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By Waldemar Kaempfert

A book that the laymen will appreciate.

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The book not only tells in simple language how a broadcasting station works and how the waves that it sends out are received, but keeps the reader interested from beginning to end with its simple descriptions and its striking picture of what may be expected of radio in the future.

—THE EVENING TELEGRAM.

One of the ablest writers on popular science in this country brings the science of Wireless Telephony down to the plane of the every-day man in sugar coated doses.

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A selective radio contact switch. For varying the number of turns in any kind of radio tuning coil.

The SELECTOR can be mounted on coupler or coil direct, thus reducing leads to a minimum. Short leads and positive contact in radio instrument wiring are not only necessary, but are imperative for highest efficiency.

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Rotors packed 50 and 100 in package. Stator sections packed 100 and 200 in package.

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Norris Electrical Specialties Co., Inc.
126 Liberty Street, New York
TELEPHONE RECTOR 6669

NACO RADIO RECEIVING SETS

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To listen in on the musical concerts, speeches, etc., with satisfaction, the Naco Radio “City Sets” have no equal at the price.

Naco radio accessories such as variometers, variable condensers, knobs and dials, panels, detectors, etc., will give satisfaction and are at a reasonable price.

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The Naco tube sets complete which permit you to hear at long distances retail at $75 and $165.

WANTED—STATE MANAGERS TO ORGANIZE EACH STATE AND HANDLE ALL NACO RADIO SALES.

NACO means quality, efficiency and price with service backed up by guarantees worth while.

NATIONAL MOTOR ACCESSORIES CORPORATION
1446-1448 Woolworth Bldg.

New York City
Speeding Up the Manufacture of Radio Parts
General Electric and Westinghouse Company Producing Tubes at Rate of 100,000 Monthly

By PIERRE BOUCHERON
of the Radio Corporation of America

The Radio Corporation is doing everything it can to meet the present demand. The General Electric and Westinghouse Companies are now in largely expanded production, working to maximum capacity. Partially normal deliveries have begun this month. The Radio Corporation of America, The General Electric and Westinghouse Electric & Manufacturing Company, manufacture radio devices for the R. C. A. Production is now going forward at the rate of 100,000 tubes per month, which are being delivered to the trade as rapidly as they can be handled. In other words, the country will be supplied with all radio equipment necessary for the demand now growing almost as rapidly as it grows. The demand is great, of course, but it may not be as great as it seems, owing to the fact that there is a scarcity of supplies and one small dealer may call at ten different supply houses to secure articles which, of course, would exaggeratedly multiply the seeming demand.

Demand Heavy
The demand, however, is exceptional and the new art has taken public attention almost over night. This industry, is second to none. It will not in any way interfere, however, with any other industry. There is room for both phonograph and radio. They can work together without interference or injury to each other. It will interest dealers to repeat some of the remarks recently made by Mr. David Sarnoff, General Manager of the Radio Corporation, at a meeting of the Electrical Supply Jobbers’ Association. "In my opinion the opening of broadcasting stations, from which popular programmes are daily sent out, has unexpectedly opened an opportunity for the merchandising of radio telephone sets. The Radio Corporation realizes both the great possibility for failure if improperly handled and for success if properly handled and desires to assist everyone who undertakes to sell its product, and place at his disposal the benefit of our experience in the radio field. "Prior to February 1, 1922, the General Electric Company and Westinghouse Electric & Manufacturing Company were manufacturing for the Radio Corporation and in the case of the Westinghouse Company selling radio receiving outfits through such distributors as had been interested in taking up and pushing the merchandise of radio equipments. On February 1, the Radio Corporation whose principal stockholders are the General Electric Company, Westinghouse Electric & Manufacturing Company, American Telephone & Telegraph Company and the United Fruit Company, became the selling agency for radio apparatus, manufactured by the General Electric Company and the Westinghouse.

Interest in Broadcasting
"The intense interest in radio

OUR POLICY

THE RADIO DEALER introduces itself to the business men of the wireless field in this unostentatious manner, paralleling the introduction of the radio industry—so to speak.

This paper is not to be the organ of any of the varied "wireless interests." This paper has no axe to grind. This paper has only one policy—service to the retailer, jobber and manufacturer.

This paper will make every effort to cooperate for the common good of the industry, laying particular emphasis upon the needed desire to aid the retailer and jobber to better business.

The RADIO DEALER solicits the support of the manufacturing concerns who have become factors in the field of wireless endeavor and bespeaks honest support to every practical idea.

This paper is no one man's organ—is not to be hired or bribed to extol one concern against another—but will, at times, aim to represent the newest industry in a spirit of fairness, with malice towards no one and a constructive, helpful hand to every one.

With this policy, we greet you.
telephone communication aroused by the establishment of broadcasting stations, particularly those of Springfield, Mass.; Roselle Park and Newark, N. J.; Pittsburgh and Chicago, and the newspaper publicity given to the subject have created an instant and insistent demand for both information and equipment. We are doing our utmost to give this information. Regarding wholesalers and jobbers, The Radio Corporation is at present marketing principally through established electrical supply jobbers. The corporation will endeavor to encourage the purchase of its product by retail dealers through the jobber. It plans to appoint as wholesale distributors those electrical supply jobbers throughout the United States who are prepared to function properly, employing salesmen and doing a real distributing job. At the present time the Radio Corporation has about 100 wholesale distributors throughout the United States. It is the policy of the Radio Corporation to grant no exclusive agency or exclusive territory to anyone. We are kindly disposed toward the phonograph people and we are studying their system of distribution at this time.

"Popular sets in demand list at from $18.00 to $350, according to range and service desired. For reliable service under all conditions these are not intended for use within any radius greater than 100 miles. It is pointed out that the industry must guard against misrepresentation as to the range of the instrument."

**INCORPORATED**


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**MR. RADIO RETAILER!**

Here's our first issue. How do you like it? Think it will be worth a dollar to get THE RADIO DEALER every month for the next year? Use the blank below, rubber stamp or print your name and address, then mail to us. Do it today.

**HARRY M. KONWISER,** Publisher,
*The Radio Dealer*,
1133 Broadway,
New York City.

Please send THE RADIO DEALER to the following address for one year beginning with the May, 1922 issue, for which

1. we enclose one dollar
2. we will send one dollar on receipt of bill.

(Name) ........................................

(Address) ..............................

(City and State) ........................

Make remittance by check, money order or registered mail

---

**Help the Boys Organize Clubs**

**Boys' Radio Clubs Will Help Sale of All Apparatus**

"Help the boys organize radio clubs and you help the radio industry," a well-known dealer in Pittsburgh told a representative of the Radio Dealer the other day. "The wireless 'bug' is the fellow that gives you stable business and the one that gives wireless the most boosting," he continued.

"People with telephone receiver sets interested only in receiving the concerts sent out by the broadcasting stations have brought radio into national prominence, it is true, but unless there is a goodly percentage of real bugs among the radio fans things don't work quite right.

"Give me one or two real live radio boys and I'll start a radio club in any small town. The boys' club will get their various sets working, tinkering with them everlastingly. Then they'll talk, and they'll talk and talk. It's the talk that sells the sets to the outsider who doesn't know a cat whisker from an amplifier."

There's a lot of meat in that little interview, when you come down to think about it. The boys in radio have done more to develop the industry than the average dealer realizes. Some of the greatest inventions in this science have been made by boys in small towns with small sets who wanted to improve their equipment, and had to make the stuff they needed.

Help the boys along, give them a boost; if they want a club meeting room, lend them your store some night. Every booster for radio means more sales for the dealer, and there's no booster quite as valuable as an enthusiastic young chap who studies things out and knows what he is talking about.

**R. T. S., BINGHAMTON**

The Radio Testing Station at Binghamton, N. Y., is a "supply house" that is properly equipped to cope with the requirements of radio apparatus and as "fans," judging from their latest catalog.

**CONDENSITE-CELORON**

Condensite-Celoron is a waterproof fibre, made by the Diamond State Fibre Co., Bridgeport, Pa., and is described as vulcanized fibre thoroughly impregnated with Condensite and then hardened by heating. The makers have a neat booklet.
National Association of Radio Dealers
An Organization of Manufacturers and Dealers Is Badly Needed To Fight the Battles of the Industry
By AMPLIFIER AL.

The radio industry needs a national organization.

The radio business needs a common meeting ground.

The radio business man needs a champion.

There are nearly a million amateur radio sets in use, one statistician tells us. Another sets the figure as low as six hundred thousand. Regardless of the figures the number is large. Too large for any real concerted action if you come right down to thinking about it.

Were there an attempt to override the wishes of the radio fan, said fan would rise up and protest. His protests would be heard far and wide, and after all the shouting had died away and the smoke blown over, we would discover that the radio enthusiast was still yelling, but nothing had happened. Congress will turn a deaf ear to the radio listener as readily as they have turned a deaf ear to the American Legion for lo these many moons.

There are a number of manufacturers of radio equipment who should organize, but they haven't. If a crisis arose in the history of radio progress, if the time came when the progress of the industry was threatened by legislation of any character the big companies could be counted on to protest. They would rush lobbyists down to Washington or to the state capital where the danger arose. The professional talkers would talk and the newspapers would turn a cold ear to the plaints of the makers of radio equipment.

It's almost as hard to swing things with a few people and a big industry as it is to turn things around with lots of people and no money.

What is needed is a national organization of the class in between—the dealers. A dealers' organization would include enough members to be national in its influence. Every congressmen would know one or more dealers that belonged to the association. Yet a national dealers' association could never be called a "trust." There would be no taint of big business attached to the coat tails of representatives of a dealers' organization who might visit the halls of legislation.

For the protection of the industry we need an organization.

Protection of the industry is not all.

We need a national organization of radio business men to establish sounder business relationships between manufacturer and dealer, between jobber and retailer.

THE RADIO DEALER is not advocating an association that has a convention ever so often and everybody goes out and has a good time shaking hands with his friends and going to theatre parties and . . . well, you know something about good fellow conventions.

We urge an association that will work.

We urge an association that will employ a secretary who gets his job because he has brains and holds it because he makes the association produce results—makes business conditions better in the trade.

We need an association that will help the small dealer and the big manufacturer. An association that will look after this matter of broadcasting. An association that will protect the legitimate amateur dot and dash operator who is trying to forward a message to a fellow amateur of the National Amateur Radio League. We need an association that will also protect the listener-in from the amateur who wants to chat day and night by dot and dash.

But most of all we need an association that will back the national radio shows and will undertake the campaign of educating the public to a larger understanding of radio.

This is only the beginning of the radio business. This is only the start. Properly handled the radio fans will increase in number until a builder would not even think of erecting a house without proper arrangements for the family wireless set.

The big companies in the radio field are doing a lot. They are spreading the gospel of radio wherever they can, but a co-operative association, several hundred manufacturers and several thousand dealers, working in harmony, can accomplish a great deal more—at a considerable saving of duplication of effort.

(Continued on page 24)
The Retailer of the Future

What of the Future?
That's today's important question in the radio industry and it is being asked on every hand by the manufacturer, jobber and retailer.

Today's danger is overproduction of "current parts"—because it is generally conceded that "new things" are to be expected daily to make the use of wireless less complicated and also to produce equipment to cope with the modern desire for the beautiful and artistic.

Many persons who have the present sets in their homes, having satisfied themselves that a receiving set is not a mere child's toy, are now prepared to expend additional money for "a wireless outfit" that will match up with their decorative homes.

Just now there are a lot of so-called manufacturers who care nothing about the trade's future! They produce "parts" and after they sell these to jobber and retailer, care nothing else.

This isn't fair. The retailer is the main sufferer, in the end, from the improperly-made parts that are now being proffered.

The Radio Dealer expects to be outspoken about this. We are not kindly disposed towards manufacturers who will not sense the value of establishing good will.

Even "the big fellows" in wireless must cater to the public and their first public should be the retailer of today.

It is a recognized fact that the radio retailer is not a man who possesses unusual mechanical skill. He is not an "expert" and he places a lot of confidence in the jobber and manufacturer.

Every retailer builds business upon good will and it is not fair for any wireless apparatus manufacturers to overlook that fact.

Radio conditions, as they now exist, will continue for several years—at least. The wireless industry is bound to increase and for some time the reputable radio manufacturers will be hard-pressed to cope with their requirements.

This condition makes for the entrance into the wireless field of a lot of manufacturers who care only for their own present good—their own pocket-books.

These one-way gentlemen must be watched, lest they do the retailer great injury.

Retailers are cautioned not to overload. Conditions that exist now—in-sufficient supplies—will not always exist.

The big Eastern cities can expect a slow-up in retailing because of the present big crop of amateurs and many retailers will observe a drop in trade volume everywhere because of the constantly increasing crop of radio retailers.

Of course, it isn't fair to wish a lot of dealers out of the radio field. These things take care of themselves. As the industry develops the retailers and jobbers who show trading ability will advance in their field and the mere store-keeper who sells wireless apparatus as he sells nails or paints, on mere demand, will fall by the wayside.

The future of this industry lies in the hands of the retailers of the land and they expect the wholesale and manufacturing divisions to permit them—first, an equal opportunity to buy wares and an opportunity to sell at a fair margin of profit.

There is no excuse for price-cutting, as yet, but if the big manufacturers produce parts beyond the demand price-cutting must commence and in the long run the manufacturer and jobber will suffer the most from overproduction.

The retailer who goes ahead intelligently, who sells staple products at equitable prices and learns the business as he develops is the retailer of the future.
Radio as a Revolutionist

Those who believe that revolutions are made neither by the pen nor the sword but by new inventions will find a fascinating subject for speculation in the sudden and amazing growth in the use of radio. Could Scheherazade have told her king of the things which were seen and heard at the recent Radio Convention in New York it would have seemed more marvellous than the tales that beguiled the thousand and one nights. Yet the crowds that packed the exhibition hall, like subway trains at the rush-hour, evinced curiosity but no awe when an automobile was in its every movement obedient to the will of a man who never touched it with his hand, or when an orchestra in a distant city was heard through miles of unbridged space.

