

CRW-9/18/26

The Radio Dealer

Edited and Published at
1133 Broadway, New York City
For the Radio Retailer

VOL. 1. NO. 1

APRIL, 1922

ONE DOLLAR THE YEAR

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 re-

peat 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, helping 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

Wireless Supply Co., Manhattan, \$10,000; C. W. Preston, G. Bender, A. P. Wolheim. (Attorney, R. C. Birkhahn, 42 Broadway.) Simon Radio Corp., Wilmington, manufacture apparatus, \$200,000. (Corporation Service Co.) Radiolite Corp., Manhattan, \$20,000; S. Goldstein, H. Harris, A. Bondheimer. (At-

torneys, Kirk & Diamond, 130 Fulton St.) Peck Radio Corp., Brooklyn, \$7,500; G. B. Peck, W. E. Donavin, (Attorney, H. J. Defavin, 23 Flatbush Avenue, Brooklyn). Radio Industries, Inc., Manhattan, \$20,000; H. Gitlin, J. H. Faulker. (Attorney, J. M. Hergberg, 2 Rector Street, N. Y.)

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 { we enclose one dollar { 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 requirement of retailers as well 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 complaints 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 congressman 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 RADIO DEALER

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THE ONLY PUBLICATION OF
 ITS CLASS IN THE WORLD

Advertising Rates, \$90 per page of 30 inches. Detailed Statement of Circulation and Other Information for Advertisers Furnished on Application.

APRIL, 1922

The Inevitable

The further development of wireless will call for increased amusement for radio fans and naturally the "wireless buyers" will expect the concerns producing radio parts to provide the necessary entertainment.

Which is just and proper, of course, until such time when the Federal Government elects to provide its people with daily entertainments.

This may sound socialistic, but it's not impossible, and certainly laudable.

Meanwhile the manufacturers and wholesalers *must* cope with this situation. As the producers of wireless apparatus for amusement purposes they can best serve their public by effectively organizing into a national organization.

They might create a Radio Manufacturers' Association, and through a manager assess each member certain sums, as dues, to be employed to provide entertainment for their patrons.

In but a short space of time, as the industry develops, there will be hundreds of manufacturers, and if properly arranged each one can contribute his mite toward creating entertainment.

Why not start now?

Tell It To Us!

Radio dealers everywhere, retailers, jobbers and manufacturers are cordially invited to tell us what they're doing.

Let your fellow radio business man know how to develop—he can learn from what others are doing.

Help one another and in the end you help yourselves.

Let us print all the activities of the trade.

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 radio-telephony. 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 radio-telephony. 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 us 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 five of the books advertised in the publishers' announcement. Mr. Sleeper is widely known in this field and is looked upon as one of the best posted practical writers in the radio line to-day.

"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" was 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 Radiophone and Telegraph Receivers for Beginners," by Mr. Sleeper, gives one a world of ideas.

"How to Make 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 on 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"

A new edition of "Experimental Wireless Stations," by P. E. Edelman, covers thoroughly this interesting subject. As a work of reference for radio enthusiasts this book is of exceptional value. On the desk of the book review editor of *THE RADIO*

DEALER this book is in almost daily use.

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. Vacuum tube 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 satisfies. 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 mat-

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

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NEW YORK CITY

ter. 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.

Advertising for the Retail Dealer

Keep the Family Home

Bulletin Offers Data for Ad Writers

Bulletin M. of the American Radio and Research Corporation of Medford Hillside, Mass., is a neat little folder designed for distribution among prospective customers of the dealers who sell the equipment manufactured by this company. Clearly written in a style that is understandable by the veriest layman the bulletin offers an excellent example of how to talk to the general public about radio.

We have no doubt that dealers representing this concern will be permitted to use parts from this folder in their local advertising. We quote the introductory, which is as good an argument for selling radio equipment as we have read lately:

Radio in your home can be made a reality—quickly, easily, at small cost. You can sit comfortably in your living room before a modern "Wireless," turn a knob, and listen to radiophone music and speech miles away. Radiophone stations now broadcast regularly from all large cities, such as Boston, New York, Chicago, Detroit, Newark and Pittsburgh, only to mention a few. With the Amrad Crystal Receiver you can hear these daily broadcasts under favorable conditions a distance of 25 miles. Under ordinary conditions you can hear with amazing ease and clearness within a radius of 15 miles. You can also hear wireless telegraph for hundreds of miles.

