimated 29,000,000 homes in this country, some 20,500,000 are electrified. Radio manufacturers have naturally turned their attention to the large and profitable market represented by the greater percentage of the population. However, there are more than 8,500,000 homes that are beyond power line supply, and of this total, approximately 6,500,000 are farm homes.

And radio means more to the rural home than to the city home. It means a vital business service, as well as an important source of entertainment to the farmer; for it brings him news of agricultural markets, timely weather bulletins and practical farming information, as well as diversion. Yet, paradoxically enough, the instruments for receiving these programs are woefully inadequate. Progress in this direction has been almost at a standstill since the days when radio graduated from the earphone to the loudspeaker stage. Consequently, these rural homes have either been forced to do without radio service, or use makeshift "noise traps" hopelessly out of step with the rapid technical advances made in A. C. powered sets.

But now leading engineers have

turned their full attention to the requirements of the unelectrified field. Starting out with current conservation as the foundation, they have evolved self-powered receivers that incorporate all the convenience and operating features of the A. C. set with economy of operation, good sensitivity and selectivity and full tone quality and volume.

This truly remarkable achievement was made possible by four revolutionary developments, following each other in rapid succession. The first was the development of an extremely long-lived "A" battery utilizing the so-called air-cell, which literally breathes life-prolonging oxygen from the air, and will last for approximately a year without replacement. Second, was the development of the 2-volt vacuum tube to be used in conjunction with the new battery. Third, laboratory engineers at Camden have developed a remarkable receiving circuit which provides four times the audio output of that obtainable from the usual circuit employing the same tubes and batteries. And fourth, the development of a new permanent field dynamic loudspeaker deriving its field energy from a large permanent magnet, and providing a quality of tone and breadth of volume never before possible in a battery-operated receiver.

The sum total of these achievements has been incorporated in self-powered receivers free from the various weaknesses and inconveniences of the old type, and fully the equal of the electric power radio sets available to the city and town dweller.

Sound Systems Bring Large Profits

By H. G. CISIN, M.E.

A Friendly Tip From Mr. D. H. Wright President of Wright-DeCoster

Almost all sales made to municipal parks and private amusement parks are made only through demonstration. I do not mean by this that the complete installation has to be put in for approval. This is one of the worst things that can be done, because if an installation is put in for approval, it is next to impossible, or let me say it is very much more difficult, to have it accepted.

The demonstration should be made with one or more speakers and a portable amplifying equipment. Showing a man how the reproducers will sound in the spot in which he is going to use them has ten times the sales pulling power as the demonstrations in other locations.

We would absolutely advise against putting in an installation, even a temporary one, to be used two or three days, so that the person making the purchase will have an opportunity of making up his mind as to whether or not he wants the sound installed. We have found that all installations of this kind usually increase the difficulty of closing the order at once, and often are the cause for a loss of a sale.

Install the speakers, amplifier, turntable for records, and microphone, and give your demonstration. Draw to the attention of the prospective customer all the advantages of sound, talking to him, if possible, while some music is being played; then fold up your tent and leave just at the time that you make a good impression. If these rules are followed, I am sure you will stand the best opportunity of closing the sale.

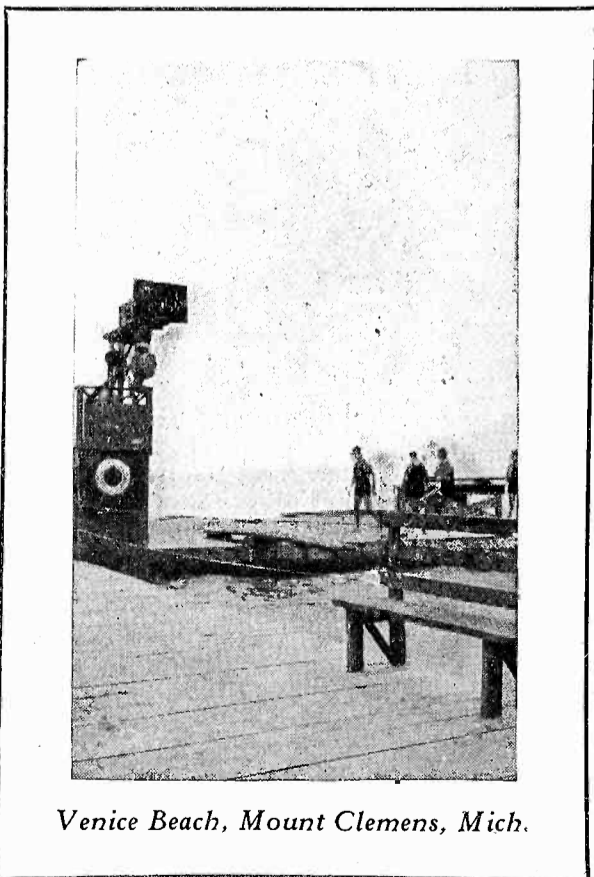
AS AN irresistible magnet to attract amusement-seeking crowds, modern sound amplifying systems are indeed unique. Wherever installed, they have aroused tremendous enthusiasm and immediately have become established as an indispensable feature of mass entertainment. Perhaps in no other field, have sound installations demonstrated a wider range of usefulness than in parks and other recreational centers.

An important characteristic of these sound amplifying systems is their extreme flexibility. They are being used

advantageously in small parks such as public squares, which occupy a very limited area, and in parks covering many acres. In fact, there is no limit to the territory which can be served by a properly designed sound amplifying system. For example, at Dorney Park,

Allentown, Pa., a sound system employing cone-type dynamic reproducers is used to supply a fifty-seven acre park with music which can be heard distinctly anywhere within the park.

Sound systems can also be used to furnish entertainment, not only to a



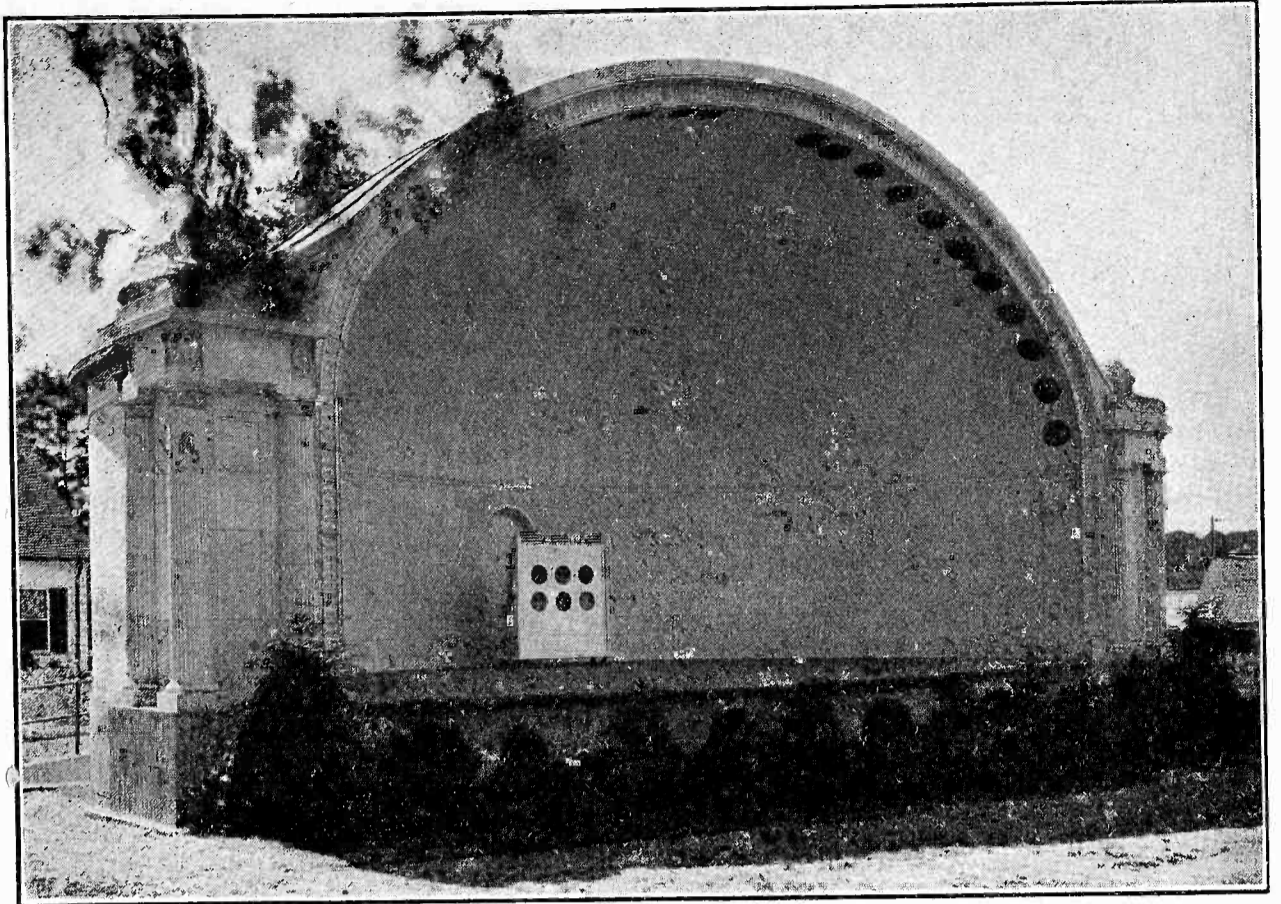
Venice Beach, Mount Clemens, Mich.



A novel arrangement of reproducers in Santander Park,
Cucuta, Columbia, South America

single park, but to an entire municipal park system embracing a great many widely separated parks. One of the most comprehensive installations of this nature is the one which is giving such splendid satisfaction in the parks of New York City. In this system, the pick-up station is located in Central Park, New York, with a main distributing station nearby. From the latter point, programs are distributed to various Manhattan parks and also to four subdistribution stations located in Brooklyn, Queens, Bronx, and Richmond, four other boroughs of the City of New York. At each of these subdistribution stations, the programs are amplified again to compensate for line losses and they are then distributed to the individual parks. While it is beyond the scope of the present article to go into the technical details of the park installation in New York City; it is interesting to point out a few more facts and figures in connection with this sound system. At the present time, eight parks in Manhattan are connected as a part of the system. In each of these parks, two cone-type dynamic reproducers are used. These speakers are of the most modern construction and of a type found to be especially well-suited for outdoor work. Six parks are similarly equipped in the Bronx, six parks in Brooklyn, three parks in Queens and two in Richmond, making a total of twenty-five parks. When one considers the fact that New York City includes an area of 298 square miles, the vast extent of this sound system may be realized more readily. Incidentally, it is planned to increase the original installation of twenty-five parks to a final total of eighty.

Park commissioners and municipal



Band Shell in Hudson Park, New Rochelle, N. Y. The Speaker on the platform is made up of six Wright-De Coster Dynamic Reproducers.

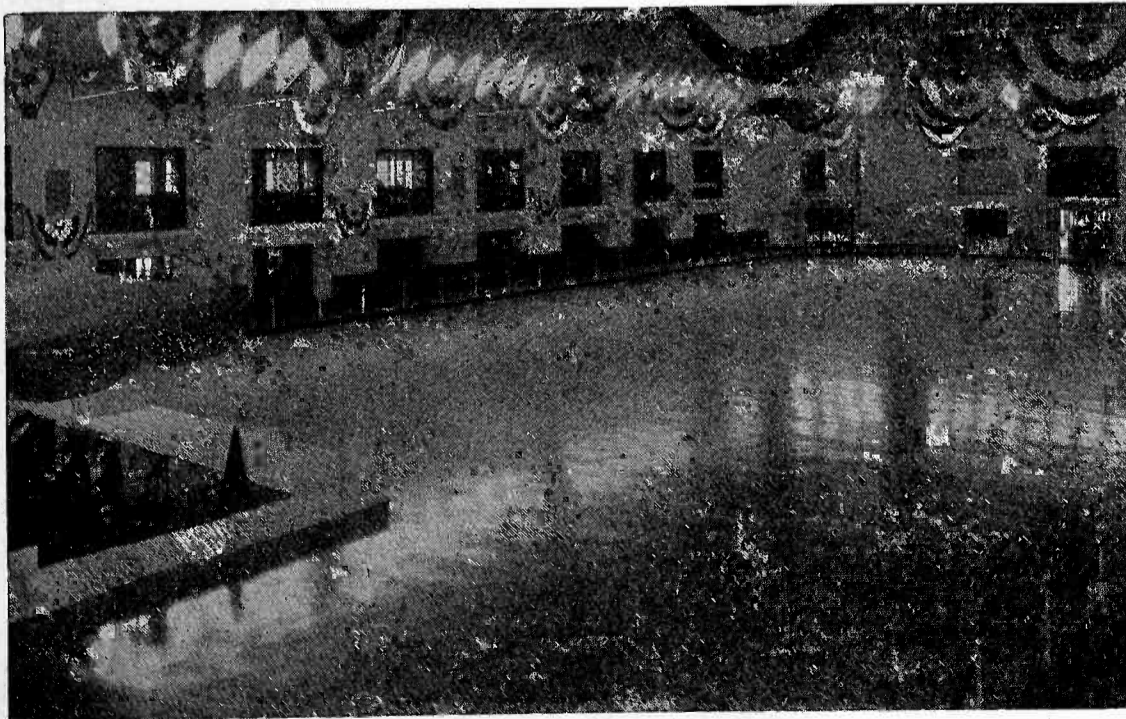
authorities throughout the United States, and in fact, in many different parts of the world, have been quick to recognize the inherent advantages of sound systems in public parks. Such installations are being used with entire success for amplifying band music, orchestra selections, vocal solos, instrumental solos (both wind and string), choruses, operatic productions, radio programs, phonograph records, and speeches. Often, many of these different types of entertainment are amplified on the same program and at different stage levels. Provided that the correct equipment is selected and that the installation is properly made, successful reproduction is absolutely assured, because present-day amplifiers and especially

modern dynamic reproducers have been improved to a point close to perfection.

In the United States, public parks from coast to coast are being sound-equipped to an amazingly rapid rate. Some of these installations are simple in design and modern in cost, while others are elaborate and expensive, but all are effective and very much worthwhile. The sound amplifying system installed at the band shell in Hudson Park, is one of the show places of New Rochelle, N. Y. The band shell was constructed at a cost of \$26,700 and is a combination structure with a comfort station underneath, entrance to the station being located in the rear. On the platform of the band shell, six cone-type dynamic reproducers are mounted in a large baffle. On Sundays and holidays, concerts are given by a twenty-five-piece orchestra, while on afternoons during the week, an automatic record changing device plays phonograph records. Chas. L. Broder, manager of the department of parks for the city of New Rochelle, states that the record reproduction is on a par with the orchestra and that on a clear day, the music can be heard for a mile out on the water.

The Lake Harriet bandstand at Minneapolis, Minnesota, is an example of what can be accomplished by a good sound amplifying system in the reproduction of band concert and operatic productions. The Minneapolis park board is highly enthusiastic over the results being obtained. Chas. E. Doell, secretary of the Board of Park Commissioners, states that the amplifiers and especially the dynamic loud speak-

(Continued on next page)



Dance Hall at Playland Casino, Rye Beach, Westchester County Park System, New York

(Continued from page 25)

ers, are a complete success. He states further that the volume is ample and the tone quality absolutely true.

The installation of sound is one of the greatest additions to Playland, at Rye Beach, the most modern and beautiful municipal amusement park in America. Just let me quote what Frank W. Darling, of the Westchester County Park System, has to say about Sound.

"It gives us pleasure to advise you that the sound installation placed in Playland Casino, is the most satisfactory installation we have ever seen or heard.

"The . . . loud speakers used in this installation seem to have a tonal quality of reproduction which makes them perfect for auditorium installations."

In Salt Lake City, Utah, Harry L. Finch, commissioner of parks and public properties, is equally pleased over the type of sound installation at Liberty Park. The group address system at this park is used on direct radio hook-ups, with phonograph records and with microphones and in every instance, it has been pronounced excellent in tone and amplifying qualities.

A slightly different type of sound system is installed at Bear Mountain Park, Iona Island, New York. A large pavilion in this park is used for roller skating in the summer time and for ice skating

In addition to the public parks in this country which utilize sound amplifying systems, many South American parks can now boast of up-to-date American sound equipment. The accompanying illustration shows a most artistic and ingenious arrangement of several dynamic reproducers installed in Santander Park, one of the finest municipal parks in Cucuta, Columbia, South America.

Commercial amusement parks, bathing beaches, outdoor pools, zoological gardens, etc., also find that sound amplifying systems are an added attraction and hence a prolific source of revenue. At Luna Park, Coney Island, N. Y., a comprehensive sound system has been installed. The Velodrome, at Coney Island, used for motor cycle races, also employs a sound system. The sound installation at White City, Chicago, provides a source of music and announcements which can be heard clear as a bell in every nook and corner of this large amusement resort, despite the roar of riding devices and the din of carousals and barkers. Even the carousals themselves are being sound equipped. The latest installation of this type is at the carousal in Central Park, New York City, where the old-fashioned squeaky organ has been replaced by the modern electric phonograph with automatic record changer, amplifier and cone-type dynamic reproducer. The merry-go-round at Pine Island Park, Manchester, New Hampshire, is similarly equipped.

At the Brighton and Manhattan bathing beaches in Brooklyn, New York, amplifying systems provide music for bathers. At these beaches, phonograph records and radio programs are amplified. Many bathing pools make good use of sound amplifying equipment. At Miami Beach, Florida, there is an effective sound system at the Roman Pools Casino and Supper Club. The outdoor pool at Mineral Beach, Monongehela, Pa., utilizes three dynamic reproducers equipped with directional horns. Two similar reproducers mounted on baffles are used at the nearby dance hall. The proprietors of Mineral Beach are so well pleased with the sound system that they ascribe no small part of their success to its installation. The Philadelphia 69th Swimming Pool is another example of a highly satisfactory sound installation. Swimming instructors at the pools find the sound amplifying systems very valuable in directing classes, as the sound of the instructor's voice, amplified by the sound system, can be heard distinctly while the students are swimming.

Venice Beach, at Mount Clemens, Michigan, possesses an exceptionally useful sound system. Approximately ten acres are covered adequately with dynamic cone-type speakers.

A dynamic reproducer is utilized at

the entrance to attract the attention of passing motorists. The bandstand is also equipped with loud speakers and a speaker located at the swimming beach can be heard by the bathers at a distance of over 1500 feet.

The Royal Palm Park, at Miami Beach, Florida, uses a sound system in conjunction with a score board to broadcast the progress of baseball games, etc.

The sound installations described above are typical ones and will serve to give a general idea of what is being accomplished in public and commercial parks throughout the country. However, the list of uses and applications of these sound systems is by no means complete, since new and profitable functions are being conceived for them almost daily.

• •

A New Refrigerator

(Continued from page 14)

the "midget type," 22 inches wide and 17 inches deep, internal measurements, and 30 inches high. It is made with a flat top so that it could fit under sinks or in other small places in the kitchen. Standard finishes on this model are apple green, eggshell blue, golden yellow or white. It lists at the phenomenal price of \$87.70. This model is also available with centralized control and rectification for use in apartments, which brings the price down accordingly.

In its preliminary plans the Service Electric Company has stated that a limited number of direct dealerships and agency representatives will be appointed. These Service representatives will be recruited from radio and allied merchandising activities, and must be of the highest caliber and fitness. It is felt that these dealerships will provide a very profitable livelihood to the energetic dealer, whether handled as an allied line or as his exclusive commodity.

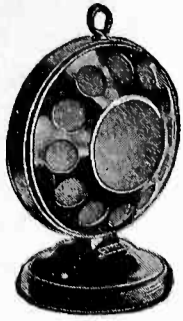
While prices of Service products are low in order to allow the public to share in the company's engineering success, there will never be a Service item sold below list, plus reasonable shipping expense. There has never been, nor will there ever be, a Service item that can be accused of being "dumped."

The Service Electric Company, Ltd., is comparatively new in this country, but it has been in existence in Europe for years, the date of its original charter bearing the seal of the City of Venice. Among other things it has developed a large line of power units, most recent of which is a newly perfected DC/AC converter for the AC auto radio. The converter changes 6 volts direct current into 110 volts alternating current.

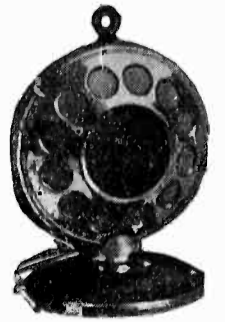


Every Bathing Beach Needs a Good Sound System

in the winter. The pavilion is 100 feet long by 200 feet wide. Although open at all four sides, the cone-type dynamic reproducers at one end of the rink, provide plenty of undistorted volume for skating. Two similar installations have also been made at Hook Mountain, New York. The park commissioners are more than satisfied with the results and have voiced their entire approval.



How to Sell Home Broadcasting Microphones



Most dealers do not know of the many uses found for the popular little home microphone. In this article the author tells you how a few aggressive dealers are using the microphone to bolster sales. Read every word of the article. Give consideration to this under-estimated money-maker. Miniature microphone manufacture has forged ahead by leaps and bounds. Some reasons why are here told to you by R. H. McLean.

By R. H. McLEAN

THERE WAS A TIME when accessories to the radio set constituted a good percentage of the average radio merchant's business. "A" and "B" batteries, chargers, "B" eliminators, tubes, loudspeakers, anything that could be fitted on to improve radio receiving conditions, was considered a good, hot line for the radio store to carry. Today the radio set comes complete and ready to operate. There is nothing much left to handle in the way of accessories except tubes, and in unusual instances, extra speakers. That is true, at least, of the accessories actually *needed* for the finer operation of the radio receiver. There are accessories, however, that are no more necessary to radio reception than an ash tray is to the functioning of an eight cylinder car, yet they are as convenient as the latter, and in some cases afford more amusement to the owner than a whirling policeman for the radiator cap. For convenience there is the Radio Owl, which shuts off the radio set at a given time; the switch that hooks onto the telephone receiver, automatically cutting off the radio set when the receiver is taken off the hook; the remote control systems, both for the purpose of tuning in various stations and for varying the volume at a distance. There are phonographs, of course, portable and all types.

One of the most popular home entertainment accessories is the little microphone for attachment to the radio set. These have taken the country by storm during the last year, although dealers report that the market has not been

more than scratched. They appeal to the amusement loving type, which probably includes almost everyone in its ranks at some time or other. It is felt, however, that the accessories available to the radio dealer today have not been exploited as effectively as they might.

The home microphone was probably ushered into the radio show house in company with home recording devices. People who have no use for the latter, however, are perfectly able to get enjoyment out of the use of the little mike, which has a myriad of uses. In my travels among the radio dealers I took occasion recently to inquire from them what uses they found for mikes which enabled them to promote sales. Many replied that they were not interested in broadcasting. Others did not even know that such devices were on the market. Others were of the opinion that the only use for a microphone was for audition purposes. This lack of information on the subject astounded me, but I kept after it until I had turned up a few who were taking advantage of the many possible means of making this accessory profitable.

There is a dealer in the southern part of Kansas who makes a good income off little microphones. He displays them in occasional ads and he always has one in the window. His greatest trick is to leave his radio receiving set prospect twisting the dials of a set while he steps out in back for a few moments. Then when the time is ripe he "takes the mike away from the announcer" and points out an interesting feature of the receiver

to his customer, calling him by name if possible. He says he has found that most people get a sudden thrill out of hearing their names mentioned over the radio, especially when unexpected, and he believes that many an order for a radio set has been signed just because of this stunt. He does not believe it is wise to trick the customer into believing that the announcement is coming from the station.

One dealer was telling me about a jeweler who had bought a midget from him and had hooked a mike up to it for the purpose of getting rid of a certain wholesale diamond salesman who had developed the habit of taking up too much of his time. On the salesman's next trip the jeweler went into the office and announced, through the radio, a police report to the effect that the wholesale jewelry firm by which the salesman was employed had just been robbed and that the burglar was fleeing up the street with the police in pursuit. The salesman left his jewel case on the counter and rushed hatless up the street to his office, only to find that the report had been erroneous. The jeweler is now probably trying to find another equally effective hoax.

But these baby mikes are not useful merely in the field of parlor tricks and the home town magician. They are, in fact, far removed from the element of toyland and have rapidly become standard accessory article.

The midget microphone can turn any radio receiver into a miniature public

address system. Of course it would hardly do for a big football stadium or large-sized swimming arena. Yet for small places it makes a creditable and acceptable p. a. system.

Out in Oklahoma one representative dealer made his initial sale to a "pee-wee" golf park owner who installed it on the porch of his pavilion.

In between musical selections from a radio station the golf course man would switch in and make announcements of forthcoming tournaments . . . results of last night's play, names of sponsors who donated prizes, and other information to the folks gathered round about on the course.

A hotel man in the middle west bought a baby mike and used it in his hostelry with a myriad of uses. The set in the main lobby is used to page people, while it serves a dual purpose by also providing afternoon and evening radio concerts.

Others in the same line of business have found a real need for the baby mike in their coffee shops and restaurants to make announcements of specials and at hotel entrances to call car drivers.

Hotels have not been the only ones to find a use for the small sized microphone. Stage companies have used it in their public waiting rooms to call bus departures; theatres at the main lobby to call the cars; and various other public institutions have found a genuine use for the tiny instrument.

Up in the northwest one enterprising retailer found an almost unlimited field in music instruction. By the use of the midget mike, piano, violin and other music pupils are able to practice in one room, while the teacher listens in another studio. Thus the criticisms are much more valuable, since the child is under no stress because of having someone in the room while playing.

In a somewhat allied field other dealers have found a prolific source of sales to dramatic and expression schools. These institutions have found it extremely practicable to use the scientific instrument in voice placement . . . thereby correcting defects in the singing voice and speaking voice of their pupils.

Small town amusement parks have likewise proved a source of profit. Swimming and other sports events have been announced to the public by the use of the little microphone . . . the description of each event, starting them off, and the final results.

Even in the prosaic field of every-day business radio's little microphone has found its uses. Department stores have found them of use in their employees'

rest rooms to announce that the lunch period is over . . . as well as in public waiting rooms to announce special bargain events.

Factories and shops use them for a call system by which they call from the office to the factory. Auction houses cut in on their receivers . . . midget size or console models . . . and make announcements. Schools install them in auditoriums to give out special notices of the day.

Overflow crowds in churches have been taken care of by using the baby microphone on a set, as well as rooms in which the hard of hearing have been placed to hear the sermon from the main church edifice through the use of the set and the little mike.

It is doubtful if any one radio accessory has become such a commonly accepted standard article of merchandise as the baby mike in the short period of time in which it has been on the market.

The largest manufacturer of baby mikes does not treat his product as an offshoot of trade. He does not plan it as a fill-in for dull periods or times when business is off. With him it is a day by day article with steady sales.

An aggressive campaign for the winter season, with special attention to holiday needs, has been launched by the originator of the tiny device.

Show case cards, consumer leaflets, large lithograph window display cards and other devices are being used to acquaint the public with radio's combination novelty-utility, the baby mike, and dealers throughout the country have predicted the day when radio families will have a baby mike as a standard fixture, just the same as they have bumpers and side lights on the family car.

A composite picture of an announcer . . . he might be Graham McNamee, Ted Husing, or any other well known announcing figures adorns the placards of these tiny mike written announcements and the trade mark has become almost as well known as Lydia Pinkham, the Brothers Smith and W. L. Douglas' shoes.

Once upon a time . . . that's the way stories usually begin, instead of end . . . Jim Fouch owned a radio station in Inglewood, California. Along came Christmas and he cast about for a gift which would fairly breathe the spirit of good cheer and radio.

So he evolved the solid copper baby mike for a desk ornament and paper weight. That gave him the original idea for the tiny microphone as a useful article that could be used with the home receiving sets.

"From small acorns oaks grow" quoted somebody or other. Of course they weren't thinking of this field of tiny microphones. But they might as well have been, for from the nucleus of making a few baby microphones for his own use, the inventor has developed a large-sized business that stretches to all corners of the United States and to foreign countries as well.

School Girl Sells 125 Sets In Sparton Contest

"If the retail business men of this country were to show half as much energy and ability as several hundred school boys and school girls that I know, they would all get rich in a year. Some of the boys and girls who competed for Sparton Scholarship Awards this year sold more radio sets from door to door than many dealers sold in their stores."

Captain William Sparks, president of the Sparton Radio organization, had this comment to make regarding the winners of the Sparton Scholarship Awards for the past year.

"Under the terms of this offer winners were given their choice of a university scholarship or a tour of Europe, which began on July 4.

"As you know, we awarded one point and one dollar for every demonstration that was secured by the contestants. For every sale we awarded ten points. There is one little girl down in Lima, Ohio, Marvel Baggs is her name, who made 125 actual sales. An Italian boy in Bridgeport, Connecticut, did almost as well. A high school student out in the Kansas City territory was close to them and from there on down there was little difference in the winners.

"A large number of winners chose the scholarships in preference to the European tour. The party was accompanied by Prof. John Paul Jones, who conducted classes in the history centering around points of interest as they were visited. In this way we made the tour a real educational event."

Captain Sparks, in commenting on the motive behind the offering of the scholarships said that memories of his own childhood played a big part in causing the scholarships to be awarded. Born in England and coming to this country at an early age, he worked for two years during his early boyhood to earn money for his first trip back to his homeland.

MODERN RADIO

A New Radio Magazine

ROBERT S. KRUSE, E.E., *Editor*

Formerly with Western Electric Co., International Tel. & Tel., Radio Section of the Bureau of Standards, Hammond Radio & Research Corp., Technical Editor QST for five years. Editor Sterling's Radio Manual and of several books now in preparation. Designer of a number of broadcasting and high-frequency transmitters, co-designer of National's S. W. 5 Thrill Box, Pilot's Wasp and Super-Wasp, also other commercial receivers. Has contributed to Radio News, Radio Design, Radio Broadcast, Popular Radio, Radio, Short-Wave Craft. His writings have been reprinted in all continents. At present Consulting Radio Engineer.

L. W. HATRY, *Associate Editor*

Best known during 1920-24 as owner and operator of 5XV at Port Arthur, Texas; also three other calls. Articles contributed to Radio, Radio News, QST, Radio Journal, Popular Radio, Radio Broadcast, Short-Wave Craft, Radio Craft, Wireless Age, Radio News Canada, many having been reprinted in the major countries of the world. Was department Editor and Information-service QST, Radio Editor the Hartford Times, recently active in short-wave super-heterodyne design. Participant in short-wave and amateur radio for eleven years. Has been first grade commercial shore-station operator, also operator of broadcasting station and station engineer.

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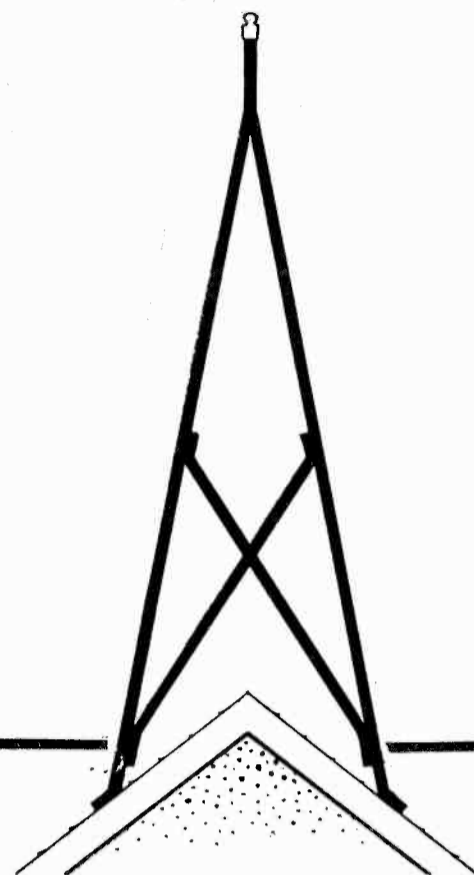
Send for booklet with downtown map.

Rooms with bath, \$3.50, \$4.00, \$4.50, \$5.00 and \$6.00

Rooms without bath, \$2.50

NEW
BISMARCK
HOTEL CHICAGO
RANDOLPH at LA SALLE

Tell them you saw it in RADIO



STEEL

ANTENNA TOWERS

\$3.00 PER PAIR,
LIST PRICE

SELL BETTER AERIALS

*Your Customers Can Afford This
Installation at the New Low Price*

EVERY owner of a radio set is a prospect for an UP-TO-DATE antenna. The modern, rugged steel LeBourg Antenna Towers are ideal for homes, apartment houses and hotels. Two towers sell for \$3.00 list, with the usual trade discounts to jobbers and dealers. The towers are 5½ feet high and 18 inches wide at the base. They come to you complete with insulated knobs. They make a business-like job of your antenna installations.

**The Best Side-Line for the
Dealer**

Put your service man on the job and let him sell these towers to every radio owner in your vicinity. Display them in your store window. They sell readily. You should order a sample pair of towers immediately. If your jobber cannot supply you write us direct.