The most immediately significant development is in the field of radiotelephony. Secretary Hoover has estimated that at least 600,000 and probably 1,000,000 amateurs now have some form of receiving apparatus, most of whom have acquired it within the last year. In Philadelphia and in New York it is announced that apartments are to be built equipped with apparatus for receiving radio-telephone messages, music, and the like. The desire of amateurs, not merely to receive but to send messages, has created a problem which already calls for federal regulations of wave lengths so as to prevent interference with business messages. No one who heard at the Radio Convention the effort of various operators to tune their instruments to receive concert music which was "broadcasted" through the air could believe in the silence of the heavens. Indeed the chaos of different messages resulted, during the tuning process, in some of the weirdest sounds ever heard by mortal ears. "Broadcasting" is probably what gives the greatest interest to radiotelephony. Certain newspapers carry daily announcements of the programme to be sent out by various stations - Westinghouse station at Newark, whose signal is WJZ, begins its programme at 11 A.M. with music and the weather forecast; it ends at 10.01 P.M. with another weather forecast. During that time the listener may hear an agricultural report, shipping news, special stories for children, recitations—once we noticed on the programme, our old friend, "Casey at the Bat"—jazz, religious music, and opera selections. This new art is creating its own literature. The Radio Magazine advertises a circulation of 150,000 and daily newspapers such as the New York Mail and Globe publish popular radio supplements. Poetry follows in the wake of science. There lies before us a newspaper containing the picture of "the attractive film star who is responsible for the wireless song hit, 'Kiss Me by Wireless,' broadcasted for the first time on Thursday, March 16."

It is difficult to exaggerate what this means for men in lonely places. It will not be long before explorers can send daily bulletins of their progress. Already telephone conversation has been carried on with an ocean liner 400 miles out at sea. Smith's Four Corners is in listening distance of Broadway. Every man may build his own Utopia in contemplation of the conquests of space by sound.—The Nation.

These New Concerns

Some of the recent new manufacturers in radio equipment are machine shop owners who are not overburdened with regular business, and they're coming in "like mad" to make radio parts without properly reckoning the costs of production. As a result they'll soon be out of pocket and will leave the radio field to business men better equipped to cope with this new electrical field.

The Day of Reckoning

Dealers, everywhere, advise us that the Radio Dealer will be read with interest, because it will place them in direct touch with actual manufacturers of radio equipment.

The complaint now is that many so-called "jobbers" are really "jippers"—asking and getting unfair prices for radio equipment, merely because the demand seems to be in excess over production.

This condition will be remedied soon and the wholesalers who have been fair in their dealings will "carry on," while the others will retire with their ill-gotten gains.

Air Advertising

There's considerable curiosity about advertising in the air. Announcements are being made here and there that it can be expected soon. A Washington, D. C., radio company offers to aid advertisers in getting booking, but advises they are not yet ready to make a formal announcement to the radio trade. The American Telephone and Telegraph Company are erecting a station in New York City and another in Saint Louis which will be intended for air broadcasting of advertising matter, but to date there has been no definite announcement of when the service will start.

The danger in air advertising is in the possibility of the hearer becoming disgusted with the radio phone entirely because the advertising is overdone. The American T. & T. Company assures the Radio Dealer that they will not permit advertising programs to interfere with other broadcasting, nor will they try to hog the air. While this company is not yet ready to make a formal announcement it seems certain they can be expected to be careful of the feelings of the radio bugs.

The Radio Dealer is trying to get the viewpoint of the trade on air advertising. A special article based on interviews with those in charge of the present stations will appear in our next issue. Every reader is invited to write us his views.

WANTS EXTRA ISSUES

A Newark, N. J., retailer in sending in his subscription to the Radio Dealer writes:

"I have seen the specimen pages from your paper and believe it will be a big success. Enclosed find check for one year's subscription. There is one thing that I would suggest, and that is while the interest in 'Radioing' is so strong at present it would be advisable to publish a supplement or special copy about the middle of the month. A month apart is a long, long time."

The editors of the Radio Dealer want to satisfy the trade. If there is a concerted demand for publication oftener than once a month we will be glad to supply the demand. Our readers are invited to write us their opinions on this subject.
Book Review

By Bernard Jerome Fairell

The Editors of the RADIO DEALER will be glad to review new publications in this field as they may be issued. Address them attention BOOK REVIEW EDITOR, the RADIO DEALER, 1133 Broadway, New York City.

BOOKS BY HENLEY COMPANY

The Norman W. Henley Publishing Company of 2 West 45th street, New York City, publishers, announce their line of radio books in this issue of The Radio Dealer. These books are written in an understandable manner devised for the use of the radio amateur and experimenter.

Mr. M. B. Sleeper, formerly editor of "Radio and Model Engineering," which was published by the Henley company, is the author of the book under review, which will initiate the line of books announced by Mr. Sleeper. The book is widely known in this field and is looked upon as one of the best posted practical manuals in the radio line today.

"Radio Hook-Ups," by Mr. Sleeper, was written for those who wish to try many different ways of connecting parts of radio apparatus. This book discusses the advantages of each hook-up.

"Radio Design Data," by the same author, is written in such a clear manner as to be easily understandable by novices in the field, yet likely would be of considerable value to an experienced amateur. A wealth of valuable information is found in the formulae, tables and other data in this book.

For those desiring to listen to the Transatlantic high power stations, "Construction of New Type Transatlantic Receiving Set" is written by Mr. Sleeper. Among other interesting things, the subject of Loud Speakers, Relays, etc., is dealt with quite completely.

For the Novice and Amateur who wants to build his own equipment, "Construction of Commercial Type Radio Apparatus," by M. B. Sleeper, is well illustrated with commercial type of equipment and is an excellent book for the man who wants to make his equipment the equivalent of the commercial type.

"Wireless Telegraphy and Telephony," by Mr. A. P. Morgan, is for the beginner who desires to get pictures of the workings of radio telegraphy and telephony.

"A B C Vacuum Tubes Used in Radio Reception," by E. H. Lewis, is a book, clearly written, which will initiate the novice into what goes inside the receiving vacuum tube and will give the experimenter a better understanding of Vacuum Tube Phenomena by presenting it from a different angle.

"EXPERIMENTAL WIRELESS STATIONS"


The new and enlarged edition just issued, according to the publishers, is the most up-to-date book of its class on the market today. The first copies were delivered from the printers late in the month of March. The previous editions sold widely and an even better demand for this edition can be expected.

This book discusses all kinds of apparatus, both transmission and receiving. The publishers' circular continues:

"This volume anticipates every need of the reader who wants the gist of the art, its principles, simplified calculations, apparatus dimensions, the understandable directions for the efficient operation. Vacuumtube circuits; amplifiers; long-distance sets; loop, coil, and underground receivers; tables of wave-lengths, capacity, inductance; such are a few of the subjects presented in detail that satisfy. It is independent and one of the few that describe all modern systems.

"Endorsed by foremost instructors for its clear accuracy, preferred by leading amateurs for its dependable designs. The new 'Experimental Wireless Stations' is sure to be the most satisfactory for your purpose."

"THE A B C OF RADIO"

"The A. B. C. of Radio" (by Waldemar Kaempffert, Martin H. Ray, publisher), is a publication written so that the layman without a knowledge of electricity or radio can get a working knowledge of wireless. Written simply and clearly by the former managing editor of Scientific American and former editor of Popular Science Monthly, it conveys to the reader with little knowledge of radio the underlying principles without making him wade through a lot of dull, technical description. It tells how a broadcasting station works, how the waves it sends out are received; explanatory drawings and graphic hook-ups. It will keep the reader interested from beginning to end with its simple descriptions and its striking feature of what may be expected of radio in the future. Some of the chapters are: About Waves in the Ether; What We Mean by 'Wave Lengths' and 'Tuning In'; How Waves Are Generated; On Antennae and Loops; What Is Electricity?; the Future of Radio Communication; Glossary and Symbols; List of Radio Broadcasting Stations, &c. Mr. Kaempffert is to be commended on his most lucid presentation of a subject that is extremely difficult to explain without a lot of heavy technical matter. However, he has succeeded remarkably well, both in his choice of phraseology and in his drawings of simple circuits that to the layman were formerly "Chinese puzzles." It is a book published "for the layman" and a book that the layman will appreciate.

SLEEPER'S LATEST

"The Construction of Radiophone and Telegraph Receivers for Beginners," by B. M. Sleeper, formerly editor of Radio and Model Engineering. Published by the Norman W. Henley Company of New York City. Covers quite thoroughly this field.

Designed for beginners, this book, nevertheless, goes into considerable detail, and the average man of normal intelligence would be graduated out of the novice class after a careful study of the various types of equipment described. The author states in the introduction that every piece of equipment described in this book had been carefully tested, the entire book being one of practical experience rather than theory.

Got a good idea on selling radio equipment? Send it along, help the other fellow and he'll help you.

NOTE TO THE TRADE:

Quote us prices, terms, discounts and deliveries.

WE ARE DISTRIBUTORS, exclusively via mail order.

Complete sets
Radio Equipment SPECIALTIES

RADIO EQUIPMENT SERVICE

500 FIFTH AVENUE
NEW YORK CITY
Advertising for the Retail Dealer

How to Get Radio News for Local Newspapers

The dealer in radio equipment wants to watch his daily newspapers and provide them with radio news for their departments. Every line printed about radio helps the industry just that much more. It is the duty of the trade to boost. United boosting will bring radio through its period of infancy with flying colors.

The average local newspaper is anxious to get radio news, and has an almost daily newspaper in the country starts a radio section. The public is anxious for this kind of news and the live editor gives his readers what they want.

The dealer can help the reporter by seeing that he is given the names of radio clubs and organizations.

GIVING ADVICE

The successful wireless retailer will read the Radio press and will keep up to the latest thought. This is a new field and you, Mr. Retailer, are not expected to know it all.

Read up and learn your business. The don't-know fellow will soon be out in the cold.

CRYSTAL SET LOUD SPEAKERS?

Every "expert" is being besieged to explain how a loud speaker connection can be made in a crystal set. It can't be done! That is, unless the receiving signals are too loud for the normal ear.

Loud speakers make for easier hearing—eliminating the tinny sound often heard in the receivers.

They also agree that amplifiers are not to be added to crystal sets. This makes for noise.

DEALERS' HINTS

Have you made an effort to sell a set to the nearest hotel and to the restaurant nearby? Why not?

Every brokerage office in the land ought to have a radio.

RADIO COMICS

The McClure Syndicate of New York City are issuing a comic strip for newspaper daily covering the antics of "Radio Ralf," a bug of the highest type. Every bit of publicity radio gets now will help the trade, and dealers should see that their local newspapers are advised of this comic. Other similar strips will likely be brought out by various other feature syndicates in a short time, so there will be one for every newspaper in the town. See that the papers use them.

RADIO SELLS THE HOUSES

The Little Schoolmaster in Printers' Ink runs a paragraph pointing out the rapid way in which builders are catching on to the possibilities of radio. He says:

"As an evidence that we are living in a fast and furious age a correspondent sends the Schoolmaster an advertisement from a Philadelphia newspaper, signed 'John H. McClatchy, Builder of Homes,' that reads: 'Radio telephone service built in these new homes."

"The $1,000,000 worth of new homes that we are now building will be wired for Radio Telephone Service, connecting with the service from Pittsburg, New-ark and other centers. This will add greatly to the enjoyment of these new homes.'"
Do You Know What Lightning Is?

Steinmetz Tells Fans About Forces of Nature

The subject of lightning interests every radio enthusiast and will have considerable effect on the sales of radio equipment in the East during the summer months.

When in doubt go to the best mind in the field—is an axiom, of course, and therefore the Radio Dealer takes pleasure in quoting Dr. Charles P. Steinmetz on the subject of lightning.

Dr. Steinmetz spoke over the radio at WGY on March 23rd and the New York Globe reports his address as follows:

Of all the phenomena of nature, lightning is the most terrifying and, therefore, the thunderbolt always has been the attribute of the highest God. Until Ben Franklin showed that lightning is nothing but an electric discharge, like those of our electric machines, only vastly more powerful, little further advance was made in the understanding of the nature and origin of lightning until recent years, when finally our knowledge had advanced far enough to solve the problem of lightning and its origin.

In summer, when the air is warm, water rapidly evaporates. Warm air can hold a large amount of moisture as water vapor. Thus during the summer days the warm air covering the surface of the earth becomes moisture-laden, saturated with water vapor. Warm air is lighter, and therefore this warm, moist surface air begins to rise. Often also it is forced upward by two air currents or winds meeting. In rising, the air gets cooler, because the higher up you go, the lower is the temperature. When cooling, the air cannot hold the moisture which it held when warm, and much or even most of the water vapor of the air condenses to minute water drops, so very small that they keep floating in the air as clouds, without falling. But these minute water particles of the cloud conglomerate, thousands of them gradually, by their mutual attraction, come together into one larger drop, and when the drop has become too large to float in the air it falls down as rain.

Now, each of these minute drops which form by the condensation of the water vapor contains a minute amount of electricity, as there is always some electrification of the air. It is too little to be noticeable. But when a thousand of such minute drops conglomerate into one larger drop, the electricity of the thousand small drops is collected in the one large drop. But the large drop does not have 1,000 times the capacity for holding electricity, but only ten times, and as it has to hold the electricity of the thousand drops from which it was formed, the electricity is crowded together on it a hundred-fold, therefore it has one hundred times the electric pressure or voltage. Thus by conglomeration of numerous small moisture drops into large raindrops the electric pressure or voltage of the drop rises until it is high enough so that the air cannot hold it back, and it jumps to the next raindrop, and to the next and next, gathering in force by collecting the electricity of the numerous raindrops, until a powerful lightning flash is formed, which passes through the cloud until it reaches regions where there are so few raindrops, or so little electricity on them, that the lightning flash again decreases and gradually fades out.

Thus lightning is an electric discharge within the cloud, and very rarely does such a lightning flash, when reaching the lower edge of the cloud, gather so much energy as to enable it to jump the gap from the cloud to the ground and to "strike." In other words, only a small percentage of the lightning discharges are between cloud and ground; most of them are harmless fireworks within the cloud and very pretty to look at.

Whenever a lightning flashes in the cloud or from cloud to ground, it sends out an electric wave, and when such electric wave reaches an electric circuit, a transmission line, etc., it produces a miniature lightning discharge in this circuit, by what we call electric induction. If the electric pressure or voltage of this induced lightning in our electric circuit is high enough, it breaks down the insulation and shuts down the circuit and "the lights go out." Therefore, we have to install lightning arresters in all electric circuits to protect them against this induced lightning.