"Just what can we hear?" you ask. You can hear lectures by noted speakers, vaudeville programs by popular comedians, musical recitals by prominent artists, grand opera selections, phonograph music, sermons, business, market and weather reports, bedtime stories for the children, news of the day—all free to the owner of an Amrad Receiving Set—an ever-changing program, an unfailing source of inspiration, recreation and instruction for young and old alike.

The Amrad Crystal Receiver is as simple as it is wonderful. It is easier to operate than a phonograph, its installation as simple as hoisting a flag. There are no batteries, no complicated adjustments to master, no license for which to qualify, no upkeep expense, no new records to purchase, no operating hazards.

The whole family enjoys it. Father follows keenly the frequent business and market reports, or sporting news. Mother is interested in the local weather forecasts and operatic music. Son and daughter enjoy the jazz pieces and vaudeville skits. The boy in school acquires understanding of current events, assists the police in locating stolen automobiles, or missing persons, besides attaining proficiency in code which is received as readily as telephone speech. The youngsters look forward to the fairy or bedtime stories.

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, almost daily some 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. In

nearly every radio club there is some bright young fellow who is glad to write news of his club for the papers. The dealer can also help by calling the reporter's attention to new lines brought out in the industry. Any article in this publication can be reproduced in any newspaper without special permission. Due credit would be appreciated however.

The various press syndicates are now supplying their customers with radio departments at very moderate prices. If any dealer wants us to put his publisher in touch with these syndicates the Service Bureau of THE RADIO DEALER will be glad to furnish addresses.

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 concert service from Pittsburgh, Newark and other centers. This will add greatly to the enjoyment of these new homes."

The Editor of the Retail Advertising Department of the RADIO DEALER will be glad to receive copies of advertisements that have successfully aided retailers in building up their business. Where personal criticism is desired stamped addressed envelope should be enclosed for reply.

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

TECHNICAL EDITOR

A. L. Konwiser, B.S., is technical editor of the RADIO DEALER, and the trade is invited to make inquiries upon any technical subject. This service is free to our readers.

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 cal-

culate 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 thousands of amperes. But it lasts only a very short time, one ten-thousandths 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 its great energy, but 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 non-plussed 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)



HENRY F. VORTKAMP

Henry F. Vortkamp, Inc., New York City

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.

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.

Mr. Dealer

we manufacture everything in radio

FROM A TO Z

AMERICAN RADIO SALES AND SERVICE CO.
MANSFIELD, OHIO

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.

An Unusually Attractive Proposition To Dealers

A M P E R I T E

Automatic Filament Current Adjuster

1. Makes the operation of Vacuum Tubes absolutely "fool proof."
2. Eliminates rheostats in filament circuits.
3. Operates tubes at maximum efficiency without any adjustment.
4. Prolongs the life of tubes and prevents "burning out."
5. Eliminates the need of measuring instruments.
6. Cost insignificant, easily attached, permits compactness.

Manufactured by
RADIALL COMPANY
99 Warren Street New York

Nelson Radio Parts Co.

Manufacturers and Distributors

RADIO APPARATUS

89 Academy St., Newark, N. J.

WRITE FOR PAMPHLET



Jobbers Attention

THE FAMOUS CYCLONE

The World's Best B Battery

Each and Every One Guaranteed

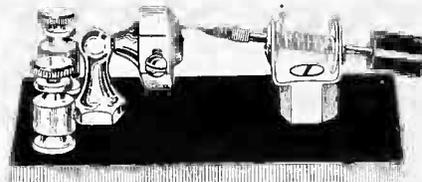
STANDARD EVERYWHERE

Standard Electric Novelty Co.

324-8 Lafayette St. N. Y. City

A
REAL
GOOD
INSTRUMENT

Redden's



IT
TALKS

\$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.

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 1909, 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 assemblance 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.

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.

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.

The Best ANTENNA PACKAGE

On the Market

Complete in every detail

The simple copyrighted direction sheet is worth price of package. Price \$6.00

Conforms with Underwriters

Jobbers and Distributors write for proposition.

~ HERTZIAN WAVE ~

ANTENNA PACKAGE

J. H. HERTZ, Manufacturer
Hertzian Wave Radio Apparatus

231 W. 58th St. New York, N. Y.

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
NEW YORK

531 So. Dearborn St.
CHICAGO

What the Manufacturers Are Doing

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.

TAKE 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.

Western Electric Is Not a Trade Monopolist

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

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

Keyport, N. J.

“YOUR DEALER HAS THEM”



Pat. Appd. For



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 packed in a tin container, labeled U. S. Eagle Galena, the galena itself being 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.