JOBBERS . . . WRITE!

Some jobber franchises are still available. Wire or write for further information.

A. LeBOURG
602 South 11th St.
GADSDEN ALABAMA

Guide to New Radio Products

Here are presented the newest products of nationally known manufacturers. This Buyers' Guide will help you in your selection of new things to sell. Radio and allied merchandise will be displayed in these columns each month. Copy for November issue should reach the publisher by November 1st. Write for rates.



Flechtheim

Filter condensers for replacement purpose and for general service work. A complete line of all standard and special capacities available from stock. Write immediately for catalog showing all of the newest Flechtheim products. *The A. M. Flechtheim & Co., Inc., 136 Liberty St., New York City, N. Y.*

International Resistance Co.

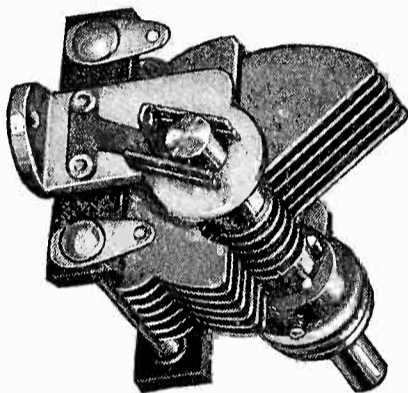
Motor Radio Suppressors for spark plugs and distributors. Moisture-proofed, impregnated with special compound to withstand all weather conditions. Descriptive matter on request from *International Resistance Co., 2006 Chestnut St., Philadelphia, Pa.*



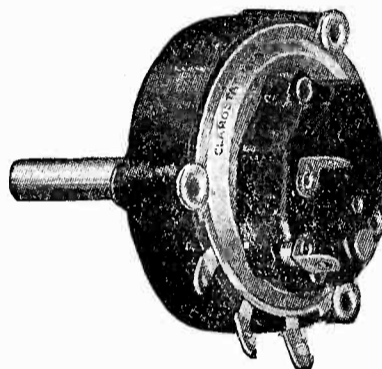
Hammarlund

For quality reception on the short waves. Hammarlund Condensers and Coils hold first place. They are the perfected products of more than thirty years of precision engineering.

Hammarlund Mfg. Co., 424-438 W. 33rd St., New York.



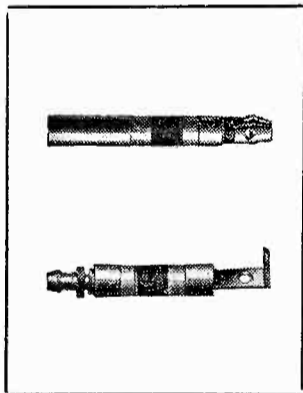
Clarostat Controls



Built-In Switch and Insulated shaft in Clarostat Controls in both the genuine wire wound units and the graphite element units. Write for complete descriptive information. *Clarostat Mfg. Co., 285 North 6th St., Brooklyn, N. Y.*

Lynch Mfg. Co.

Two new type metallized resistors for connection to each spark plug and for distributor interference elimination. Both for use in auto radio installation. Heavy, rugged and capable of withstanding mechanical shock. Moisture-proofed. *Lynch Mfg. Co., Inc., 1775 Broadway, New York, N. Y.*



Ward Leonard

Ribflex Vitrohm Resistors. Metal alloy resistance ribbon, reflexed, wound on edge on ceramic tube. Banded on each end with heavy duty terminals. Entire unit covered with fired-on

vitreous enamel. Available in single units with values of from .04 to 10 ohms. *Ward Leonard Co., Mount Vernon, New York.*



Jewell Tube Seller

A Tube Seller That Reads in Terms of Tube Merit

A new tube selling instrument is announced by the Jewell Electrical Instrument Company, Chicago.

It has a large meter calibrated in terms of tube performance. The Indev-of-Merit meter, as it is called, reads direct in terms of Unsatisfactory, Doubtful, and Satisfactory.

The scale provides this reading on all standard types of tubes.



Descriptive Catalogs of the Jewell Instrument Line can be secured from Jewell Electrical Instrument Co., Chicago, Illinois.

Review of New Books

Radio Handbook, by James A. Moyer and John F. Wostrel, First Edition, 886 pages, 5x7½ in. Published by McGraw-Hill Book Company, Inc., New York and London. Price \$5.00.

An accumulation of radio information arranged to be instantly available to the person who is working with radio. All definitions, formulae, tables and methods of practice, as well as a comprehensive study of the theories underlying radio engineering and the uses to which they are put, are contained in this book. They are prepared in a not too technical style, so that the student can make use of the book as a text if he desires.

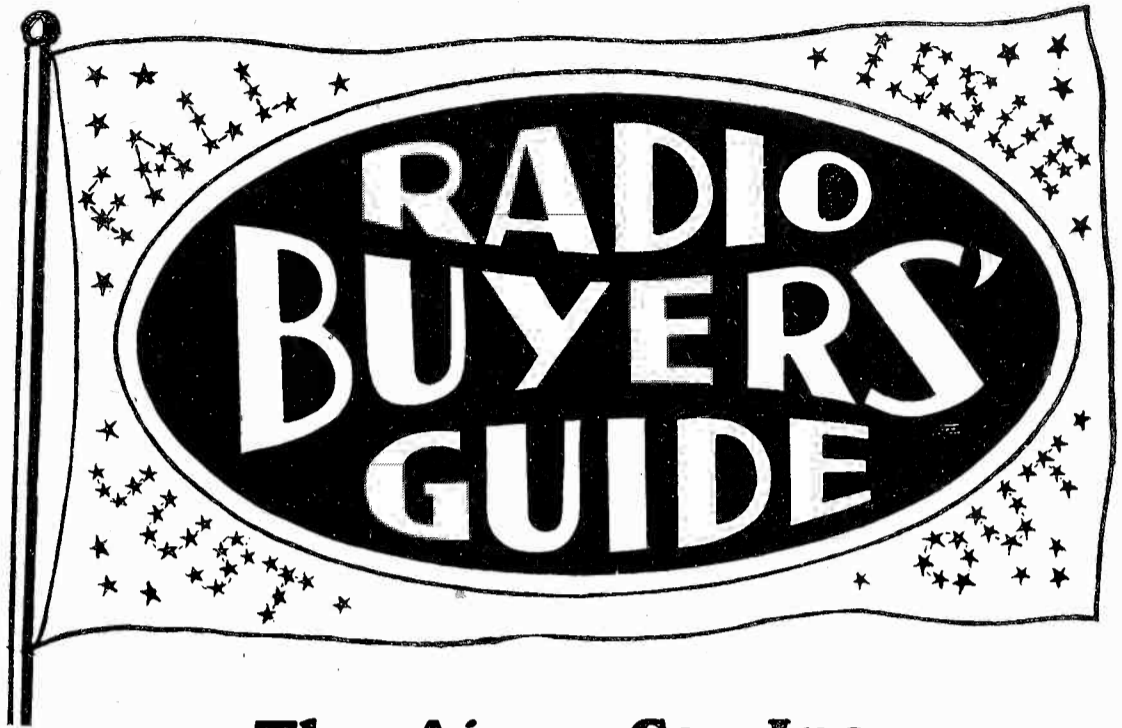
The contents of the book include sections on fundamental units and tables, a study of electricity's place in radio, radio accessories and instruments, fundamentals of radio communication, power supply systems and apparatus, vacuum tubes, vacuum tube circuits, radio receiving sets, transmitting circuits, broadcasting transmitters, marine transmitters, laboratory equipment and methods, photo-electric cells, television, industrial applications of vacuum tubes and sound motion pictures.

Low Pressure Selling, by Jas. A. Worsham, Business Executive, Author, Speaker and Lecturer. 208 pages, 5½x7¾ in.

This little book is an unusual treatise on all types of selling, whether to the consumer or to manufacturers and dealers. It is not laden down with rules and formulae for acquiring personality, or methods of learning and applying psychology to selling, but is built around the few basic principles of salesmanship in a manner that is extremely simple and easy to grasp. The author cites examples from his own experience and from experience of friends to humanize the study. The prime element of selling, which he has not allowed to become lost in a haze of details, is summed up in the following quoted sentence: "Find out what people *want*—convince them that your product—or services—will satisfy those *wants*, and your prospect buys." The book is recommended to all radio dealers, salesmen and service men.

DOES YOUR BUSINESS ASSOCIATE SUBSCRIBE TO "RADIO"?
PASS THIS ISSUE ALONG TO HIM WHEN
YOU HAVE FINISHED READING IT.

Have You Received Our Free

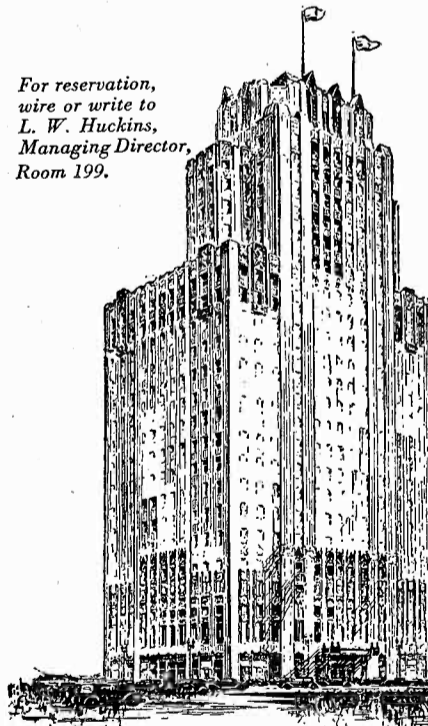


The Airex Co., Inc.

87 Cortland St., New York City

San Francisco's Newest AND MOST MODERN Downtown Hotel!

For reservation,
wire or write to
L. W. Huckins,
Managing Director,
Room 199.



Just off Union Square—most convenient to theaters, shops and stores. Only California hotel offering Servidor feature—thus combining "maximum privacy with minimum tipping".

Garage in basement with direct elevator service to all guest room floors. In every room—connection for radio reception, running filtered ice water, tub and shower. Western-exposure Tower rooms have ultra-violet-ray windows.

Dinner in Coffee Shop from 75¢ up—in Main Dining Room from \$1.50 up. Also a la carte service.

**Hotel
SIR FRANCIS
DRAKE**

HUCKINS-NEWCOMB HOTEL CO.

Powell Street at Sutter • San Francisco

600 OUTSIDE ROOMS—127 single rooms at \$3.50 daily, 118 at \$4, 136 at \$4.50, 107 at \$5, 64 at \$5.50, 48 at \$6. Double rooms \$5 to \$8 daily.

IN THE TOWER—Luxurious Suites \$12 to \$20 daily—DeLuxe Rooms \$5 to \$12 single, \$7 to \$15 double.

853 PAGES, 1,800 DIAGRAMS IN RIDER'S NEW 6-LB. MANUAL

THE most complete service man's manual is "The Perpetual Trouble Shooter's Manual," by John F. Rider, published April, 1931, and full of real information. Wiring diagrams of ALL popular commercial receivers and kit sets from 1922 to 1931, inclusive. Also contains a course in trouble shooting. Loose leaf pages, 8½ x 11", bound. 853 pages; index and advertisements on additional rates. \$5.00 per copy. (Shipping weight, 6 lbs.)

For sale by
"RADIO"

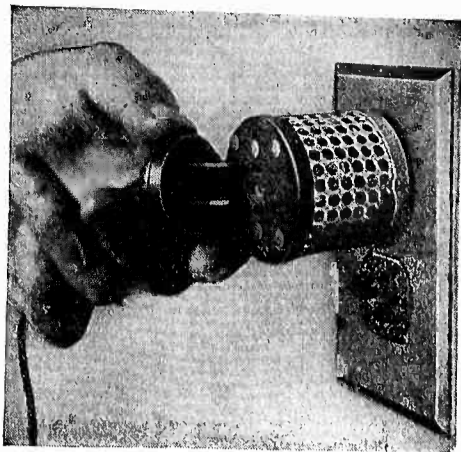
Pacific Building San Francisco, Calif.

BALLYHOO

Laugh at the depression. Read "BALLYHOO," the finest humorous magazine in print. The whole nation is talking about it. Get "BALLYHOO" for one entire year . . . and extend your subscription to "RADIO" for another full year . . . Both for only \$3.35. That's a real saving . . . and a real value. Send your orders to "RADIO," Pacific Building, San Francisco, California.

NEXT MONTH!

How a Service Man Should Advertise His Business. Sales and Advertising ideas of great value for dealers' service departments. Don't miss next issue of RADIO.



PROTECT THE MIDGET SET

Midgets are designed to operate on 110 volt lines and will not stand up on higher voltages. Save the set—save your reputation!

Install a 50-watt

CLAROSTAT AUTOMATIC LINE
VOLTAGE REGULATOR

Retail Price..... \$1.75

Other Sizes for Other Receivers

CLAROSTAT MFG. CO. INC.
285 N. 6th St.

Brooklyn New York

HOTEL NORMANDIE

... provides the maximum of comfort at reasonable cost. Located just outside the congested district of Los Angeles, yet close to the best shops, theaters and churches, the NORMANDIE offers every advantage you desire in your selection of a temporary or permanent home.

Rates
Room with Bath, single, \$2.50 per day
Room with Bath, double, \$4.00 per day
Monthly Rates on Application

The cuisine, excellent service and reasonable rates in the COFFEE SHOP AND CAFE combine to make your stay a pleasant one.
(Garage in Connection)



CORNER SIXTH & NORMANDIE
LOS ANGELES

FOR QUICK SALE

FOURTEEN

VISIONOLA

Home-Talking Motion Picture Machines with Radio and Phonograph. Will sell singly or in lot of entire 14. In original shipping cases. Write or wire for prices and particulars.

VISIONOLA - PACIFIC CO.

235 Monadnock Bldg
SAN FRANCISCO CALIFORNIA



UNIVERSAL MICROPHONES

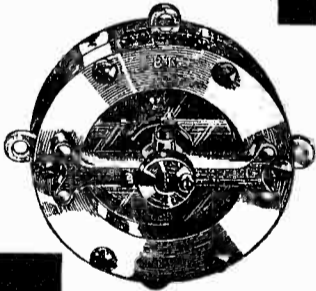
America's most popular two-button microphones, true natural tone, tremendous volume; extremely low hiss level, extra heavy 24 karat pure gold spot centers and buttons. Scientifically constructed, time tested, laboratory adjusted. Fully guaranteed and now at a decided saving in cost to you.

Double Button
Handi Mike
List \$15.00

New Heavy
Duty BB
\$25.00 List Price

Other models as low as \$5.00
1932 Catalogue just out

UNIVERSAL MICROPHONE
CO., LTD.
Box 305
Inglewood, Cal. U.S.A.



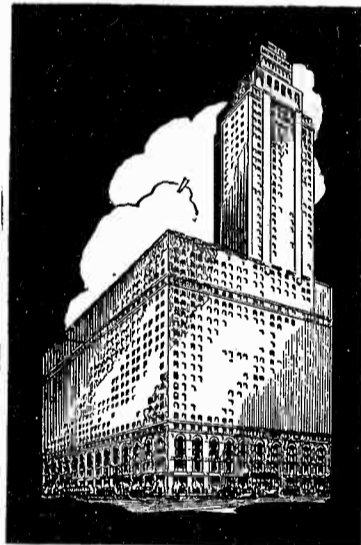
CLEAN THOSE CONTACTS

A twist of the wrist—and instantly the "PRONGETTE" cleans dirty tube prongs. Reverse the steel reamer and instantly you clean those hard to get at places in tube sockets . . . cleaning exactly where cleaning is needed. Every dealer . . . every service man . . . every engineer needs this new tube and socket cleaning tool. Insulated handle. Case-hardened steel reamers. Fits in your vest pocket. Carry it with you always. Sent postpaid anywhere upon receipt of \$1.50. Agents wanted.

\$1.50

BRADLEY RADIO CO.

1062 Howard Street San Francisco, Calif.



A GUEST at the Morrison enjoys all the luxuries that only a hotel of premier standing can offer. Yet rates are remarkably low—\$3.00 up—because sub-rentals pay all the ground rent. The saving is passed on to guests.

Every room in the Morrison Hotel is an outside room, with bath, circulating ice water, bed-head reading lamp and Servidor. A housekeeper is stationed on each floor.

The Morrison is the World's Tallest Hotel—46 Stories High.

Nearest Hotel in the City to stores, Offices, Theatres and Railroad Stations.

CHICAGO'S MORRISON HOTEL

Corner Madison and Clark Streets

Leonard Hicks, Managing Director

2500 ROOMS

\$3.00 Up

You ought to see the difference

In Your Favor

through Parker's large scale
production

You ought to go and compare, for example, the Parker Guaranteed for Life Duofold at \$5 with guaranteed pens of other makes at \$7.50, and even \$8.25. Some are not within 22% of Parker's ink capacity, some not within 69%.

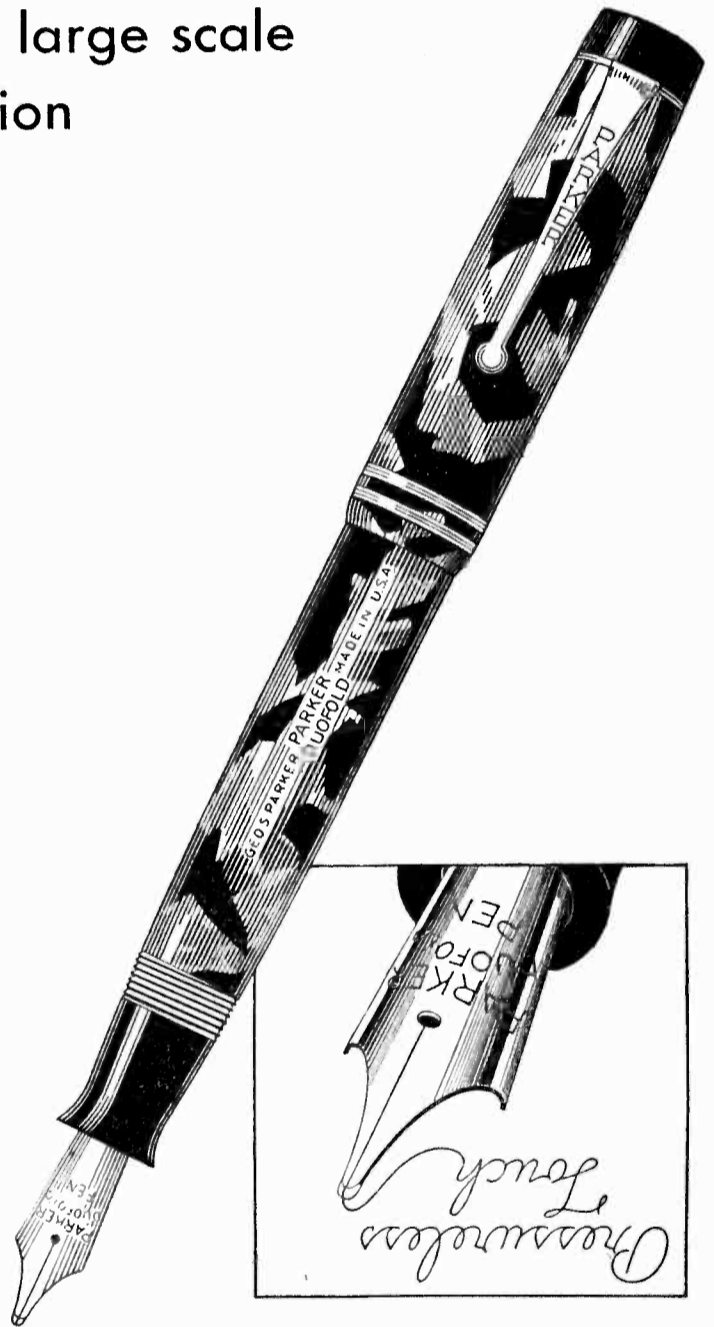
If Parker at only \$5 surpasses pens priced 50% higher, isn't it mighty good proof that in pens at \$10 the Parker Duofold De Luxe is a much finer instrument than others can afford to offer?

You won't find another at any price with Parker's Miracle Duofold Point that writes with Pressureless Touch—as easily as you breathe.

There isn't another with Parker's Adjustable Clip that lets the pen rest low and unexposed. Not another pen or pencil with Parker's streamlined style—"America's shapeliest"—non-bulging and balanced. Not another with Parker's Invisible Filler—or Parker's range of jewel-like color effects.

Go and compare at the nearest pen counter. See how Parker gives your dollars their old-time buying power.

693



The Parker Pen Company, Janesville, Wisconsin.
Offices and Subsidiaries: New York, Chicago,
Atlanta, Buffalo, Dallas, San Francisco; Toronto,
Canada; London, England; Berlin, Germany.

Parker Duofold

PEN GUARANTEED FOR LIFE, \$5 ▾ \$7 ▾ \$10

Other Parker Pens, \$2.75 to \$3.50 Pencils to match them all, \$2 to \$5

Tell them you saw it in RADIO

OFFICIAL

Type A. C. 4300

RADIO TUBE SILENT SALESMAN

SIZE 2 Ft. x 2 Ft. x 3 Ft. IN SOLID BAKELITE

Radio's most perfect tube tester will vastly increase tube sales.

CORRECT R. C. A. LIMIT OF VALUES FOR ALL TUBES
PRINTED ON DIAL OF MUTUAL CONDUCTANCE METER



BUILT IN PREHEATER

Correct R.C.A. Limit of Values for all Tubes
Printed on Dial of Mutual Conductance Meter
Clear Customer Visibility of Exact Tube Condition. This Feature Builds Confidence.
Complete Tests. Reads—Mutual Conductance, Plate Current, Gas Content. Shorts between
all elements shown on colored lamps.

Many Stores Using This Tester Report 100 to 500% Increased Tube Sales. Approved
and Recommended by All Leading Tube Manufacturers.

List Price \$500.00
Dealer's Price 326.00

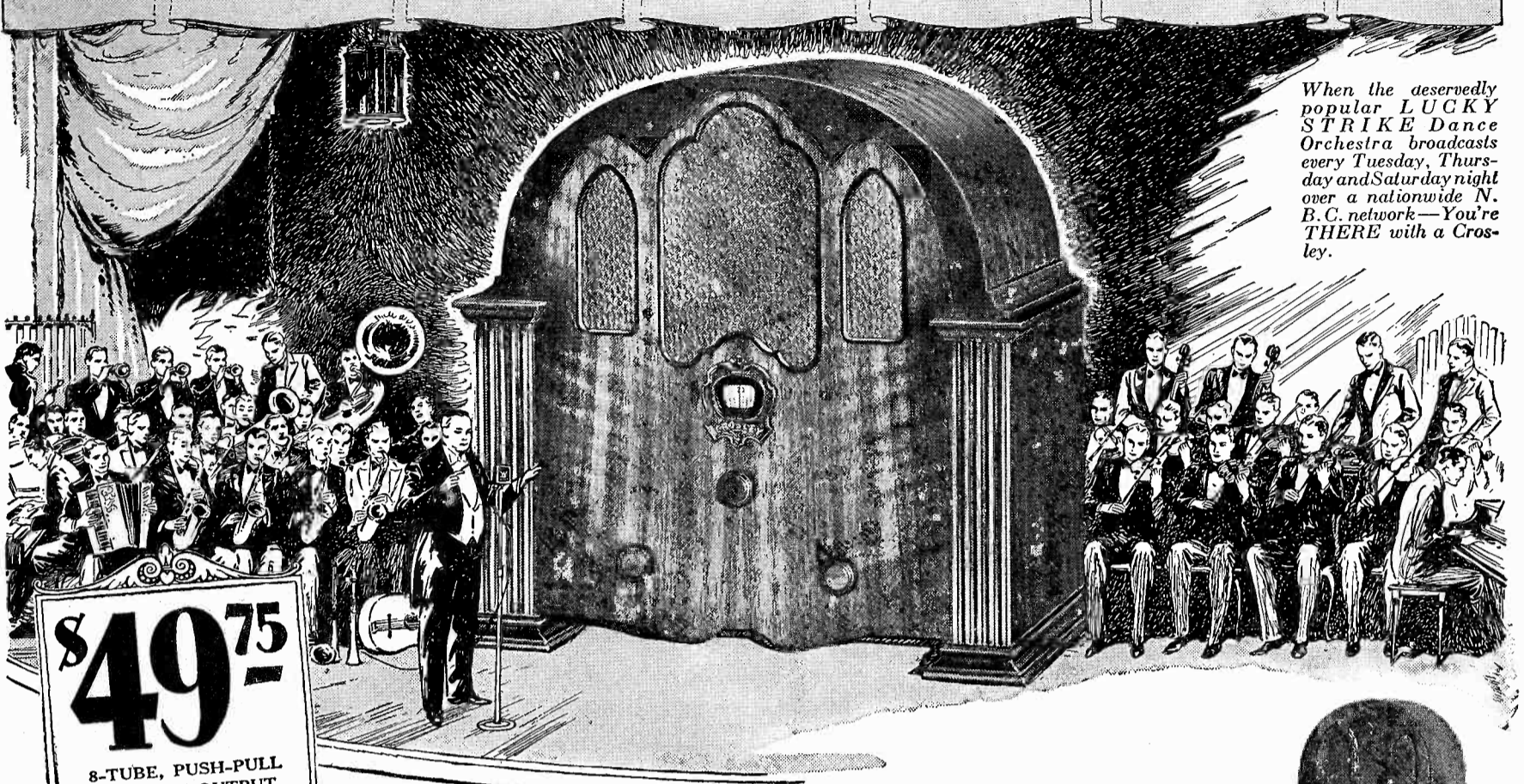
Time Payments if Desired

The Hickok Electrical Instrument Company
10514 Dupont Ave. Cleveland, Ohio

Tell them you saw it in RADIO

YOU'RE *THERE* WITH A CROSLEY

When the deservedly popular **LUCKY STRIKE** Dance Orchestra broadcasts every Tuesday, Thursday and Saturday night over a nationwide N. B. C. network—You're **THERE** with a Crosley.



\$49⁷⁵
8-TUBE, PUSH-PULL
PENTODE OUTPUT
SUPERHETERODYNE
COMPLETE
WITH TUBES

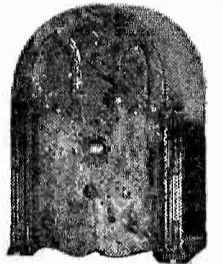
The Crosley **PLAYBOY**

An exquisitely designed all wood table or mantel model, 17 inches high. Latest type Crosley full floating moving coil dynamic speaker. Embodies all the new Crosley features. Never before such superlative radio performance at so low a price.

More than ten years of successful experience in the manufacture of radio receiving sets . . . enormous manufacturing facilities . . . the use of economical straight line quantity production methods . . . an engineering department which, through its constant reception tests of the broadcasting from "the Nation's Station"—WLW, its sister station WSAI, and its short wave station W8XAL, is able to design radio receiving sets of greatly superior selectivity, sensitivity and tone quality . . . these enable Crosley to offer these new 8-tube push-pull Pentode, variable Mu, Superheterodyne receivers and the new **LITLFELLA**, a 5-tube Pentode output variable Mu compact model Superheterodyne, all incorporating the latest Crosley fullfloating moving coil dynamic speakers, in cabinets of outstanding beauty . . . at prices lower than ever before conceived of for such superlative radio receivers.

The five longer Crosley receivers shown here are *priced complete with eight tubes* . . . two type -47 Pentode tubes connected in push-pull in the output stage, two type -35 or -51 variable Mu tubes in the radio frequency and intermediate radio frequency stages, one type -24 Screen Grid tube, two type -27 tubes, and one type -80 rectifier tube. Other features, are continuous (stepless) variable static and tone control, illuminated hairline shadow dial with vernier drive, combined volume control and on-off switch. These new Crosley radio receivers offer the greatest values in the radio world today. See your Crosley distributor NOW—or write the factory direct.

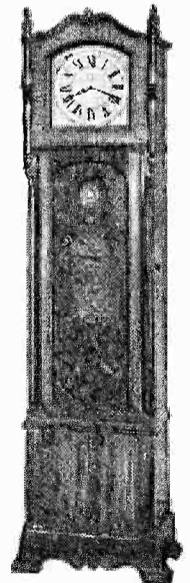
THE CROSLEY RADIO CORPORATION
POWEL CROSLEY, Jr., President
Home of "the Nation's Station"—WLW
CINCINNATI
(Montana, Wyoming, Colorado, New Mexico and west,
prices slightly higher)



The Crosley **LITLFELLA**

The new Crosley **LITLFELLA**—a 5-tube table model **SUPERHETERODYNE** radio receiver incorporating big set features—Pentode output, Variable Mu tubes, full floating moving coil dynamic speaker and other Crosley features.

\$36.36 Complete With Tubes







The Crosley **PLAYTIME**

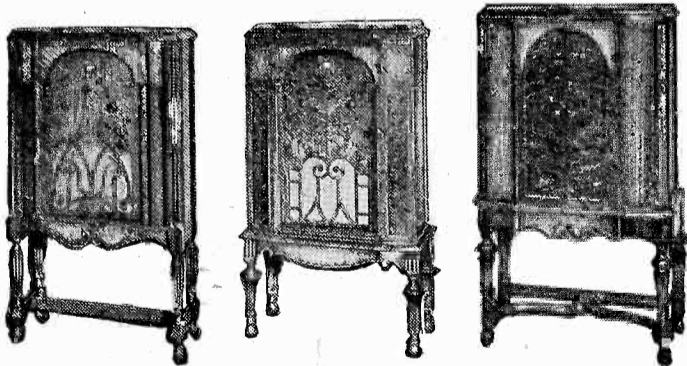
Here it is! A dream come true! A grandfather type A. C. electric hall clock incorporating the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne radio receiver and Crosley Auditorium size, full floating moving coil dynamic speaker. The same A. C. house current connection operates both clock and radio.

\$95 Complete With 8 Tubes

NOTE THESE CROSLEY FEATURES

-  Every CROSLEY radio receiver shown here incorporates the new CROSLEY 8-tube chassis with its unusual features—many exclusive.
- SUPER HET** The chassis used in every CROSLEY radio receiver shown, employs the well known and thoroughly proved SUPERHETERODYNE circuit.
-  Two PENTODE tubes, connected in push-pull, in the output stage are an exclusive CROSLEY feature offered in sets at these prices.
-  Variable Mu tubes in the radio frequency and intermediate frequency stages eliminate the necessity for a local and distance switch.
-  Variable tone control delivers brilliant, bright, mellow or deep reproduction, smoothly graduated and blended to the individual ear.

Then—Note These CROSLEY Prices



The Crosley **CHEERIO**

A magnificent cabinet of rare beauty, full forty inches high, housing the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis and newest Crosley full floating moving coil dynamic speaker. All new Crosley features are incorporated.

\$65 Complete With 8 Tubes

The Crosley **MERRY MAKER**

Another forty inch console of unusually attractive design and sound construction housing the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

\$75 Complete With 8 Tubes

The Crosley **ANNOUNCER**

One of the most beautiful door console models. Stands forty-two inches high. Incorporates the new Crosley 8-tube push-pull Pentode, variable Mu, Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

\$85 Complete With 8 Tubes

CROSLEY RADIO

650
400

1050

The Newest 30 Series D.C. TUBES...

with **ARCTURUS** improved features

These tubes are built to the same rigid specifications that make *blue* tubes the decided preference of critical engineers and progressive jobbers and dealers.

The types 136, 137 and 138 are of the heater-cathode construction. This is the construction developed by Arcturus in pioneering the first standard base a.c. tube. Rugged construction that resists shocks and jolts—low current consumption—longer life make these tubes the best yet for automobile sets. They have the usual quick action of all Arcturus Tubes.