From the action of the induced lightning in our electric circuit we can calculate its voltage, and from the voltage of this induced lightning in our circuits, which was produced by the electric wave sent out by the lightning flash in the clouds, we can calculate back to the voltage or electric pressure of this lightning flash in the clouds, and find that the voltage of the lightning flash averages about fifty million volts. It may be as low as twenty millions, or may go as high as one hundred million volts, and even higher in the interior of very large thunderclouds. In a big lightning flash the current may be some ten thousand of horse-power. But it lasts only a very short time, one thousandth of a second or less. Therefore, the power of the lightning flash is enormous, from hundreds to thousands of millions of horsepower, many times larger than that of Niagara. But it lasts only such a very short time, less than one ten-thousandths of a second, so that its energy is very small, less than that of a pint of gasoline. The destructiveness of lightning, therefore, is not due to the great energy that its energy is let loose all at once, in an extremely short time, just as a pound of dynamite is more destructive than a pint of gasoline, though the pint of gasoline contains more energy.

JOIN RELAY LEAGUE

Clubs wishing information on how to become affiliated with the American Radio Relay League can secure same by addressing a letter to the Traffic Manager, A. R. R. L., 1045 Main St., Hartford, Conn., who will be glad to furnish the necessary application blanks. Every radio club, association, or society is eligible for affiliation and information will be given to those who desire it.

MUST HAVE WIRELESS

Aeronautical experts of England insist that radio is just as necessary to safeguard travel in air as it is to protect sea travel. The British House of Parliament announces regulations to this effect will be issued just as soon as the agreement brought about by the International Convention on Aerial Navigation has been signed by the majority of the signatory states. If this becomes a law, it will be necessary for every aircraft carrying more than ten people to have a radio transmitter and receiver aboard. The air secretary also states that it will be necessary for all ships crossing the English Channel to carry apparatus.

TEACH WIRELESS

The Board of Education of Canandaigua, N. Y., is installing radio equipment in the Canandaigua Academy as part of a radio course to be introduced in its public schools.

ASK OUR SERVICE BUREAU—see advertisement on page 31—it’s free. ASK OUR SERVICE BUREAU.
Start Your Customers with Crystal Sets

Let Them Learn Fundamentals with Inexpensive Outfits and You Better Radio

By HENRY F. VORTKAMP

For a number of years we have constantly heard reports of the wonderful success radio has achieved. The people in general admired the results, but went no further than that. They did not consider that in time it would come home to their very doors, and that they themselves would lose their poise over what the radio phones or receiving sets would do in their own homes. Little did they think that the time would soon arrive when they could hear voices thousands of miles away just by turning a switch and listening in on their phones. However, this time is now here and the public is rapidly realizing its advantages, so much so that the demand for receiving sets is far beyond the supply and the conditions will become worse as the various cities install sending sets to accommodate the people. Yes, the radio phones are here to stay, and it will be years before the people will be able to buy the sets as they do phonographs, etc.

During the big radio show here in New York, people went there and were nonplussed over what they saw. At first they understood the instruments and as they went from exhibit to exhibit, and the different conditions were explained to them, they became confused and left the show in a chaotic mental condition. The reason for that is the fact that they tried to assimilate too fast theories and constructions which have taken experts years to master. That was a bad mistake. What they should have done was to study the small sets known as "city sets," wherein the mileage was short and the construction simple. In other words they should have studied the crystal or galena sets. They should have taken them to their homes, hitched them up and exercised every ingenuity in their power to make it work clearly and satisfactorily. In so doing the wonderful points of radio would gradually become clear to the mind. Then gradually the mind would rise to the level of the greater distance sets known as the "tube sets," and they would be able to master their handling without the customary mistakes which cause the blowing out of the tubes, which cost $8 or more every time. They would be able to learn how to keep a storage battery in shape and give it longer life. Avoid weakening their dry cells and obtain the satisfaction which the larger sets can only give. The old saying is, "Begin low, rise higher, wax warm and sit down in a storm." Such should each and every user of radio sets do in acquainting himself or herself with the radio operation.

There are many people, as usual, who are saying that the radio is only a fad and will blow over very readily. Let it be known to them that radio is only in its infancy, and those who make little of it are going to be like the original stockholders of the Ford Motor Company who gave their stock away because it was only a passing fancy. I say to each and every one of you, "Beware." Don't be one of those fellows who now sits in a corner and says, "I could have been worth a bunch of money today if I had only listened to the other fellow." Radio has come to stay. When the inventors themselves enjoy listening in on their own products, it must be well worth while—as seldom does the owner of a restaurant eat in his own restaurant—in other words, the proof of the pudding is in the eating.

I have had the good fortune of being in very close contact with all parts of the United States on radio, and it is a pleasure to me to say that the people speak as though they consider the radio as a God-send to the people. The farmers away from the cities who find it so hard to keep help, due to the fact that they always want to be near a city so they can run in, now are satisfied to stay at home on the farm and listen in to what is going on.

(Continued on page 24)
The Kentone Radio Amplifying Horn

For the past ten years the F. C. Kent Company of Irvington, N. J., has specialized in the manufacture of sound reproducing devices. Their tonearms, soundboxes and special attachments for the Edison, Victor and Columbia phonographs are well and favorably known wherever these phonographs are sold. It therefore follows that with the knowledge and experience acquired during this period, the F. C. Kent Company is peculiarly well qualified to produce a radio amplifying horn of unusual merit.

With its special equipment, designed and built under the supervision of its skilled engineers, with its modern daylight factory and pleasing working conditions, the quality of its workmanship is unsurpassed. With a low overhead, great purchasing power and small margin of profits, the excellence of its material and low cost to the purchaser is assured. With its enviable reputation of square business methods, courteous treatment of its patrons and ability to render the best of service, prospective buyers may safely assume that their requirements will be exactly met and their interests amply protected.

MANHATTAN ELEC. SUPPLY

Continuing its remarkable advance, stock in the Manhattan Electrical Supply last week sold at a new high level for the year. While the influences behind the movement in the stock may be considered more or less manipulative, the basis for a good part of the buying during the 10-point advance has been expected benefits due to the development of radio.

HOTEL RADIOIZED

The first hotel in New York City, and probably the first in the world, to have every room in the hotel equipped with a radio receiving service is the Belleclaire, at 77th Street and Broadway, operated by Walter Guzzardi, who is recognized in hoteldom as a real live-wire.

MR. SORSINC

There are radio experts and radio experts in the field, but when it comes down to "organization knowledge," none can be found to eclipse the Ship Owners' Radio Service, Inc., who are "the largest radio chain store system in the world." "Ask Mr. Sorsinc" is the slogan for these retailers and jobbers.

Nelson Radio Parts Co. Manufacturers and Distributors of Radio Apparatus

Jobbers Attention

THE FAMOUS CYCLONE

The World's Best B Battery

Each and Every One Guaranteed

STANDARD EVERYWHERE

Standard Electric Novelty Co.

324-8 Lafayette St. N. Y. City

Mr. Dealer, we manufacture everything in radio

FROM A TO Z

AMERICAN RADIO SALES AND SERVICE CO.

MANSFIELD, OHIO

100% BETTER RESULTS

49-Strand Silicon Bronze Antenna Wire

Each Strand Tinned Separately

The Wire Used by the U. S. Government

Liberal Proposition to Dealers

HINTZE BROS., Inc.

459 Central Avenue Newark, N. J.

A REAL GOOD INSTRUMENT

$150 Detector

To the DEALER—"IT SELLS ON SIGHT"

To the JOBBER—WE CAN MAKE DELIVERIES

WRITE FOR DISCOUNTS

A. H. REDDEN

IRVINGTON

N. J.
Psychology of Good Packing and Store Appearance

A store is judged by its appearance, just as much as is an individual and details make as much of an impression as do more showy things.

And so the package, the container a package is important in many instances and most essential in radio equipment.

The container should be a proper one not because it is advantageous to the retailer and jobber, but to the consumer.

Get your article before the consumer in good style and you help build up a trade name and though you may be busier than was ever any other Napoleon of business right now, you'll not always be that way, really unless you produce an article of merit, at a fair price, giving the retailer a fair profit.

But, that's not what we're talking about now.

The trade's interested in getting their wares in proper shape for shelf, counter and window display and all of these create good-will and is the burden of my tale of the psychology of good packing and appearance.

One of the best ways to get a line on your product and its container is to do a little visualizing. See yourself as others see you.

Reminds one of a homely illustration. It may serve to develop the point.

“A certain man living in our town had a great habit of investing in second hand material, including ash cans, which he used in disposing of his ashes. Of course the ash cans, being second hand, did not put up much of an appearance and the ash collector soon destroyed them entirely by mishandling them, throwing them from his wagon back to the sidewalk and banging them when he emptied them in his wagon.

“Discouraged with this the owner struck upon a new idea. He purchased a new can and dressed it up with a coat of white paint with the result it made an attractive appearance. The ash collector was never accused thereafter of mishandling it and accorded it special care. It was repainted at intervals so that it looked well always, and has been in use for years.”

A customer has no means of knowing you are too rushed to bother about having a proper container. That's not his worry. See how other lines pack their wares and get ideas for packing radio equipment.

Keep the thought of good appearance before you. Bring your packages up to the standard and you will be repaid in greater consumer interest and entire consumer satisfaction.

NOW SELL HEADSETS

The Elwood Electric Company, Inc., of Bridgeport, Conn., announces that they are now manufacturing radio head receivers. This company has made telephone receivers for fifteen years, but are now also making receivers specially modified for radio service. Clarence E. Bilton and his son C. Edgar Bilton, are executive officers at the head of the company.

MANHATTAN HEADSET

The Manhattan Electrical Supply Company of New York City, with branches in several other centers of the country, have recently announced their new headset. No. 2500, which is now being distributed to the trade.

THINGS TO KNOW

A radio-coupler will work with a crystal set.

Dry batteries will not give the best results when used to light the filament. These batteries are for intermittent work only.

If one little wire is loose, the whole set is useless.

WHERE OPERATORS ARE DEVELOPED

The Radio Institute of America, formerly the Marconi Institute, holds the distinction of being the oldest establishment for the training of wireless operations.

This school was founded in 1900, but age has not dulled or dimmed its operations and the 6,500 graduates of this school are all prepared to pass the word that the Radio Institute is a real place of learning.

Graduates of this school are holding down important positions.

The instruction laboratory consists of a complete assemblage of radio apparatus. Recently a new 1,000-watt vacuum tube combination telephone and telegraph set was installed for instruction purposes. It is the very latest design and is more powerful than the set on the SS. America or our old friend “WJZ.” This set employs four 250-watt tubes for telegraph purposes and an additional 50-watt speech amplifying tube for telephony. Transmitting on full power 2,000 volts direct current is required for the plate in the tube and 10 volts alternating current for the filament. 125 volts direct current to operate the various relays connected therewith— a wonderful engineering feat in its perfect mechanical functioning.

GET READY, MR. DEALER

A wireless outfit is bound to become an essential feature of every home in the near future.

Many residential apartment houses in New York and Philadelphia are now being equipped and the time is near when every citizen will take up the receiver after dinner to enjoy an evening’s long-distance entertainment.

Invention has produced this new wizard to amuse the people. It has come suddenly, but the “dealer in radio supplies” has had his warning and must be on the alert to cope with the demand.

AERIAL ERECTION

In putting up aerials be sure that it is well insulated from surrounding objects and that it does not hit any wood, stone or steel work. The aerial best suited for receiving is a single wire about 100 feet long, running in a straight line. A double wire aerial 50 feet long will not serve the same purpose. If the lead-in is taken on the centre of the wire only one-half of the aerial will be effective. Take the lead-in from one end.

NEWS EXCHANGE

An intercollegiate news service is being formed on the West coast. News will be exchanged between the various colleges by radiophone and radiotelegraph.
What I'd Do If I Were a Radio Retailer

By A SALES MANAGER

If I operated a retail hardware store on a busy thoroughfare I'd certainly take advantage of the current activities in wireless and would shop around until I had acquired a "complete line."

A "complete line" can be acquired by getting in touch with the nearest jobber in radio equipment.

That will do for the present—in so far as purchasing is concerned. Buying from manufacturers can come later, if prices are not properly thought of by your jobber.

The jobber has his niche in the business world—filling a proper want. The manufacturers cannot, as a rule, undertake to do business with every retailer in the hardware trade. The jobber is a USEFUL MIDDLE-MAN.

Having acquired a wireless supply I would employ my best window to help introduce my new department.

I'd dress up the window, with a wireless aerial and fully equipped and I'd put a lot of mannikins around the display and have a home atmosphere and a background to carry out the display. (The details can be worked out by the window dresser.)

To support my introduction I'd have daily wireless concerts around my part of the town—on my delivery wagon. You can equip a wireless on your automobile in nice manner and advertise in good style.

I'd engage a man who knows the difference between "metres" and "volts" to act as head of the radio department and I'd insist upon installing every complete set, free of charge—to assure entire satisfaction.

I'd hand out the slogan: "Every item guaranteed" and I'd stick to that slogan and I'd refuse to buy from a jobber or manufacturer who cannot make the same promise and keep it.

If I were in a medium-sized town I'd visit every dealer in radio equipment and form a local radio dealers' association and arrange for broadcasting of news matters of local interest.

Every community has its own interests and the so-called national broadcasting stations cannot get down to the matters of great interest in your own community.

If I were a radio retailer I'd read up on wireless and know what's to be known about radio telephony.

I'd advertise service of every kind and make my store radio centre for my neighborhood.

G. E. STOCK DIVIDENDS

The signing of a bill by Governor Miller of New York to amend Chapter 323 of the laws of 1892, entitled "An act to incorporate the General Electric Company," is expected to make it possible for the company to declare stock dividends in the form of new stock, which will have a fixed rate of interest.

In August of last year the General Electric decided to make a change in its stock dividend distribution, and instead of a 4 per cent. stock dividend paid in common stock it was decided in the future, provided legal details could be arranged, to pay 5 per cent. dividends in the shares of a new stock of $10 par value, which would not participate in future dividends, but which would bear a fixed rate of interest. It is calculated that under this plan the stockholders will receive an annual stock dividend of one share of new $10 par value stock for each two shares of $100 stock now held.