RADIO STORES CORPORATION

Radio Supplies

146-150 West 34th Street

Penn Arcade No. 16

ALL PARTS IN STOCK

Wholesale and Retail

Fitz Roy 4655

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.

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.

U. S. RADIO CO.

The apparatus listed in the booklet is-
sued by the U. S. Radio Co. of Pennsylv-
ania is representative of the highest grade
of radio equipment. This house manufac-
tures and distributes radio apparatus and
supplies and occupies a 3-story building
in Pittsburgh.

New York's policeman of the air
division are taking radio instruction.

THE KENTONE RADIO AMPLIFYING HORN



Made of brass, highly polished and nickel
plated. Fifteen inches high, six inch bell

RETAILS FOR \$6.00

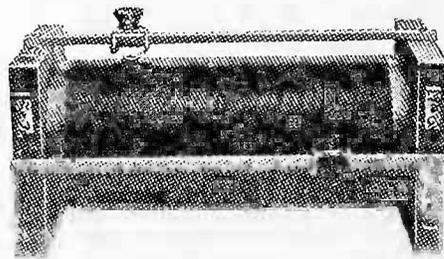
Write for particulars

F. C. KENT CO.

IRVINGTON

NEW JERSEY

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 De-
tectors, \$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 Lyradion Sales 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 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 Lyradion, which is a combination of phonograph and radio equipped with the patented amplifying Seabrook Horn, are also manufacturing cabinets to house radio receiving sets already in use.

FEDERAL AMPLIFIER

The Federal Telephone & Telegraph 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 Richmond Hill, New York, have issued their bulletin No. 202 covering intermediate-wave regenerative receivers. The Grebe Company made a wide line of radio apparatus and are well known to the trade.

COAST REPRESENTATIVE

Harold Cunningham of 879 Golden Gate Avenue, San Francisco, Cal., is Pacific Coast representative of the National Automobile Accessories Company Radio division.

LATE FOLDERS

Late folders received by the editor of "Dealer Helps" were those of Radio Service & Manufacturing Co., 110 West 40th Street, New York City, whose factory is located at Lynbrook, L. I., the National Metal Moulding 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, wireless apparatus, \$50,000; C. J. Dodge, E. F. Quinn (Attorney, H. McInnes, 63 Wall Street, N. Y. City).

Universal Electric Co., Jersey City, \$100,000; Edward A. Markley, Jersey City; Frank H. Gates, Newark; William F. Markley, Weehawken, N. J.

McPhilben 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; C. E. Johnson, J. K. Whittaker. (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., Manhattan, \$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.; William R. Greene, Bryn Mawr, Pa.

International Radio Corp. of N. Y., Manhattan, apparatus, \$20,000; R. K. Thistle, H. C. Hand, A. R. Myers. (Attorney, S. Ryan, Albany.)

Baldwin Radio Electrical Mfg. Co., Brooklyn, \$7,500; A. H. Rodde, M. Baldwin, C. G. Swenson. (Attorney, J. O'Brien, 1402 Broadway.)

Sterling Radio Mfg. Co., Manhattan, \$10,000; C. Distefeld, S. McGovern. (Attorney, S. Brand, 347 5th Ave., N. Y. City.)

General Radio Equipment Manufacturing Co., Wilmington, \$300,000. (Corporation 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, Newark, N. J.; Noyes Shanughnessy, New York. (Arley B. Magee, Dover, Del.)

Sleeper Radio Corporation, apparatus, \$25,000; C. B. Stranahan, J. M. Arthur, C. O. Castell. (Attorneys, Avery & Whiting, 5 Nassau street.)

Dry Battery Sales and Service Corporation, Buffalo, N. Y. Increased its capitalization from \$20,000 to \$250,000.

United Radio Company, Wilmington, Del. Capitalized at \$750,000 to make instruments.

National Radio Electric Corporation, Wilmington. Increased capitalization from \$300,000 to \$1,200,000.

Champion Electric Mfg. Co., New York. Changed 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. Sherman, R. B. Austrian, G. H. Jackson. (Attorneys, Bloomberg & Bloomberg, 1,482 Broadway, N. Y. City.)

The Electric Securities Corporation has changed its corporate name to Ashland Securities Corp., New York.

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.
13-21 Park Row
New York

Sharply Tuned Stations Best

Necessary for Both Receiver and Transmitter Be Sharply Tuned

By Ollie Engstrom.