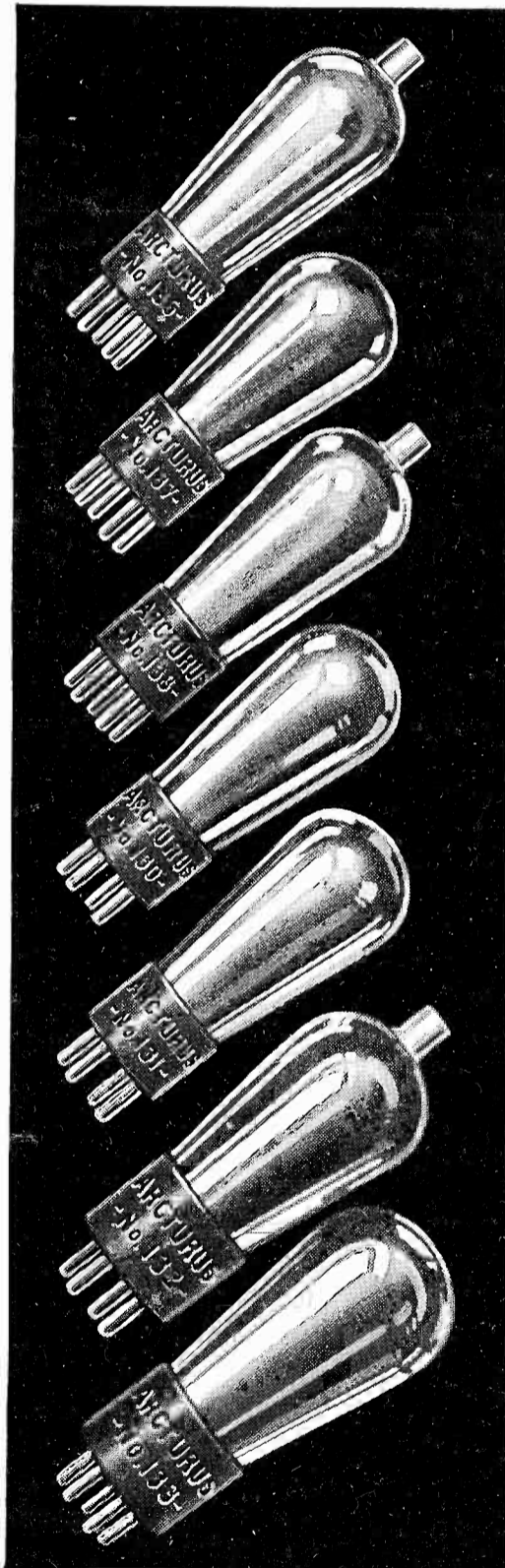
The low drain of 130, 131, 132 and 133 types meets the exact needs of battery sets, and their sturdy construction assures efficient portable set performance.

Arcturus Blue Tubes are the standard tube equipment of more manufacturers than any other tube. Most of this year's sets will be equipped with *blue* tubes. What a tremendous market for renewals that means!

Dealers who push these quality tubes find they reduce expensive service calls, keep sets sold and win the confidence of their trade.

Arcturus jobbers have now added the new d.c. series to their regular stocks of Arcturus Blue Tubes. Stock Arcturus Tubes early and prepare for this new market—and for the big renewal business in Arcturus equipped sets.

Arcturus Radio Tube Co., Newark, N. J.



9000
1500

1050
100

205
1450

19350

The
BLUE
Radio
Tube!
19250



ARCTURUS

"The **TUBE** with the **LIFE-LIKE TONE**"

WESTERN DIVISION:

Arcturus Radio Tube Co., 1855 Industrial Street, Los Angeles, Calif.





RADIO

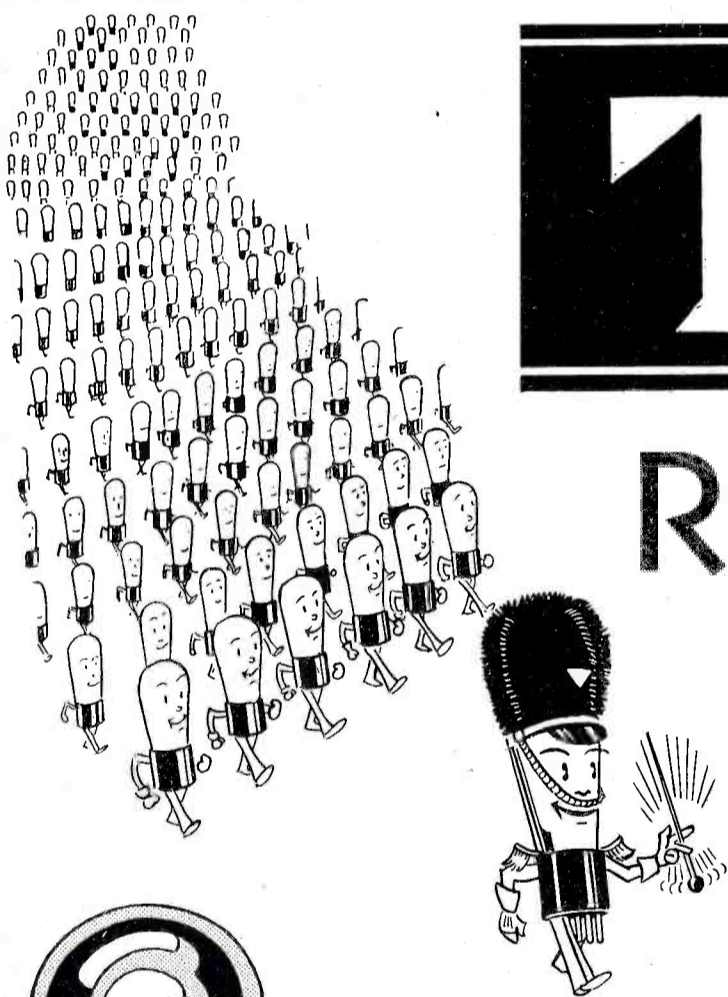
REG.
U. S. PAT.
OFF.

THE NATIONAL TRADE MAGAZINE

NOVEMBER, 1931

TRIAD

RADIO TUBES STEP AHEAD!



TYPE T247

The new **DEPENDABLE PENTODE** achieves extraordinary sensitivity by combining extremely high amplification and power output.



LICENSED
under patents of
Radio Corp. of
America, Gen-
eral Electric Co.
and Westing-
house Electric &
Manufacturing
Co.



TYPE T235

Has characteris-
tics of the 224
type but has new
features that
make it adapta-
ble for use in au-
tomatic volume
control circuits.

Not content with ordinary radio reception, TRIAD has stepped ahead—in quality—in rugged construction—in tone purity. Always good, they are now better than ever before!

Don't take our word. Try a set for yourself. Hear the wonderfully improved tone. Regardless of the tubes you previously thought were good—a SET of TRIAD TUBES WILL PROVE A REVELATION.

You too, will delight in TRIAD superiority!

TRIAD MANUFACTURING CO., Inc.

PAWTUCKET, RHODE ISLAND

PACIFIC COAST SALES OFFICES—R. J. Noel Co., 800 E. Gage St., Los Angeles, 704 Larkin St., San Francisco, 1518 1st Ave. South, Seattle, Wash.



BRUNSWICK RADIO

stops 'em

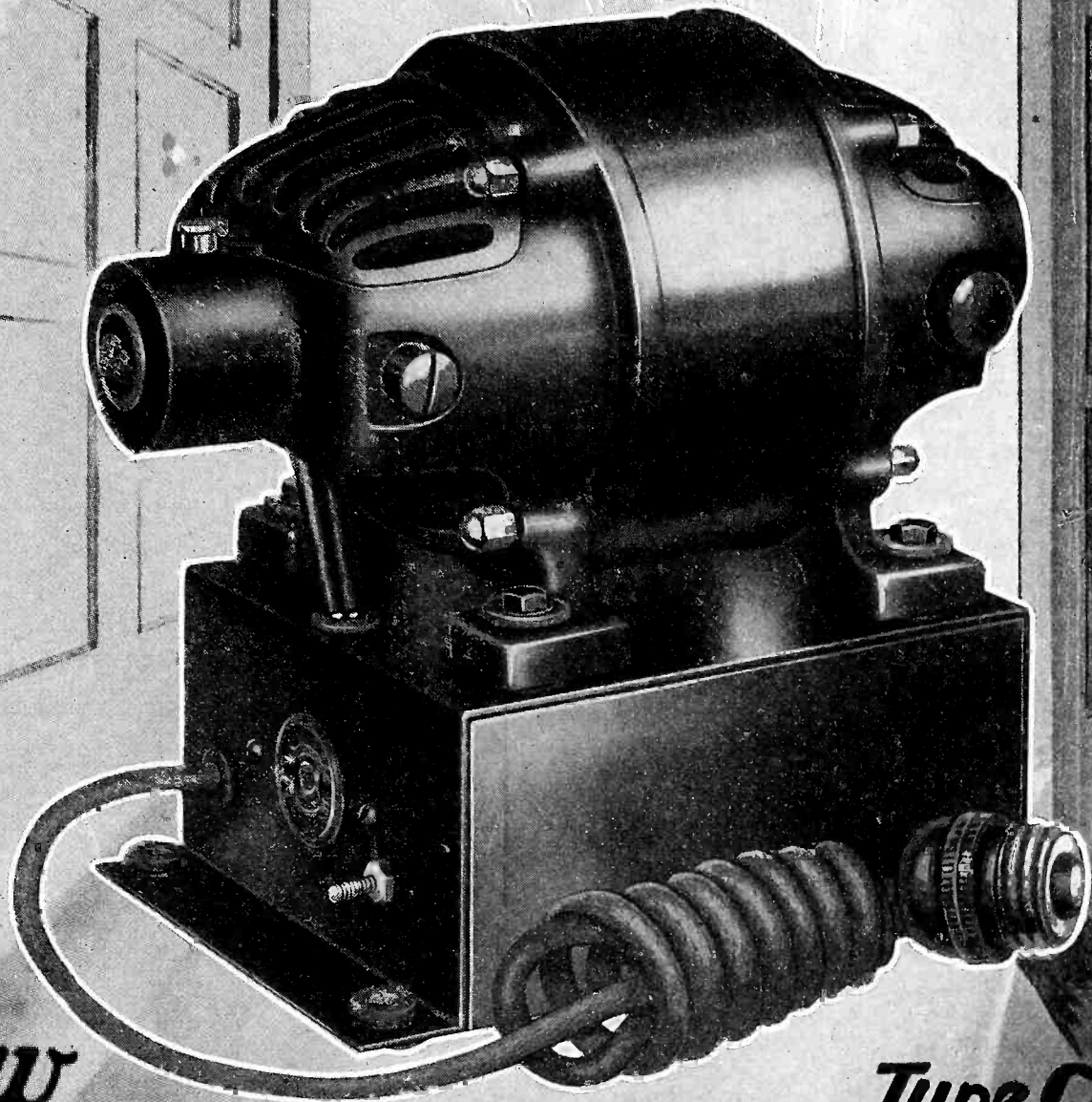
THE graceful cabinet of Brunswick stirs the buying urge
...The true musical tone of Brunswick clinches the sale...
The day-by-day performance of Brunswick keeps it sold.

• • •

With the complete line of eight Brunswick Radio models (List prices \$39.50 to \$225 with tubes) you can sell "up" not "down"; and increase your profits accordingly... Therein lies the basic value to you of the Brunswick franchise.

BRUNSWICK RADIO CORPORATION — *Division of Warner Bros. Pictures, Inc.* — NEW YORK, CHICAGO, TORONTO

BRUNSWICK RADIO CORPORATION



The New
JANETTE CONVERTER

Type CA-20-F
ONLY \$49⁵⁰
LIST
(110 WATTS OUTPUT)

Opens the Door to a Vast New Radio Market

OVER half a million people living in rural districts are forced to use old-fashioned battery sets because of the lack of A. C. current. In addition, there are hundreds of thousands living in D. C. sections of large cities. These people are all prospects for new, modern A. C. sets if they can find a way to use them.

The sensationally low price of the Janette Rotary Converter makes these prospects "duck soup" for the radio dealer, jobber and manufacturer.

The Janette is the lowest priced converter ever offered, yet it is a high quality unit. It has perfect filtering . . . there is not a trace of ripple or interference in the receiving set. It is quiet in operation. The price includes filter, cord, plug and A. C. receptacle.

JANETTE MFG. CO.
 557 W. Monroe St., Chicago, Ill.

Please send me complete details about the New Janette Converter Type CA-20-F.

Name _____

Address _____

City _____

State _____

SINGER BUILDING
 149 Broadway
 New York, N. Y.
 REAL ESTATE

JANETTE MFG. CO.

HARRISON SALES CO.
 314 Ninth Ave., N.
 Seattle, Wash.

www.americanradio.com LOMBARD SMITH CO.



RADIO

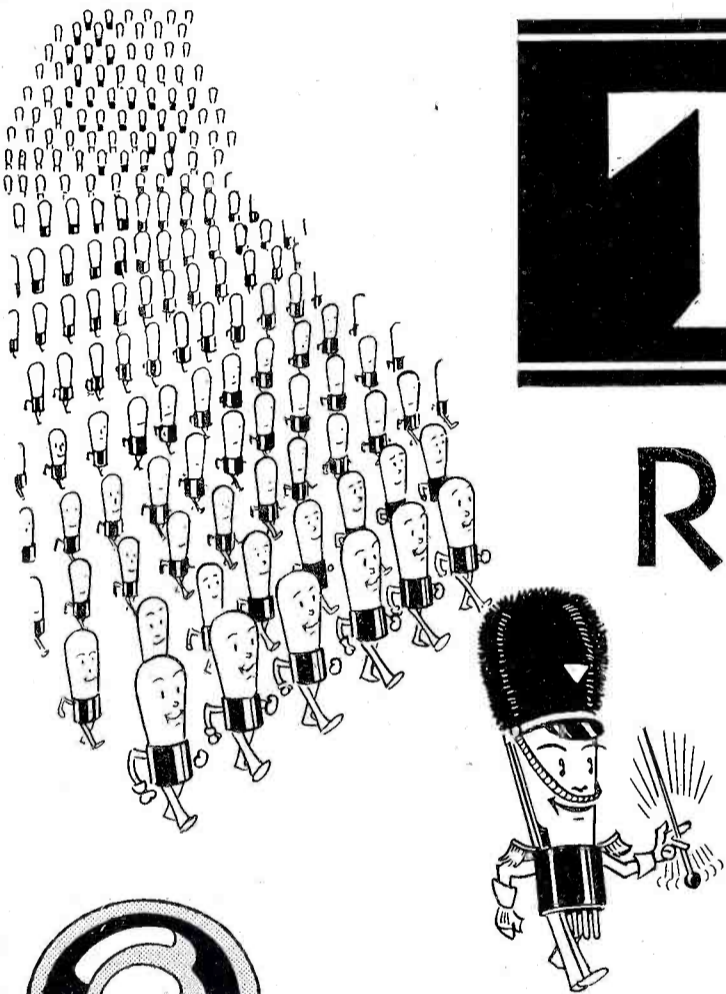
REG.
U.S. PAT.
OFF.

THE NATIONAL TRADE MAGAZINE

NOVEMBER, 1931

TRIAD

RADIO TUBES STEP AHEAD!



TYPE T247

The new **DEPENDABLE PENTODE** achieves extraordinary sensitivity by combining extremely high amplification and power output.



TYPE T235

Has characteristics of the 224 type but has new features that make it adaptable for use in automatic volume control circuits.



LICENSED
under patents of
Radio Corp. of
America, Gen-
eral Electric Co.
and Westing-
house Electric &
Manufacturing
Co.

Not content with ordinary radio reception, TRIAD has stepped ahead—in quality—in rugged construction—in tone purity. Always good, they are now better than ever before!

Don't take our word. Try a set for yourself. Hear the wonderfully improved tone. Regardless of the tubes you previously thought were good—a SET of TRIAD TUBES WILL PROVE A REVOLUTION.

You too, will delight in TRIAD superiority!

TRIAD MANUFACTURING CO., Inc.

PAWTUCKET, RHODE ISLAND

PACIFIC COAST SALES OFFICES—R. J. Noel Co., 800 E. Gage St., Los Angeles, 704 Larkin St., San Francisco, 1518 1st Ave. South, Seattle, Wash.



BRUNSWICK RADIO

stops 'em

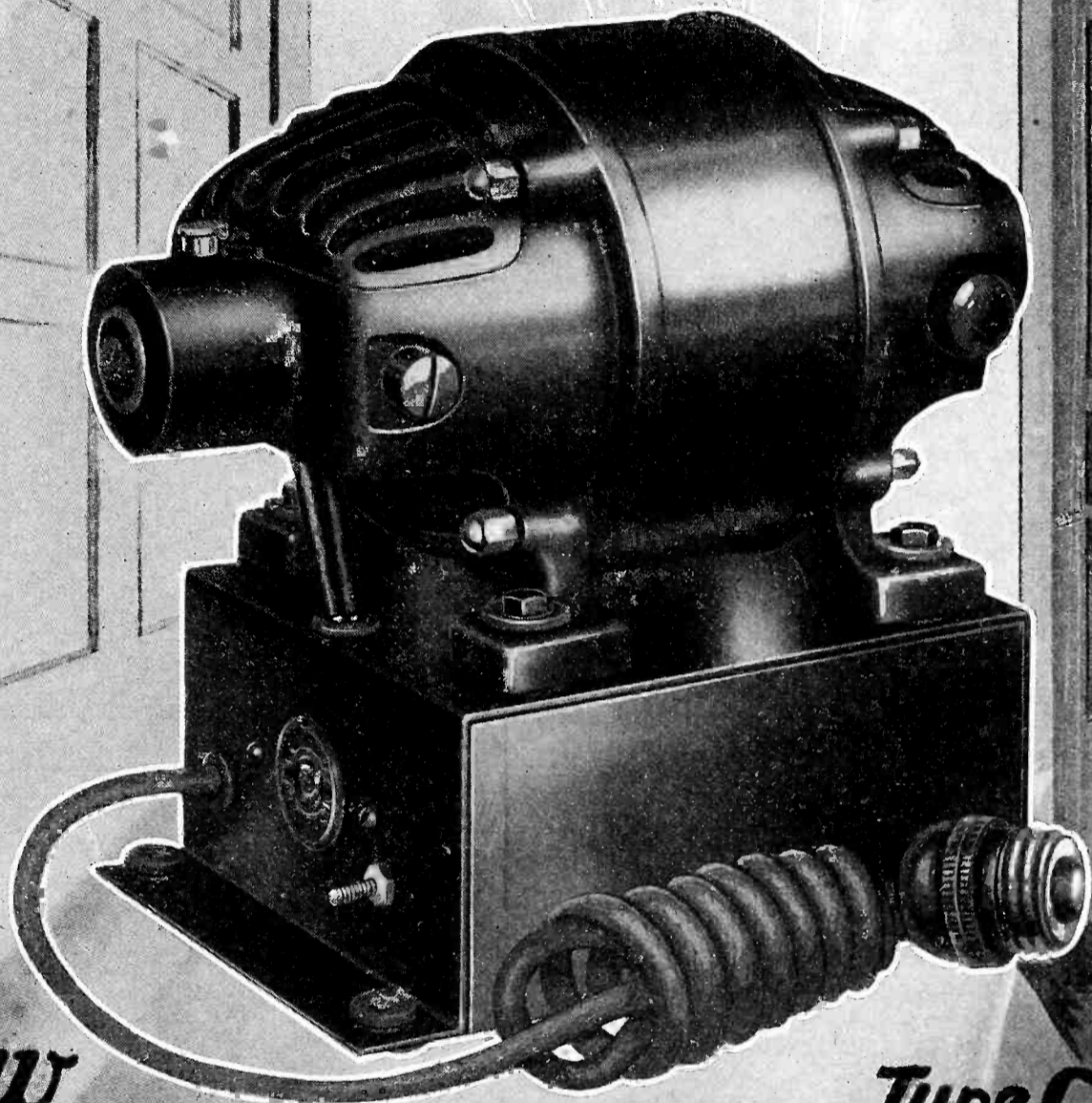
THE graceful cabinet of Brunswick stirs the buying urge
...The true musical tone of Brunswick clinches the sale...
The day-by-day performance of Brunswick keeps it sold.

• • •

With the complete line of eight Brunswick Radio models
(List prices \$39.50 to \$225 with tubes) you can sell "up"
not "down"; and increase your profits accordingly...There-
in lies the basic value to you of the Brunswick franchise.

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BRUNSWICK RADIO



The New
JANETTE CONVERTER

Type CA-20-F
ONLY \$49⁵⁰
LIST
(110 WATTS OUTPUT)

Opens the Door to a Vast New Radio Market

OVER half a million people living in rural districts are forced to use old-fashioned battery sets because of the lack of A. C. current. In addition, there are hundreds of thousands living in D. C. sections of large cities. These people are all prospects for new, modern A. C. sets if they can find a way to use them.

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City _____

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\$2.00 the Year

Volume 13, Number 11

THE NATIONAL TRADE MAGAZINE
Entered as second class matter at the Post Office at
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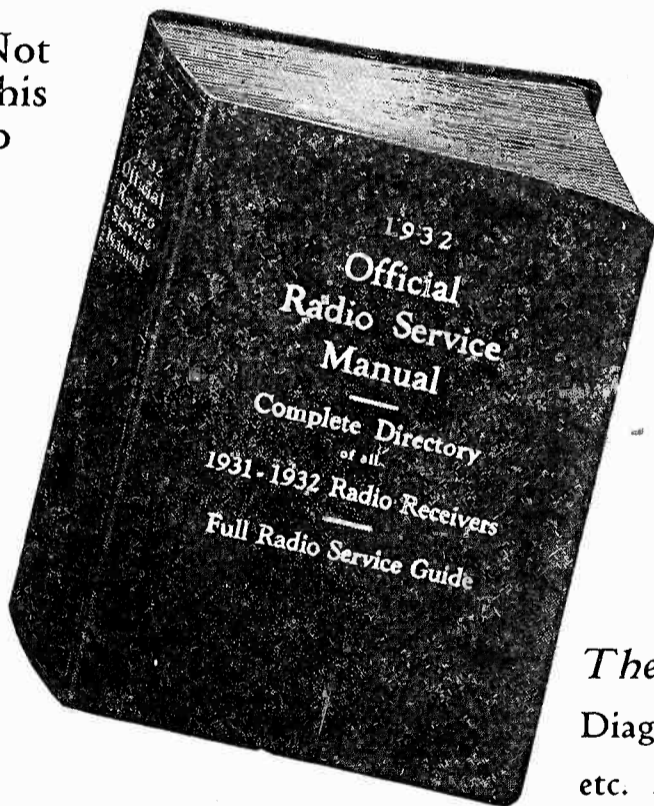
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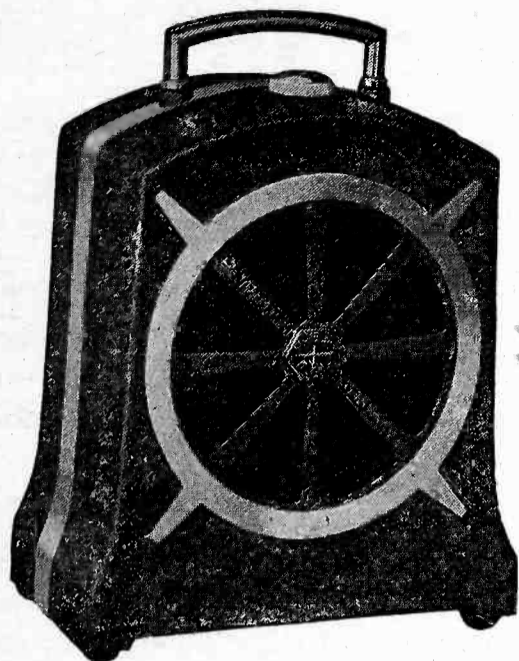
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COOLS—In warm weather the Hexcel Air Conditioner provides more comfort than an electric fan.

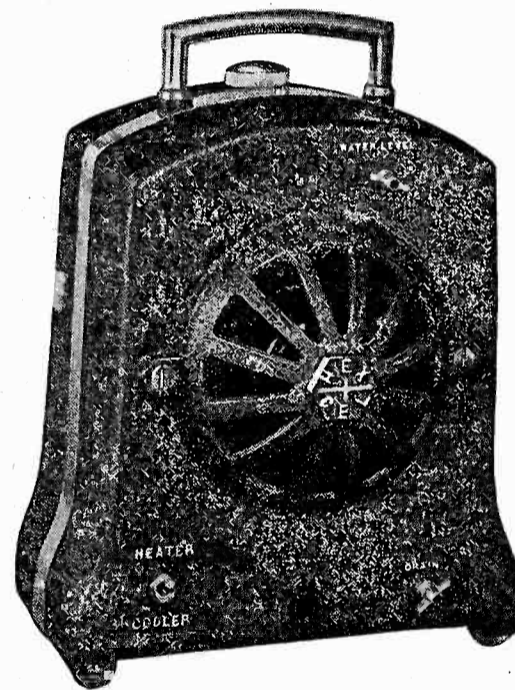
CIRCULATES—Whether used as a heater or cooler, this unit keeps the air circulating and moving. Run it all day if you like, the air in the room never feels stuffy and “burnt out.”

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PORTABLE—The compact construction and light weight of the Hexcel (less than 15 lbs.) enable you to carry it about wherever you want comfort,—in the living room, bath room, nursery, bed room, sick room, at the office.



Rear view of Hexcel Air Conditioner showing intake and double switch for heater or cooler service.

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Smaller, lighter, handier case. A combined test panel and portable lab. Mounts on the wall as easily as removing the lid.

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5 Ultra-modern essential
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The result of many months experimental development and trial, it is conceded by technicians as the most revolutionary and complete testing instrument ever produced.

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All leading jobbers can demonstrate the economy and investment value of "SUPREME" TESTING INSTRUMENTS. If yours can't, indicate on coupon what instrument interested in and name of jobber. Welcome Radio's greatest service season with up to date testing equipment—the SUPREME Way.



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A new handy oscillator designed for use with any output meter such as provided in the Model 90 Analyzer. Each instrument individually calibrated covering all ranges from 90 to 1500 kilocycles. Completely shielded in cast aluminum tray with bakelite covered aluminum panel. 100% modulation—complete attenuation without leakage even with the most sensitive receivers. The biggest value in a really precision instrument ever offered.

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Portable type
(illustrated)

\$3.00 extra

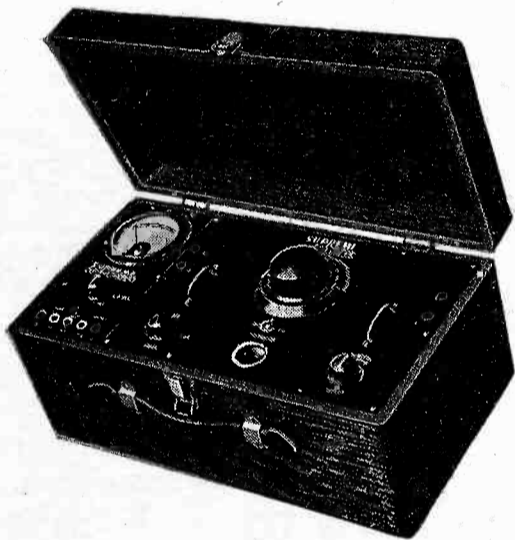
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Supreme Output-
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Handsome carrying case of hardwood
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SUPREME SET ANALYZER MODEL 90
SUPREME MODEL 60
SUPREME MODEL 40
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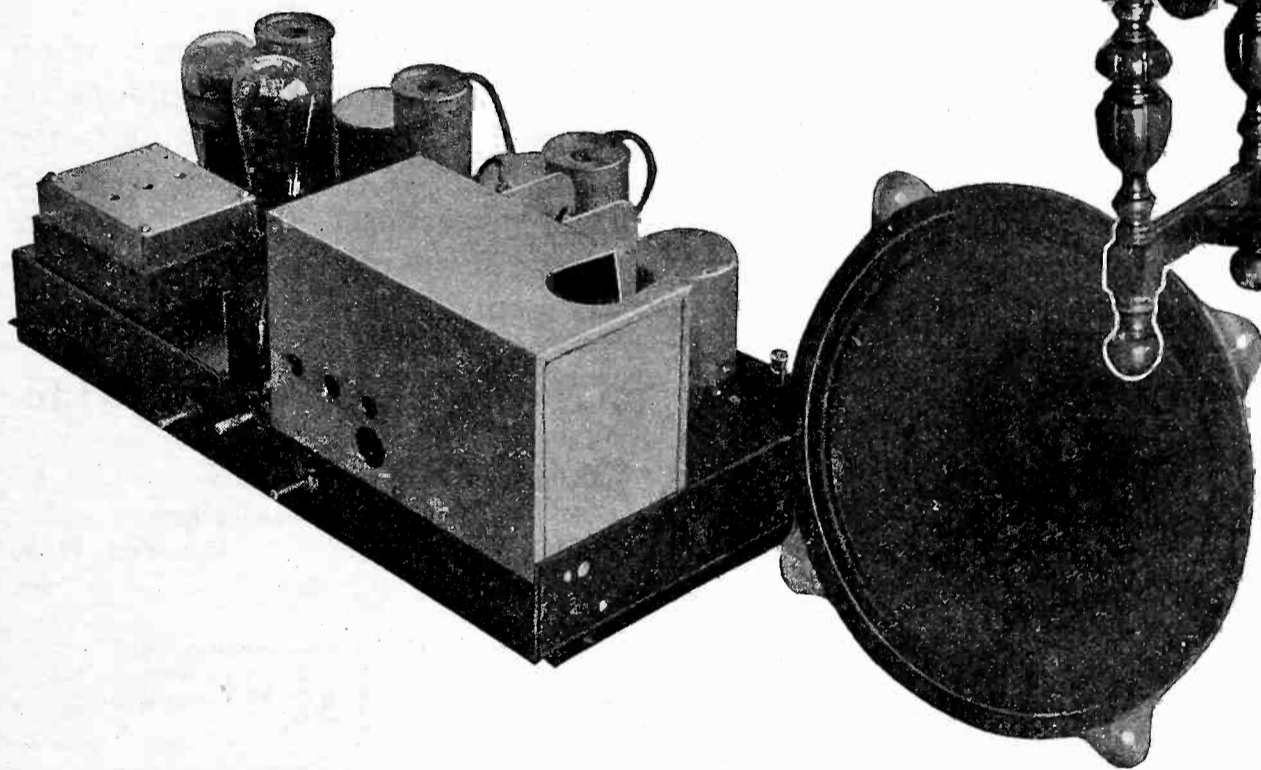
That You Can Sell for \$59.95

\$ **59** **95**
*LIST
PRICE*

COMPLETE WITH TUBES



Model A-18



FULL-SIZE 8-Tube chassis; not a midget, either in size or performance. Actual dimensions: $20\frac{1}{2} \times 10\frac{1}{2} \times 8$.

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VARIO-MU TUBES, giving absolute freedom from set noises, and perfect volume control.

SUPERHETERODYNE circuit, that gives consumers what they want in a radio.

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FULL-SIZE DYNAMIC SPEAKER of special design, which is made necessary by the unusual power of this receiver.

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Echophone through its Quality gives

PUNCH

to your
Sales Effort
and Sales Story



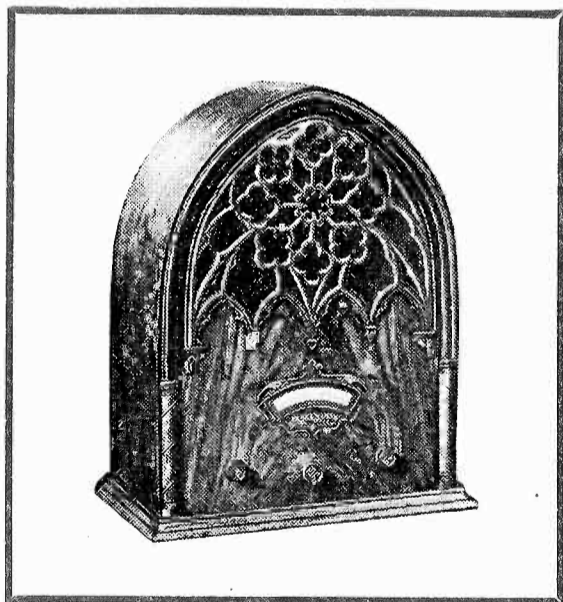
Model "90" Superheterodyne—Large Type Chassis, Eight tubes including two Pentodes Push Pull and four Variable-Mu, Pre-selector, 4-gang Condenser, 10-inch Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, Burl Walnut Panel.
\$89.50 Complete

Echophone supplies you with wonderful sales arguments when you are standing face to face with a customer. The reason is simple. There's that Echophone Quality so well known since 1921. You can say a lot about that. It's the quality that has built Echophone sales year after year and made money for dealers. An Echophone demonstration and Echophone appearance puts plenty of punch into your sales efforts. A wide range of new models gives you the right receiver for any prospective purchaser. Get Echophone "punch" into your business now—let Echophone do a big profit-making job for you.

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Model "80" Superheterodyne (right)—Eight tubes including two Pentodes Push Pull and three Variable-Mu, Pre-selector, Jensen Dynamic Speaker, Full Vision Dial, Tone Control, Phonograph Jacks, 4-gang Condenser, Burl Walnut Cabinet—6 inches deep . . .
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Echoette Model "40"—Four tubes including Pentode and Variable-Mu. Dynamic Speaker, Walnut Panelled. . . .
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Model "70" Direct Current Superheterodyne — 7 tubes including D.C. Pentodes and D.C. Variable-Mu. Jensen Dynamic Speaker . . .
\$59.50 Complete



ACTION IS THE THING!

Get in touch with our nearest distributor or write us direct for complete details. Our new line is outstanding in quality and is the finest we have yet produced. Feature the quality that gives you the sales punch.