---

NOVO "B" BATTERIES for RADIO OUTFITS

19 Sizes. 22½ to 105 volts
Noiseless—Dependable—Guaranteed

Write for Prices

NOVO MFG. COMPANY
424 West 33rd Street 531 So. Dearborn St.
NEW YORK  CHICAGO
What the Manufacturers Are Doing

Western Electric Is Not a Trade Monopolist

Dealer Helps Ready

Automatic Electric Devices Co.
Has Attractive Dealer Helps

The Automatic Electrical Devices Company of Cincinnati, Ohio, have prepared some excellent dealer helps in the form of display cards and window posters designed to attract the radio fans who visit the stores of their dealers. One of the window trims, recently inspected by the editor of the Dealer Helps department of the Radio Dealer, is a beautiful example of the lithographers art, in seven colors. This display calls attention to the economy of recharging batteries with the HOMCHARGER, which this company is featuring now.

In addition to the cards mentioned this company is preparing advertising matter for their dealers to use in local newspapers, a special campaign being conducted in the radio press, directed at the consumer. The HOMCHARGER works while you sleep, advertising of this company asserts, and costs but a few cents a night for recharging batteries, working on any electric current.

TAKING OVER PLANTS

The National Automobile Accessories Company of New York city announce that they have taken over the entire output of the factories of the Pittsfield Machine and Tool Company of Pittsfield, Mass., and the Merritt Machine Company of New York City. These two factories will build wireless equipment for the NAAC company, working on specifications furnished by them, building their exclusive trade marked wireless equipment.

NEW CATALOG

The Lehigh Radio Company of Bethlehem, Pa., will shortly issue their new catalog containing a number of hints for the men who install sets costing from ten dollars upwards. The information contained in this catalog will be of the kind not usually found in booklets of a similar nature. The booklet will retail at ten cents the copy and doubtless will be of considerable value to dealers representing this company.

Radio dealers who mention The Radio Dealer in writing to Radio Dealer advertisers will be doing us a favor.

The Federal Trade Commission—the demon punisher of bad trade combinations and all that sort of bally rot—has decided to dismiss "a formal complaint of unfair competition and alleged violation of the tying contract provision of the Clayton law against the Western Electric Company of New York City."

The complaint against the Western Electric Company which is said to be the principal manufacturing agent for the American Telephone and Telegraph Company, was considered as far back as Jan. 5, 1921. Now, it is understood, action by Congress on June 10, 1921, in adopting legislation affecting the consolidation of telegraph companies has been accepted as making it uncertain that an effective order could be issued in relation to the complaint against the Western Electric Company.

One construction of this law is that it permitted, in the consolidation of telephone companies, acts which might otherwise have been looked on as violations of the Sherman law. The opinion has been expressed that where such consolidations by the telephone interests were made legal it would be difficult to control the operation of the manufacturing interests involved.

Since the passage of this law there have been a number of consolidations by the American Telephone and Telegraph Company in Indiana, Ohio and other States and a petition is now pending before the Interstate Commerce Commission for the consolidation of independent concerns with the Northwestern Bell Company.

Among the charges made was that the Western Electric Company "enters into contracts for the sale of telephonic appliances, equipment and supplies with numerous telephone companies on condition that the purchasers would not use appliances sold by a competitor."

No information is available at Washington as to the reasons for the decision.

AT LAST!

The first successful vernier adjuster which may be quickly and easily attached to any receiver or type of dial.

No up-to-date set is complete without

The "Q-R" Vernier Adjuster

Pat. Appd. For

Price, $1.50

Enables perfect micrometer adjustments and practically eliminates capacity effect from the hands.

Liberal proposition to dealers.

ROBINSON SPECIALTY COMPANY
13 Walnut Street

"YOUR DEALER HAS THEM"

Keyport, N. J.
U. S. Eagle Galena

PRICE EACH, 25 CENTS

Marvelous Crystals of Sensitivity; Improve your Radio Reception by the use of this Crystal. No better Galena on the American market. Each crystal is in a separate, labeled U. S. Eagle Galena tin. The galena itself is wrapped in tin foil, and packed in cotton. DEALERS: Write for our proposition and catalogue, listing all popular makes of Apparatus.

"If it is anything in Radio, we have it."

U. S. Radio Co. of Penna., Inc.
Manufacturers, Distributors and Importers
Corner Ferry and Diamond Sts.
Pittsburgh, Pa., U. S. A.

DON'T! DON'T!! DON'T!!!

It is not fair to promise that a $10 set—
aerial 90 feet high and 30 feet long—will,
at New York, receive from Pittsburgh.
To sell under the above conditions is
getting money under false pretences and
if you bought your sets with the above un-
derstanding get in touch with the jobber
or manufacturer and GET YOUR MONEY BACK.
Before you buy sets guaranteed to receive
from certain places ask for a demonstra-
tion.

THE KENTONE RADIO
AMPLIFYING HORN

Made of brass, highly polished and nickel plated. Fifteen inches high, six inch bell
RETAILS FOR $6.00
Write for particulars
F. C. KENT CO.
IRVINGTON  NEW JERSEY

RADIO STORES CORPORATION
Radio Supplies
146-150 West 34th Street
Penn Arcade No. 16

ALL PARTS IN STOCK
Wholesale and Retail

Fitz Roy 4655

D-H BULLETIN

"Allows for Electrical Resistance."
Featured in the Driver - Harris Co., Bulletin R-21. This bulletin gives a
general idea of the characteristics of some of the more important alloys
commonly used for electrical resist-
ance purposes.

ESSEX TUNING COILS

DOUBLE SLIDE
Make Good Loading Coils
List Price $3.00

Attractive Discounts to Dealers
3/16" Essex Sliders, 25c; Mounted Crystals,
25c; .001 Fixed Condensers, 70c; Crystal Detec-
tors, $1.50; 3/16" x 8 3/4" Square Slider Rods,
20c; Aerial Wire, Lightning Arresters, Insu-
lators, etc.

Mail Orders Shipped Promptly
ESSEX MANUFACTURING COMPANY
117 MULBERRY STREET
NEWARK, N. J.
Be More Than a Fad
Beautiful Furnishings Call for Best Radio Sets

"Radio is going to soon get over its present faddish phase," said Kenyon W. Mix, Director of The Lyra-
diolas and Engineering Company of Mishawaka, Indiana, the other day. “People of refinement and good
taste are not going to turn their homes into machine shops simply for the purpose of having a radio installation.
They are going to require the outfit to be housed in a permanent cabinet, of period design, which will harmonize
with the furniture of the room where it is installed. All that is then needed to connect up the machine will be a
couple of jacks in the floor."

Mr. Mix’s organization, aside from manufacturing the Lyridias, which is a combination of phonograph and
equipment and radio equipped with the patented am-
plyfying Seabrook Horn, are also manufacturing cabinets to house radio receiving sets already in use.

FEDERAL AMPLIFIER
The Federal Telephone & Tele-
graph Co. are offering new amplifying
units-type No. 8 consisting of a
Detector and one-step Amplifier, and
No. 9, a two-step Amplifier. The
units are equipped with automatic
filament control jacks, which greatly
improves the useful life of the vacuum
tube.

GREBE BULLETIN NO. 202
The A. H. Grebe Co., Inc., of Rich-
mond Hill, New York, have issued their bulletin No. 202 covering inter-
mediate-wave regenerative receivers.
The Grebe Company made a wide line
of radio apparatus and are well known
throughout the trade.

COAST REPRESENTATIVE
Harold Cunningham of 829 Golden Gate
Avenue, San Francisco, Calif., is Pacific
Coast representative of the National Auto-
mobile Accessories Company Radio di-
vision.

LATE FOLDERS
Late folders received by the editor of
"Dealer Helps" were those of Radio Ser-
vices & Manufacturing Co., 110 West 40th
Street, New York City, whose factory is
located at Lynbrook, L. I., the National
Metal Molding Co., of Pittsburgh, and
the Metropolitan Electric Manufacturing Co., of Long Island City, N. Y.

Got a good idea on selling radio equipment? Send it along, help the other fellow and he’ll help you.

New Manufacturers
Dodge Sound Amplifiers, Brooklyn, wire-
less apparatus, $30, to J. Dodge E. F.
Quinn (Attorney, H. McLms, 63 Wall
Street, N. Y. City).
Universal Electric Co., Jersey City, $100-
00; Edward A. Markley, Jersey City;
Frank H. Gates, Newark; William F.
Markley, Weehawken, N. J.
McPhilen Radio Electric Corp., Jamaica,
make instruments, $20,000; M. Fisher, M.
Jacobs, M. Bernstein. (Attorneys, Fisher
& Deima, 38 Park Row, N. Y. City.)
Federal Radio Laboratories, Elmira,
$10,000; F. B. Johnson, J. K. Whitaker.
(Attorney, H. S. Thayer, Elmira, N. Y.)
Flatbush Storage Battery and Radio
Corp., Brooklyn, $10,000; J. G. and M. S.
Miller, A. Delong. (Attorney, R. C. Addy,
44 Court St., Brooklyn.)
Radio Equipment Products Corp., Man-
hattan, $100,000; G. W. Rocklein, J. C.
White. (Attorney, J. G. Fenster, 206
Broadway, N. Y. City.)
Universal Radio Corp., manufacture,
$250,000; Frederick Keller, Philadelphia;
Walter Marsden, Merchantville, N. J.;
International Radio Corp. of N. Y.
Manhattan, apparatus, $20,000; R. K.
Thistle, H. C. Hand, A. R. Myers. (At-
torney, S. Ryan, Albany.)
Baldwin Radio Electric Mfg. Co.,
Brooklyn, $7,500; A. H. Rodde, M. Bal-
dwin, C. G. Swenson. (Attorney, J. I. Brien,
1402 Broadway.)
Sterling Radio Mfg. Co., Manhattan,
$10,000; C. Distelfeld, S. McGovern. (At-
torney, S. Brand, 347 5th Ave., N. Y. City.)
General Radio Equipment Manufacturing
Co., Wilmington, $300,000. (Corpor-
tion Trust Co. of America.)
Park Radio Corp., equipment, $100,000;
S. L. Parks, D. H. Sims, H. L. Brooks,
Pittsburgh. (Capital Trust Company.)
United Radio and Electric Co., $100,000;
Louis L. Parrott, Alvin R. Parrott, New-
ark, N. J.; Noyes Shanughnessy, New-
York; (Arthur B. Magee, Dover, Del.)
Sleeper Radio Corporation, apparatus,
$25,000; C. B. Stranahan, M. Arthur,
C. O. Castell. (Attorneys, Avery & Whit-
ing, 5 Nassau street.)
Dry Battery Sales and Service Corpora-
tion, Buffalo, N. Y. Increased its capitaliza-
tion from $20,000 to $250,000.
United Radio Company, Wilmington,
Del. Capitalized at $750,000 to make in-
struments.
National Radio Electric Corporation,
Wilmington, Increased capitalization from
$300,000 to $1,200,000.
Champion its corporate name to Champion
Electric Appliance Mfg. Co., Inc.
The Dependable Radio Co., New York;
wireless instruments, $500,000.
Union Radio Corp, Manhattan, make
radio apparatus, 1,000 shares preferred
stock, $100 each; 5,000 common, no par
value; active capital, $11,000; G. C. Sher-
mak, H. Morgan, N. A. G. Jackson, N.
(Attorneys, Bloomfield & Bloomberg, 1,482
Broadway, N. Y. City.)
The Electric Securities Corporation has
changed its corporate name to Ashland

Send us your local advertising for
criticism. No charge for this service.

RECEIVE with an
Atlantic Jr.
Radiophone Crystal Receiver
Complete with Attractive Receiver Cabinet
High Sensitivity
Double Headphones
Antenna Equipment
$18
UNIQUE IN DESIGN
AND CONSTRUCTION
Distributors Communicate with
Atlantic Instrument Company, Inc.
13-31 Park Row
New York

Sharply Toned
Stations Best
Necessary for Both Receiver and Transmitter Be Sharply Tuned
By Ollie Engstrom.

There are two main reasons for the inter-
ference of wireless stations. They are the
broad tuning of the transmitting station
and of the receiving station. If the trans-
mitting station should be sharply tuned
and the receiving station broadly tuned,
interference could not be eliminated.
The reverse condition also holds true.
Therefore, to minimize interference, both
receiving and transmitting stations must be
sharply tuned. I can safely say that most
of the amateurs have their transmitting
stations adjusted properly. But since cer-
tain companies have placed broadly tuned
receiving instruments (which are easier for
the layman to operate) on the market,
considerable interference has been noticed.
In my own case, I have a home-made
but sharply tuned receiver and I listen to
the music without interference from ama-
teur stations. The music is transmitted
on 350 meters and the amateurs are trans-
mitting on a 200-meter wave. If the proper
instruments are used—that is, inductively
coupled instead of conductively coupled
receivers—practically all interference can
be eliminated.

SIX EDITIONS OF CATALOG
When you look over the catalog of the
Radio Corporation of America one under-
stands why they have been forced to send
the plates for this book to the printers for
six editions. Handsomely printed, with an
attractive colored cover, this little booklet
contains half a dozen pages of general
information of interest to the amateur as
well as nearly fifty pages of descriptive
matter illustrating the equipment they sell.
This book is sold to amateurs for twenty-
five cents.

The Radio Dealer is a publication for
the dealer—write and tell us how
we can make it of more service to you.
With the Factories

A GOOD FACTORY
A. H. Smith, manager of the Manufacturers’ and Inventors’ Electric Co. of New York, operates a general shop for the production of radio equipment for wholesalers. They have a most complete plant, and it is the Smith pride that they can make scientific and precise instrument parts.

HOUSE OF STAPLES
Walter A. Cohen, manager of the Radio Department of E. B. Latham & Co., electrical supply wholesalers, reports the house is busy on the staples they feature. They’re at 550 Pearl street, New York.

G. O. RUDKIN IN NEW YORK
G. O. Rudkin, “the Rockville Centre radio expert,” expects to establish headquarters at New York very soon, and he will feature a general line of radio supplies to the retail trade, as well as selling the specialties which he now makes in his factory.

MAKE RADIO EQUIPMENT
The Universal Electric Co., recently organized by Edward Markley, Frank H. Gates, Henry E. Forscutt and William F. Markley, will manufacture electrical instruments of every sort, including radio apparatus.

NELSON EQUIPMENT
Antenna wire, put up in 100-foot coils, is featured by the J. R. Nelson Co. of Newark, likewise Insulators and Tuning Coils and Treated Tubes.

DEFOREST EVERYMAN
The DeForest Everyman, a highly efficient set for the reception of radio broadcasting within a range of thirty miles, is one of the features of the Shontz Radio booklet issued by H. B. Shontz Co. of New York.

SAYRE-LEVEL PRICE LIST
Bulletin No. 7, March, 1922, is a four-page folder issued by the Sayre-Level Radio Co. of Philadelphia, showing prices on radio apparatus of every description.

WIZARD BATTERY
The Wizard “B” Batteries offer longest service “B” batteries at low prices, and their circular indicates these batteries are made in eight different types.

ASK OUR SERVICE BUREAU—see advertisement on page 31—it’s free. Ask Our Service Bureau.

RADIO DEALERS:
We are Jobbers for many manufacturers of high class Radio Apparatus and supplies, including
DeForest Radio Tel. & Tel. Co. Federal Tel. & Tel. Co.
Western Electric Company Weston Electrical Instr. Co.
King Am-Pli-Tones

We are prepared to co-operate with responsible Dealers in Radio Apparatus and Supplies, and to furnish expert Radio Sales Service.

Correspondence solicited.

EAGAN RADIO SUPPLY SERVICE
Eagan Building
Near Hudson Tube Terminal
Near Hudson Tube Terminal
HOBOKEN, N. J.
Telephone, Hoboken 105 and 106

“Euraco”
Mica Grid Condensers
Price 60 cents
(Designed to fit Standard Grid Leak Base)

“Euraco” Condensers are composed of Copper Sheet and Best Grade India Ruby Mica, and are entirely Hand Made.

Manufactured in following capacities:
.00025 Mfd—Correct for Myers Radio-Audion RAC-3
.0001 " —For Special or Experimental Circuits
.0025 " —Correct for Super-Hetrodyne & UV 201
.005 " —Correct for Radiotron UV 200

Condenser—Leak Mountings
Bakelite Base with Single Mounting.......................... $ .40
Bakelite Base with Double Mounting.......................... .60
Bakelite Base with Triple Mounting.......................... .80

EUROPEAN RADIO COMPANY
1342 East 22nd Street BROOKLYN, N. Y.
MANUFACTURERS
Getting the News Via the Light Socket

A new method of broadcasting news, concerts and lectures by radio telephony whereby an electric lighting circuit, connected at one end with transmitting apparatus and at the other end with receiving apparatus, is used instead of any antenna, was demonstrated at the headquarters of the United States Signal Service, last week, by Major Gen. George L. Squires, Chief Signal Officer of the army, and the inventor of the system. The new method, General Squires believes, will relieve the congestion of wireless broadcasting in the air and make radio telephony more widely available.

In the demonstration General Squires removed a lamp from a socket on his desk and inserted a plug, connected with his receiving apparatus. Two lamps were burning in other sockets of the lamp, showing that the electric light current was unimpaired. The sender of the message had his apparatus plugged in on the circuit in another part of the city. All antennae, whether outdoor or indoor, were done away with.

Broadcasting of various wave lengths may be conducted over the electric light lines with no more interference than in the air, it is said. All that is necessary to prevent interference is for the tuning to be correct. For instance, three or more concerts might be sent over the electric light lines in three or more wave lengths, and the listener, with his apparatus plugged in on a lamp or wall socket, could tune up or down for the particular message he was seeking.

An interesting feature of the new plan is that the receiving amateur, tiring of hunting for messages through the air, could connect with the lamp or wall socket and hunt for messages traveling over the electric light line, while at the same time his wife was using a vacuum cleaner, a fan was cooling the room, lights were burning and all the other electric accompaniments to a home were being employed.

By diverting local broadcasting to electric light circuits in a city it would be taken entirely out of the ether. It might be possible under the Squires plan to use the electric lines further than locally, if they extended from city to city. Limitations in this respect are declared to be only confined to the extent of the systems.

At the Travel Show

Many Radio Men at Grand Central Palace


BIG CHICAGO SHOW

Milo Estabrook, well known in the exposition world for his national hotel and chemical shows at Chicago, is arranging to hold a National Radio Exposition in the Leiter Building from June 26 to July 1. This should be a winner.

PITTSBURGH EXPOSITION

Plans are being perfected to hold a radio exposition in Pittsburgh about April 15, and many manufacturers have already signified their intention of exhibiting at Pittsburgh at that show.

BROOKLYN SHOW

Brooklyn is to have a radio equipment show at the armory of the 27th Division on Dean Street, to start April 3, and will be managed by the Radio Exhibitors' Syndicate.

BASEBALL SCORES

Arrangements are being made to broadcast the baseball scores of the big leagues from the General Electric radio station in Schenectady and the Radio Corporation-Westinghouse station in Newark. It is planned to send them out at 7 o'clock each evening, when complete scores from all leagues will have been received.

THE NEWARK SHOW

Newark is to have a radio show at the Robert Treat Hotel, on April 12, 13, 14 and 15, and the sponsors—the Newark Ledger—look for a big outpouring of radio amateurs, dealers and manufacturers. The show space has already been sold and the 60,000 amateurs, in and about Newark, are all set for the event.
What the Newspapers Are Saying About Radio

"Radio development must be encouraged because it provides amusement for young and old and it is therefore imperative that the users must be properly protected.

That's the opinion of the New York Herald.

The sentiment of the country as expressed in the daily newspapers for radio control—for the protection of the amateur. The amateur is responsible for the present activity in the radio world and no restrictions should be placed on the amateurs who have developed wireless telephony.

"There is no reason to limit the number of receiving sets," says the San Antonio Express, "if the sending stations offer the difficulty. They must be limited. Secretary Hoover will do his part to protect the people's rights in the use of the wireless phones,' but Congress must uphold his hands. Present law is inadequate to remedy the situation."

The Morning Herald of Uniontown (Pa.) appeals for consideration for those who use the radio phone as a source of pleasure. "To those who use the new means of communication as an odd-hour pastime, the decisions of the conference are of the utmost importance," it says. "Upon the outcome is dependent to a large extent the measure of enjoyment they are to derive in the future."

"The world owes the amateur much," says the Detroit News, "moreover it is the tradition of the present age, wise by hard bought experience, to welcome the assistance of inquiring minds in its search for the mysterious services nature may perform. That some form of regulation is becoming necessary no one denies. But it will not take the form of harassing the enthusiastic amateurs who are educating a whole nation in the contemporary development of a marvelous utility."

The Indianapolis News desires speedy action. "It is important that whatever is done be done quickly, it says, "because the service is expanding at an astonishing rate. Broadcasting evidently will have to be controlled and a definite code established."

"The atmosphere is all in a mess, so cluttered up and littered over with messages of all sorts and conditions," says the Columbus Dispatch, "that the proverbial din of a society reception is reduced by comparison to something approaching what we used to call a 'dead silence.'"

"The only solution," says the Rochester Herald, "seems to rest upon the fixed establishment of wave lengths, reserving the longer lengths for the sending of important government messages, etc. But it is going to be no easy task to convince the thousands of amateurs that they have not the right to use the air as they see fit."

The New York Herald also wants proper protection for users. "Radio provides so much entertainment and pleasure to so many persons, old and young," that paper says, "that its development must be encouraged in every way, and one of these ways is to protect the art from abuse by ignorant persons."

Looking into the future, the Campaign News-Gazette says: "So far the wireless sends only sound and electric waves. Next discovery will be way to send sight waves through the air. Then you'll look into a glass on your wireless receiver and see what's happening thousands of miles away."

Declaring that the radiophone "has started a veritable craze" in this country, the Wichita Beacon says this "makes it necessary for the government to invoke a power which is one of the most ancient and established but new in its application because of changing conditions."

WIRELESS ON TRAIN

The first railroad in the United States to equip a train with a wireless for the use of passengers is the Chicago, Milwaukee and St. Paul, which announced last week the installation of radio sets on its Pioneer Limited trains between Chicago and St. Paul and Minneapolis. News received en route will be posted for the benefit of travelers as fast as it is received.

A RADIO WALKING STICK

The radio cane is the latest. Brigadier General Squiers, chief of the army chemical warfare division, and well known radio scientist, is going to have one.

General Squiers has worked out the specifications for an extremely compact radio set, so designed that it will fit inside a walking stick of average size. Wherever he takes his cane, the general says he will be in touch with what the radio waves are saying.

NO DIFFERENCE

There is no difference between a radio-phone receiver and a radiotelegraph receiver. Any receiver will respond to signals or music from the broadcasting stations.

The Retail Radio Dealer Must Be Protected

THE RADIO DEALER wants it plainly understood that this is no "house organ."

The RADIO DEALER aims to be an honest-to-goodness dealer's paper and has but one mission and that is to stabilize a new and growing industry.

Manufacturers are asked to advertise because it will benefit them. The retail trade is a receptive mood and wants to make the acquaintance of reliable manufacturers. Only reliable manufacturers and wholesalers will be permitted to use the columns of this dealer's paper. That is to be our idea for all time.

The RADIO DEALER is published by practical business men. It has no desire to feature "radio beginner's stories" nor stories about the amateur fan. The consumer papers, in the radio field, are properly showing the "fan" the Mathis direction.

The RADIO DEALER doesn't believe the retailer needs rehashed scientific article on the many parts of wireless equipment, because the business man learns best by personal contact.

The RADIO DEALER urges reliable manufacturers to advertise their wares and their good names. If they cannot see their way clear to advertise to the retail and jobbing trade, they are shortsighted, indeed.

Conditions will change, some of these days. We will be in a buyer's market, not a seller's market. THERE IS A DIFFERENCE.

The wise business man advertises when "the going is good." That's the way to keep a-going. If you have a business "rep" help it along by advertising.

If you're a fly-by-night you cannot advertise in this paper.

The retail dealer must be protected and helped. That's the mission of the responsible manufacturers in radio equipment.

TEACHING OPERA

Students in the modern opera course at Indiana University have grand opera brought to their classrooms by wireless. John L. Geiger, who conducts the course, explains the theme of the opera to be heard every evening, and during the performance interprets the operas as they are given.

410 FEET HIGH

Each tower of the Radio Corporation's mammoth station at Rocky Point, L. I., is 410 feet in height, and the cross-arm or brace supporting the antenna wires at the top is 150 feet long. Eighteen hundred tons of steel were used in the erection of the first twelve towers.
With Jersey City Retailers

H. A. Bremer, proprietor of the Hudson City Radio Shop, 89 Franklin street, Jersey City, has been successful in constantly procuring quantities of head sets and so, you can imagine, the Bremer shop is a popular place.

A number of cigar stores in Hudson County, are now adding radio equipment to their stock and are doing nicely.

The Blue Electric Shop, 667 Ocean avenue, with two other stores—one at 180 Monticello avenue and the other at 75 Newark Avenue—features the services of John Bodine, former U. S. Navy radio expert. John tells the folks all that is to be told and the customers are satisfied.

The Jersey Review of Jersey City conducts one of the best “radio pages” that is published, featuring readable items along practical lines.

The Eagen Radio School, part and parcel of the Eagen Business College, is featuring a well-arranged for course for those who desire to become operators and the graduates readily acquire an operator’s license. In addition to the “school business” the Eagen shop carries a most complete line of radio outfits, parts and supplies, including the Everett line. They are in Hoboken.

Johnson & Laing are indeed wireless telephone specialists, making complete sets, featuring the R. A. C. Audion Meyer's Tube, for which they are New Jersey distributors.

W. Laing, of this firm, says the average person, when first installing an outfit, is careless about aerial and ground connections. When the metal is bright all is good, but after a while the aerial and lead-in become coated and preto—the amateur is disgusted. This can be prevented by soldering all connections.

The Philadelphia Diamond Grid Battery is featured by the Jersey City Storage Battery Co., 2381-83, Boulevard. This battery enjoys a two-year guarantee and they advertise their service car will call for and deliver batteries and furnish a rental battery for 25 cents per day. You can tell the folks their service car is busy.

asked to say something for the Radio Dealer Al Levine, of the Arrow Electric Co., 388 Jackson Avenue, says: "The advent of spring and the possibilities of thunderstorms means that the radio fan must prepare to eliminate the danger of lightning striking his antenna." He continued by giving his Jersey Review interview, which is as follows:

"Lightning very, very rarely ever strikes an antenna, in fact, I don’t know of a case where it ever did, but during the summer, particularly during a storm, the air is filled with static electricity which, unless an aerial is properly grounded, accumulates and is apt to damage a wireless receiving set, or cause a shock to the operator.

"There are a number of methods used to ground an antenna. Some use a two-way knife switch designed for heavy voltage, while others prefer an air or vacuum gap. This is to my mind the most satisfactory, for after it is once installed the operator can dismiss lightning from his mind. And the vacuum gap is always on the job. With a switch an operator is apt to forget to throw it and then his set has no protection. With a gap the set can be used at any time and it is protected, whereas with a switch when it is thrown to protect the set it disconnects the set from the antenna."

The Arrow Electric Company is the local distributor for the well known Brach Vacuum Lightning Arrester, one of the most efficient safety devices made to protect radio sets.

ENGINEERS TO MEET

Joint meeting of the Metropolitan Student Branch of the American Society of Mechanical Engineers will be held in the Engineering Societies Building, 29 West Thirty-ninth Street, N. Y. City, on the afternoon and evening of Friday, April 7.

Columbia University, New York University, Brooklyn Polytechnic Institute, Cooper Union, Stevens Institute of Technology, and Rutgers College will participate. The society maintains student branches in fifty-nine technical schools and colleges, and this meeting will be one of 400 to be held throughout the country during the year.

The Metropolitan Section of the Society held a Spring get-together meeting the evening of March 31 in the Building Trades Club. A dinner, smoker and entertainment were features. Several hundred engineers attended.

NEWS OF THE AIR

Tufts College, Medford, Mass., announces plans for a course of lectures by radio. Sort o’ wireless college. Lectures are to be broadcasted twice each week.

ASK OUR SERVICE BUREAU—see advertisement on page 31—it’s free. Ask Our Service Bureau.

P. O. Department Now Uses Radio

Aids in Checking Up Flyers Carrying Mail

Engene J. Scanlon, of Morris Radio Co.

Fifteen radio stations are being operated by the Post-office Department, Division of Air Mail, each station approximately 250 miles apart, stretching from Long Island, N. Y., to San Francisco, with a headquarters station in the Post-office Department at Washington.

While originally planned and installed for wireless communication and direction finding to assist pilots flying daily air mail routes, a lack of finances and equipment has prevented the use of these stations in conducting experiments in this particular phase of the wireless field.