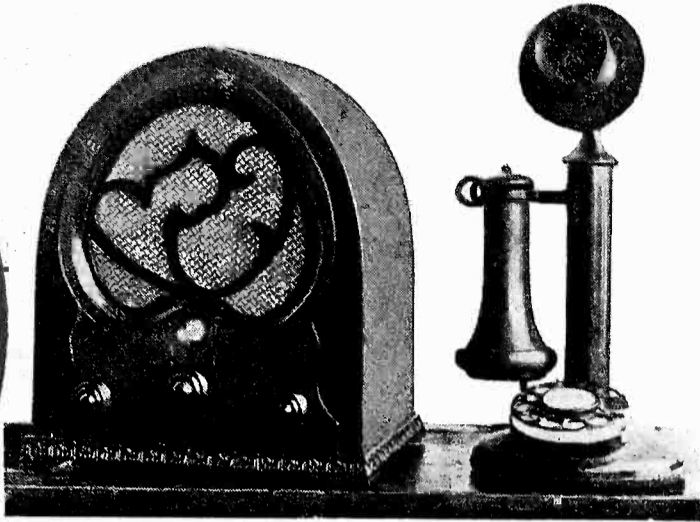
Paramount Dealers Are Making Money

Sold
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\$ 13.95
WITH
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CASH WITH
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\$12.95
in Quantities
of 12



PARAMOUNT
"KEWPIE"

Retail Price
\$29.95

NOTE: Owing to additional factory space, and increased production, we can quote this low price. We are now shipping the Kewpie radio to 'most all points of the world and dealers everywhere report exceptional volume of sales.

The Smallest Radio Made

Size 9 $\frac{3}{8}$ " High, 7 $\frac{1}{2}$ " Wide (inside measurements)

1932 FEATURES - - - SELL ON SIGHT

1 Pentode Tubes

Equal to 2-245 plus 1-227. This radio, smallest in size, incorporates the new pentode tube.

2 Full Dynamic Speaker

Perfect tone quality.

3 Screen Grid Circuit

Using 2 screen grid tubes to their utmost efficiency.

4 Tone Control

The sales talking point of 1931. We use the new full range control.

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We have reports of distance of 1500 miles.

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Steel chassis, cadmium plated, oversized power transformers (shielded), heavy service resistors, electrolytic, self-healing filter condenser. Cornell oversized bypass condenser and many features found only in high priced sets.

Fully Guaranteed for Three Months

We Also Manufacture the Following

6 tube midget, full visioned dial, net \$17.95 with tubes, or \$16.95 in quantities of 12.

11 tube superheterodyne chassis to mount in your console cabinets.

10 tube superheterodyne midget, \$69.50 list.

9 tube all-wave superheterodyne midget, \$79.50 list.

7 tube superheterodyne midget, \$49.95 list.
and an automobile radio, \$39.95 list.

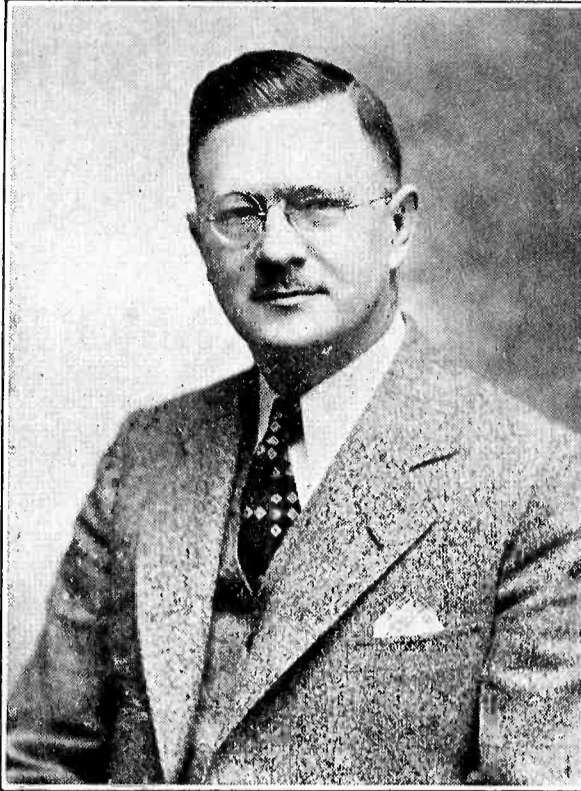
PROFITS: *Our discounts are large and allow you ample margin of profit to advertise.*

Member of
Los Angeles
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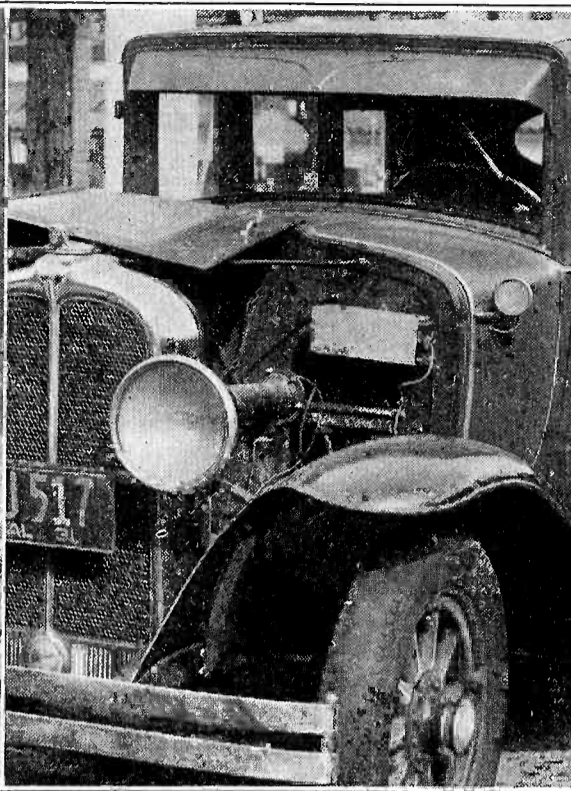
LOS ANGELES RADIO MFG. CO.
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Manufacturers of
Quality Radios
Since 1925

Tell them you saw it in RADIO



Henry Gardiner, Former General Motors Radio Zone Manager, and now Manufacturer of the Dynatrope.



The Dynatrope, as it looks when installed in the automobile. Note its simplicity.



F. F. Hutchinson, the inventor of the Dynatrope. Electrical engineers have pronounced the Dynatrope a success.

THE DYNATROPE

LIST PRICE **\$39.50**

An Amazing New Invention—A Power Converter that Furnishes 110-volt 60-cycle Alternating Current (standard house lighting current) from your 6-volt Automobile Battery.

This remarkable device has startled the Radio World. It makes the automobile A. C. radio practical. It does away with the bulky, troublesome and expensive B-batteries.

Now you can use your home Midget A. C. set in your car. You don't need ignition system suppressors or filters. You'll be surprised at the remarkable improvement of reception in your automobile.

WHAT THE DYNATROPE DOES

1. Converts 6-volt battery current into 110-volt, 60-cycle alternating current (standard house lighting current).
2. Operates A. C. Midget radios in automobiles, without the use of ignition system suppressors, or special equipment of any kind.
3. Operates hundreds of devices in automobiles (40-80 watt capacity) such as heating pads, curling irons, marcel setters, drink mixers, juice extractors, public address systems, electric vibrators, small soldering irons, cigar lighters, snap-on reading, trouble or camp lights, small lamp or gas tube advertising signs, immersion-type water heaters, milk bottle warmers small fans, small vacuum cleaners, necktie press, electric safety razors, electric hair clippers, portable adding machines, small electric grinders and key-filing machines, etc., etc.
4. Operates radio and household devices from 6-volt direct current supply on yachts—the same as in an automobile.
5. Supplies 110-volt A. C. 60-cycle current from 6-volt storage battery for operating radio sending and receiving apparatus.

The Dynatrope is a power box of a thousand uses. Not only can you plug in any Midget A. C. radio set but you can use all the household conveniences such as curling irons, immersion heaters, drink mixers, juice extractors, heating pads, small electric fans, etc., that are rated from 40 to 80 watts.

The Dynatrope is a miniature converter 4" x 4" x 10". It is unique. There is no other converter like it. It is simple—efficient—durable. Installation is quick and easy—you can do it yourself in a few minutes' time.

The Dynatrope is a necessity for the yachtsman. Not only will it supply power for the radio but it will operate other electric devices that make life more comfortable and interesting.

WRITE OR WIRE FOR COMPLETE INFORMATION

HUTCH-GARD CORPORATION

1041 Monadnock Bldg., San Francisco, Calif.

**Your Radio is not at its Best
unless equipped with a
WRIGHT-DECOSTER SPEAKER**

To prove that claim, you need only make a simple test. Listen to a symphony orchestra through a Wright-DeCoster speaker. You will, we believe, experience a new thrill. To be able to hear a full orchestra with all the richness and clarity of the complete ensemble and yet with the individual personality of each instrument reproduced perfectly . . . such is the delightful surprise of Wright-DeCoster reproduction.

It is easy to have your present speaker replaced with one of the two following Wright-DeCoster models, and enjoy this finer reproduction at low cost. If you contemplate purchasing a new radio, demand that it be equipped with the "Speaker of the Year."

The Wright-DeCoster Infant Chassis

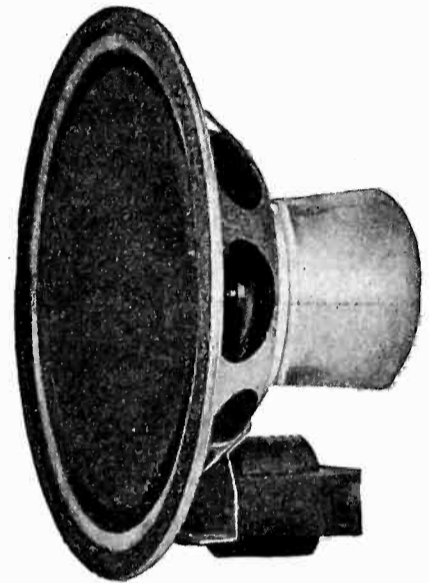
is a small sized speaker - - capable of handling 245 tubes in push-pull and our laboratory tests prove it to be a very efficient speaker indeed.

The Wright-DeCoster Juvenile Chassis

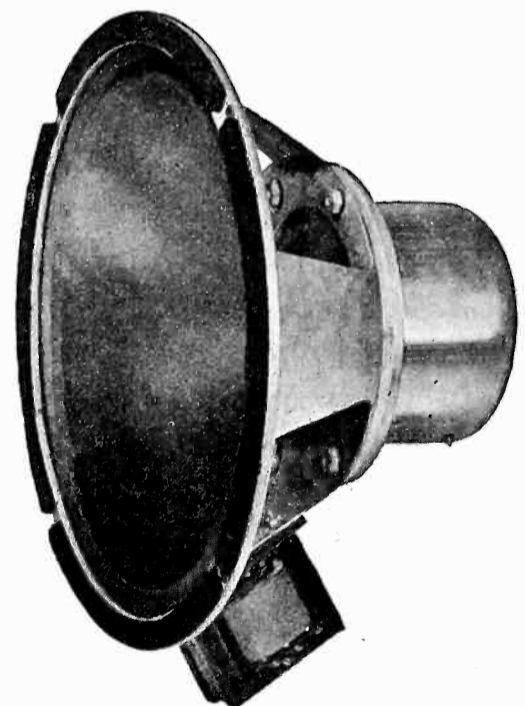
has a maximum power handling capacity of 6 watts and is suitable for installation in practically all sound reproducing instruments to be used indoors.

These reproducers are of the same high quality as is maintained in all Wright-DeCoster Speakers.

*Write for complete information and
address of the nearest sales office.*



Wright-DeCoster
Infant Chassis



Wright-DeCoster
Juvenile Chassis



THE SPEAKER
OF THE YEAR

WRIGHT-DECOSTER, Inc.

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Radiotorial Comment

By The Editor

THE advent of simple devices that convert the six-volt direct current from a storage battery into 110 volt 60 cycle alternating current are expected to vitalize the use of radio in the automobile. One such device is a low-priced rotary converter. Another is a converter called the Dynatrop. Nor is it impossible that the thyatron be applied to this purpose as it has to inverting 100-volt d-c to 110-volt a-c.

With some such device it is possible to operate any a-c radio, midget or otherwise, from the battery in a motor boat or car. It does away with the necessity for "B" batteries to supply plate voltage. With the double conversion of d-c to a-c to d-c may be wasteful, it is convenient. And that is what the radio using automobilist or motor-boat enthusiast wants.

This makes a new accessory of great sales promise, not only for the operation of radio sets but also of any other standard electrical device whose current consumption does not exceed the capacity of a storage battery. The radio loudspeaker may yet displace the automobile horn!

• •

ADDED to the technical difficulties which television workers are gradually surmounting is an attempt to discredit the results that may already have been obtained and, by inference, to undermine public confidence in yet-to-be-announced results. The method is to stage a "television show" with a transmitter that has purposely been thrown out of adjustment. The operator is paid to put on as poor a show as possible and to sneeringly say "This is television."

Store managers that have allowed such disgusting exhibitors are short-sighted. Within less than a year they will be trying to undo the harm that they have done, not to television, but to themselves. Always in the past any kind of "knocking a competitor" has proved a boomerang that hurt the knocker. To say nothing, if you don't know enough to say something good, is not only good business ethics, but good business sense.

How much better would be an honest state-

ment that the store believes that purchasers will not be permanently satisfied with the television equipment that is available, but that the present radio sets will be satisfactory for years to come. It will be many years before the radio motion picture and its accompanying voice or music will be broadcast on the same channel. Two separate receivers, or two separate parts of a combination instrument, will be required for the simultaneous reception of a picture and its sound accompaniment. The present type of radio will be just as suitable for the reception of sound as will that which may be incorporated with the television receiver. It may be some time before television advances to the same relative state of perfection that radio has reached during the last ten years. Meanwhile why deprive a family of the pleasure of owning a radio set today because television will be here tomorrow.

Such a statement would be believed by the public. The fake television show and the knocking is not. Our sympathy goes to the poor operator who has to take this kind of a job in order to make a living!

• •

THE radio department manager in a very prosperous store says business is mighty good. He hasn't put on a "sale" since May. On the floor are sets at all prices. But his volume on higher priced merchandise is going up. His secret is the commission check to the salesman. No high-pressure schemes are used. When a customer comes into the store he is politely shown the "newest things in radio," just as the other department clerks show the newest things in their departments. Before even asking him how much he intends to pay for a set, he is asked to listen to a few of the newest things in radio. The appeal for something new is as old as the world itself. Even Adam knew it. The customer is shown a set that sells for well over a hundred dollars and the salesman compares the features of that set with the little midget alongside of it. You know how it goes . . . just like putting a bicycle alongside of a big eight-cylinder automobile. The more the per-

son looks at the bicycle the more he wants the auto.

"How much does he want to pay for a radio?" "Well, not more than fifty dollars." So the salesman works on the monthly payment idea and shows where the few dollars per month are extended over so many months and it's not the amount the set costs but how much per month can be paid. If it is \$7.50 one month, it's almost a safe bet that the same amount can be paid next month, and the next.

But remember this . . . the sale is not lost if the higher priced set is not wanted. If it is definitely made known that a small one is wanted as a second set the small one is sold.

But any person who can afford a hundred dollar radio set and is permitted to walk out of the store with something selling for one-fourth as much, is a better salesman than the man who is trying to sell the customer. Every salesman should ask every customer about his aerial. Not so much because a good aerial should go with every set, but because there's a good margin of profit in a good aerial installation. Why not have the service man put up a good aerial when he installs the set? Tell the customer about the dangers which can arise from faulty aerial installations. Stormy weather calls for good aerial installations. Use this point in selling aeri-als. Look around your neighborhood at the maze of cob-web aeri-als and count your prospects as you walk from block to block. You won't have much trouble in finding them.

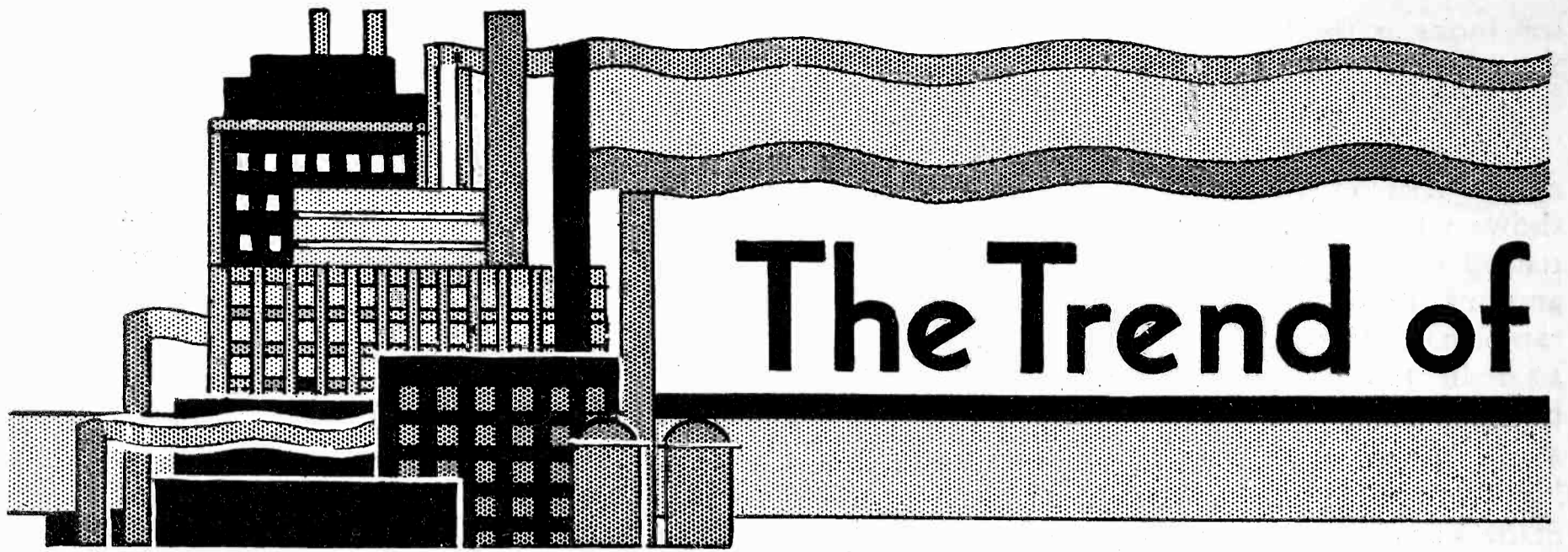
DISTRESS radio sets, especially midgets, are at a premium. There doesn't seem to be any such animal prowling around. Consequently, for the first time in years, there will be little or no dumping and price demoralization. To-let signs will soon adorn "junkie" windows because of lack of stock. Careful control of production and low prices made possible by large-scale operations did the job. The legitimate retailer and the public will both profit. Why not advertise this fact?

THE day that the drop in tube prices was announced one dealer advertised "Tubes at a 40% discount" . . . trying to kid the public that he was giving something away. Another store said "Now . . . Our Special Price on Tubes. Old Price So Much. New Prices So Much, Etc." Neither of these so called merchandisers had the

nerve to tell the truth. Their public still believes that tubes are 40% overpriced. It's WRONG. A legitimate reduction in prices should be announced as such simultaneously by manufacturer and dealer. Use the talking point of new low prices to get your customers to re-tube now. There won't be another price drop for some time. Make the most of a legitimate price reduction and tell the customer to put in a *whole new set of tubes* because the price is so low. You'd be surprised to know how many sets need a complete new set of tubes.

The 301-A is now sold for six bits. Not many years ago it sold for six dollars. And with the coming of these "new lows in tubes" you would think that the midget set manufacturers could afford to use standard brands as factory equipment, instead of tubes which are bought by the set maker merely because of an extra 10% tacked on the discount sale. Those manufacturers who have proclaimed that their profit on the low priced midget was thirty-five cents per set, are smiling today because at the new tube prices the profit on the set sales goes up. That is until some alley racketeer hollers that the new prices allow him to sell his sets for less. The first fellow who does that ought to be tarred and feathered. Now that tubes have come down, **LET THE PRICE OF THE SET STAY UP.**

DON'T make the same mistake this year that you made last year. Christmas will be here before you know it. People buy a lot of things other than radio sets for Christmas gifts and there is no reason why you, as a radio dealer, should send your customers across the street just because you don't carry some of the things which they want to buy. It is proven and known by many wise merchandisers that among the best sellers at Christmas time are fountain pens and desk sets, electric clocks waffle irons, toasters, percolators, flat irons and other small and inexpensive household devices. Perhaps your volume may not be as great this year on washing machines or expensive electrical devices, so take heed and stock those inexpensive devices which the present-day-minded economists and dollar squeezers are looking for. Everybody, as a rule, has to buy something for somebody for Christmas. Put on a real window show of the many electrical things which people buy for friends and often won't buy for themselves. One dealer last Christmas made \$1300.00 net profit from an assortment of aforementioned items which he sold only during the last three weeks in December. First time he tried it.



The Trend of

The R.M.A. Trade Show again goes to Chicago in 1932. But next year's show will be staged somewhat earlier than usual. May 23rd is the date on which the doors will be thrown open to the trade. This will make possible an earlier start in lining-up new business by having new models ready in time for the presidential campaigns and other events of importance which will be on the air during the summer months of 1932. The new show date will also shorten the sales period preceding the trade show . . . a period in which sales have always been reduced because of the usual "hold-off" until show time. The RMA Directors also received bids to stage next year's show at Pittsburgh, Detroit, St. Louis, Atlantic City and Toronto. The decision to again hold the show in Chicago was unanimous.

Set sales for 1931 are estimated at between 2,500,000 and 3,000,000. Parts manufacturers are running full blast. Factory wages are being generally sustained. Public demand for sets and tubes has shown a very gratifying increase.

Facts from the pen of a radio factory owner who has made money every year: "Our factory produced about fifteen thousand receivers last fall. We had no surplus stock on hand after the holidays. We made money. At this time we are producing just twice as many sets as were made by us last fall. Our billings are just a little less than half what they were last year. Our profit is smaller but we are making money. We are giving employment to more people and we have not reduced our wage scale. The reduction in price of tubes gives us a little better edge on profits but we are not reducing the list price of our merchandise." A minute inspection of the plant shows that production costs have been trimmed to the core. The office force is also down to bed-rock. But

everybody works . . . hard. More than 200 sets are coming off the production line each day. So well are they made that less than 4 sets out of 100 require a bit of service here and there on the part of the dealer. And this manufacturer's dealer line-up is one to be proud of. When a set is sold it stays sold. Only standard tubes are used . . . the best loudspeaker and filter condensers. Here is a manufacturer who is in this business to stay . . . even tho he must build twice as many sets and sell them for half his last year's price in order to make half as much money as he made last year. Those who have adjusted themselves to present-day conditions are not complaining.

Motorcar radio will come into its own with the announcement that Hupp and Nash will equip next season's cars with auto radio. Sheep follow sheep. The 4-wheel brake and free-wheeling will be no less popular than auto radio in next year's market. Widespread adoption of motorcar radio will help move millions of tubes and the "B" battery business will boom next year.

The R.M.A. reports a decline in complaints to its Fair Trade Practice Committee. Also in many months no disputes to adjust or arbitrate have reached the council-room. 200 manufacturers comprise the list of R. M. A. members. There have been few resignations. These have been offset by new accessions, particularly from the ranks of the manufacturers of television equipment.

Almost every dealer can sell electric clocks. Prices are down to what you were formerly asked to pay for a cheap spring-wound clock. Many families are buying more than one electric clock. You can use a clock in every room at home. Get a stock of electric clocks for the holiday trade. People are buying

sensible gifts. There's nothing more acceptable as a gift than an electric clock. Put them in your window. They sell themselves. One dealer gave away an electric clock with each sale of \$20.00 or over. He moved 148 clocks in one month.

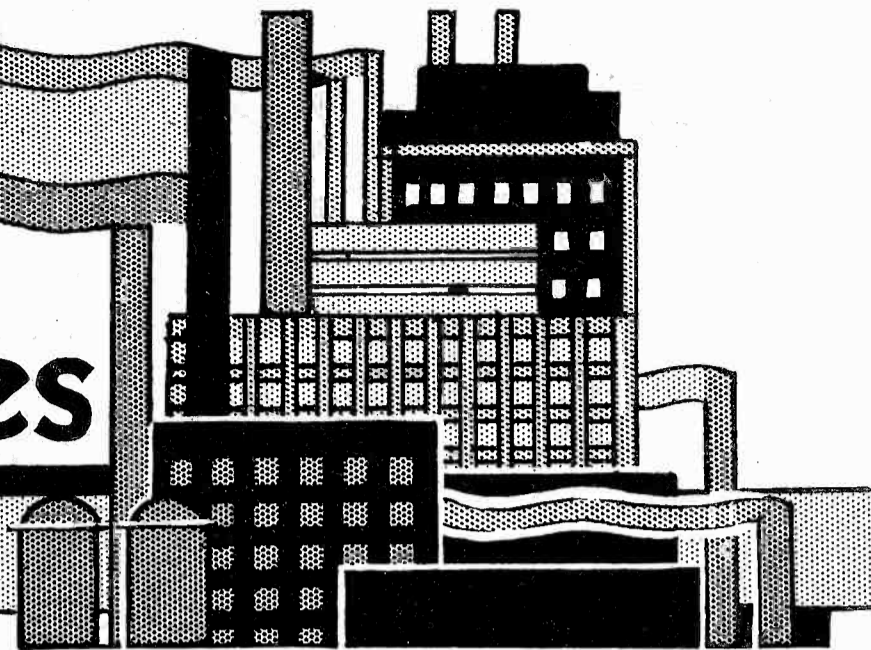
Another of the new devices that dealers can sell is the automatic time switch . . . a switch that turns on or off the radio or other electrical device at a predetermined hour. Useful to turn off your store lights or window flashers at a certain hour each night. It's wise to sell a few good accessories when a set is sold. Properly merchandised, you can move many of them.

The Hexcel Air Conditioner looks good. It delivers balmy "hot water" heat in heavy volume at a spread of about 360 cubic feet per minute. A fan draws cold air in at the back of the heater, blows it through a radiator, and expels it into the room in billows of heated, healthful moist air, the manufacturer says. Heats a chilly room in a hurry and does not "burn up" the air in the room. Sells for twenty-five dollars, list. A hot side line for cold weather selling. Good for summer-selling, too, because it acts as an electric fan when the heater element is disconnected.

Tales of retail radio selling through the heart of the depression that are little short of astounding are contained in the final summary compiled by Guy C. Core who was in charge of the Sparton Scholarship Contest. A number of the several dozen young men and women who won college scholarships or European tours were responsible for a volume of business that would make a reasonably profitable moderate sized retail store in itself.

The contest started in August, 1930,

The Radio Times



and continued through April, 1931, thus taking in the most hectic days of radio when dumping and distressed selling was at its height.

It is significant that practically every one of the winners worked over a definite, concrete plan and did not deviate from it. Taking certain territories or certain groups of individuals, they went ahead in a straight line with the optimism of youth. Depression was just a word to them, and where older and more experienced campaigners "folded up" because of it, the boys and girls plugged straight ahead because they did not know its meaning.

"This entire contest has been a marvelous study in psychology," comments Mr. Core. "Never having known the easy days of radio, these young folk took the tough days of last year as normal and they accepted them cheerfully as they came. They took the only way to sales volume that exists when selling is tough, which is more contacts. In their case that meant simply leg-work, and they certainly used it in unlimited quantities.

"If every retail dealer could see the results that leg-work accomplished, there would be more of the same thing applied to good advantage by the owners of radio stores."

Mr. David Sarnoff, President of the Radio Corporation of America, announced the resignation of Edward E. Shumaker as President of its subsidiary, the RCA Victor Company.

The resignation was accepted by the RCA Victor Company Board to become effective as of January 1st, 1932.

Mr. Sarnoff stated that it had been Mr. Shumaker's desire to retire from active business when the Victor Talking Machine Company, of which he was president, was purchased by the Radio Corporation of America. At Mr. Sarnoff's request, however, Mr. Shumaker had agreed to accept the Presidency of

the new RCA Victor Company which was formed in 1929 as a result of the merger and to serve in that capacity until the problems incident to unification had been solved and the reorganization completed, which has now been done.

Continuing with his plan to place 16mm Movies on a big business basis, Rudolf Mayer, President of INTERNATIONAL 16mm PICTURES, INC. and brother of Louis B. Mayer, of Metro - Goldwyn - Mayer, announced that his organization had acquired the U. S. Laboratories at Hudson Heights, N. J. This is the second laboratory purchase made by Mr. Mayer within ten days, and it is his intention to merge both into a huge organization which will have a weekly capacity of more than 4,000,000 feet of 16mm film. The new organization will be known as the Union Film Laboratories and will be located at Hudson Heights, N. J.

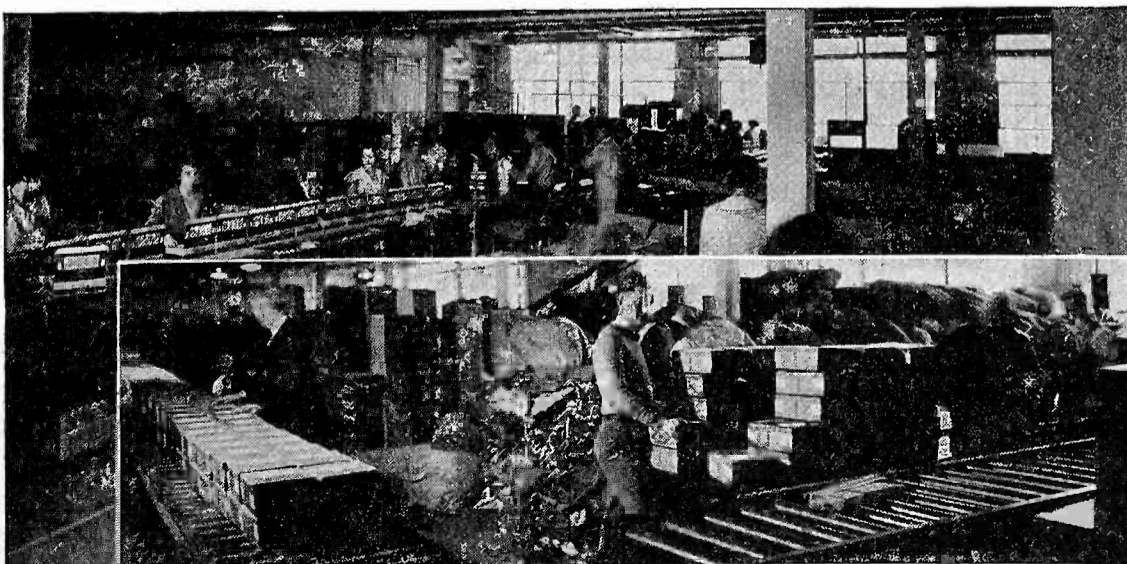
Thru acquiring the U. S. Laboratories, INTERNATIONAL 16mm PICTURES, INC. will also have facilities for handling 35mm negatives and prints.

The merging of these two laborato-

ries will provide the most up-to-date and the largest 16mm printing laboratory in the world. According to Mr. Mayer, 24 to 48 hour service will be possible. Heretofore, a lapse of as much as three weeks was often experienced between order and delivery on prints.

The DeForest Radio Company and the Jenkins Television Corporation of Passaic, N. J., announce the resignation of Charles G. Munn as President of both companies, and his election as Chairman of the Executive Committee of both companies. Leslie S. Gordon, who has been identified with banking and manufacturing activities in Chicago, succeeds Mr. Munn as President of the DeForest and Jenkins companies. The personnel of both organizations remains the same.

The latest Government figures (August) show another increase in radio exports. The month's shipments were \$249,271 *greater* than the same month a year ago. The number of receiving sets exported in the first eight months of this year were more than double that of a year ago.



Upper: Sylvania "Emergency" Kits go down the line to the packing crew.

Lower: The end of the line. The Postal Department routes the kits into mail bags for shipment.

Captain Sparks Says:-

1. **A**N exclusive radio dealer CAN make a profit.
2. **T**UBES, alone, if skillfully merchandised, will support a business in itself.
3. **F**IFTY per cent of the people can be sold quality merchandise.. . . .
4. **S**ERVICE must be merchandised. It is the profits from service that gives the velvet.



A Dealer Can Exist On Radio Alone!

IN A RECENT issue of a prominent advertising publication the statement was made that radio could no longer be sold through exclusive radio dealers. The unit of sale, the article stated, had become too small to support a store on radio profits alone.

Capt. Wm. Sparks, president of the Sparton organization, was asked to comment on this article by one of his distributors, and replied with the following analysis of much general interest.

"If the writer of this article meant that radio must become a side-line to other lines of business, I believe he is wrong. If he meant that other lines of business could and should be handled by the radio dealer with profit, he is, within certain limits, right.

"The exclusive radio store can hardly hope to sell low-priced sets over the counter on demand only and continue indefinitely. Neither can any other type of dealer comparable to radio. We have recognized that for years. We have preached to our dealers that there are four things they must do.