These stations now play an important part in the communication system of the Post-office Department. Despatches and arrival of mail by airplane between the various landing fields and Washington are announced entirely by wireless. A considerable portion of the government’s emergency communication is now being conducted through these wireless stations, as shown by the December report published within the past few days, which shows a total traffic for the month as 630,273 words, or 19,505 messages. The total cost per word was $.011035.

During the same month Washington station began broadcasting with a total of 9,915 words for the period. The station at Oxnard broadcasted 20,384 words. North Platte broadcasted 11,761. Rock Springs, Wyo., 11,168 words. Elko, Nev., 5,457 words. Reno, 8,740 words. A small amount of broadcasting was also done at Cheyenne and at Salt Lake City, Utah.

Each month the amount of broadcasting is being increased. The market and grain reports broadcasted daily are giving the middle west farmers a service which is indispensable.

REPLACES WIRES

Canadian legislators are making efforts to have the government establish two powerful radio stations in the Yukon country, west Dawson and the other at White Horse.

Influence is also being brought to bear in favor of opening other stations at Stewart, Atlin and Alice Arm, B. C., in opposition to a proposal to rebuild an abandoned telegraph line in that country.
Sell Radio on Unit Plan

Public Invited to Add Units After Sectional Bookcase Idea

The Jewett Manufacturing Company of Newark, N. J., have hit on a clever idea for their advertising. It is being marketed by the non-technical amateur on the unit plan, additional units being purchased as desired.

Their latest advertising booklet, entitled "How I Put Up a Complete Radio Station in Two Hours," is devoted largely to describing how Roy Harold erected his set of "ABC units" in less than two hours' time. The story as told to the purchaser of the equipment is interesting and should make this little folder valuable as a hand out for the dealer who handles "ABC units."

The newcomer in the radio field wants his equipment more compact, as convenient to use as a phonograph, and apparatus built on the style of this advertised by the Jewett company will do more to spread the use of radio than any other one thing, in the opinion of the editor of this department. The Jewett company is to be congratulated on their progressive-ness.

BATTERY PRICE LIST

The Westinghouse Union Battery Company of Swissvale, Penna., a subsidiary company of the Westinghouse Air Brake Company, who have for many years manufactured batteries for automobiles and other uses, issued a new price list and catalog for the consumer under date of February 1922, listing Westinghouse Union Batteries for wireless plants. Westinghouse battery dealers are now in position to supply this new price list to users everywhere.

APPOINT STATE MANAGERS

The National Automobile Accessories Company of New York City announce their intention of appointing state managers for each state to handle the sale of their wireless equipment. The output of the factories of this company will be allotted to the various state managers, none of whom report any expectation of not being able to sell the full allotment.

DEALER HELPS

The DeForest Radio Telephone & Telegraph Co. furnishes signs reading: "DeForest Trustworthy Radio Equipment Sold Here."
QUESTIONS AND ANSWERS

Conducted by A. L. KONWISER, B.S.

To Our Readers. Answers to questions will be made by mail when so desired.—THE EDITOR.

U. B., Atlanta, Ga., wants to know the meaning of "A" battery and "B" battery.

The "A" battery is usually a six-volt storage battery used for lighting the filament of the audion tubes, and the "B" battery is usually a 22½-volt or multiple thereof used for supplying current to the plate of the tube.

K. Verona, asks what the Pacent-ized receiver does.

The makers say the Pacent plug, twin adapter and multijack enable one to get more out of the equipment.

B. O. wants to know how he can assure customers they will hear certain stations located at a distance from his store.

There is no "ready answer." It depends entirely upon the nature of the receiving set. Raymond F. Yates, of the New York Mail, answers it in this manner: "It is one of those 'it-all-depends' propositions. It depends upon the nature of the receiving outfit. In the case of a simple crystal receiver it is only necessary to connect a tuning coil in series with the aerial. This loading coil may simply be a few turns of wire placed around a cardboard tube. The size of this coil will depend upon the wave length desired.

"In the case of Fort Wood (WYCD) a few turns added to the aerial will probably suffice. It would probably be best to build the coil by trial. Start with a small amount of wire and keep adding to it until the signals of the stations become audible. The coil may be adjustable or it may be non-adjustable. In fact, a simple single slide tuning coil will do the trick nicely."

"For those who use regenerative receivers, it will be necessary to increase the wave range of the secondary circuit when they use the loading coil with their aerial. This can be done by connecting an extra inductance in that circuit."

"The less troublesome way, and also a very satisfactory one, is to connect a variable condenser in parallel with the secondary coil. The condenser will provide means of doing very fine tuning, which may help to do away with the interference from spark stations."

"Bear in mind that when the primary circuit is 'loaded' the secondary circuit should be 'loaded' also; otherwise there will be a decrease in the general operating efficiency of the set and a falling off in the strength of signals."

We have received an inquiry from a dealer who has an ambitious radio amateur who wants to know why his crystal set cannot be rigged up on the telephone circuit. That is, using the telephone wires as an aerial and the "ground" wire of the telephone for a ground.

This can be done, we are told, but the large aerial thus converted will no doubt yield all kinds of interference.

N. Y. Retailer asks: One of my customers wants to buy a suitable set to use in a camp in the Adirondacks. Please suggest type for 300 miles.

Being 300 miles from New York City you will need an instrument with at least two steps of amplification. To be on the safe side, suggest and recommend two steps of radio-frequency and three steps of audio-frequency amplification, used in conjunction with an aerial about 200 feet long.

Walt wants to know whether the gas pipe isn't a good ground connection.

Quite so, but it's not up to the good old water pipe.

General Squiers, of the U. S. Signal Corps has announced a method of using the electric lighting circuit. (See other pages for story.)

One of the problems which is confronting the New Yorker and in fact every big city dweller is the lightning protection which the Fire Underwriters deem necessary for every outdoor aerial. The aerial used for receiving, fortunately requires less elaborate attention than the aerial used for a wireless sending apparatus.

Briefly the Underwriters require for receiving outfits with an outdoor aerial that a wire be led to a "ground" which should consist of copper or iron plates or galvanized pipes driven into the earth. A short-gap (⅛ inch or less) or vacuum type lightning arrester must be interposed and all the wires and devices must be kept 5 inches clear from the walls.

The announcement of the new broad-casting station in New York City means thousands of new receiving sets.

Either the fire department must issue less rigid restrictions or else some electric-radio genius must devise a new means of dispersing the lightning which might strike some amateur aerial.

Otherwise the ambitious radio-noise if he obeys the law will find that the "ground" will cost more than his receiving set up.

Valley sends us a pamphlet and wants to know whether he can guarantee the set advertised will find certain stations.

Set up the set and you'll find out. That's the one sure and only test.

M. Milburn asks what is the difference between a vario-coupler and a variometer. Some types have the secondary located at the end of the primary, others through the center of the primary, and still others on a diagonal. Why is this done, and which is the most efficient to use with a crystal detector?

A vario-coupler has two separate circuits, primary and secondary, while a variometer is a single circuit tuner, having rotor and stator connected in series. The various locations of the rotor do not alter the electrical characteristics of the instrument. They are only details of construction that have been adopted by the different manufacturers.

SELL BY WIRELESS

A progressive music store in a western city sells phonograph records by radio. A powerful transmitter is used. The patrons call by wire and ask to have certain selections played. They then go to their radiophone receivers and listen to the record.

CRYSTALS

Standard Special

The only crystal on the market that is tested on a Radio Phone

Jobbers and Dealers Communicate

STANDARD CRYSTAL CO.

274 Halsey Street
Newark, N. J.

Phone: 8548 Market
Start Customers With Crystals

(Continued from page 11)

in the world. The farmer himself gets the weather reports for each day, gets the exact time each night to set his watch, gets the produce market reports and everything in general and knows just as much about all conditions as the business man of the city. Even the New York Stock Exchange reports are given out. He also hears the voices of the leading opera singers and the finest speakers in the country. Even the sailors on the ships hear the music in the holds of the ships and in the cabins of the lowly tugs. In fact, every conceivable point of advantage has been taken by those in every phase of Radio commercial life. Then again take invalids who have to lie in bed day in and day out with nothing to break the monotony except reading books or company. All they have to do now is to fit up a radio phone in the room, and whenever the sick one wishes they put the phone to the ear and listen to the finest music in the world. That is what I call the greatest kindness to human beings that any condition can create. I leave to your judgment how far the radio will go.

There is an argument along the lines that the crystal sets will be obsolete before long. The writer does not agree with them on this. It is very true that the people will want to go the limit and get the best to be had by using tube sets, but I do claim that the time will come when even those who are using tube sets will discard them for short range sets which do not require the use of batteries or dry cells. They will want that which causes them the least trouble. They will get over the idea that they want to hear Pittsburgh, Chicago and San Francisco. The music in one place is very similar to the music in other places. Why go far away for what you can hear at home? The crystal set will be improved upon. They have already arranged to do away with the aerial wire by using electric light sockets as an aerial. They are going to find some opaque substance which will enable one to hear better and clearer on the crystal sets. My advice to every one is to first use the crystal sets, then the tube sets and you will get the best results, because your mind will be more able to handle the larger sets due to advance of knowledge. The above is not only the writer's opinion but it is backed up by such leading experts as Gilbert J. Manson, who is acknowledged as one of the best in this country, and many others. Besides, letters from users all over the country bear out the above conditions.

In conclusion, I wish to state that I will be glad to answer the questions of those who feel that they would like to have information relative to radio, if they will write me direct. It is up to everybody to increase their knowledge of radio and keep abreast with the times. Radio is here to stay.

REAL BINDING POSTS

Holmes & Rice, Newark, are making real Binding Posts with a slot feature whereby there is no limit to the number of phones that can be placed thereon. These posts will take any gauge wire and have no drill holes and no tapping. They are produced in an old-established factory, which has been making screw machinery products for many years.

ADVICE THAT'S GOOD

Tell the purchaser of a complete set to leave the set strictly alone, once in operation.

Don't let the battery become fully discharged.

Shifting the amplifier tubes on a two-step often helps to increase the strength of the receiving signal.

The patient investigators of trouble have the best receiving sets.

If you don't know what to say—don't say it and ask advice.

HORNE LIGHTNING ARRESTERS

The Horne Mfg. Co. of Jersey City has a neat eight-page booklet listing their lightning arresters and other equipment for protecting homes where aerials are up all the time. This company has manufactured lightning switches and other equipment for over fifteen years, according to their literature.

CONDENSITE CATALOG

The Condensite Company of America has issued a catalog showing the varied uses of this material, which include many wireless apparatus items. Condensite is a perfect insulator, the company claims, and is widely used in this field. The booklet is a work of art and should be of interest to any manufacturer making equipment of this kind.
Wire by Typewriter

Wireless Secrecy Now Probability,
Says Morkrum

Sterling Morton, president of the Morkrum Company, one of the pioneers on the manufacture of automatic telegraph instruments, believes that wireless secrecy will soon be developed.

Experiments have been under way for months in sending and receiving wireless messages with automatic printing machines and the system has proved successful.

Sending from a typewriter key board, a typist can average 100 words a minute.

The advantage of the machines in wireless lies in an almost infinite variety of adjustments by which no machines not adjusted to the sending machine can receive the signals. To all others, even though operating on the same wave length as the sending apparatus, the signals would be only a hodge podge of meaningless characters—"a Chinese laundry ticket," Mr. Morton said.

DEALERS ORGANIZE

Retailers in radio equipment should organize.

This is the best time to get going for the future.

The RADIO DEALER will aid in this movement in every possible manner.

Who wants to stand sponsor for a retailer's club in any of the cities where radio retailing is in evidence?

Everybody speak up. Write us today. Give us the names of a few dealers and we'll act as go-between to get you started and will donate the printing and postage to get the ball a-rolling. We'll act as secretary until the first meeting.

ARE YOU SELLING?

The BEST in RADIO Telephone and Telegraph Receiving APPARATUS

GREBE RADIO APPARATUS

DEALERS: Stock What the Public Want

VIRGINIA RADIO COMPANY

Manufacturers—Wholesale

Charlottesville Virginia

RAYMOND ENGINEERING CORPORATION

Manufacturers
To the Radio Industries

PARTS AND ASSEMBLIES
ON CONTRACT

Executive Offices: 309 LAFAYETTE STREET, N. Y. CITY
Works: FARMINGDALE, LONG ISLAND

STORE SERVICE

E. W. Collison, a radio retailer at Jamaica, N. Y., doesn't believe in selling his customers a "pig in the poke." When the Collison store sells a radio set the Collison store extends proper service—first, by explaining the radio outfit and second, by installing the outfit.

This radio store has an expert radio engineer at its head in the person of George Roberts.

To All Radio Clubs

Send for our R. C. 1 Bulletin and see the plan we have to offer you on Wizard B, Withbear A Batteries and Radion 5000 volt dielectric panels and unbreakable dials, as advertised in the Radio News. Radio Club Supply House, 10726 10th St., Richmond Hill, L. I., N. Y.

BUSINESS BETTERING

Mr. Goll of the European Radio Co., Brooklyn, N. Y., announces that he has finally almost overtaken the orders which have been piling up for the last few months and is ready to give new business prompt attention. Mr. Goll, while specializing in his patented condensers, carries a full line of complete outfits, tubes, antennae and other parts.

RADIO PARTS

MADE TO ORDER

Submit Samples or Blueprints

THE AWS MFG. CO., Inc.
400 Harman St.
Brooklyn, N. Y.

Evergreen 1960
Armstrong Wins His Patent Suit

Says He Has Another "Big One" Up His Sleeve

No trans-Atlantic telephone conversation can be carried on without use of the Armstrong principle.

None of the big radiophone broadcasting stations now sending music nightly through the air can operate except under the Armstrong patent.

Also the modern multiplex form of wire telegraphy and telephony must pay tribute to Armstrong.

The word "Armstrong" is one to conjure with since the United States Court of Appeals handed down its opinion just a few weeks ago.

The court established the finality of the claims of Edwin H. Armstrong as the inventor of the radio circuit.

The Armstrong rights were determined in cases in which Lee De Forest was the defendant.

Professor Michael I. Pupin, Director of the Marcellus Hartley Research Laboratory of Columbia University, declares that the decision refers to one of the most important, if not the most important, inventions in the wireless art. He says:

"It is the invention of employing in connection with an audion a coupling which enables a local battery to contribute its energy to the amplification of a signal received in a wireless station.

"Armstrong was the first to employ, this coupling—it is called the "Armstrong Feedback Circuit."

"This invention enabled him to make another most important step in wireless telegraphy, and that is the construction of a vacuum tube oscillator.

"When the feedback circuit energized by the local source contributes more than a certain definite amount, then the circuit becomes an electrical oscillator, oscillating at the perfectly definite period which depends upon the inductance and the capacity of the controlling circuit.

"By varying either the inductance or the capacity, or both, we can produce any period of oscillation, between a few periods per second and many millions per second, and the oscillation once established, maintains its pitch indefinitely.

"It is a generator of electrical oscillations, maintaining its pitch with a degree of accuracy never before ob-}

The LATEST and BEST Radio Books

Radio Hook-Ups, by M. B. Sleeper.................. $ .75
Radio Design Data, by M. B. Sleeper.................. .75
Construction of New Type Trans-Atlantic Receiving Set, by M. B. Sleeper.................. .75
Construction of Radiophone and Telegraph Receivers for Beginners, by M. B. Sleeper.................. .75
How to Make Commercial Type Radio Apparatus, by M. B. Sleeper.................. .75
Wireless Telegraphy and Telephony Simply Explained, by A. P. Morgan.................. 1.50
Experimental Wireless Stations, by P. E. Edelman.................. 3.00
A B C of Vacuum Tubes Used in Radio Reception, by E. H. Lewis.................. 1.00

FREE! Catalogue of Wireless, Automobile and Other Books Sent Free on Request

The Norman W. Henley Publishing Co.
2 West 45th Street, Dept. T, New York
Take Elevator to Sixth Floor
LIBERAL DISCOUNT TO SUPPLY HOUSES
Radio Laws and Rules

Protect the Retailer
He's Here to Stay

Radio enthusiasm is something which has gripped the country and is "here to stay."

The small expenditure to the public for a great deal of amusement and knowledge makes for the continued interest of the radio fans.

The stampede may be over in certain cities, but it has to make its appearance in other cities of equal size. During the recent months the investment for equipment has been in the neighborhood of $5,000,000.

It has been astonishing, even to those on the "inside."

The expenditures already made and those to follow are entirely justified.

Here is one industry without an enemy. It has been welcomed from every angle. This important business must now be reckoned with as a factor in American industry. Factories are keeping busy on equipment, wholesalers are busy and the new crop of radio retailers are reaping their reward, as is befitting their energy and foresight.

But, what are the manufacturers doing?

Mainly, what are "the big fellows" doing? Do they intend to keep the market open to all jobbers and retailers? Have they any idea of monopolizing the retailing of radio equipment?

The Radio Dealer believes the retailers in radio equipment are to be properly protected by the big and the little manufacturers.

The Radio Dealer believes the retailer should be protected and the present "spoken word" of "the big fellows" points to a happy business association between manufacturer, jobber and retailer.

Some of the papers devoted to the amateur wireless folks have no kind word for the retailer. This isn't fair to a class of business men who are indispensable.

The radio retailer, with his stock and his variety of supply, makes for easier purchasing on the part of the radio amateur. The radio amateur cannot write letters and buy his entire equipment by mail.

It isn't fair to expect the radio fan to remain a mail order buyer. Obviously, the manufacturers must line up in support of the retailer.

SAVES 4 DAYS

Four days' time formerly consumed by mail communication is now being saved by the Corner Lumber Company of Johnswood, Drummond Island, Mich., by the installation of radio service.

The mail ordinarily takes several days to go from Johnswood via the Soo to the mainland of Michigan. Important communications are now sent by radio to Sheboygan, and W. W. Kathan, local operator, forwards the letters from there. He also directs replies mailed to Sheboygan. They are repeated by radio service between the two places.

WHAT DOES HE SAY NOW?

"And how far do you think a dispatch could thus be sent?"

"Twenty miles!" (replied Mr. Marcon.)

"Why do you limit it to twenty miles?"

"I am speaking within practical limits, and thinking of the transmitter and receiver as thus far calculated. The distance depends simply upon the amount of the exciting energy and the dimensions of the two conductors from which the wave process."


ESTIMATING FANS

There is no available genuine estimate of the total number of receiving stations. It long ago passed the 600,000 mark and this total is being increased daily.

Radio dealers who mention The Radio Dealer in writing to Radio Dealer advertisers will be doing us a favor.
Introducing the Morscan Radio Company

Progressive Newark, N. J. Manufacturers Have Been Growing Since 1910

Away back in 1910, when wireless activities were confined to Governmental folks and amateur electrical enthusiasts, Albert J. Morris, "a Newark paint and oil retailer," sensed the thought that the wireless endeavor would lead into practical fields.

Visualizing the future, Morris began dealing in radio equipment and gradually developed from the retail field into the wholesale and manufacturing field.

Then his friend, Eugene J. Scanlon, left the army, after its victories in France, and they formed the Morscan Radio Company.

This is a jobbing and manufacturing concern and they are distributors for the Everett Electric Corporation, the Federal Tel. & Tel. Co., and other factories, featuring the complete line of products made in these factories.

For the Everett Corporation they sell the famous Everett 3,000 Ohm Double Radio Receiver, the Everett Crystal Detector and the Everett Fixed Condenser.

For the Federal they feature everything made by this reputable concern.

And as manufacturers they offer Insulators, Mounted and Unmounted Galena, Galena Cups, Binding Posts, Contact Points, Sliders, Switch Levers and a 2500-Metre Wave Tuning Coil.

Their line is so complete that they are prepared to equip any retailer with a complete line. It's their pride that they have equipped many radio departments in large department stores.

"We admit we're good—make us prove it."

MORS CAN FIXED CONDENSER

MORS CAN INSULATOR

That's a slogan started, in a smiling way, but it has become a staple in New Jersey, where the Morscan name is known to every radio dealer and manufacturer and to thousands of "fans."

The Morscan policy is one that makes for better trade conditions. Theirs is an up-building policy—a policy of service to the retailer and jobber.

The Morscan Radio Company is equipped to be of proper service to the trade and they like to quote prices.

The obvious thing is "to put it up to Morscan" and the result will be all that is desired.

Al Morris is a typical American business man of the "let's do it now type." No frills, nothing fancy—just business activity along proper lines.

Gene Scanlon, ex-soldier, served Uncle Sam's Post Office as Chief of Supplies, Air and Mail Division.

Eugene knows radio from a scientific standpoint, due to his army activities, and, besides, is a real business man.

It is not to be wondered at that the Morscan Radio Company has a host of friends and admirers in the radio trade.

The Radio Dealer recommends the Morscan Radio Company. Concerns like this make for better business conditions.

So, good readers, don't overlook the important fact that you should get in touch with these folks. See their adv. on another page. Ask them to quote.

This is a reminder to our readers. It's our policy to boost when we can, and we shall boost only bona-fide dealers, reliable folks who make good on their promises.

Tell the world we're for the Morscan Radio Company, real jobbers and manufacturers, of Newark, N. J.

The Morscan Insulator is a good insulator and every aerial needs a good insulator. The Morscan goes to the trade at $100 the thousand, F.O.B. Newark, packed 500 to the case, net case weight 73 pounds.
April, 1922    THE RADIO DEALER

"WE ADMIT WE'RE GOOD
— MAKE US PROVE IT."

Morscan Radio Company
A. J. MORRIS    EUGENE J. SCANLON
196 MARKET STREET,    NEWARK, N. J.

Manufacturers and Distributors of
Insulators, Mounted and Unmounted Galena,
Galena Cups, Binding Posts, Contact
Points, Sliders, Switch Levers, and
2,500 Metre Wave Tuning Coils

Distributors for the Federal Telephone and Telegraph
Company for all their high-grade radio equipment

Sole Distributors In New Jersey and Pennsylvania
For the Complete Line of Radio
Equipment made by the Everett Electric Corporation of New
York, featuring the Everett 3,000 Ohm Double Radio Receiver;
the Everett Crystal Detector and Everett Fixed Condenser

RETAILERS AND JOBBERS
INQUIRIES SOLICITED

TWENTY-FOUR HOUR
DEALER SERVICE

www.americanradiohistory.com
Three Hundred Dollars Stock
For the Beginning Retailer

Frederick W. Warriner, Secretary of the John N. Lindsley Company, at Orange, N. J., writing in the last issue of Hardware News, recommends the following assortment of radio equipment for the dealer just starting in business:

1 Telegraph Key ................................ $ .50
2 Buzzers ....................................... .86
2 Formica Panels 7x10 .................. 2.88
1 Formica Panel 7x18 ......................... 2.40
1 Formica Panel 12x14 ...................... 2.80
1 Simplex Voltmeter .......................... 4.50
1 J J M Variometer ............................. 3.75
1 Simplex Vario Coupler ....................... 4.50
1 J J M Vario Coupler ......................... 3.75
1 dz. Fixed Condensors ...................... 1.13
1 Rheostat ...................................... 1.14
3 Vacuum Tubes No. 200 ................... 11.25
3 Vacuum Tubes No. 201 ................... 14.64
1 dz. Crystal Detectors ...................... 6.72
6 P. Murdoch Phones ......................... 27.00
1 Marvel Set .................................... 11.25
6 B Batteries .................................... 9.50
100 Switch Points .............................. 1.00
6 Switch Levers ................................ 2.94
25 Phone Condensors ......................... 6.50

25 Gridleke Condensors ................. 6.50
25 Ball Insulators ............................. 6.00
25 Coils, Aerial Wire ......................... 13.70
2 Lightning Switches ....................... 6.60
100 Spade Terminals ......................... 1.00
2 No. 50 Honeycomb Coils ............... 2.40
2 No. 75 Honeycomb Coils .................. 2.40
1 No. 100 Honeycomb Coil .................. 1.25
1 No. 150 Honeycomb Coil .................. 1.30
1 No. 200 Honeycomb Coil .................. 1.35
1 Honeycomb Coil Mount .................... 4.50
1 Murdoch Loose Coupler ................... 7.20
10 lbs. Brass Rod ............................ 2.90
50 Slides ..................................... 5.50
100 Binding Posts ............................. 6.00
1 Assorted Paper Tubes ..................... 5.00
10 lbs. 18 C. C. Wire ....................... 3.90
10 lbs. 20 C. C. Wire ....................... 3.90
10 lbs. 22 C. C. Wire ....................... 4.20
10 lbs. 24 C. C. Wire ....................... 4.60
10 lbs. 26 C. C. Wire ....................... 4.80
25 Ground Clamps ............................ 2.75
2 3-inch Dials ................................ 2.25
2 Variable Condensers ....................... 7.12
50 Crystals ................................... 7.50
2 Rec Sets Complete ......................... 37.50

Total ...................................... $276.19

One Price to All!
Must Prices Be the Same to Everybody?
"Must the Eastinghut sell me at the same price as he does in the big department store?" One of the readers of the Radio Dealer asks that question.

Price control has been considered many times by the Federal Trade Commissions and almost always, the query has been the same: prices for jobber and retailer and in almost every instance the decisions have not been pleasing to the manufacturers. Manufacturers have, it is agreed, a right to select their customers but it is not legal for them to make any agreement with their customers as to whom they must sell.

Recently a co-operative buying case was decided and it now appears as if the status is that the manufacturer must sell his product if they are uniform in quality, at absolutely the same prices for similar quantities to every purchaser, whether wholesaler or retailer, chain store or co-operative group.

Also, the discounts to one must be the same to all. So it seems "one price to all" prevails.

U.S.

U.S.

Vacuum Tubes
Vacuum tubes are in constant demand in excess of production—at this writing—but the indications point to a sufficient supply by the end of April and from that time the manufacturers will be able to cope with their requirements.

But the radio business is increasing daily, and it is an evident fact that there will be no over production for some time to come.

When "normal times" do come, the wise manufacturers who "make themselves known" by advertising, their name and product will thrive and "the other fellow"—the get-rich-quick type—will drop by the wayside.

The vacuum tube business will not drop off, however, because it is essential with every "loud speaker."

Not So Bad, Say We
The report for the Western Electric Co. for the last twelve month period showed total sales of $192,657,313, as compared with $207,858,575 in the previous year.

Net earnings were $10,166,337, as against $8,877,414 in the previous year, equal to $12.35 a share as against $12.11 in the previous year.

The surplus is $823,997.

Radio dealers who mention The Radio Dealer in writing to Radio Dealer advertisers will be doing us a favor.

The Radio Dealer is a publication for the dealer—write and tell us how we can make it of more service to you.

Air Advertising 
Can't Be Sold Now

The time is not ripe for air advertising.

The air is bound to be employed by the folks as an advertising medium but the time is not ripe for this newest feature in advertising.

This statement is made with due deference to the value that can be developed, from an advertising standpoint, the use of the air.

The amateurs are considered and for the moment the consumer is mostly to be pleased—which is a thing that happens in all lines of business endeavor.

Your customer is always right!

Today's air customer—radio amateur wireless expert and radio fan—wants no advertising in the air. Propaganda he will stand for, someone he likes to hear and if at any time "the government" has a message for all the people our radio folks will listen and heed.

Any attempt to "damp" out "advertising stunts" should be nipped in the bud now and quickly.

The amateurs are entitled to the use of the air—governmental use excepted—and radio amateurs will never concede anything else.

It is true "feeler" are already out. Lines of inquiry are being developed by certain "interests" and they have been assured of "advertising orders," but the first result of a real attempt by advertisers to control the air, to be and should be met with firm resistance.

The folks who are radio fans are naturally, like you and the other chap, nice peaceful folks and like the average citizen will "stand for a lot" but only right comes to monopolizing the air for mercenary (advertising) purposes a real man-sized vocal rebellion can be expected.

Can't trade-beau-tellers of air advertising anticipate interference when they start broadcasting advertising?

If they don't they must, regard most of us as perfect "dampfords."

Do these would-be monopolists really believe that any "Washington bureau" will permit the air to be reserved for advertising purposes?

These wise would-be radio advertising monopolists are on the wrong end of a wonderful idea.

This is not the right time to sell air advertising.

Coast to Coast

Radio telephony has spanned the continent, according to a telegram from the San Francisco Chronicle to the General Electric Company which announced that the concerts at the Schneckedy station have been heard on the Pacific coast.