"First, they must recognize the fact that tube business alone, if tubes are skillfully merchandised, will support a business in itself. The dealer who, over a period of four or five years, has sold a profitable volume of sets, has in his

old customers alone a possible tube volume that will pay much of its overhead.

"Second, he must recognize the fact that the replacement of obsolete sets goes to the dealer who goes out after the business. Owners of old sets seldom change of their own accord. On the other hand, I could supply you with the names of hundreds of dealers and salesmen who regularly, day by day, go to the owners of these sets, demonstrate new Spartons and secure a steady volume of business on high-grade sets almost exclusively.

"Next, service must be merchandised. Few automobile dealers are able to make money on the sale of new cars alone. It is the profits from service that give them the velvet.

"Last, there is the business of 'trading-up' sets. People who ask for a mid-gut can, in a large percentage of cases, be sold better sets. Those who buy mid-guts or low-priced consoles are, within a year, logical prospects for better instruments. The process of trading-up by owners is just as prevalent as in the automobile business.

"Now getting back to the original question—"Can a dealer exist on radio alone?"

"It is obvious from the above that radio is *a business*, demanding concen-

tration and effort that prevents it from becoming a sideline to any other. The man who wrote that article *did not*, I believe, know the radio business. He only saw the visible side . . . the selling of sets over the counter with that as the end of the sale. Radio with its logical ramifications *can* be a profitable business and *is* a profitable business for any merchant who has it in him to make a success of any similar business.

"There is just one qualification that must be attached to this flat statement. He must handle a line that can be sold as a quality line to the 50 per cent of our population who can afford to buy quality merchandise. He must have something to sell besides price, or he will *not* make money.

"With radio as a fundamental business in itself the adding of other lines becomes a matter of the dealer's own experience and capacity. We have many who sell electric refrigeration, music and accessories and varied other lines and do it successfully. But I can make this flat statement. Vastly more dealers have built fundamentally on radio, adding other lines at a profit than have reversed the process. They are organized for complete radio sales and service, and there is money in that alone, and always will be."



Mr. McMurdo Silver at his desk.

Mr. McMurdo Silver Takes the Editor's Chair and Discusses the Price Question

THE writer, like most of the rest of those who read radio trade publications, has noted with much amusement the recently published fulminations regarding the need of higher unit sales prices if any money was to be made by anyone at all in the radio business. Unquestionably, higher prices are not only desirable, but almost vitally necessary, but the schemes actually suggested or only gently hinted at for producing them are childish in the extreme.

EVER since the first man in the world had something to trade to the second man, and on until this earth is too old to support life, only one factor has ever determined the price of anything—the law of supply and demand. In radio, no combination of manufacturers, distributors and dealers could benefit by even an impossibly perfectly executed price raising agreement. Why? Simply because radios are today sold at just what the public will pay for them—raise prices and the public will tighten up on its money. Only one single thing in all this world will permit raising of prices without loss of sales volume — increased demand. And in turn the only thing that will reasonably definitely increase demand is an improvement in general business — making more employment, and consequently more earning power. Nothing will bring this about except the exhaustion of stocks of all kinds of finished goods, and the necessity for employing people to fabricate new stocks against even the present severely cur-

tailed public demand. Once this starts, buying power begins to build up, demand crystallizes, and the upturn of prosperity is here. Looking at New England for example, the upturn is here, for shoe, leather and textile mills are now going full blast. This makes buying power, which stimulates industry elsewhere, and on the basis of the theory that when New England, first hit in the depression, began to recover, the rest of the country would follow suit, better times are here right now—and certainly by spring.

CONSIDERED briefly, the suggested plan of price raising by agreement is merely “A tale told by an idiot, full of sound and fury, but signifying nothing.” Adam Smith summed it up — prices are determined by the law of supply and demand, and by nothing else under the sun.

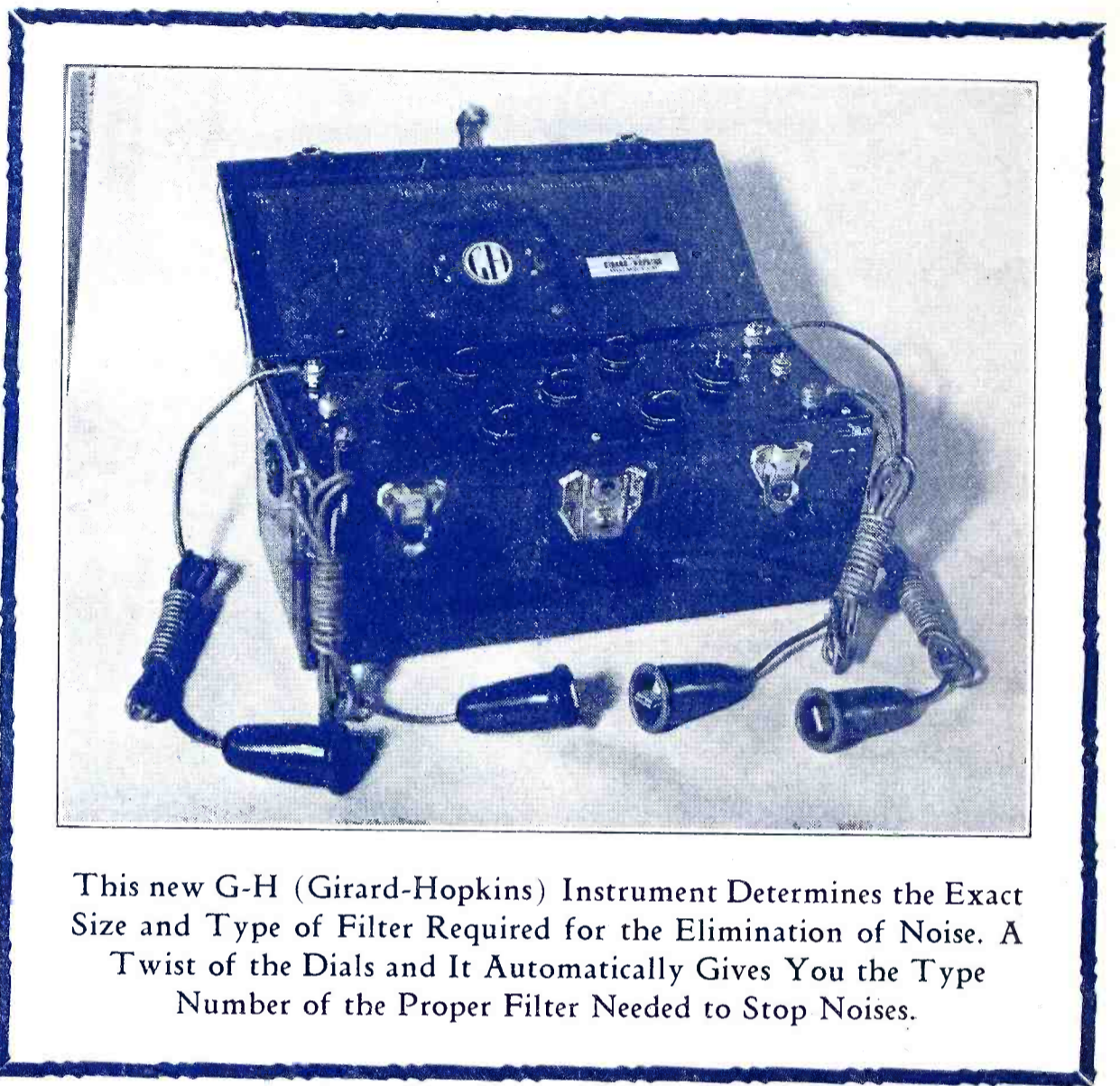
LIKE many others, the writer has visited the wailing wall to do a bit of weeping on the subject of low prices, but has not remained long. A more profitable trip is to the pencil sharpener to find out how to cut costs. Silver-Marshall is satisfied to make money at present prices and costs, and have their dealers to do likewise, and to leave the well worn path to the wailing wall for others to tread. At present, money can be made on radios selling from \$50.00 to \$100.00 complete—but only if intelligence is applied to the problem. Time enough to talk of price raising when it can be done—when costs go up, which is the same thing as saying when demand has improved. Until then, a bit harder work and less time spent crying is the best—only—solution.

Any Filter Combination You Want at the Twist of the Dials

AS THE elimination of interfering noises becomes one of the most important phases of the radio industry, from the standpoint of the dealer who wants his customers satisfied, of the customer who wants to be satisfied, and of the service man who looks yearningly at the business that will go to the one who can produce results in providing this satisfaction, any new apparatus that will make it easier to determine the style and type of filter necessary to solve each particular problem will be received with open arms.

The instrument described herein will not be sold to the radio dealers, but will be manufactured only for the jobbers who handle the Girard-Hopkins line. These jobbers will equip themselves with the master filter so that they may loan the instruments to their dealers, thereby allowing the dealer to avoid the necessity of adding a rather expensive piece of apparatus to his equipment.

For many years Girard-Hopkins have been building condensers for replacement purposes and filters for interference elimination. But the sales of filters has always been handicapped by the hunt and try methods of determining the combination of inductance and capacity necessary to handle each job successfully. Therefore they went to work and developed this instrument of a thousand or more combinations which will indicate with but a few minutes work the code number of the G-H filter corre-



This new G-H (Girard-Hopkins) Instrument Determines the Exact Size and Type of Filter Required for the Elimination of Noise. A Twist of the Dials and It Automatically Gives You the Type Number of the Proper Filter Needed to Stop Noises.

sponding to the capacitive-inductive circuit which, in the master filter, gave the best results. In the master filter there are fifteen fundamental circuits available with variable inductance and capacity for each. The dealer, using the instrument, need know nothing of the actual values needed in the filter, for the numbers indicated by the seven dials is read off as a seven digit number which is the model number of the Girard-Hopkins filter necessary to eliminate the noise. When the customer complains of noise that seems to be entering the radio set through the supply lines the dealer or service man connects the G-H master filter between the supply socket and the set, in

some cases, or between the power supply and the meter in others. Then he varies the dials until the noise is eliminated or at least minimized. At this stage he jots down the readings of the dials, starting from 1 to 7, and orders the filter that corresponds to this reading.

The system is an achievement worthy of honorable mention. Experienced trouble shooters know only too well that correct circuits and valves for filters are hard to find. Too much capacity or inductance is as bad as too little, and this business of trying one filter after another until the correct one is found not only requires time and patience, but a five ton truck.

G - H

QUALITY CONDENSERS AND CARBON RESISTORS

CONDENSERS FOR ANY PURPOSE . . . 200 STOCK SHAPES AND CAPACITIES
BANKS FOR ALL SETS LINE FILTERS—ANY TYPE
TRANSMITTING CONDENSERS SPECIAL CONDENSERS OR BANKS
BLOCKS FOR MANUFACTURERS . . . CARBON RESISTORS—5% TOLERANCE

Write Us For Catalogue



GIRARD - HOPKINS

1437 23rd Ave.
OAKLAND, CALIFORNIA



DEALERS We will loan the use of the G-H Interference Locator to dealers and service stations in our territory.

Make application immediately for your use of the new Girard-Hopkins Interference Locator. We have this instrument at your disposal. A trained specialist will assist you in its use and operation. Let us show you how we can help you make money by correcting interference troubles in your vicinity. We make no charges for this service. We can supply you with the necessary G-H Filters for the elimination of interference.

Get Your G-H Replacement Condensers From Us!

WRITE FOR FREE COPY OF CONDENSER CHART

Condenser Replacement Blocks for practically all makes of standard receivers can be secured from us. We carry the G-H Line. Send your blown-out condensers to us for replacement. Any kind or size of condenser will be made to your order.

The complete line of G-H condensers and transformers is described in our latest brochure. In it you will find the list of types of condensers used in most makes of receivers and prices of replacement condensers. This is a valuable guide for every dealer and service station. Write for your copy today.

UNITED RADIO SUPPLIES CO.

1062 Howard Street, San Francisco, California

WE ARE JOBBERS FOR THE NEW INTERNATIONAL ALL - WAVE RECEIVER

Tell them you saw it in RADIO

Sparton Executive Explains Why Sparton Uses Its Own Make of Tubes

By V. A. SEARLES, Advertising Manager

THE SPARKS-WITHINGTON COMPANY
Jackson, Michigan

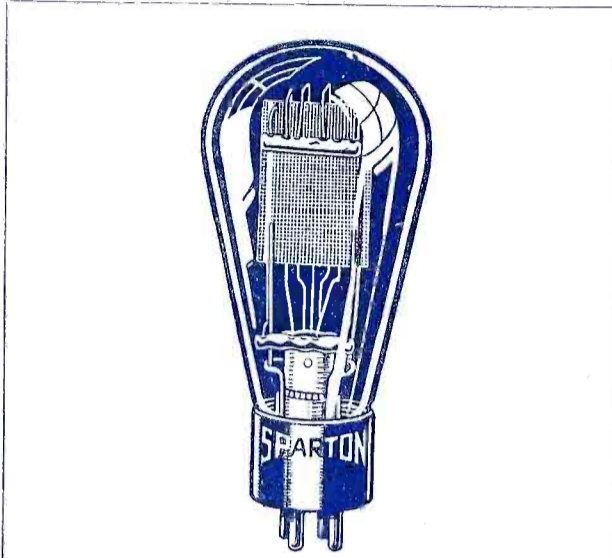
Dealers outside the Sparton organization have frequently voiced the inquiry, "Why does Sparton specialize on a unique type of tube?" Early in the history of radio, Sparton, like other manufacturers, purchased their tube equipment from independent makers. In the sincere effort to make of Sparton the richest and truest voice in radio, no expense was spared and only the finest tubes obtainable were purchased. In the endeavor to maintain Sparton ideals of quality and musical excellence, however, it was soon found that the rigid perfection demanded by Sparton inspectors was an unusual and difficult standard for even the best tube manufacturers to meet. Sparton's discriminating inspection and testing of all tubes purchased, resulted in the constant rejection of a large percentage of tube makers' shipments.

As a result Sparton gathered together a group of highly trained tube engineers and electrical specialists. After months of painstaking laboratory work and enormous expense, a modern tube plant, with all the very finest equipment and precision apparatus was placed in operation at Jackson, Michigan. This provided absolute control of the quality and characteristics of the tubes that went into Sparton radios from that day on, and has much to do with the reputation for beautiful tone that Sparton now enjoys.

Although at first, tubes were made for only Sparton sets, it was soon found that these high quality precision-built tubes could be used to advantage in radios of other makes. As a result there is today available a full line of Sparton radio tubes for every standard purpose.

Here Is What Mr. Searles Says About the Current Trend in Radios:

BETTER merchandise attuned to the widespread and growing value-consciousness on the part of the public—that, in the opinion of The Sparks-Withington Company, makers of Sparton Radio and Sparton Tubes, is the most practical answer any manu-



Now that SPARTON Radio Tubes are standard and may be used in all standard makes of Receiving Sets, The Sparks-Withington Company are laying plans to go after the tube business of the world in a big way. Various charts, curves and graphs show so conclusively the excellent performance of Sparton Tubes that everyone is to be told about it.

As a first step in this campaign The Sparks-Withington Company has secured the service of John L. "Jack" King, who has had vast experience with radio tubes. He will devote his time exclusively to SPARTON Tube Sales and will visit many of the largest accounts in the country.

facturer can give to the vital question—"How can we best help our dealers to make money in today's market?"

No expert knowledge of business analysis is required to recognize and interpret the present trend in practically all lines of retailing. In recent months the trend has become so general and its characteristics so clearly defined, that everyone engaged in the buying and selling of commodities must be aware of it.

The free-spending American of the boom years is a swiftly vanishing species. We are developing a new and wholesome respect for the coin of the realm. Even the lowly nickel is respected, and the quarter is regarded as an asset to be taken seriously. On every hand it is emphatically apparent that buyers have made up their minds to get their money's worth. They have learned

to appreciate values and to look for them.

Nowhere is this state of mind on the part of the buying public more pronounced than in the radio business. To be convinced of this fact you have only to talk with any good radio merchant. He will tell you that his customers are showing increased interest in those radio features that mean dependability and lastingly satisfactory performance. They insist upon basic quality. And they are no longer impressed by merely superficial advantages.

Some manufacturers may misinterpret this more careful buying as a reluctance to buy at all. They may assume that in order to induce people to part with their radio dollars it is necessary to cheapen the product. Sparton believes this to be a mistaken idea. Even the most casual visitor to Sparton laboratories and plants could not fail to observe on every hand the manifestations of a conviction that has never ceased to dominate Sparton manufacturing operations, and that is today more vigorously in force than ever before. We have always believed that it is the undesirable buyer who is hoodwinked by inferior merchandise. The type of purchaser who can be developed into a permanently profitable customer for Sparton dealers, we believe, is the type who looks beneath the surface and demands dollar-for-dollar value. And we feel that the biggest help we can give our dealers at this time is to build the kind of product that attracts precisely this kind of patronage.

You will find this leading tenet of the Sparton creed expressed in numerous features of the present Sparton line. A notable combination of chassis improvements contributes not only to finer performance but also to *continuously* finer performance throughout the years. In the new Supersonne circuit, for example, Sparton engineers, pioneers in the application of the band-pass filter principle, have retained all the advantages of Superheterodyne selectivity and at the same time have successfully included the full measure of musical quality carried on the broadcasting band. In addition, the Supersonne development practically eliminates image frequencies or the secondary reception of the same station at different points on the dial.



The logo features the word "TOBE" in a bold, sans-serif font inside a dark oval. Below it, the word "Filterette" is written in a large, stylized, gothic-style font with decorative flourishes. The entire logo is set against a light background with a dark border.

TOBE DEUTSCHMANN CORP.

CANTON, MASS.

OCTOBER - NOVEMBER, 1931

Interference from Electro-Medical Apparatus Requires Filterette HFO For 100% Elimination, Apparatus Must be Shielded

High frequency apparatus, such as is used in the medical profession, has long been one of the most prolific sources of radio interference. Unlike the majority of electrical devices which create interference in their immediate locality only, certain types of high frequency apparatus set up interference which destroys reception over a large area. In fact, in some cases where the supply lines to the apparatus parallel the primary supply or telephone circuits, the disturbance may be spread over a considerable distance and even carried into cities several miles away.

In order to understand the reason for the somewhat complicated procedure which must be followed in overcoming Diathermy interference, it will be well to consider the principles underlying the operation of high frequency electro-medical apparatus. A Diathermy machine is a device for the production of high frequency currents to be used in the treatment of certain diseases. The frequencies used in the earlier models were from 900 to 1400 K. C., or practically the whole of the Broadcast band. In some of the newer models an attempt is made to keep the frequencies used outside the broadcast band, but this is difficult due to the tendency of this apparatus to propagate a broadly tuned wave.

Diathermy Similar to Spark Transmitter

The circuit used for obtaining these frequencies is essentially the same as that used in early spark transmitters whose operation is now forbidden by federal law. In the Diathermy machine a transformer, condenser, and adjustable spark gaps are used to produce high frequency currents. These currents are carried along flexible leads to metal electrodes applied to the body of

the patient. The similarity to a spark transmitter is obvious. The high frequency generator is the Diathermy machine. The antenna consists of the electrode leads and the body of the patient. In the case of some types of treatment the body of the operator is also a part of the antenna system. The counterpoise is the power line.

The maximum high frequency current used in Diathermy treatments is usually 4000 milliamperes or four amperes. When it is understood that a radio transmitter with an antenna current of 4 amperes may have a working range of several thousand miles, it is obvious that a Diathermy machine can do considerable damage to broadcast reception. Fortunately, the "antenna system" of the Diathermy apparatus is not designed for maximum radiation at the frequencies used, consequently, the area affected by the direct radiation from the electrode leads and the body of the patient is relatively small. This directly radiated interference seldom affects receivers more than 200 feet from the Diathermy apparatus.

Interference Carried Along wiring Circuits

The greater part of the Diathermy interference which affects receivers located at a greater distance from the

apparatus is carried along wiring circuits in a manner similar to the transmission of "wired wireless" or more correctly speaking, carrier telephony. This disturbance is impressed upon the various wiring circuits in two ways. The first of these is by feed-back from the Diathermy machine to the power line to which it is connected. The high frequency currents flowing in the electrode circuit of the Diathermy machine cause voltages of the same frequency to be induced in the primary of the transformer used and thus to be superimposed on the power supply line. The high frequency currents flowing as a result of this induced voltage may travel back along the secondary distribution network for many miles, unless a suitable Filterette is installed in the power supply line to the Diathermy machine. This Filterette must be of the special type designed by the Tobe Filterette Laboratories after a thorough study of the Diathermy interference problem.

Choice of Line Filterette

In the choice of a line Filterette for application to a Diathermy machine, three factors must be considered. They are:

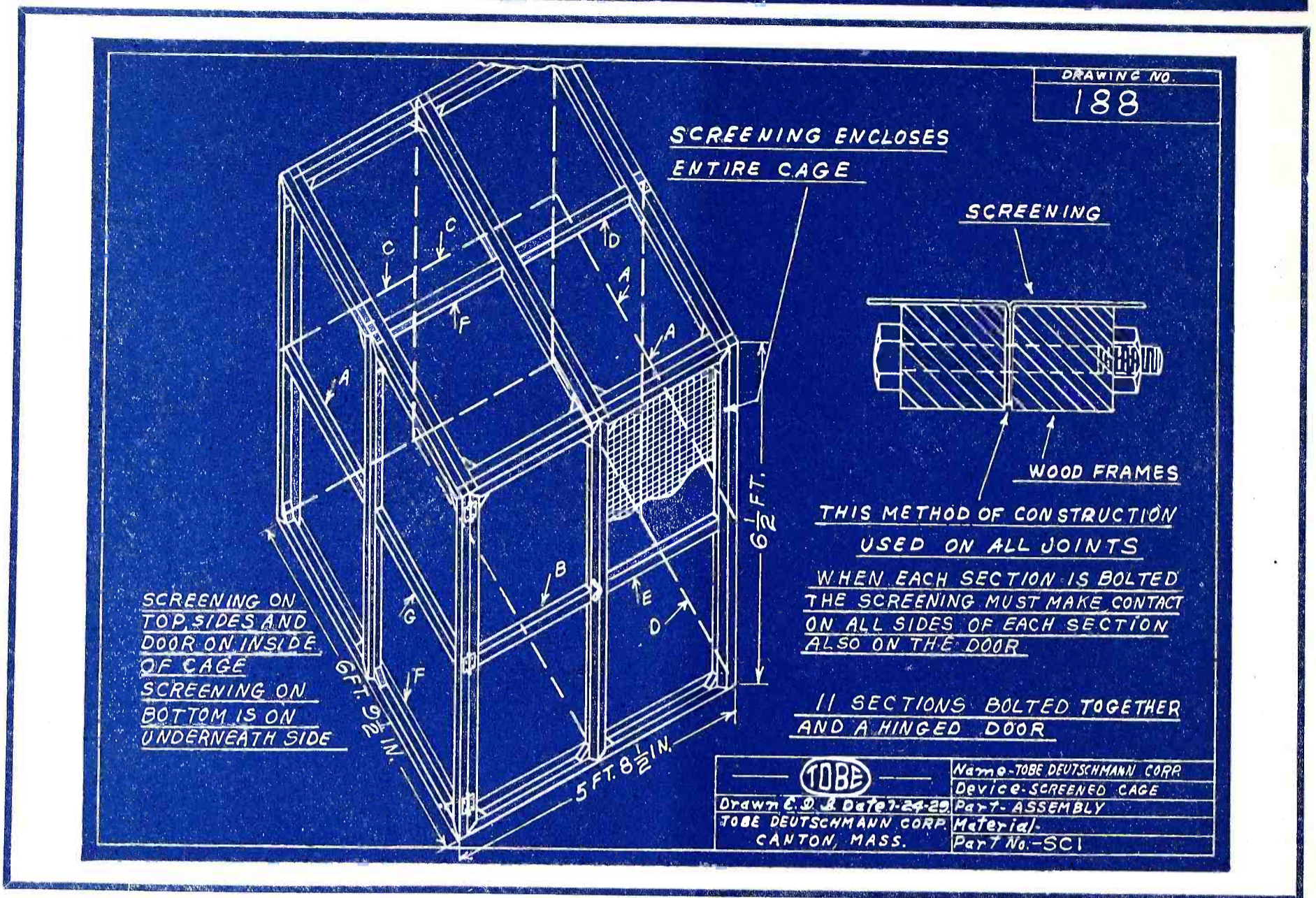
1. The voltage of the line to which the Diathermy machine is connected.
2. The number of amperes flowing in the primary circuit of the Diathermy machine.
3. The frequency of the power supply. Note: 60 cycles is the frequency most widely used in this country, but 50 cycles, 40 cycles, 30 cycles and 25 cycles may also be encountered.

In the development of line Filterettes for application to Diathermy machines it was found that the single section inductive capacity type Filterette, widely used for other applications, was not satisfactory for suppressing Diathermy

Interference Questions Answered

Tobe Deutschmann Corp. maintains a complete Question and Answer Service on Interference Problems. Write us! Also send for current literature.

Interference Problems



interference. In order to prevent the feed back of Diathermy interference into the power line it was necessary to construct a three-section inductive capacitive type Filterette. This was, of course, not commercially practicable because of the high voltage drop in the Filterette, the large size of the Filterette, and its excessive cost. If this construction were to be used, the first difficulty, that of excessive voltage drop, might be eliminated only by a procedure which would further increase the cost of the Filterette. It was, therefore, necessary to develop a Filterette which would combine, with high efficiency, the desired characteristics of compactness and low cost. This was successfully accomplished in the Tobe Diathermy Filterette.

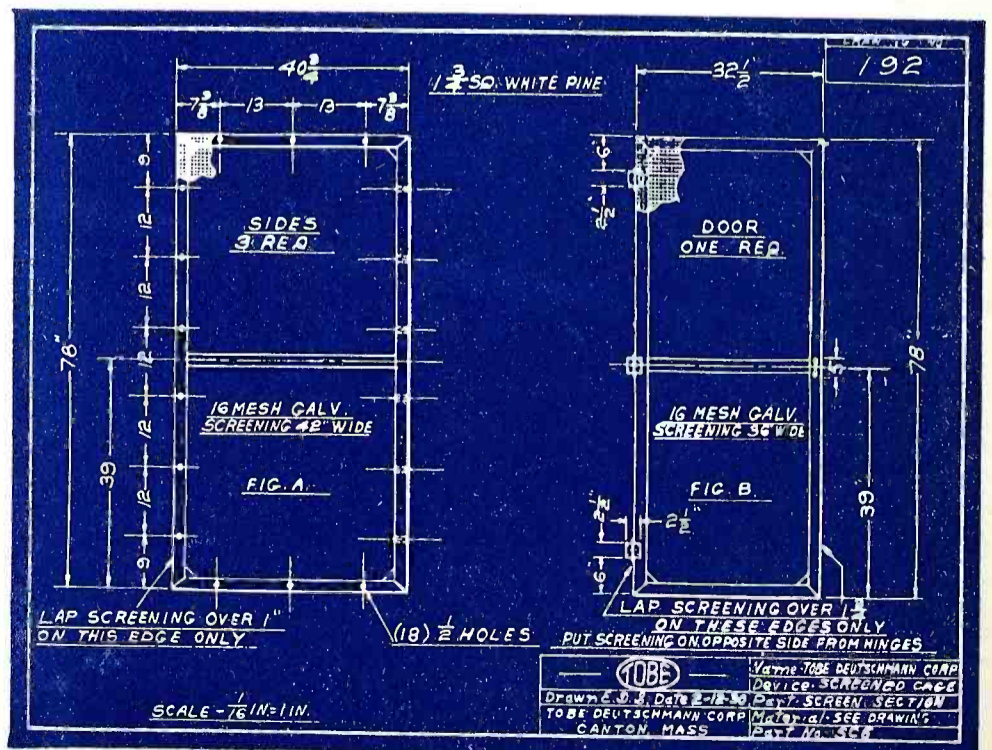
There are three standard models of Diathermy Filterette. The Type 1—HFO Filterette for application to practically all of the portable Diathermy outfits is only 7 $\frac{5}{8}$ " long, 6 $\frac{3}{4}$ " high and 5 $\frac{1}{2}$ " wide. This Filterette will handle any six ampere Diathermy machine operating at 110 volts, 50 or 60 cycles. Filterette 1—HF—2 contained in a metal housing 11 $\frac{1}{8}$ " long, 7" wide and 9" high is suitable for application to Diathermy machines drawing up to 15 amperes at 110 volts, 50 or 60 cycles. For application to the large size Dia-

thermy machines requiring up to 25 amperes at 110 volts, 50 or 60 cycles. Filterette 1—HF—3 has been constructed. This Filterette also is contained in a metal housing 16" long, 13" high and 8" wide. If Diathermy apparatus is used at lower power frequencies than those listed, special Filterettes for operation at these frequencies may be constructed. These Filterettes will be slightly larger than those for operation at 50 or 60 cycles.

Diathermy Apparatus Must Be Shielded

Although the use of the Filterette alone will prevent the feed back of interference from the Diathermy machine to the power supply line, it will not of itself entirely prevent the distribution of interference. Unless steps are taken to prevent the radiation of interfer-

ence from the electrode leads and the body of the patient being treated, this interference will be picked up by the various wiring circuits in the building, such as the lighting or telephone circuit, and may thus be carried out into the neighborhood even though the correct Filterette is installed at the power input to the apparatus. It is, therefore, obvious that if the interference from a Diathermy machine is to be successfully eliminated, steps must be taken to pre-



How to Treat Them

vent the radiation of interference from the secondary side of the apparatus.

It is not advisable to install Filterettes in the output circuit of the Diathermy machine since, if these Filterettes were effective in suppressing the interference, they would also prevent the passage of high frequency currents to the body of the patient, and would thus render the apparatus ineffectual in the treatment of disease. It is, therefore, evident that the only remaining possibility is shielding, and that this shielding must enclose the Diathermy machine, the patient being treated and the operator of the machine.

The following quotation from the laboratory report covering the experimental work undertaken in the development of this screen describes the necessary screening:

"A screen cage sufficiently large to contain both the apparatus and the patient was constructed. This cage was constructed of copper screening bolted to an angle iron framework, and to all appearances should have been entirely satisfactory. However, upon further experimentation, it was found necessary to solder screening across all the joints in the angle iron framework in order to prevent radiation. As this construction was quite complicated, a third shield was constructed.

"In the construction of the third shield, copper screening was again used. A wood frame, however, was substituted for the iron, and the screening was so arranged that firm metallic contact was maintained between screen sections. This shield proved entirely satisfactory.

"A fourth screen was then constructed on the same principle as that previously employed, with the exception that galvanized iron screening was used in place of copper screening. This screen was, if anything, more satisfactory than the copper screen."