The Rock Ridge station is at Oakland, across the bay from San Francisco. Officials of the General Electric Company said the previous farthest point reached from the Atlantic seaboard was Reno, Nevada.

Several hundred miles of copper wire are buried at the big trans-oceanic radio telegraph stations as a ground connection.
LET OUR FREE SERVICE BUREAU HELP YOU SUPPLY YOUR NEEDS

Tell us your needs and we'll put you in touch with reputable firms to the end that you will receive information on the latest and best equipment. A post card will do.

Check off the following items that you are interested in.

Aerial wire detectors mica diaphragm telephones safety fuses
ammeters detector panels microphone transformers sending apparatus
amplifier detectors detector tubes millimeter transformers short wave regenerative
amplifier tubes detector minerals millimeter-voltmeters sets
amplifying head sets detector and two stage cabinets milli-voltmeters
antenna switches dials motors
antenna switches dials
antenna, loop dials
antenna wire dial and knob sets double speed keys
two stage cabinets
antenna switches
attachment plugs dry cells
audible transmitters Ear cushions
audio frequency transformers ear 'phones
transformers
automatic transmitters electrose knobs
Detectors Galena
Detectors gaps, spark
Detectors generators
goldite
grid condensers
grid condensers
ground clamps
ground pipe fittings
ground switches
ground wires
Heads and bands
Headsets and bands high potential condensers
Headsets and bands一本书
High potential condensers
hookswatches
horns
hydrometers
Inductances
Insulators insulation
insulation
Jack's
Keys
knobs
Learners sets
Learners sets
Levers, switch
Levers, switch
learners books
Lightning arresters
Loose couplers
Looking speakers
Locked lever switches
lock nuts
loop antenna
lug's
Magnetic modulator
mica

mica diaphragm telephones
microphone transformers
millimeter transformers
millimeter-voltmeters
milimeter-voltmeters
motors
mounting coils
minerals
Name plates
nickeled screws
nust
Omnigraphs
oscillation transformers
Panel plugs
panels control
panels detector
panels formaica
Paper tubes
patent wire
patent wire terminals
plate circuit reactor
phones
plugs, panel
plugs, telephone
pointers
points, switch
posts, binding
potentiometer, battery
professional equipment
power tubes
power transformers
Range finders
radio books
radio receivers
radio schools
radio publications
reactor, plate circuit
receiving head sets
receiving sets
receivers
receiver transformers
receiver magnets
receivers transformers
rectifiers, fore
reheotsats
reheostat wire
rods for sliders
rotary lever switches
rotary spark gaps
rotary spark gaps
rotary variable condensers
rubber pads
rotors
Stator sections
scales
safety switches

SERVICE BUREAU, THE RADIO DEALER,
1133 Broadway, New York City.
We are interested in the items checked above. Please have firms selling them quote us prices and terms. We are dealers in radio supplies and apparatus.

Name ........................................
Address ........................................
City ...........................................
An Open Letter to the Manufacturers of Radio Apparatus

THE future of radio retailing is in your hands.

Are you going to help or hinder the retailer in radio equipment?

Are you going to further the development of radio properly?

Every effort is now being made, it is supposed, to interest the present owners of receiving sets, to entertain these people.
The broadcasting stations of today are doing great work for the retail dealer, it is admitted. These stations make for the sale of radio equipment.
The public must be served!

But, gentlemen, don’t overlook the dealer. The retailer must not only be served but in many instances must be educated, but’s that’s another story.

Today the dealer is selling your apparatus, with the distinct promise that you will continue to serve the public with interesting programs.
The future of radio—as a business—depends upon you, gentlemen.

The demand for apparatus is on the increase, not only from owners of small sets but from new devotees of the wonderful wireless. They are anxious to buy, are this new class of customers—but they want to know.

They all ask the one question:

Will there be proper broadcasting stations?

“Better sets can be sold,” says one big New York retailer, “if the people are assured that proper broadcasting will be maintained.”

New York City and its immediate neighborhood is properly being placed in the “sure-we-will-have-proper-service” class—but how about the other sections of the land.
The Radio Dealer believes that “the big manufacturers” will continue their broadcasting service.

The big manufacturers must agree to maintain broadcasting service and performance must get together to produce proper wireless attractions for the current buyers of radio apparatus.

Dealers place their reputations at stake when they sell radio supplies and assure the buyer that news and entertainment is his, gratis, from the mere physical pleasure of installing the apparatus.

The initiated know that, but there are many thousands of people who don’t know this.

Is it the proper province of the retailer to promise broadcasting service? Or is it the duty of the manufacturer?

Let us settle this problem once and for all and settle it to the satisfaction of everyone.

Retail dealers are invited to write us about it.

HARRY M. KONWISER,
Publisher, Radio Dealer.
The Radio Dealer

EMSCO RADIO PRODUCTS
Made By Experienced Electrical Manufacturers

EMSCO Products

Binding Posts—Single and Double Square Rods—Cut and Drilled
3-16 x 7 3-16 x 8 3-16 x 10 3-16 x 12
3-16 x 7—extension threaded
1-4 x 7 1-4 x 8 1-4 x 10 1-4 x 12
Wound Rotors
3"—3 1/2"
Single Slide Tuners
6"—8"
Double Slide Tuners
6"—8"
Enamel Wound Coils
6" x 3" 8" x 3" 8" x 5 1/2"
Vario Couplers
Weatherproof Strain Insulators
Slider Knobs
2-16 and 1/2
Loose Couplers

ELECTRIC MFG. & SALES CO.
L. Beller, Proprietor 90 Academy St., Newark, N. J. Phone Mulberry 2901

200,000 in 2 Weeks
"THE A. B. C. OF RADIO"
A Non-Technical Book
Dealers all over the country are saving their salesman's time by selling "The A. B. C. of Radio" to customers who ask instruction and explanation.
Over 200,000 copies sold. Now in the third large edition. Why don't you get your share?
ORDER NOW

THE N. Y. GLOBE SAID ON APRIL 15TH:

**** "The A. B. C. of Radio contains more near inevitable food for the Wireless beginner than anything that has yet come to our attention **** and it is well worth buying and keeping as a handbook of ready reference."

DEALERS—Write now for our proposition on "The Easy Course in Home Radio." (Seven volumes) Edited by a Staff of Experts under the personal supervision of General Squier, Chief of the U. S. Signal Corps.

MARTIN H. RAY
Publisher 165 Broadway New York

EMSCO PRODUCTS

If We Can't
Make It Better,
We Won't Make
It At All

E.M.SCO

Turret-Top Detector

Decidedly the best detector so far produced. You can see even from the illustration the sturdy, well-made character of the instrument. "Turret-Top" swivel adjustment permits the greatest range of adjustment and holds the phosphor-bronze "cats whisker" steadily in any position. Thumbscrews take up wear on side and forward adjustments. Locking-notch feature of binding posts exclusive with this detector. Unbreakable base. A fair example of E.M.SCO quality and value.

Experienced in
Serving Electrical Dealers and in the Requirements of Electrical Instruments.

Equipped for
Quality and Service

We had the factory ready when the wave of radio popularity began. We didn’t have to learn how to make radio supplies—we knew. With practically no advertising, three whole floors of our large factory have been humbly turning out supplies for dealers who knew our standards.

Sell radio products made by regular electric manufacturers. You can make a better profit, your customers will be better satisfied and you will be allied with a high-grade, reliable manufacturer.

Write to-day for our catalog of radio supplies and liberal discounts.
Sell The STANDARD The Best Special Crystal

A New Scientific Achievement
Treated in a new scientific process which imparts extraordinary powers of rectifying the wireless impulses. Stays sensitive for the life of the set. Disinterested radio engineers of high standing have subjected Standard Special Crystals to most severe tests and proved their vast superiority to all other crystals on the market.

Radiophone Twice-Tested
Each crystal tested twice on radiophone equipment, once before mounting and again after mounting. Every one is perfect. No crystal more rigidly inspected and tested.

Guaranteed
The positive results obtained by processing and thorough testing enable us to guarantee each crystal.

Mounted and Un-Mounted
Immediate Delivery on Any Quantities

More Profits Easier to Sell
Why sell ordinary, little-known crystals of uncertain qualities? Amateurs resent inferior crystals. The Standard Special Crystal guarantees satisfactory results and insures better business from all angles.

Satisfied Customers
The ability of so superior a crystal to increase the prestige of your store and bring reorders is an important asset.

Associated Sales
The crystal is only the start with the radio novice. Satisfy him on his first purchase and you will stand an excellent chance to sell him the balance of his supplies. Start him right— with Standard Special Crystals.

STANDARD CRYSTAL CO.
274 Halsey St., Newark, N. J.

NACO RADIO RECEIVING SETS

For clear hearing and pleasing tone use a NACO set.

Naco Radio Accessories

$20.00 complete without condenser

$25.00 complete with condenser

Telephones. Knocked down sets. NACO long distance sets are of the highest quality.

STATE MANAGERS WANTED.

“We are building our radio business for the future, not only for today. Courtesy and discretionate prices prevail.”

NATIONAL MOTOR ACCESSORIES CORPORATION
1446-1448 Woolworth Bldg.

New York City
WE CARRY FOR IMMEDIATE DELIVERY:

Morsean 4-inch Insulators
"Best" Insulator With Bracket
Hydrometers Sliders

Honey Comb Coils
Mounted and Unmounted Mounting Coils
600 to 2,000 metres
Galena Cups Screws

Variable Condensors
13, 21, 43 plate Switch Levers
Knobs and Dials
Jacks Contact Points

Sole Distributors In New Jersey and Pennsylvania, for the complete Everett Electric Corporation of New York Line of Radio Equipment, featuring the Everett (Splitdorf-Made) 3,000 Ohm Double Radio Receiver, Model E-2, $8.50 list; the Everett (Splitdorf-Made) Crystal Detector and Everett (Splitdorf-Made) Fixed Condensor.

CRYSTAL DETECTORS
$1.00, $1.25, $1.50, $2.25, $2.50 LIST
MORSCAN CRYSTAL DETECTOR
$1.50 LIST

EVERETT (SPLITDORF-MADE)
CRYSTAL DETECTOR, $1.50 LIST
SWITCH LEVERS
75 CENTS LIST

Federal One-Step Detector and Amplifier
Federal Receiving Transformers
Federal Phones—Federal Jacks

Selling Only to Retailers and Jobbers

Twenty-four Hour Daily Service

www.americanradiohistory.com
THE remarkable efficiency of the Aerophone Detector will amaze you! Wherever it has been exhibited, radio experts have unhesitatingly declared it: "Simply Marvelous."

Hits every spot on the crystal! Light or heavy tension! Stays put! Cannot be jarred out of position!

Easy to operate! Nothing to get out of order!

The Aerophone Detector is mounted on a hard rubber base. Can be attached to any set! Absolutely guaranteed. List price $1.25. Liberal discounts to Jobbers, Retailers and Manufacturers. Quick delivery!

We Also Manufacture Complete Sets

AEROPHONE—Type A and B with or without head phones

BLOCKED TUNING COILS
CRYSTALS

SLIDERS
KNOBS AND DIALS

Advertising Matter Free to Dealers

WRITE—PHONE—OR WIRE

ESSEX SPECIALTY COMPANY, INC.
Berkeley Heights

New Jersey
RADIO

CO-OPERATIVE BUYING

Supplying the Retailer with Radio Sets, Parts and Equipment at a Saving of 10 to 25%

CO-OPERATIVE BUYING, as illustrated by chain store successes, is the one way to secure the manufacturer’s lowest prices for the average dealer.

What applies to drug, cigar, furniture and other chain stores applies also to RADIO.

New York is the greatest Radio manufacturing and supply center in the world.

THE RADIO BUYERS’ SYNDICATE has been formed to bring under one buying head a great many dealers in Radio. By adding your order to many others it is possible to obtain from the manufacturer his jobbers’ prices, thus saving for yourself the 10 to 25% which is the jobber’s profit.

THE RADIO BUYERS’ SYNDICATE maintain offices, stenographers, Radio experts, messengers, etc., to serve you and are at your command at all times.

Your share of the overhead will be $12.50 for a period of six months from the date of your check, during which time we will act as your New York Buyer and maintain your offices.

Send in your initial order — large or small — with your check for $12.50 and become a member of the syndicate and buy Radio equipment at prices which will allow you a big profit from this wonderful business.

Your interests are best served by prompt action.

RADIO BUYERS’ SYNDICATE
145 West 45th St., (Suite 803) NEW YORK
SELECTOR

A selective radio contact switch. For varying the number of turns in any kind of radio tuning coil.

The SELECTOR can be mounted on coupler or coil direct, thus reducing leads to a minimum. Short leads and positive contact in radio instrument wiring are not only necessary, but are imperative for highest efficiency.

The SELECTOR combines these essential features and in addition is compact, positive and will give that commercial appearance to your panel.

*Price $4.25 Postpaid*

**ROTORS AND STATOR SECTIONS**

Carefully and accurately made from specially selected and treated woods. Not "mere wood turnings," but manufactured to pattern makers standard.

Rotors packed 50 and 100 in package. Stator sections packed 100 and 200 in package.

*Dealers! Send for interesting circular and attractive proposition.*

Norris Electrical Specialties Co., Inc.
126 Liberty Street, New York
TELEPHONE RECTOR 6669

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**LAWSAM**

**RADIO RECEIVING SETS**

Sturdy Stock—Finest Instruments  
*Scientifically Correct—A Price for All*  

**$20 to $250**  
LIST PRICE  
Including Aerial Equipment and  
Stromberg-Carlson $7.50 Head Set  
ALSO MANUFACTURERS OF  
BINDER POSTS  
TUBE SOCKETS  
SWITCH LEVERS  
SWITCH POINTS  
CRYSTAL DETECTOR PANELS  
GUARANTEED GALENA, ETC.

**ROSENTHAL LIGHTNING ARRESTER,** distributed solely by ourselves is the **only** Lightning Arrester discharging at 220 volts. Protects against lightning and internal wiring short circuits—*List price $2.00*

**DEALERS AND JOBBERS!**  
Due to Large Increase In Our Production We Are Today Able to Make Immediate Deliveries. Orders Are Rolling In. Don't Delay.  
*WRITE OR WIRE FOR PARTICULARS*

**FACTORY**  
ELIZABETH, N. J.

**ELECTRICAL COMPANY**  
122 Fifth Avenue, New York City  
**PHONE**  
CHELSEA 7923