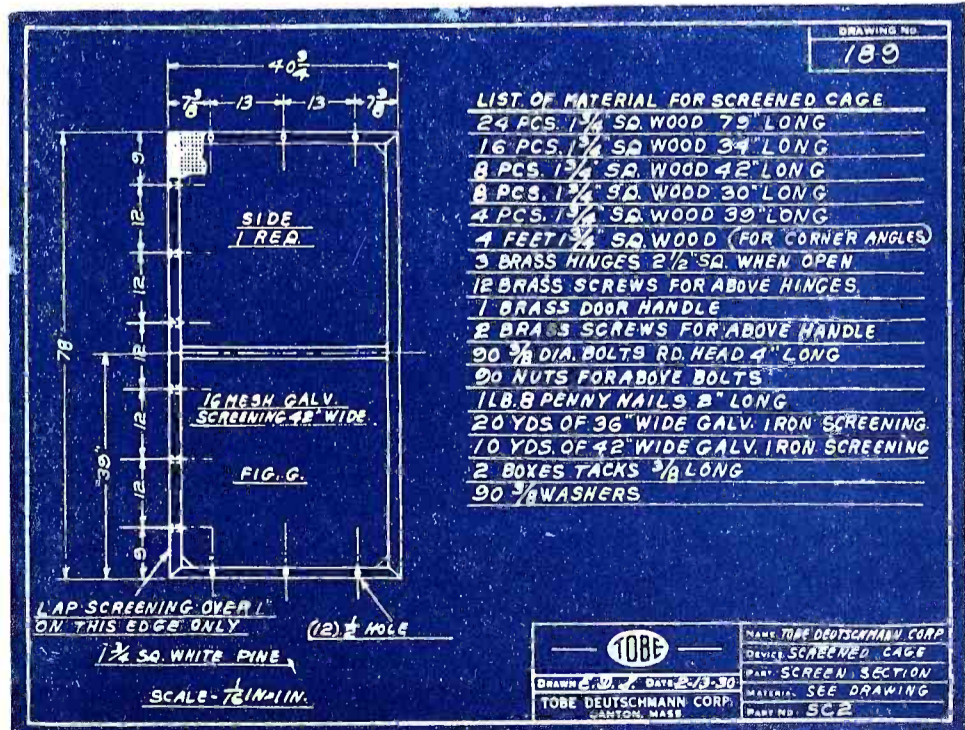
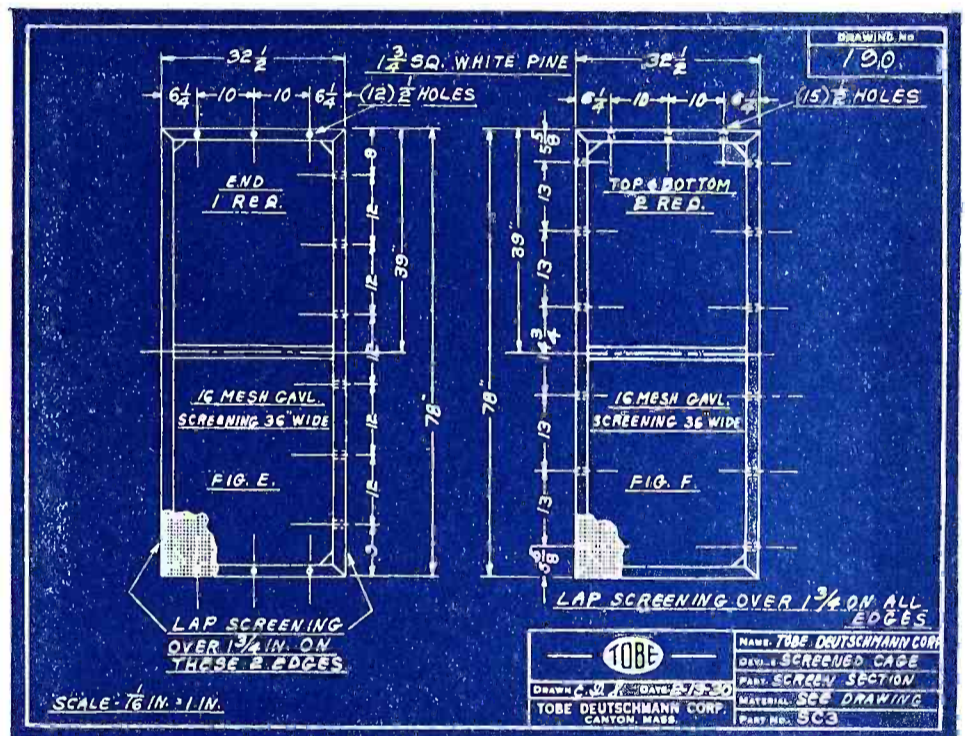
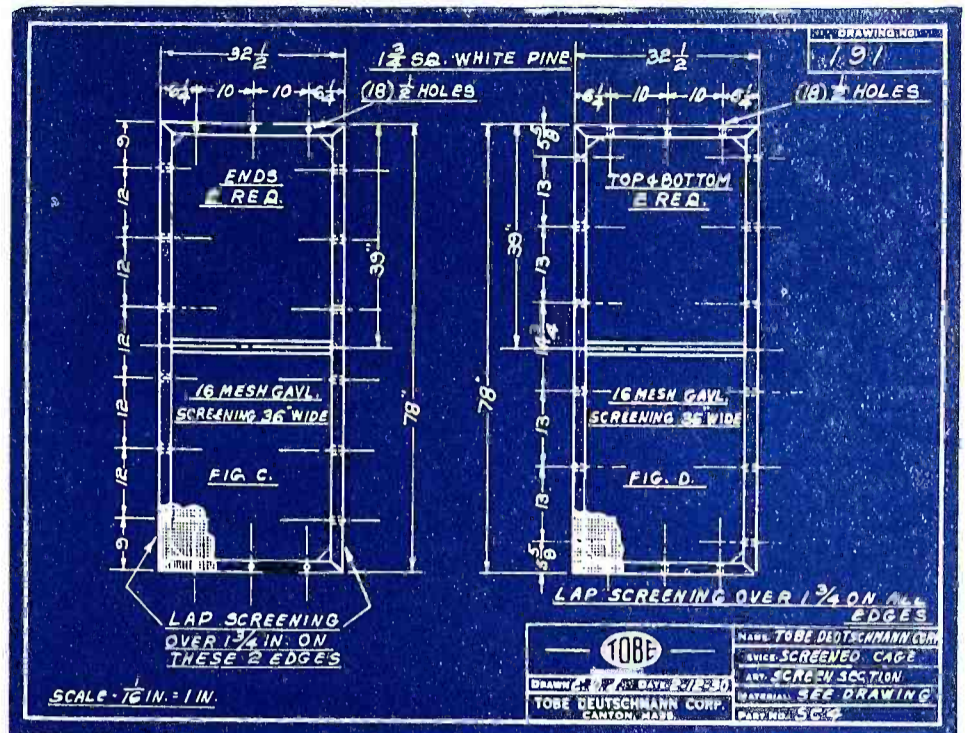
The blue prints show the constructional details of the screen finally adopted as standard for preventing the radiation of interference from a Diathermy machine. The important feature in the construction of this shield is the continuity of the screening. The exact size of the screen cage is not important. Slight variations from the suggested construction are not likely to affect the results obtained from the use of the screen. It must be remembered, however, that the screen alone will not provide satisfactory suppression of Diathermy interference, since the interference which is fed back into the power line is sufficient to minimize the benefit obtained from the use of shielding.

Installing Filterette

Figure 1 shows the correct method of installing Filterette No. 1—HFO in the screen booth. As this picture shows, the Filterette is contained in a metal housing and a short piece of BX, bonded to the Filterette housing, is provided to facilitate connection to the 110 volt line.

A receptacle is provided in the Filterette so that the Diathermy machine may be connected to the supply line by means of its attachment cord and plug. The Filterette may be located at any point within the Diathermy screen, although for best results it should not be located further from the screen than the distance allowed by the length of ZX lead supplied with the Filterette.

In making the Filterette installation, standard wiring practice, as recommended in the National Electric Code, should be followed. A satisfactory method of making this installation is shown in Figure 2. As this drawing shows a shallow flush switch box (such as G. E. catalog No. SP6976) is mounted in any one of the sections of the screen, being held in place by a wood frame of 1 3/4" material extending over the top and one side of the box are supported by the vertical member and the cross member of the wood frame of the screen section in which the box is to be mounted. When the box is mounted in this manner, its back will be flush with the screening of the section. A small hole



should be made in the screening at the point where the BX is to enter the switch box and a BX connector, fastened to the end of the short piece of BX supplied with the Filterette should be used to hold BX in place.

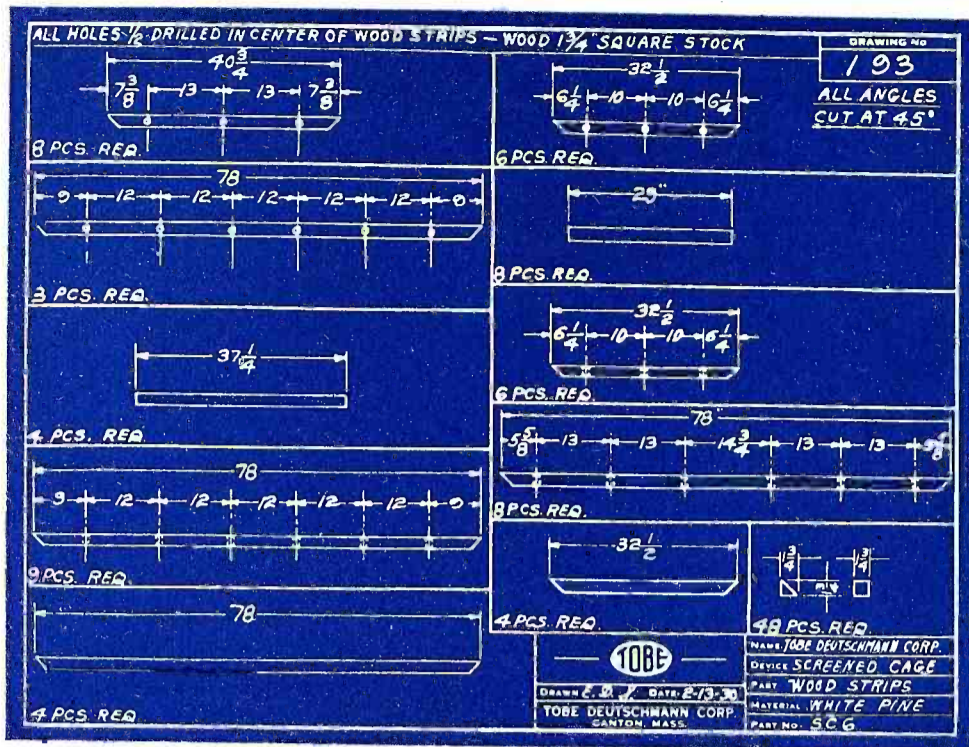


FIGURE 2.

It is suggested that a washer be placed over the BX connector in such a manner that the metal screening will be held in firm contact with the switch box when the BX connector has been fastened into the switch box. It is important that the BX sheath, the switch box and the metal screening be bonded together for more satisfactory results. To complete the Filterette installation, a short wire must be connected from the Filterette binding post to the metal screening. An excellent method of making this connection is to wrap the return wire around the BX connector so that it will be held between the screening and the washer which has been recommended.

Connecting Filterette to the Building Wiring

There are several possible methods of connecting the Filterette installation to the power supply line. The following method is recommended. Mount on the front of the switch box a flush plate having an outlet for a telephone cord. A composition plate (such as G. E. catalog No. GE2349) is recommended. Carry through this plate an attachment cord of sufficient length to reach the nearest baseboard outlet or wall receptacle. Note: Do not connect the apparatus to a lighting fixture, as the wiring of fixtures is not designed to handle the current required by Diathermy apparatus. The cord used should consist of two No. 14 conductors and should be type PO or its equivalent. A standard attachment cap should be connected to one end of this cord and the other end should be spliced to the conductors of the BX within the switch box. Whenever the Diathermy apparatus is not in use, the attachment plug of the entire installation should be re-

moved from the baseboard or wall receptacle.

Filterette 1—HF—3 requires separate Wiring Circuit

In installing Filterette No. 1—HF—3, a separate branch circuit of No. 10 wire should be run from the service entrance of the building to the Diathermy screen and an indicating switch opening the ungrounded conductor should be mounted on the outside of the screen booth. The Filterette should be mounted just inside the booth opposite this switch, and a short piece of flexible metal conduit should be connected from the switch box to the input side of the Filterette.

Terminals, protected by a metal housing, are provided at the output side of the Filterette to facilitate connection of the Diathermy machine to the Filterette. Be sure to protect the connecting cord by means of a porcelain bushing where it enters this housing. A switch is also provided in this Filterette to compensate for the line drop when the Diathermy apparatus is used at its full capacity.

It is important to note that any wiring which enters the screen booth must pass through the Filterette, otherwise interference will be picked up on this

wiring and carried out of the booth, thus reducing the value of the shielding. In other words, any lighting fixtures used for illuminating the interior of the booth must be mounted above the top of the booth so that the light shows through the screen, or if they are installed within the booth must be connected to the load side of the Filterette. Doorbell, annunciator, or telephone wiring must also be kept outside the screen, otherwise the interference will be picked up on this wiring and carried out into the building, thus nullifying the value of the Filterette and screening.

If satisfactory suppression of Diathermy interference is to be obtained, all of the instructions in this bulletin must be carefully followed.

The Tobe Deutschmann Corporation will gladly assist you in the solution of your Diathermy interference problems or in the solution of any other interference problems which you may encounter.

DIATHERMY FILTERETTES

Model No.	Volts	Amps.	Frequency	Dimensions	Price
1 HFO	110	6	50-60 cycles	7 $\frac{5}{8}$ " x 6 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ "	\$35.00
1 HF-2	110	15	50-60 cycles	7" x 11 $\frac{1}{8}$ " x 9"	75.00
1 HF-3	110	25	50-60 cycles	8" x 16" x 13"	125.00

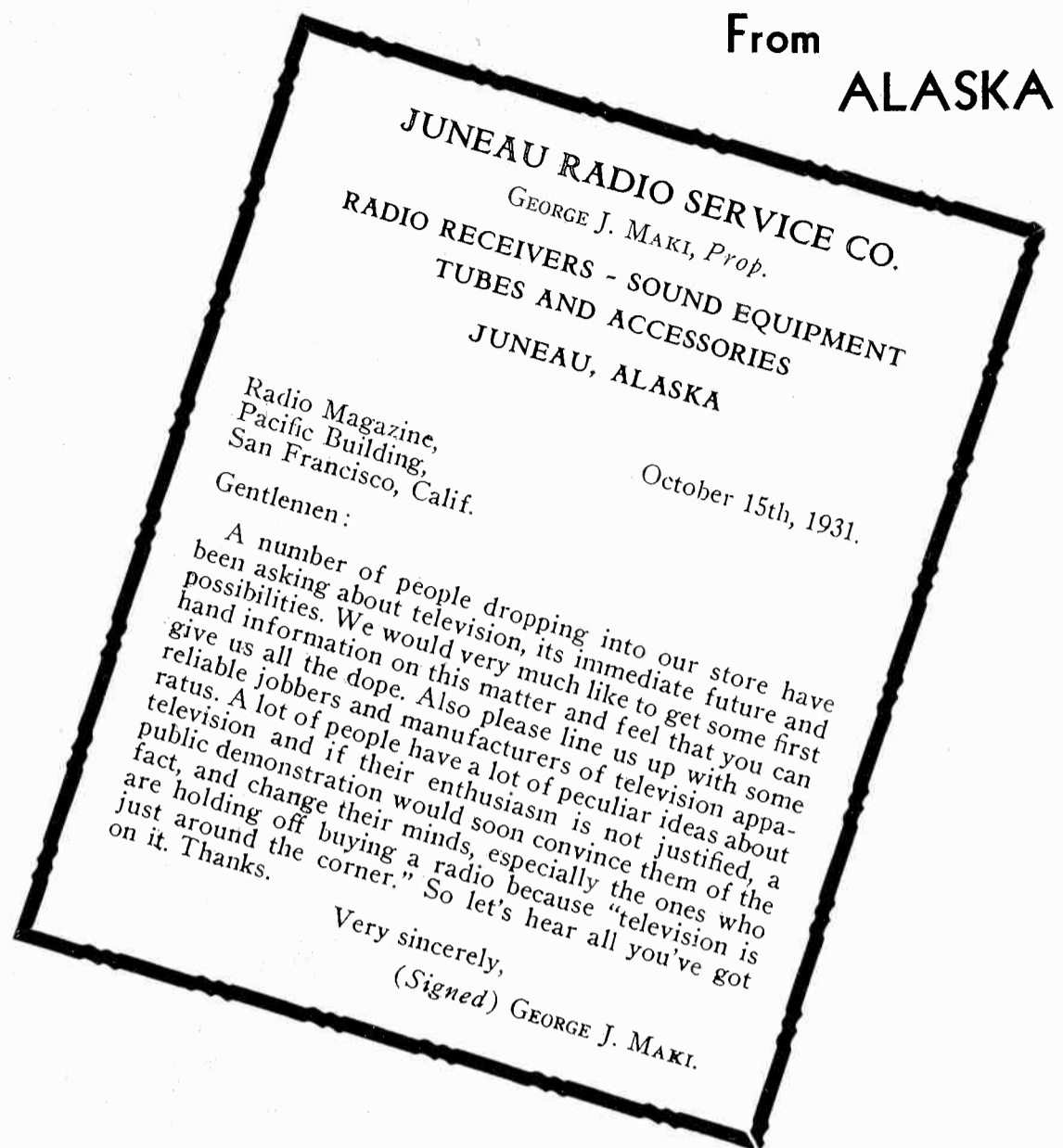
TOBE DEUTSCHMANN CORPORATION

Filterette Division • CANTON, MASSACHUSETTS

The Acknowledged Authority on Radio Interference—Makers of FILTERETTES, the Accepted Remedy

The Question

From
ALASKA



and our Answer:-

THE disk-scanning television sets which are now on sale are very interesting scientific toys for experimental use. They produce a picture whose grain is not fine enough for long-continued entertainment in the home. The not-too-critical observer will be satisfied with the finer-grained pictures made by cathode-ray scanning sets. These are now under development and will be in the market next year. The first pictures will not show as much detail nor be as large and clear as those produced by a home-movie projector.

Pictures and accompanying voice will be broadcast on widely separated channels for some time to come. Two receivers or two separate parts of one combined receiver will be needed to receive both simultaneously. Consequently there is no good reason for postponing the purchase of a present-day receiver of voice and music. Television has been "just around the corner" for nearly fifty years. But there has always been another corner just ahead.

◆ Paste This In Your Window Where Your Customers Can See It ◆

Short Wave Adaptor Pulls In Customers and Foreign Stations

By H. C. SCHULTZ
General Sales Manager, Colin B. Kennedy Corporation

WHAT TO DO NOW?" asks Mr. Average Dealer at the end of an intensive selling year that has turned all of his prospects into customers. This Mr. Average Dealer is just like you and you and thousands of others. He hasn't "laid down" a minute in spite of conditions. True, most of his sales were not as easy as in the past but his prospects were followed up repeatedly until their cards could be removed from the "prospect" file and put into the "customer" mailing list. But he is not satisfied with seeing these monthly payments come in and taking whatever service and tube replacements he can for additional business. As he fingers the customer card file of perhaps two thousand names he is scratching his head and wondering where his real, plus business is coming from. What should it be? Wash-

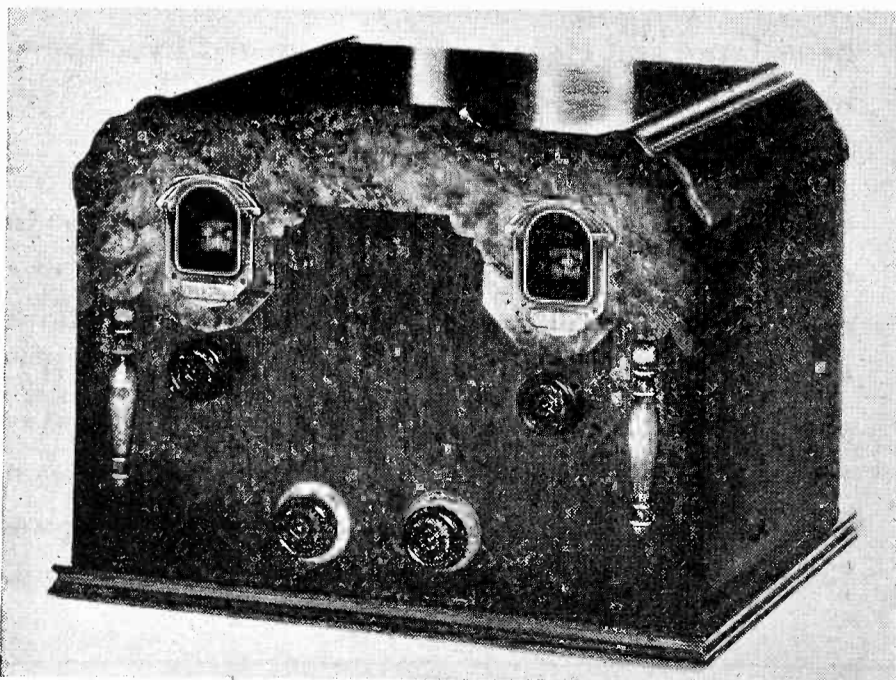


H. C. SCHULTZ

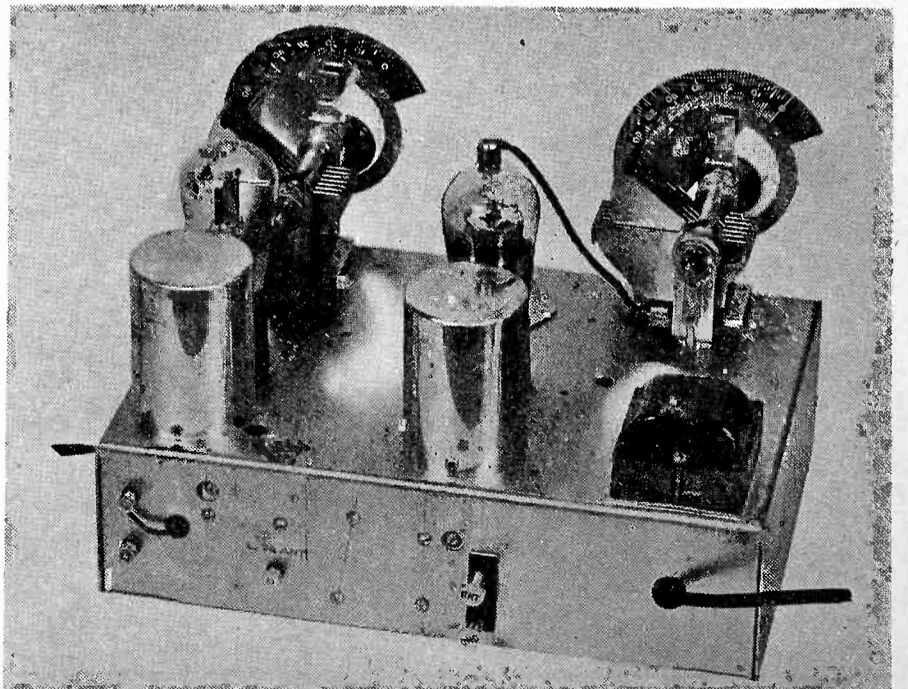
ing machines? Electric Sweepers? A complete electrical line? Sheet Music and Records?

THE radio factory has done as much head-scratching as the dealer. We have answered this question for hundreds of radio dealers with a new short wave adaptor, or converter, known as the Kennedy Globe-Trotter. With this unit, the dealer can cover his entire customer list with splendid results, for the Globe Trotter may be used with any speaker type broadcast receiver, is easily attached and remains permanently so, simple to operate and sells for under fifty dollars.

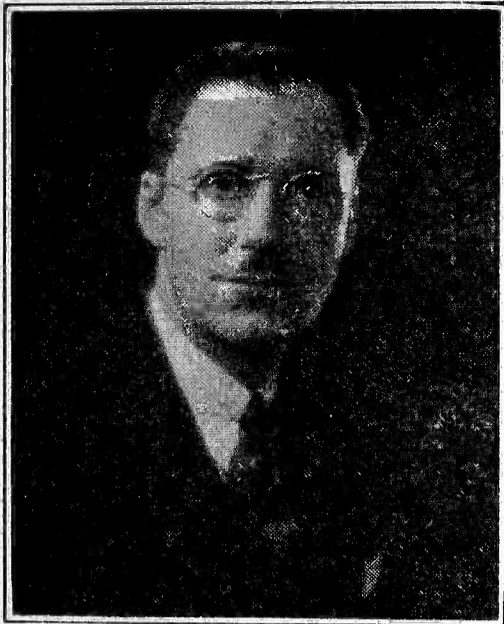
"World Reception" is the dealers new selling point. "Foreign Stations on your own Radio" are the magic words that compel attention and the one time customer is now a prospect, deeply engrossed in the fine points of short wave reception. He is somewhat amazed to learn that short wave reception is not mysterious, costly



The Kennedy Globe Trotter Has Eye and Sales Appeal



The Chassis Is Simple and Rugged in Construction



Advertising Manager Howser of the Colin B. Kennedy Corporation.

and dependent upon vast technical knowledge. Our advertising on the Globe Trotter stresses these points. A lot of copy is necessary in these advertisements to bring out all the selling points.

THERE ARE MANY interesting merchandising developments to which this type of unit is especially adapted. A cartooned letter, written by "the Globe Trotter" in person, was successful in interesting hundreds of radio dealers in this new short wave unit. After the dealer had received his sample he put a four colored jumbo card in the window with the caption: "Foreign Stations on your own Radio" to attract passersby. He next sent out a card to his entire customer list which asked the question: "Can you hear England on your Radio?", with the advice that: "You are missing something . . . and it's at our store." This was an invitation to the dealer's store to come and meet the Globe Trotter. A follow-up letter from the Globe Trotter was used with good results. Globe-girdling parties were arranged at some prospect's home and the dealer's sample "went visiting" on the appointed night, the store salesman and the Globe Trotter acting as co-host in the prospect's home. Many orders were thus obtained and the dealer could then order in quantities, assured that his "plus unit" had more than us-

The Dawn of a NEW THRILL in Radio.

Now - FOREIGN STATIONS ON YOUR OWN RADIO!

ITALY!
FRANCE!
GERMANY!
ENGLAND!
HOLLAND!
SPAIN!
HONDURAS

With the

Police calls! Amateurs!
Oceanic Telephony!
Airplane & Television Signals!

"Pioneers in Radio" **KENNEDY** "Since 1911"

Globe Trotter

WORLD-WIDE RECEPTION FOR ALL

Tired of ORDINARY RECEPTION
Want Real Distance?

1 This announcement is directed to those radio owners whose appetite has become jaded with ordinary reception. The Kennedy Globe Trotter enables you to girdle the globe! You use this unit with your own radio. Here, at last, is really something different!

The **GLOBE TROTTER** makes a Short Wave Superheterodyne of any Receiver

2 The Kennedy Globe Trotter operates on the superheterodyne principle, and by its use any broadcast receiver of the speaker type may be made to operate as a short wave superheterodyne. If used with a receiver employing the "superheterodyne circuit it then becomes a "double converter" for short wave operation and performs with full efficiency.

EASY TO CONNECT and OPERATE

3 Anyone can connect the Kennedy Globe Trotter to their own radio. You merely plug into the light socket and connect three wires. Thus connected it remains so permanently, to operate as both a long and short wave receiver. Tuning is the same as that to which you are accustomed.

Short Wave Log

Showing Partial list of Stations actually received in South Bend, Indiana, with the "GLOBE TROTTER."

Dial Reading	Call Letter (12-25 Meters)	Location
40	8XK	Pittsburgh, Pa.
40	AGC	Nauen, Germany
60	WOO	Atlantic phone
74	GBS	Engby, England
75	Amateur Phone
	(25-47 Meters)	

A Convincing Appeal to the Prospective Customer Is Made By This Type of Newspaper Advertising.

ual acceptance. The result of each party was more visitors to the store, who asked questions, secured informative folders and sometimes organized Globe-girdling parties in their own home, the dealer paying a commission on

every set sold as a result of the party. Newspaper advertisements over the dealer's signature tied up with his various mail-pieces and attracted many new customers to his store.

(Continued on Next Page)

THE ADDITIONAL store traffic thus secured enabled the dealer to sell many new sets in addition to securing a good plus business from his old customer list. Such activity stamped his store as one of the "live spots" in town.

Thus, the dealer's question: "What do I do now?" is answered by: "Pull in your customers with Short Wave Reception," which, after all, is the newest thing in Radio.

GLOBE TROTTER

No. 54 Chassis Specifications

Chassis

Base pierced, drawn and formed from heavy gauge sheet metal. Elec-

tro-plated. Width 11 $\frac{3}{4}$ ". Depth 3". Height 8 $\frac{1}{2}$ " and room to replace tubes etc.

Circuit

Superheterodyne circuit of "converter" or "adapter" type. Operates in conjunction with any good long-wave broadcast receiver. Comprised of tuner-detector tube (type 224) and oscillator tube (type 227).

Coils

No plug-in coils needed. Short wave bands covered by four switch operated coils.

Shielding

Fully shielded where essential and desirable. Aluminum shields. All steel parts electroplated.

Condensers

Individual tuning condensers. Two dials. Heavy, non-vibrating widely spaced condenser plates. Semi-

variable condensers are isolantite mounted.

Tubes

Two tubes, one 224 and one 227. Is not critical as to tubes.

Power

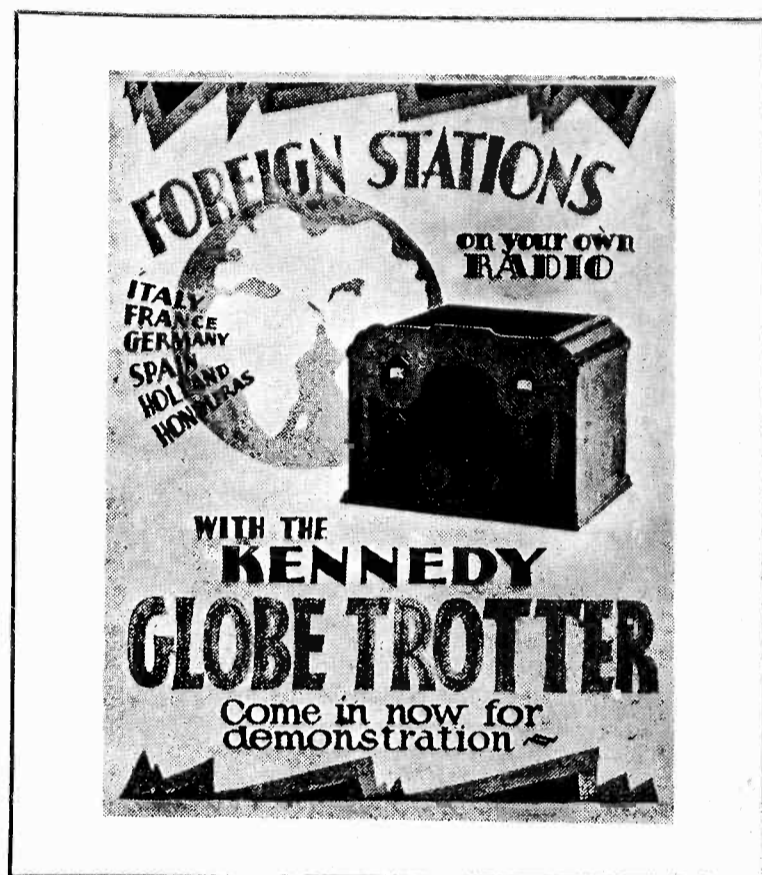
Filament power supply built in. Requires 110-120 volt alternating current. Negligible amount of "B" power supplied by the long wave broadcast receiver. No batteries.

Controls

Wave-band switch—no plug-in coils. Power switch. Long wave - short wave switch incorporated. May be left permanently connected to long wave receiver. Two tuning dials for maximum efficiency and simplicity. Can be operated by anyone who can tune a conventional broadcast receiver.



Above—Envelope Stuffers and Blotters Carry the Kennedy Globe Trotter Message Into the Home of the Prospect.



Right—Jumbo Window Poster and Counter Display Card for Dealers.

Tubes Reduced in Price Four Times Since 1930

E. T. Cunningham, President of the RCA Radiotron Company, Inc., announced, on October 17th, substantial list price reductions on RCA Radiotrons and Cunningham radio tubes, ranging up to 40%, and affecting the popular type tubes which make up 82% of the tube demand. This is the fourth price reduction on tubes since 1930, making today's prices about 50% under those existing before July of last year. All other large tube makers announced similar reductions.

At the same time, Mr. Cunningham announced the offer to the trade, for a limited period, of free tubes with quantity purchases.

In announcing the reduction, Mr. Cunningham said:

"These reductions reflect the increasing economies of our consolidated ac-

tivities and the adjustment of present day costs. It has been the experience of our engineers that new tubes will improve the performance of four out of five radio sets. Hundreds of thousands of people are renewing the worn-out tubes in their radio sets. It is our belief that with lower prices, many millions will replace worn-out tubes with new ones. The increased demand will call for increasing tube production, thus offering increased employment to the thousands of people engaged in the radio tube manufacturing industry.

"The success of our activities in getting people to renew their worn-out tubes has been due largely to the splendid cooperation given to us by our distributors and dealers. So that they may put increased merchandising pressure behind our campaign against worn-out

tubes, free tubes are to be given with quantity purchases. These free tubes are being given in the belief that the profit derived from their sale will enable our dealers and distributors to profitably increase their efforts to get people to replace worn-out tubes."

The types affected and the reduction on each type follows:

Type	Old Price	New Price	Saving
UY-171-A	\$1.40	\$.90	\$.50
UX-201-A	1.10	.75	.35
UY-224	1.50	1.00	.50
UY-224-A	2.00	1.60	.40
UX-226	1.25	.80	.45
UY-227	1.25	1.00	.25
RCA-235	2.20	1.60	.60
UX-245	1.40	1.10	.30
RCA-247	1.90	1.55	.35
UX-280	1.40	1.00	.40

Radio Jobber Opposes Tube Replacement Policy

New Low Prices Will Force Discontinuance of Former Liberal Policy

A Letter from F. E. Stern,

President of Stern & Co., New England Jobbers

EDITOR'S NOTE *Here, in part, is what Mr. Stern advocates. The excerpts are taken from a copy of his letter to a tube manufacturer.*

I have before me your night letter announcing a substantial reduction in prices on tubes.

In my estimation, the sale of Radio Tubes by the dealer and distributor alike at these prices can only be profitable if a sale is made on a basis of finality. By that I mean to continue to handle tubes on the existing replacement basis will not alone absorb what profit there is for the distributor, but will occasion the distributor an actual cash loss.

I have been of the same opinion for well over two years, which opinion has been strengthened greatly in the past year—that the existent racketeering on replacements will ultimately divorce distributors from the sale of radio tubes.

Similarly, I do not believe that any manufacturer can make a profit on tubes by continuing to give the same liberal replacement policy which you have had in force for so many years. When radio tubes sold for \$5 and \$6 each, with a questionable life because of inexperience in manufacture and engineering development, it was your duty and obligation to the public to guarantee your tubes for a reasonable period of time, and from that guarantee developed the now existing perpetual replacement program.

The present price of merchandise does not warrant a continuation of any such guarantee. It is my earnest recommendation that your company and the leaders in the field of tube sales by virtue of advertising and public acceptance, take the initial step which is incumbent upon you because of your responsibility and leadership.

This step should be the definite testing of the tube by the dealer to the consumer at the time of sale. Such tube, if then operating properly, becomes a final sale, without recourse. Similarly, the jobber should test his tubes before shipment to the dealer, and all claims by the dealer must be made within five days, tubes to be identified by the jobber before shipment to the dealer, in order to eliminate the abuse which the dealer is making of the return privilege.

An analysis shows me that in our tube business, we handle a tube on an average of seven times for each sale. We purchase a tube from you, and it is handled once upon its initial receipt. It is handled again upon shipment to a dealer. Our replacement shows that for each tube sold, the dealer returns it to us, necessitating a third handling. We, in turn, handle the tube in our shop a fourth time to determine whether the dealer's claim is justifiable or no. It is then handled a fifth time by our Shipping Department in making a replacement to the dealer. It is then handled a sixth time by shipping the defective tube to the manufacturer. And it is finally handled a seventh time upon its receipt from you.

As regards the transportation costs, we stand the initial transportation costs on our purchases. We stand the replacement transportation cost to the dealer, as the dealer definitely and finally will not pay more than one transportation on an item which he buys. We handle a third trans-

portation cost in shipping the tube from our stock to your laboratory. We absorb a final fourth transportation cost upon your shipment of the replacement tube from your laboratory to our stock.

Obviously, at the present price of tubes, any such handling charges not alone absorb our initial profit, but leave us in the red, without taking into consideration our internal overhead charges of shipping room, shop, packing, and accounting.

The handling of your proposed 20% bonus effects a further handicap on us for not alone will we sell 20% less tubes because of this bonus, but we will have a 20% additional replacement factor on which we will absorb the various overheads outlined above.

It should be apparent to you that other than the transportation items, you incur all of the expenses which we incur in your own shipping and replacement departments, to say nothing of the cost which you incur by the replacement of defective merchandise with new.

Our experience shows us that a hundred tubes which we take out of stock for use in our own stock for testing purposes, give us a life of three months minimum, with not more than 5% of actual defective tubes. Between this 5% and the number of tubes which are rehandled by us for our dealers' accounts is a percentage running in various territories, from my observation and inquiry from 20% to 50%. Those additional claimed defects should be branded for what they are—namely, dishonest racketeering.

I believe that a dealer is essentially honest, but there is some strange quirk in his makeup which permits him to sell a customer a replacement set of tubes, take in from that customer a used set, which has given normal service, without allowance to his customer for any sum against the new purchase price, return those used sets to his distributor, and expect a 100% replacement, and then deliberately sell them over his counter for full price.

Both the distributor and manufacturer is being victimized. No individual distributor can stop this abuse. But the manufacturers, because of their position of leadership in the industry, can and should accept their moral responsibility for the correction of this abuse.

I believe that this letter is of general interest. I believe that the responsibility is squarely on your shoulders. I believe that it is time that those abuses were stopped. And I believe that it is time that the manufacturer protect his distributing organizations by taking a stand which will insure his distributors a reasonable profit for the efforts they expend.

I am, therefore, forwarding a copy of this letter to the various trade journals in the hope that they may editorially be of value and service to you in moulding public opinion towards the acceptance of this policy. I realize that it is a towards the acceptance of this policy. The buyer should not be entitled to any further guarantee on a radio tube than on a Mazda lamp.

STERN & COMPANY, INC.
(Signed) F. E. STERN, President.

FES:S

Receiver In Bankruptcy Tells How He Built Up Defunct Business and Later Sold It at a Profit

By MORRIS H. WHITCOMB

SOME time ago the court conferred upon me the rather doubtful honor of appointing me receiver for a retail radio store which had become so involved in financial difficulties that its creditors had instituted bankruptcy proceedings.

The store was located in a prosperous neighborhood shopping center, and while there was, I admit, no lack of radio dealers in the vicinity, it would seem that the store should have succeeded instead of failed. The erstwhile proprietor, however, calmly admitted to me that he had considered himself lucky on that month in which the store did more than meet its expenses.

In view of these facts the creditors and I were, at first, in favor of liquidation, but examination of the stock showed us that in the event of a forced sale, under the then existing conditions, the creditors would do well to receive 10 cents on the dollar. A further obstacle to liquidation was the fact that there was an ironclad lease on the premises which had three more years to run and, while the bankruptcy would break the lease, the landlord held over a thousand dollars as security, which sum would have been lost to the creditors.

This being the case, the creditors decided in favor of continuing the business under the direction of a capable manager, in the hope of building it up and then selling it as a going concern. The task of finding the aforementioned capable manager they left to me. In desperation I hid myself to my brother-in-law, also engaged in the radio business, and laid my problem before him.

"You're in the right shop," were his cheering words. "My assistant manager, Watson, broke the news to me this morning that he wants to go in for himself. If you can come to terms with him, he's the man for you—a live wire with ideas."

I lost no time in seeing Watson and presenting the proposition to him. Terms were finally agreed upon and young Watson entered upon his new duties. We paid him a salary, plus a commission as incentive, and gave him carte blanche. In addition, the astute young man asked for, and received, an option to purchase the store from the

creditors at a set price at any time within a year.

That was a year ago. Long since Watson exercised his option and bought the "bankrupt" store. What's more, he's still there; he's stopped using red ink in the store's bookkeeping, and he's so busy doing business that he has no time to stop and complain of chain store competition, small margins of profit, ruinous rentals, and all the retailer's other usual bugaboos.

I

Ideas did it. Watson's first window display was the orthodox thing, its counterpart to be found in any one of a thousand other radio stores. His second display though, was far from orthodox. Against an effective background of scarlet crepe paper he placed a wire waste-basket filled to overflowing with radio tubes. On the window was a sign, connected to the basket by streamers, which read as follows:

"How Many Tubes in This Basket?"

The person or persons guessing nearest the exact number of tubes in this basket will each receive FREE any two-dollar article they may select!

You need not buy anything in order to enter this contest. Simply fill out the blank and leave it with the clerk.

Contest closes in two weeks."

Allowing the winner to select his own prize, within a certain price limit, was a clever move designed to arouse the interest of the greatest possible number of people, and it did just that. No matter what the hour, I never saw less than three people in front of that window, speculating as to the number of tubes in the basket. A boy stationed in front of the store saw to it that every person who showed the slightest interest in the display received one of the entry blanks.

The number of people who accepted the implied challenge and stopped to fill out the blanks was a practical lesson in applied psychology—and the number of people who stepped in to deposit

their guesses, and incidentally made purchases while they were doing so, were not inconsiderable.

II

Toward the close of this guessing contest I happened to step into the store one evening to find Watson alone, busily engaged in sorting out the entry blanks received in the guessing contest.

"Well, George" (we had reached that stage), said I, "that scheme must have netted you quite a little business."

"Yes, among other things," he grinned.

"What other things?" I asked curiously.

"Well, a bunch of acquaintances for one thing," replied George. "I'm new to this neighborhood, you know, but after these people handed me these cards with their names and addresses on them, I'll bet I'd be able to call half of them by name now. And that helps, you know."

"Another thing these cards will make," he continued, "is a good mailing list for circularizing. They already have the person's name and address, and the make of set he owns. Whenever I happen to get it, I add on additional information, such as the age and condition of the set, whether the owner might be interested in trading it in, and so forth; and when I run any specials in anything in which that person might be interested, I'll see to it that he hears of it."

Is there any wonder that this fellow soon eliminated the use of red ink in this store's bookkeeping?

III

Shown by the guessing contest that the possibility of getting something for nothing had a universal appeal and succeeded in bringing quite a few people into the store, Watson determined to continue the idea in still another phase.

Accordingly, he placed in the window a complete radio receiving set and announced that it would be given away free on a certain day about a month later to the person who held the lucky number. He then proceeded to give duplicate numbered coupons with each purchase made in the store. One coupon was deposited in a sealed box in the

store and the other was retained by the customer.

On the day on which the set was to be given away the box was opened, a coupon picked from it, and the number called. In order to win it, the customer must be present with his coupon, otherwise the drawing continues until someone present holds the corresponding number.

This stunt brought a large crowd of people into the store, and George saw to it that he had an effective display of good values and plenty of extra sales help present ready to take care of the natural increase in business.

Also, neglecting not even the slightest opportunity, the coupons bore the store's advertisement on their reverse side, as they were sure to be held in the customer's homes for some time and were scattered about the streets when the contest was over.

The cost of the set which he gave away, Watson charged up to advertising, and never did he make a more profitable investment. People came from far and wide to make purchases in the hope that their coupon would be the lucky one, and among these people George found not a few prospects to whom he sold new radios, etc.

IV

Any merchant in any line will agree that when a new customer enters your store the first impression that you and your establishment make upon him will go far to determine whether or not he becomes a steady customer. George goes further. When a new family of potential customers moves into his neighborhood George reaches out and endeavors to give them a good impression of his establishment even *before* they cross his threshold.

As soon as he learns of the arrival of a new family in his neighborhood (and George has ways of abstracting such information from apartment house superintendents, renting agents, furniture movers, etc.), George sends them an attractive souvenir which is also an advertisement for his establishment. Accompanying the souvenir is an illustrated circular setting forth in particular such items as aerial and lead-in wires, tubes, and the dozen other little items which are so likely to be needed in the installation of a radio. In addition, George offers his services in installing the radio.

The newcomer in the neighborhood, knowing none of the radio dealers in the vicinity, is rather apt to remember the one who welcomed him into the neighborhood with a useful souvenir such as a radio log. This fact George has discovered to his profit.

Bond Geddes, RMA Executive Vice-President, Tells Broadcasters What It Is All About

THE National Convention of the National Association of Broadcasters were told things of interest by the R.M.A.'s executive vice-president, Bond Geddes. Here are the highlights:

(1) Radio manufacturers have a total investment of about three billion dollars which is dependent upon broadcasting.

(2) A favored few radio manufacturers are now in peak production, strangely surpassing, under present conditions, even the production of the so-called radio boom period of two years ago.

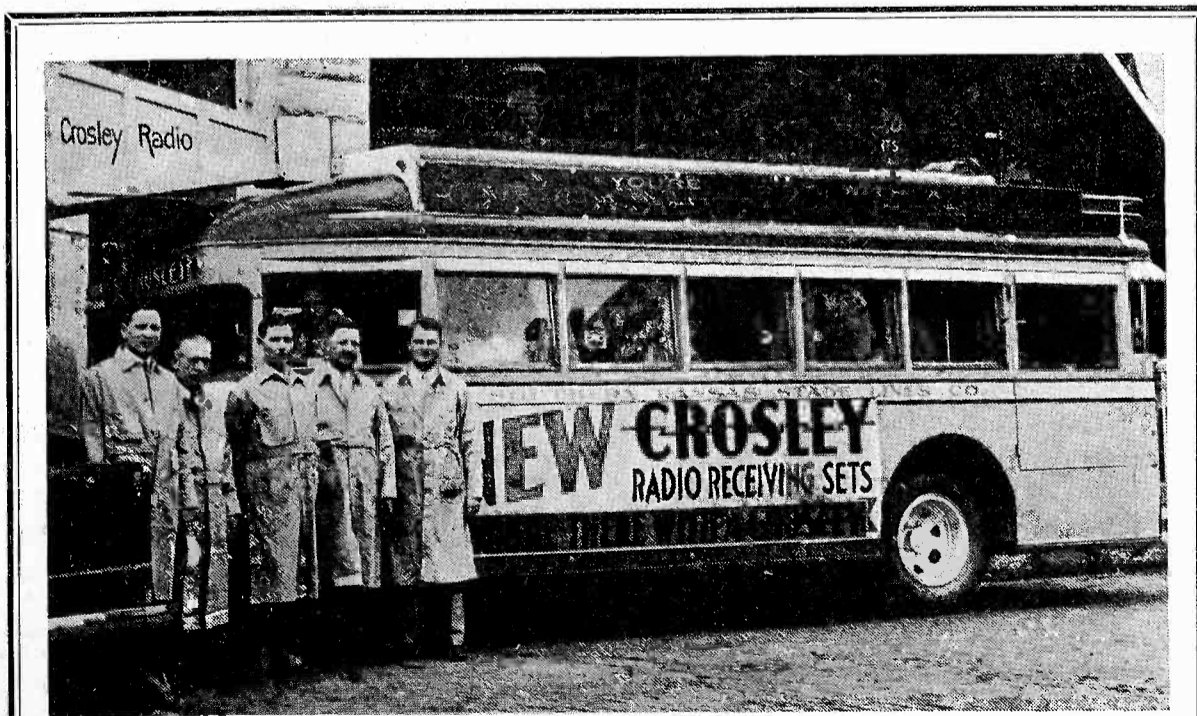
(3) Beginning last August and continuing until the present the proportion of midget sales to those of console sets has been declining. Less than half of the 2,500,000 to 3,000,000 radio sets which we expect to sell this year will be of the midget class.

(4) The midget has a definite and established place in the market, especially under present conditions.

(5) The motor car radio will tremendously increase the listening audience next year. It is a definitely determined fact that motor car radio slows down driving speed and, therefore, actually makes motoring safer.

Concluding his remarks Geddes

asked for co-operation between broadcasters and manufacturers and then related the story of the minister's parrot who asked the sailor's parrot what to do to be saved. From the seafaring parrot came the reply "Pump like hell or we'll all go down."



The Radio Corporation of Kansas Uses This Elaborate Means to Advertise Its Business. Wright-DeCoster Sound Equipment Is Employed.

Sylvania Dealer Helps

A Complete Merchandising Service

BELIEVING that the future profits of the radio dealer will be found, to a large extent, in the tube replacement market, R. R. Ruxton, Advertising Manager of Sylvania Division, Hygrade Sylvania Corporation, has prepared a series of window displays, dealer advertising material and dealer helps, designed to attract the attention of radio owners for replacing old and weak tubes with new Set-Tested tubes if they are to get full enjoyment from their radio sets.

The new Sylvania window display "Don't Buy Tubes Blind" lithographed in color, features the many makes and models of radio receivers in which Sylvania Tubes are Set-Tested. Four Supplementary window or counter cards with adjustable dials permit the dealer to feature his own selection among these radio receivers.

placing weak or burned out tubes. The customer thus has on hand a complete emergency outfit of tubes, for instant use when tube trouble develops in his receiver. Dummy display cartons, window streamers, counter cards and envelope stuffers are supplied to dealers stocking the Emurgency Kit.

new tubes at the time of purchase. The date of purchase gives the customer and the service man a clue for later tests and renewals.



Envelope stuffers and counter circulars are supplied to dealers either free of charge or at a fraction of manufacturer's cost.

A series of envelope stuffers or counter circulars describes briefly and pointedly the advantages of frequent tube testing and immediate replacement of weak tubes.

The Sylvania Emurgency Kit is designed to give the dealer an opportunity to increase his unit sales of radio tubes from one to four. One tube of each type used in the customer's receiver is packed in a special carton, with complete instructions for locating and re-



Counter tube merchandiser, in enameled metal, with space for generous stock of tubes.

A counter tube merchandiser, of metal enameled in color, provides space for a generous stock of tubes, out on the counter where the customer can see them and be reminded of the tubes in his own set that should be tested and possibly replaced.



Sylvania Emurgency Kits are packed in special cartons.

Two different types of tube stickers, with space for date and dealer's name, have proved helpful as customer reminders. One is for use on tubes that have been tested and found weak, but which the customer is not yet ready to replace. The other is to be applied to



Sylvania window display tells the customer "Don't Buy Tubes Blind."

The Sylvania Certified Tubes-For-Your-Set Chart serves as a sales guide for the dealer and a guarantee of satisfactory performance for the customer. This chart lists the various makes and models of receivers in which Sylvania Tubes are Set-Tested, with the correct tubes for use in each model.

A series of technical bulletins, issued by the engineering department, giving service data and average characteristics for all types of Sylvania Tubes, is supplied in a handy binder.

Newspaper mats, electros, window transparencies, streamers for special occasions such as football and baseball season, price cards and folders, electric flashers signs, portable tube checkers, tube carrying cases for salesmen and servicemen, book matches, and various other dealer helps are supplied to dealers either free of charge or at a fraction of the manufacturing cost.

Tell them you saw it in RADIO

The Advertising Announcement Is Your "Admission Charge" to a Radio Program

By H. E. SANDERS

Director of Advertising and Sales Promotion

SHELL OIL CO.

A dealer should not condemn the radio programs

Too many radio dealers, after being aware of radio entertainment in the margin of their consciousness all day long for years, are inclined to agree with the man on the street who allows advertising to spoil his radio enjoyment. It is very easy and very tempting for all of us to condemn a nation for the misdemeanors of one of its citizens. And when a quack doctor raves about his pills for ten minutes of an agonizing fifteen minute saxophone recital, or when a large national advertiser who ought to know better, and eventually will, dominates a fine musical program with blah about his product, we are inclined to damn the whole art of radio entertainment. But as radio dealers we must be the apostles of this art; we must listen carefully to the good programs and rave about them to our customers. Our enthusiasm will have far reaching effects.

THOUSANDS of radio fans are continually voicing bitter criticism of program sponsors. For the most part this criticism has to do with the commercial announcements punctuating the entertainment, very little of it being directed at the quality of that entertainment. Radio programs today are admittedly on a high standard. The theater of the air has attracted the best talent the country has to offer. Censorship is more strict than in most other forms of entertainment. Then what is it that inspires the fans' barrage of complaints?

A majority of those who are well informed as regards programs in general will admit that some few programs deserve to be attacked as being top-heavy with commercial "plugs." But most tirades launched by the indignant listeners are in the form of blanket indictments. These I believe to be unjustified.

Advertising is the life blood of radio today. Private capital makes possible

the superb shows heard nightly by millions seeking their entertainment at the dials. Without the competition born of progressive advertising policies, attainment of present radio entertainment standards would have required many more years. Without this keen rivalry, an evening at the dials would provide all the thrills of a month-old news reel. Interrogation of the indignant fans regarding other methods of supporting programs usually brings forth a rather vague suggestion that taxation of receiving set owners would do the trick.

Support of radio entertainment by taxation would create another government bureaucracy. Politics would come to play some part in the administration of the controlling agency. Further, the radio is a source of public information, and its freedom from government control, aside from necessary censorship and technical regulation, is almost as important as freedom of the press.

Private sponsors must justify their programs through the recognition and appreciation of a satisfied audience. A government program would not be so dependent upon the approval of the public. Selection of entertainment material would be made by a far smaller group.

Several foreign countries now using this system are years behind the United States. Programs are mediocre. To broadcast on the same scale and with comparable talent would involve a prohibitive tax levy. Some listeners will maintain that America is paying too much for radio talent. They will hold that if a readjustment was brought about the same standard of excellence could be maintained for less money. I don't believe this.

Americans have always been willing to pay top prices for talent and genius. If radio will not pay it, then motion pictures or the theater will hold the exclusive services of the artists by maintaining a higher standard of remuneration.

The advertiser is footing the bill. His advertising announcements might be

considered the fans' admission to the "show." And most of the sponsors have established a fair admission price. At the beginning the commercial announcements were much more direct and uninteresting. They usually opened and closed the program. Today a large percentage of the sponsors have split these announcements and scattered them through the program. The fan is getting his advertising in small doses.

While many sponsors have not reduced the percentage of advertising per program, they have been obliged to improve their "shows" so that, on a comparative basis, the listener gets more entertainment for his "admission."

THE technique of the commercial announcement has undergone considerable change. Many of them represent real value to the listener. Sponsors encourage frequent physical inventories in the interest of good health, offer sound advice on investments in the interest of home building, and a variety of other subjects. It is true that these contributions are a part of the advertising, but they have a value separate and distinct from that of the sponsor's product.

Radio advertisers employ very direct methods in the majority of instances. The commercial announcements are usually separate and distinct from the entertainment features. The supervision and censorship exercised by the national chains is such that only reputable enterprises and products may be advertised. There is much adroitness in radio advertising, but very little deception.

A recent stop-watch survey of four fifteen-minute programs and a one-hour network broadcast revealed some interesting figures on the proportion of advertising. Each of the four shorter programs had a considerably higher percentage of advertising than was tabulated for the longer broadcast. The artists themselves supplemented the announcer's commercial script in the short programs, while the sponsors of

the longer period confined the advertising to the announcer's script. The tabulation showed:

Subject	15-Minute Period	Hour Broadcast
Entertainment	74.5%	86.9%
Advertising by Announced.....	13.7%	7.8%
Advertising by Artists.....	6.1%	0.0%
Theme Music.....	3.8%	1.6%

A TOTAL of between six and seven minutes of advertising was heard on the longer broadcast, and this was split up into five short installments, the longest of which was 75 seconds. Advertising on the shorter broadcasts totalled as much as 30.5 per cent for one program, and one announcement required as much as 90 seconds.

Certainly the six minutes of scattered advertising was not an exorbitant "admission charge." Yet the audience probably included radicals who begrudged the sponsor each short announcement. They would have been obliged to pay from 50 cents to several dollars for comparable movie, theater or concert entertainment. Those who complained would probably refuse to pay 50 cents or \$1 for a *Saturday Evening Post* devoid of advertising. And the radio fan is not obliged to listen; he can flip the dial as easily as he can turn the magazine page.

"But my investment in my radio obli-

gates the sponsor to give me what I want." This is a justification cited frequently by complaining fans. It is fallacious in several respects. The sponsor purchases time on the air from the station or chain system. He is entitled to use it as he chooses, except that the returns on his investment are in direct proportion to the degree to which his progress meets with public approval. The set manufacturer, through sales, creates the station's market—and gives his media circulation. Therefore the manufacturer and broadcasting system have some obligation to the set owner. But the sponsor is in the same position as the transportation company.

The railroad, steamship line or aviation system is under no obligation to the passenger after the ticket is sold as regards comparison with any other form of transportation. The passenger is under no obligation to travel over any one system. If he dislikes one form, he may travel differently next time. If the listener dislikes the program, he need not tune it in again. The commercial "plug" is the listener's "fare." It is for him to determine if it is justified, and he need not "pay" it again if he feels the value isn't there.

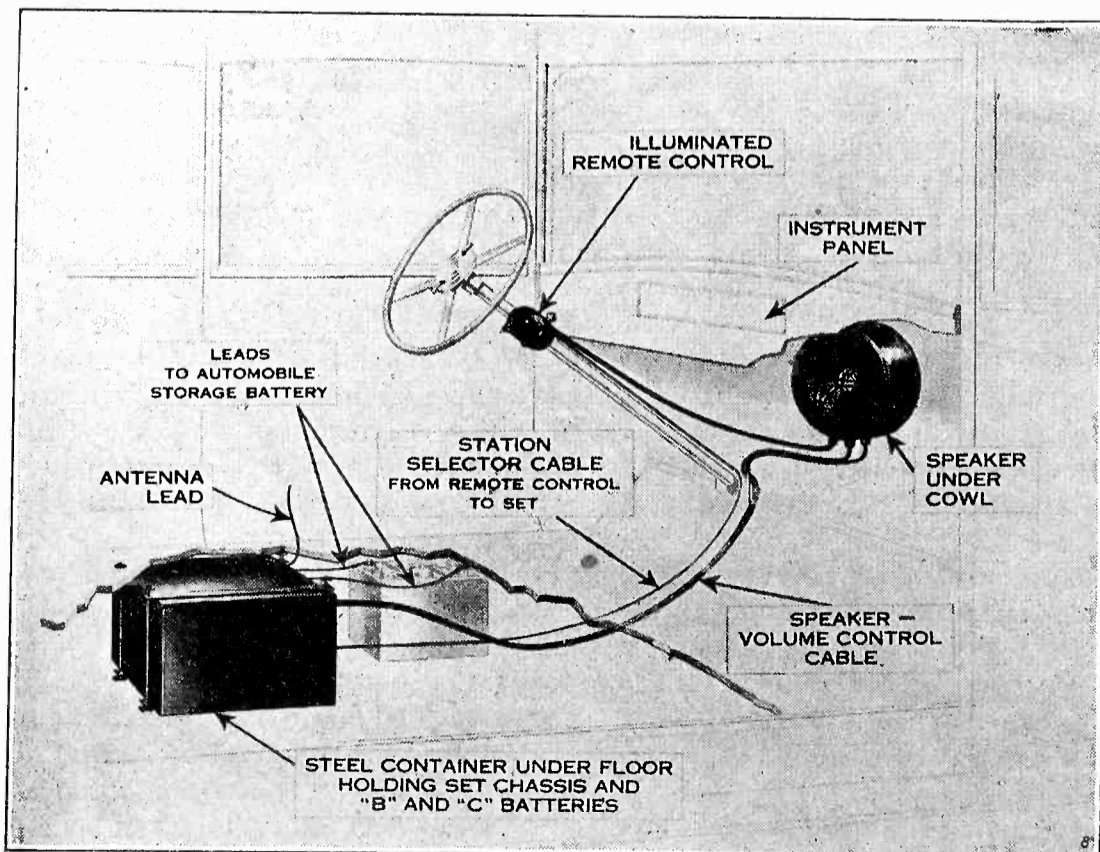
Radio sponsors are not philanthropists, but their programs are gratuitous. They have no claim on the listener except for the appreciation and recog-

nition of product value inspired by the advertisement and commercial announcements. These are entirely voluntary. After all, most "something-for-nothing" enterprises have their commercial aspects, and the radio sponsor's offering is as justifiable as the rest and more direct than most. The city building a children's playground is ostensibly charitable and humanitarian, but the taxpayer pays the bill and the city does the job to keep the citizen from moving elsewhere. Our richest men are philanthropic; they return to the public a portion of the wealth which they made through the patronage of the people. And the gift is usually made after the donor has little or no further use for it.

Program overloaded with advertising matter will not survive. Each program attracts its own audience. If it fails to hold that audience, then it becomes inefficient and will be eliminated sooner or later. Most sponsors have made the necessary adjustment to insure public approval.

This adjustment is yet to be made on some programs. But the unthinking fan who raves and rants at sponsors in general because his admittedly top-notch entertainment program is punctuated with short commercial announcements is in the same class as the fellow who demands steak in a breadline. Unreasonable!

Atwater-Kent Auto Radio



THE Atwater-Kent Automotive set, model 81, uses a special developed tuned radio frequency circuit, employing 3-236 tubes, 2-237 tubes, and 2-238 tubes, with push-pull amplification . . . one bank of three condensers . . . automatic volume control . . . illuminated remote control . . . large size improved electro-dynamic speaker.

One of the outstanding features of the Model 81 is the easy manner in which it can be installed. The entire assembly consists of but three units; the combined set and battery container, which is designed to be supported from the underside of the floor board by four long carriage bolts; the dynamic speaker, which is usually mounted under the cowl; and the remote control, which clamps to the steering column.

It is only necessary to drill four small holes to install, making it possible to remove from one car to another without affecting the resale value of the car.

The price of the set is \$89.50 complete with tubes and "B" batteries—installation and antenna extra.

Your Letter May Win One of These Prizes!

\$175. In Cash Awards to Owners of the



RESISTOR REPLACEMENT GUIDE

—for suggestions on—

**HOW THE INTERNATIONAL RESISTANCE COMPANY
CAN BE OF MORE SERVICE TO THE SERVICEMAN**

RULES OF THE CONTEST

Please read thoroughly

(1) The contest is open to all owners of the I. R. C. Service Man's Resistor Replacement Guide.

(2) Each year we mould a letter in the end cap of each I. R. C. Resistor to designate that particular year's manufacture. Last year our resistors had the letter X moulded in the cap. This year every I. R. C. Metallized Resistor wrapped in the new I. R. C. label has a letter moulded in the cap designating 1931 manufacture (type "K" Metallized Filament). *All letters must mention this designation mark, which you will find clearly indicated on one of the metal ends of each unit.*

(3) All letters must be clearly written and contain not over two hundred words—addressed to Contest Department.

(4) No employee or executive of the International Resistance Company is eligible to this contest.

(5) In case of ties for any of the prizes offered, the full amount of the prize tied for will be given to each tying contestant.

HOW TO ENTER

Nothing to do but be an owner of an I. R. C. Service Man's Resistor Guide, and you are eligible for the competition.

Don't forget, all letters must be in our hands not later than midnight of December 1, 1931, in order to receive recognition.

Rhetoric and phraseology will count but little in the contest. What we want is your *ideas*, and how we can be of more assistance to you in the service work you are doing.

**First Prize . \$100 Second Prize . \$50 Third Prize . \$10
Fourth Prize . . \$5 Fifth Prize . . . \$5 Sixth Prize . . . \$5**

IN ADDITION TO these cash prizes for the best letters received, the International Resistance Company will give free service helps on Motor Radio Suppressors to *every one entering the competition.*

It is the desire of this company to be of the utmost help to radio repairmen. The I. R. C. Resistor Guide and our other service helps are in daily use by thousands of men in the field. We wish to go further in this matter of service to those who use I. R. C. Metallized and Precision Wire Wound Resistors. Hence, we are willing to pay for the best practical information that will guide us.

Read carefully the rules of this prize contest in the adjoining column. The contest will close at midnight, Tuesday, December 1.

All letters must be in by that date.

Announcement of the names of the prize winners will be made in this magazine as quickly as possible after the close of the competition.

If you are an owner of the I. R. C. Resistor Replacement Guide, you are eligible to the contest. You are also familiar with what we are already doing to help your business. Write out your suggestions as to how to improve this service, and mail with the coupon below to

INTERNATIONAL RESISTANCE COMPANY

Philadelphia

Toronto

INTERNATIONAL RESISTANCE CO., 2006 Chestnut St., Phila., Pa.

GENTLEMEN:

I am an owner and user of your I. R. C. Resistor Replacement Guide. I wish to enter your contest and am sending herewith letter containing my suggestions for further helps to Servicemen.

Name.....

Address.....

City..... State.....

Does Your Business Associate Subscribe to
"RADIO"?

Pass this issue along to him when
you have finished reading it.

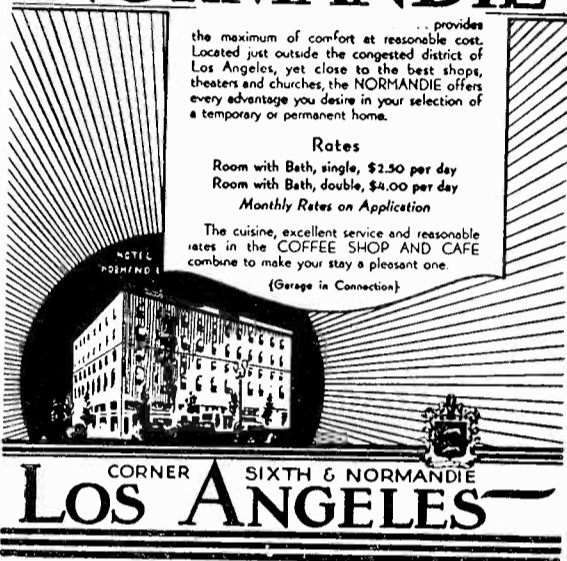
The subscription price is \$2.00 per year.
Send subscription orders to "RADIO,"
Pacific Bldg., San Francisco, Calif.

HOTEL
NORMANDIE

... provides
the maximum of comfort at reasonable cost.
Located just outside the congested district of
Los Angeles, yet close to the best shops,
theaters and churches, the NORMANDIE offers
every advantage you desire in your selection of
a temporary or permanent home.

Rates
Room with Bath, single, \$2.50 per day
Room with Bath, double, \$4.00 per day
Monthly Rates on Application

The cuisine, excellent service and reasonable
rates in the COFFEE SHOP AND CAFE
combine to make your stay a pleasant one.
(Garage in Connection)



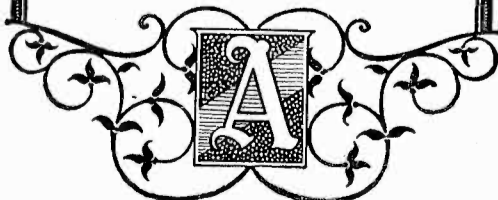
CORNER SIXTH & NORMANDIE
LOS ANGELES



The
ARCADY

Rising twelve stories above the
exclusive Wilshire district,
overlooking the beauties of
Westlake and Lafayette Parks,
the Arcady offers every com-
fort and convenience for the
traveler

LOS ANGELES
WILSHIRE at RAMPART



Engineers Favor Two Characteristics For Dealer's
Testing of Vacuum Tubes

THE IDEA of permitting the customer to view the testing of the tubes that he is either purchasing or using in his set through the use of a large tube tester has been immensely successful.

From the standpoint of the customer, this plan has not only created confidence and clarified his understanding of tubes, but is enhancing, to a marked degree, the quality of reception for radio listeners.

From the dealer's viewpoint, the idea has boosted sales and has done away with a great deal of unfair competition. Hence it has helped to create and build the dealer's tube business.

That this new method of selling tubes is sound and successful is evidenced by the many types of tube testers that are being offered and the dealers' alacrity in adopting them. It has been a difficult problem, however, for the average dealer to decide just what tests to give tubes to determine their efficiency and which tester will give the most accurate results and hence the greatest customer satisfaction.

In an interview on the subject, W. L. Krahl, chief engineer of the Arcturus Radio Tube Company, stated that there are only two tests that need to be emphasized—namely a test of mutual conductance and plate current.

Exclusive Tube Store Popularity Increases

ANOTHER radio tube hospital has been opened—this time in the Northwest.

The Style "Radio Doctors" has been adopted by Mr. P. R. Dunlop, since that so well describes the new enterprise, situated at 186 Sixth Street, in the heart of the shopping district of Portland, Oregon.

Incidentally, Mr. Dunlop is the manufacturer of the "Viso-Meter," which has been enlarged in size and set in the side partition. This radio test panel is by far the largest and most complete in the West, and probably among the largest in existence. The dial or meter is 32 inches across and visably marked

"Dead"—"Weak" and "Average," so that the customer readily and understandingly reads the test on his own tubes.

Every detail in the store, including test equipment, shelving, counters and showcases is finished in white enamel, thus depicting the real hospital in clean and practical tube operations.

Like the exclusive tube store in San Diego, Radio Doctors in Portland specialize in Arcturus Blue Radio Tubes. Other lines carried are Radiotron, Cunningham, National Union, Sperton, Majestic and Philco. Mr. Dunlop states that two-thirds of his entire stock is Arcturus.

YOUR VISIT TO CHICAGO



will be doubly enjoyable if you are happy in your selection of a hotel home.

The New Bismarck has much to offer that appeals to the sight-seeing away-from-home.

FOOD that has a nation-wide reputation for its appetizing goodness.

SUPERIOR SERVICE, rendered with hospitable good-will, which at once makes you feel right at home.

COMFORT and quiet in a light, cheery room. Good beds, soft water always, and a light signal that announces your incoming mail.

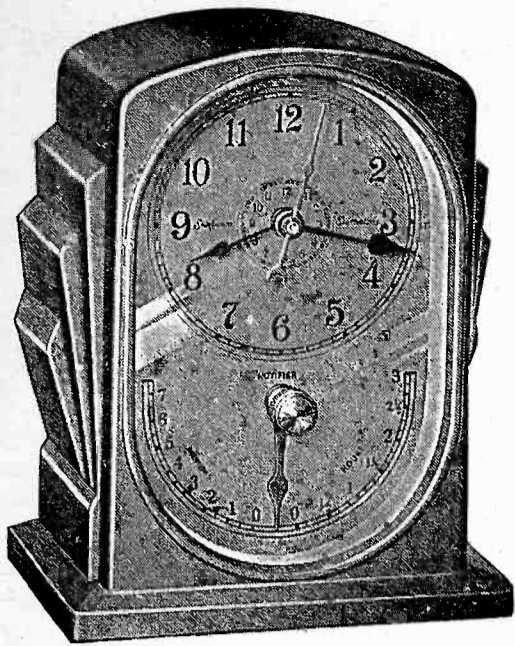
LOCATION right in the heart of Chicago's Loop . . . handy to the Civic Opera, Theatres, Shopping District and principal points of interest.

Send for booklet with downtown map.

Rooms with bath, \$3.50, \$4.00, \$4.50, \$5.00 and \$6.00
Rooms without bath, \$2.50

NEW

BISMARCK
HOTEL CHICAGO
RANDOLPH at LA SALLE



New Three-Purpose Clock

The new electric NOTIFIER, just put out by the Chicago Flexible Shaft Company, 5600 Roosevelt Road, Chicago, is really 3 clocks in one, and performs all 3 functions faithfully.

First, it is a good-looking electric clock, that shows accurate time every second, without winding or regulating.

Second, it is a 24-hour alarm clock, that never needs re-setting, once it has been set for the required rising hour. Shut it off each morning, and it will

ring again the next morning without being re-set or re-wound.

Third, it is a "Notifier," that can be set to notify you at the expiration of any period for one minute to three hours. Reminds you of appointments, tells you when to move the lawn sprinkler, when boiled eggs are done, when to start dinner, when to turn off the sun lamp, when to feed the baby, when to give a patient medicine, when the roast should come out of the oven, when waffles are cooked, when your favorite radio program is due on the air.

Has 100 every day uses, and its price to the user is \$12.50. Catalog No. E-39.

Amos 'n' Andy Lead

KDKA of Westinghouse reports these listener's facts which should be of vital interest to the radio dealer who selects the proper programs in making demonstrations:

Most popular program on the air — Amos 'n' Andy.

Second choice—Lowell Thomas.

Third choice—Lucky Strike program.

Fourth choice—Phil Cook the Quaker Man.

853 PAGES, 1,800 DIAGRAMS IN RIDER'S NEW 6-LB. MANUAL

THE most complete service man's manual is "The Perpetual Trouble Shooter's Manual," by John F. Rider, published April, 1931, and full of real information. Wiring diagrams of ALL popular commercial receivers and kit sets from 1922 to 1931, inclusive. Also contains a course in trouble shooting. Loose leaf pages, 8½ x 11", bound. 853 pages; index and advertisements on additional rates. \$5.00 per copy. (Shipping weight, 6 lbs.)

For sale by
"RADIO"

Pacific Building

San Francisco, Calif

FOR QUICK SALE

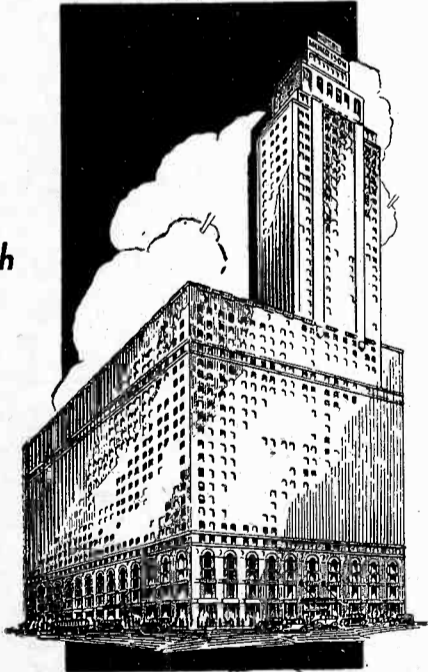
A quantity of latest model pentode automobile radio sets with remote control to steering post. Manufacturer is discontinuing this branch of his business. Will be sold for 33c on the dollar. For full information write

Box 100, "RADIO"

Pacific Building, San Francisco, Cal.

IN CHICAGO

World's
Tallest Hotel
46 Stories High



LEONARD HICKS
Managing Director

The extra attention given to the needs of guests will favorably impress you. Nearest to stores, offices, theatres and railroad stations. Each guest room is outside with bath, circulating ice water, bed-head reading lamp and Servidor. Housekeeper on each floor. Garage facilities.

2500 ROOMS \$3.00 UP

MORRISON HOTEL

Madison and Clark Streets

CHICAGO



UNIVERSAL MICROPHONES

America's most popular two-button microphones, true natural tone, tremendous volume; extremely low hiss level, extra heavy 24 karat pure gold spot centers and buttons. Scientifically constructed, time tested, laboratory adjusted. Fully guaranteed and now at a decided saving in cost to you.

Double Button
Handi Mike
List \$15.00

New Heavy
Duty BB
\$25.00 List Price

Other models as low as \$5.00
1932 Catalogue just out

UNIVERSAL MICROPHONE
CO., LTD.
Box 305

Inglewood, Cal.

U.S.A.



CLEAN THOSE CONTACTS

A twist of the wrist—and instantly the "PRONGETTE" cleans dirty tube prongs. Reverse the steel reamer and instantly you clean those hard to get at places in tube sockets . . . cleaning exactly where cleaning is needed. Every dealer . . . every service man . . . every engineer needs this new tube and socket cleaning tool. Insulated handle. Case-hardened steel reamers. Fits in your vest pocket. Carry it with you always. Sent postpaid anywhere upon receipt of \$1.50. Agents wanted.

\$1.50

BRADLEY RADIO CO.

1062 Howard Street

San Francisco, Calif.

Tell them you saw it in RADIO

BUYER'S GUIDE

SERVICE MEN:

A most complete line of replacement parts right in stock. If you are in a hurry just send us \$1.00, tell us what parts you require and we will send the order immediately C. O. D. with our latest catalogue showing the price on the parts you ordered.

AIREX CO., INC.

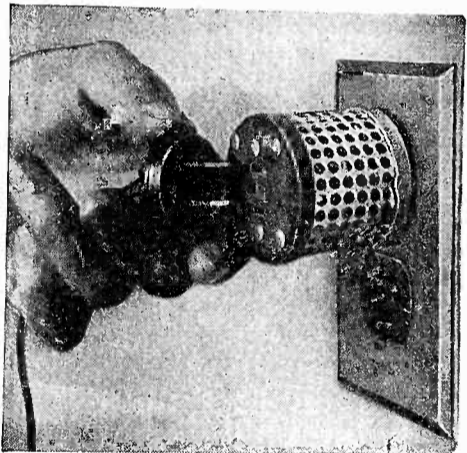
87 Cortland St., New York City

Service Men Are Making \$90.00 per Month

installing a real regulating line voltage control—AMPERITE. Improving the set in this way builds confidence. We suggest you mail the manufacturer \$1.62 for a sample complete with socket and sales helps. No postage charge.



AMPERITE CORPORATION
561 Broadway, New York, N.Y.



PROTECT THE MIDGET SET

Midgets are designed to operate on 110 volt lines and will not stand up on higher voltages. Save the set—save your reputation!

Install a 50-watt

**CLAROSTAT AUTOMATIC LINE
VOLTAGE REGULATOR**

Retail Price..... **\$1.75**

Other Sizes for Other Receivers

CLAROSTAT MFG. CO. INC.
285 N. 6th St.

Brooklyn New York

Chief Engineer Krahl of Arcturus Cautions Against Erroneous Tube Tests

"The plate current reading is a most important gauge of efficiency as it is a monitor of the major tube characteristics which determine the efficiency of the tube. Plate current readings of tubes of similar design should be approximately uniform and come within the limits specified by the manufacturer. The trade should be cautioned against selecting tubes with an abnormal reading since this is an erroneous, though prevalent practice.

"The filament emission reading is a check on mutual conductance. Mutual conductance, most of all checks, determines the merit of the tube insofar as its ability to provide the required amplification or gain. Filament emission itself indicates the extent of useful life the tube may possess.

"It is my personal opinion," says W. L. Krahl, "that outside of the above tests, there is no commercial test that will give the information desired.

"Some attempts have at various times been made to check tubes in an oscillating circuit but unfortunately no correlation between the ability of the tube to perform in a fixed oscillating circuit and its ability to function in a radio

receiver has ever been established. The fallacy lies in the fact that an oscillating circuit used in a test board may be properly designed for one particular type of tube in one particular circuit but still be valueless in testing tubes of other types in other circuits. Even the oscillating circuit in a superheterodyne will vary too greatly from a test board circuit to determine whether performance in one will indicate performance in the other."

The test meter which Arcturus is supplying to dealers through special arrangements gives the plate current and filament emission readings by a change in grid bias. Of all the electrical characteristics, these are the most important in tube operation and are the most indicative of a tube's ability to function.

The simplicity and impressiveness with which these tests can be made on the Arcturus Tube Tester, which in itself has considerable eye value, is decidedly convincing to consumers. Serving, as it does, as an efficiency check on tubes, such testers should be a mighty lever in the increased sale of replacement tubes this year.

STATEMENT OF OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

"RADIO," published monthly at San Francisco, Calif., for October 1st, 1931.

State of California, County of San Francisco, ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared H. W. Dickow, who, having been duly sworn according to law, deposes and says that he is the Business Manager of "RADIO," and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Pacific Radio Publishing Co., Pacific Bldg., San Francisco; Editor, P. S. Lucas, Berkeley, Calif.; Managing Editor, None; Business Manager, H. W. Dickow, Pacific Building, San Francisco.

2. That the owner is:
Pacific Radio Publishing Co., Pacific Bldg., San Francisco; H. W. Dickow, Pacific Bldg., San Francisco.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect, in the said stock, bonds, or other securities than as so stated by him.

H. W. DICKOW,
Business Manager.

Sworn to and subscribed before me this 2nd day of October, 1931.

(SEAL) JOHN L. MURPHY,
Notary Public in and for the City and County of San Francisco, State of California. My commission expires May 20, 1933.

WE OFFER FOR QUICK SALE . . .

20 . . JEWELL A. C. Pattern, 30 volt-meters, element reading 0-50 v. List price \$24. Will sell for \$11 each. These meters have 7 3/8" base.

HORN BOOSTERS. For auto or motor boat. Make horn sound twice as loud. Will sell for \$1.50 each. Small stock only.

TURN TABLE window display device. Rotates at nine r.p.m. Induction motor. Write for details. Price only \$14.00 each.

Dealer's Headquarters for Pyrex Insulators, Leach Relays, Speedplex Bugs.

ELLERT RADIO CO. - 1062 Howard St., San Francisco, Calif



“Since I lent him my pen
it has never been the same!”

Often said, but NOT of Parker Duofold

Don't lose people's good will by borrowing their pens. Unless the pen is a Parker Duofold, your hand is apt to foul the point, or change its action. Don't expose yourself. That may often cost you many times the price of a pen.

But there'll be numerous occasions when you'll *have* to borrow if you don't own this sure-fire Parker Duofold. For ordinary pens never seem to work when you need them most; while all Parker Duofold Pens — even the Duofold Jr. and Lady Duofold at \$5, as well as the Seniors at \$7 and \$10 — are built to stand up to our *Guarantee for Life!*

Take a few minutes to stop at the nearest pen counter and pick the Duofold that fits your hand to a “T.” You'll be prepared then for any emergency — even for lending — gracefully. For no style of writing can foul, distort, or alter Parker's miracle Duofold point. Still it writes as easily as you breathe — with amazing Pressureless Touch!

Parker's large-scale production makes a big difference in your favor when it comes to value. Even the Duofolds at \$5 have 22% to 69% more ink capacity than some pens of other makes priced 50% higher.

Yet none has Parker's stylish, balanced, streamlined design — “America's Shapeliest” — or Parker's Invisible Filler and Patented Clip that lets the pen set low and unexposed in the pocket.

The only guarantee you'll need for life is the name on the barrel — “Geo. S. Parker — DUOFOLD.” Accept none without it, if you want the real thing. Avoid the borrowing habit.



BORN! An Ink that
keeps a pen *Clean!*
And dries 31%
quicker than average

Parker's new Quink is the result of 3 years of research and 1022 formulas. Entirely new principle — dries in 3½ seconds by penetration of paper. Yet Quink resists evaporation, hence keeps pen point moist and ready. Also contains a solvent that removes from pens the residue of other inks. It is 99.99/100% fluid — hence free from sediment.

**Parker's
QUINK**

Two types — Permanent or Washable. Get bottle from any dealer, or write us for 30,000-word supply, free.

Parker Duofold

PEN GUARANTEED FOR LIFE • \$5 • \$7 • \$10

Other Parker Pens, \$2.75 to \$3.50; Pencils to match them all, \$2 to \$5

The Parker Pen Company, Janesville, Wisconsin. Offices and Subsidiaries: New York, Chicago, Atlanta, Buffalo, Dallas, San Francisco; Toronto, Can.; London, Eng.; Berlin, Germany

Tell the myou saw it in RADIO

Instant LEADERSHIP!

SWEEPING far beyond every previous standard of comparison in tone and automatic operation, Capehart Series "400," combining automatic phonograph with a specially engineered 13-tube Super-Heterodyne Radio, has achieved indisputable leadership among musical instruments for the home.

"Pride of Possession"



Because of the substantial profit which is realized on the sale of every Capehart "400" and because these new instruments make a compelling appeal to people who are able and ready to buy... outstanding dealers are giving Capehart the lead in fall selling plans.

The Capehart "400" has an exclusive rotator which reverses and changes double-faced records — of either size or both intermixed — plays entire albums of recorded music in proper sequence.

A fitting companion to the "400" is the Capehart Model "21," priced for a broader market but still yielding substantial profit to the merchant. Model "21" combines an 8-tube Super-Heterodyne Radio with automatic phonograph, including the famous Capehart 10-12 record changer.

Beyond question Capehart is the line of leadership and of profit. Prospects in your community will buy Capeharts this fall. *Will you get the profit?* Write now for complete information, without the slightest obligation to you.

THE CAPEHART CORPORATION

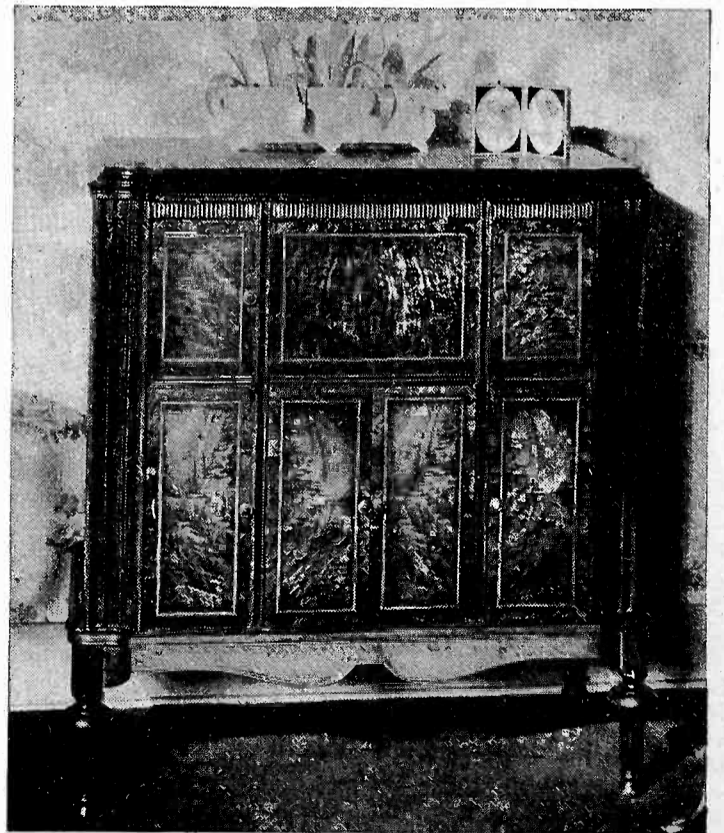
Fort Wayne, Indiana



THE CAPEHART MODEL NO. "400"
Plays all makes of Records

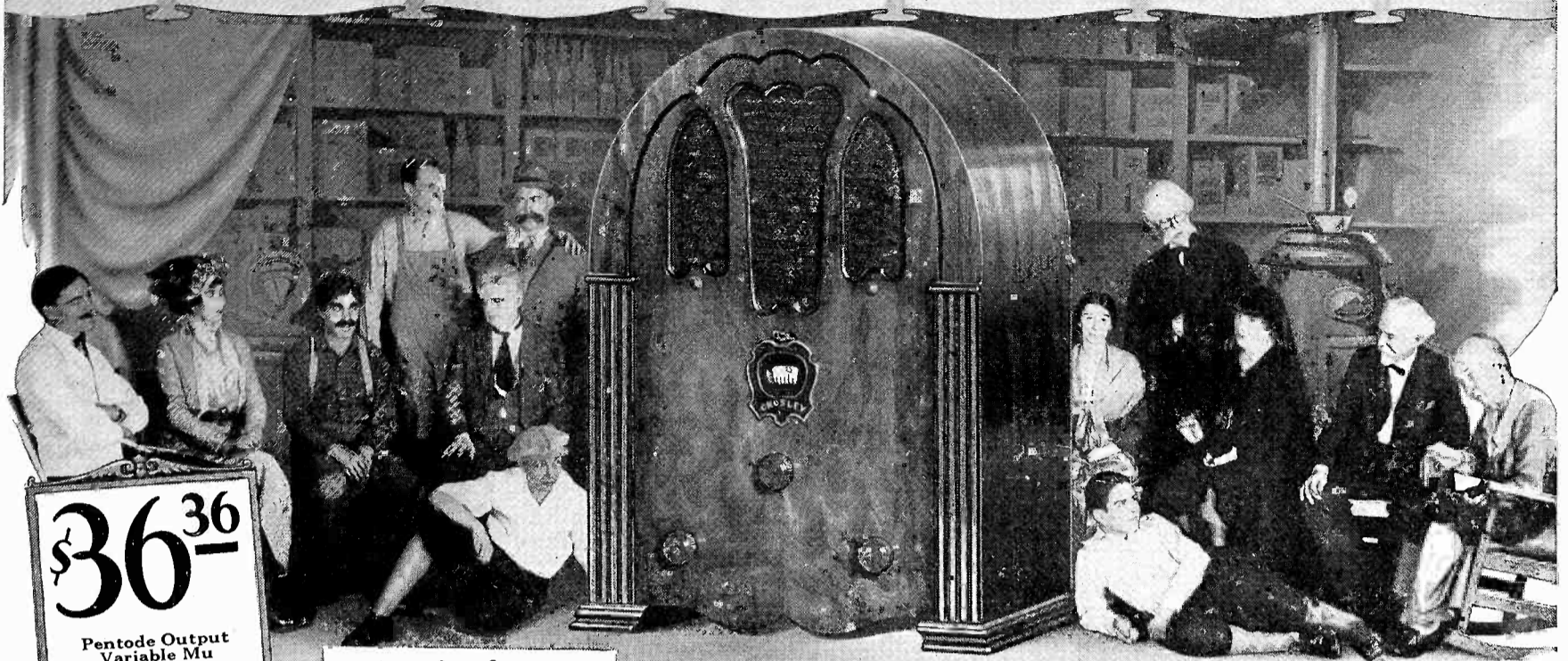
CAPEHART

A GREAT NAME IN MUSIC



THE CAPEHART MODEL "21"
Plays all makes of Records

YOU'RE THERE WITH A CROSLEY



\$36³⁶

Pentode Output
Variable Mu
Superheterodyne
Complete
with Tubes

The Crosley LITLFELLA

The new Crosley LITLFELLA—a 5-tube table model SUPERHETERODYNE radio receiver incorporating big set features—Pentode Output—Variable Mu—full floating moving coil dynamic speaker—and other Crosley features.

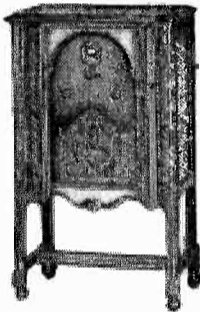
When that happy, everyday, tremendously human group of "REAL FOLKS" broadcasts every Monday night over a nationwide N. B. C. network—You're THERE with a Crosley.

The Crosley LITLBOY

An exquisite lowboy console housing the same type 5-tube Pentode, Variable Mu Superheterodyne radio receiving set and Crosley full size full floating dynamic speaker as The LITLFELLA. Front panel is of American black walnut. The posts and stretchers are finished in walnut. The sides and top are of 5-ply walnut veneer. An unusual radio value.

\$48⁵⁰

Complete With Tubes



CROSLEY sweeps aside all precedent in offering the sensational Crosley LITLFELLA, a compact table model Pentode Output, Variable Mu SUPERHETERODYNE, at a price that is almost unbelievably low. Some of radio's greatest engineers, artists and technicians have been taxed to the utmost of their ability to produce this sensational, super-performing, extremely low-priced SUPERHETERODYNE which is already causing a furore among radio dealers. Not content to ride along with the easy success of the amazing Crosley LITLFELLA, and determined to uphold the enviable reputation gained through producing sensation after sensation in the radio industry, Crosley has designed and developed the 8-tube, 124 Series, Push-Pull Pentode Output, Variable Mu SUPERHETERODYNE. This marvelous line incorporates all of the most recent radio refinements and is priced sensationally low. The Crosley TENSTRIKE and the Crosley HAPPY HOUR, 10-tube Push-Pull, Pentode Output SUPERHETERODYNE with METER TUNING and Automatic Volume Control round out this sensational line. Compare Crosley, feature by feature with other radio receivers, then you'll know you're getting the greatest value per dollar with a Crosley. See your Crosley distributor. Or write the factory direct.

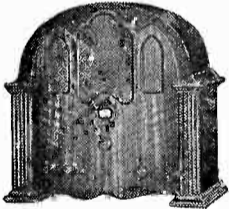
8-Tube Push-Pull Pentode Output SUPERHETERODYNE

The Crosley PLAYBOY

An exquisitely designed all wood table or mantel model, 17" high, 17 1/2" wide, 10 1/4" deep. Front panels of imported Oriental wood finished in two-tone effect. The solid side panels and arch top are of high-lighted walnut finish. Incorporates the new Crosley 8-tube push-pull Pentode output, Variable Mu Superheterodyne chassis and latest Crosley full floating moving coil dynamic speaker. Embodies all the new Crosley features. Never before such superlative radio performance at so low a price.

\$49⁷⁵

Complete with 8 Tubes



The Crosley CHEERIO

A magnificent cabinet of rare beauty, full forty inches high, housing the new Crosley 8-tube push-pull Pentode, Variable Mu Superheterodyne chassis and newest Crosley full floating moving coil dynamic speaker. All new Crosley features are incorporated.

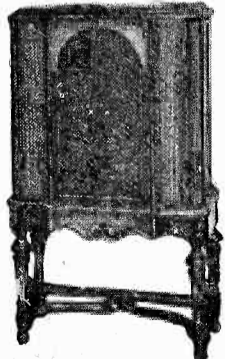
\$65 Complete With 8 Tubes



The Crosley MERRY MAKER

Another forty inch console of unusually attractive design and sound construction housing the new Crosley 8-tube push-pull Pentode, Variable Mu Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

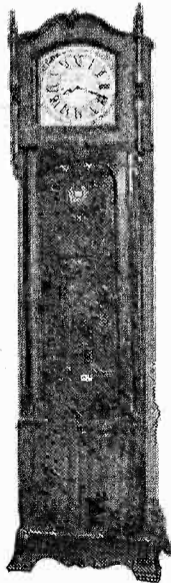
\$75 Complete With 8 Tubes



The Crosley ANNOUNCER

One of the most beautiful door console models. Stands forty-two inches high. Incorporates the new Crosley 8-tube push-pull Pentode, Variable Mu Superheterodyne chassis plus the new type Crosley Auditorium size full floating moving coil dynamic speaker.

\$85 Complete With 8 Tubes



The Crosley PLAYTIME

Here it is! A dream come true! A grandfather type A. C. electric hall clock incorporating the new Crosley 8-tube push-pull Pentode, Variable Mu Superheterodyne radio receiver and Crosley Auditorium size, full floating moving coil dynamic speaker. The same A. C. house current connection operates both clock and radio.

\$95 Complete With 8 Tubes

10-Tube Push-Pull Pentode Output SUPERHETERODYNE with Meter Tuning and Automatic Volume Control

The Crosley TENSTRIKE

An unusually attractive and compact table model receiver incorporating the new Crosley 10-tube push-pull Pentode output, variable Mu Superheterodyne chassis with METER TUNING and Auditorium size Crosley full floating moving coil dynamic speaker. Stump walnut veneer front panel with burl maple overlay. Walnut finish sides, top and pilasters. Grill openings coved and backed with changeable cloth. Dimensions: 20 1/2 inches high, 16 inches wide, 10 inches deep.

\$69⁵⁰

Complete With 10 Tubes



The Crosley HAPPY HOUR

Front panel of this magnificent six-legged console is of beautiful figured stump walnut veneer arched with burl maple in two tone effect and high-lighted. Carved pilasters of especially selected stump walnut veneer. American black walnut veneer top and sides. Six turned and fluted legs, capped with oval medallions in contrasting shades. The spindle units of the stretcher extend in a fan-like manner from the base rail to each leg. Incorporates the new Crosley 10-tube push-pull Pentode output, variable Mu Superheterodyne chassis with METER TUNING and Auditorium size full floating moving coil dynamic speaker.

\$99⁵⁰

Complete With 10 Tubes



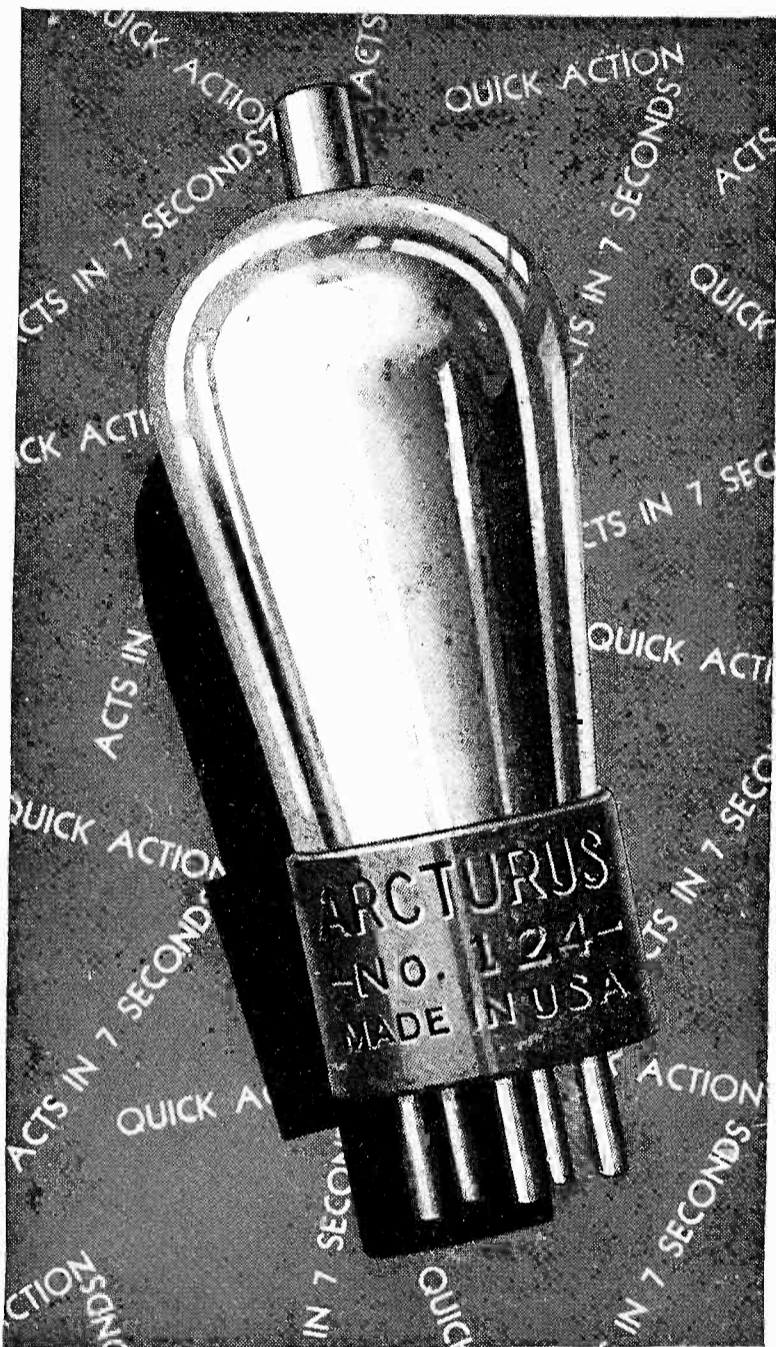
THE CROSLEY RADIO CORPORATION
POWEL CROSLEY, Jr., President
Home of "the Nation's Station"—WLW
CINCINNATI

(Montana, Wyoming, Colorado, New Mexico and West, prices slightly higher.)

CROSLEY RADIO

Quick Heater

RECOGNITION



The quick-acting principle in a.c. tubes is now, more than ever, accorded full appreciation by set and tube manufacturers, jobbers, dealers – and, most important, consumers.

Arcturus pioneered *that* principle over three years ago, in May 1928 – with the famous 7-second action tube.

This Arcturus contribution met with immediate success as users no longer were willing to tolerate the delay in getting reception caused by the old slow-heater. The demand for quick-heaters has become so insistent that the old slow-heater type has now been relegated to an inferior classification and must of necessity be priced appreciably lower. This difference in list price is evidence that the superior merits of the quick-heater are fully appreciated.

A lower price for slow-heaters is unimportant to set users. They will not sacrifice efficiency for price. So they demand quick-acting tubes.

Arcturus *Blue* Tubes are all quick-acting – the same as the original “7-second tube”. Arcturus quick-acting tubes are positively not affected by “hum”. Arcturus quick-acting tubes have become the standard of the industry.

ARCTURUS RADIO TUBE CO., Newark, N.J.

ARCTURUS

WESTERN DIVISION:
Arcturus Radio Tube Co., 1855 Industrial Street, Los Angeles, Calif.