There are two main reasons for the interference of wireless stations. They are the broad tuning of the transmitting station and of the receiving station. If the transmitting 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 certain 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 amateur stations. The music is transmitted on 360 meters and the amateurs are transmitting 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 understands 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 I. 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.
General Radio Company Thordarsen Mfg. 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

66 Hudson Street

Near Hudson Tube Terminal

HOBOKEN, N. J.

Telephones, 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:

.000025 Mfd—Correct for Myers Radio-Audion RAC-3
.0001 " —For Special or Experimental Circuits
.00025 " —Correct for Super-Hetrodyne & UV 201
.0005 " —Correct for Radiotron UV 200

Condenser—Leak Mountings

Bakelite Base with Single Mounting \$.40
Bakelite Base with Double Mounting60
Bakelite Base with Triple Mounting80

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 inter-

ference 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

Among the radio exhibitors at the International Travel Show, held at the Grand Central Palace, New York, from March 25 to April 1, were the following: Everett Electric Corp., Franco Electric Co., General Apparatus Co., Gould Storage Battery Co., Herbert & Heusgen Co., Independent Wireless Tel. Co., Lexington Radio & Electric Co., Novo Mfg. Co., Prest-o-Lite Co., Radionola Mfg. Co., Times Appliance Co., Wireless Appliance Co.

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.

for

Immediate

Delivery

on

**Radio
Equipment**

SEE US

We are specialists in this line and carry a big, complete stock of Standard Radio Apparatus and Supplies.

Wholesale and Retail
Dealers Supplied

**Bronx Radio
Equipment Co.**

Manufacturers and Distributors

687 Cortlandt Ave., at 154th St.

NEW YORK CITY

Melrose 1613

Radio Call 2-BXA

25,000 TRANSMITTING STATIONS

Twenty-five thousand amateur transmitting stations are licensed by the United States Department of Commerce. This number grows daily.

SPEED OF WIRELESS

Wireless waves travel 186,000 miles a second. They are able to pass around the world several times in the space of a single second.

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 is 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*, "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 *Champaign 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 radiophone 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 in 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 path to pleasure.

The RADIO DEALER doesn't believe the retailer needs re-hashed 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 short-sighted, 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 bridge 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 189 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 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 presto—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 to my mind is the most satisfactory, for after it is once installed the operator can dismiss lightning from his mind, for 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 Branches 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

Eugene J. Scanlon, of Morscan 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 Omaha 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, one at 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.

TUNING COILS

Write For Prices
ESSEX ENGINEERING CO.
NEWARK, N. J.

Makes Crops Grow

Radio Waves Make Grass Greener Is Claim

Many wonders have been disseminated in connection with radio, but the most recent and not the least remarkable is its beneficial effect upon vegetables, fruit, and general crops, says the *New York Evening Mail*.

Of course, agriculture has been benefited for some months by the weather reports and similar notices that have been broadcasted to farmers, but the latest benefit is one of a more direct nature. Experiment has shown that crops in the immediate vicinity of powerful radio stations actually flourish in an unprecedented manner as a result of the electricity in the air.

It has been discovered that vegetation on farms in the vicinity of radio stations is so stimulated by the radio waves that it takes on an uncommonly large growth, and reaches its maturity sooner than under ordinary conditions. Not only do vegetables near a station grow more rapidly and larger than those in the offing, but they are found to be more sturdy.

An experiment station at Honolulu has been installed, and is testing the theory that it may be worth while to incorporate the use of radio waves as an integral part of scientific farming. It is believed that by distributing the wireless waves close to the ground and over a wide cultivated area a practical means of furnishing this new energizer to a large area of farm country may be discovered.

THEY OBSERVE

Radio supply stores have sprung up by the hundreds all over the United States, and the manufacturers are finding it impossible to keep up with the demand for equipment. At the moment the retail dealer finds himself short of stock owing to the demand on him. To the disgusted buyer this seems to be a chronic condition, though the difficulty will soon be remedied by the further development of manufacturing facilities.—*Electrical World*.

IT WOKE 'EM UP

The Radio Exposition at the Hotel Pennsylvania is still being talked about in trade circles. This show awakened New York newspapers to "the radio thing" and now they're all printing stories about radio tests and matters appertaining to wireless generally.

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, stressing the point that their equipment can be bought 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 by 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 progressiveness.

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."

RADIO CO. of NEW YORK

Standard Receiving Apparatus
Adjustable Portable Indoor Antenna
1674 Broadway, N. Y. C.

Prompt Shipment

made to Bethlehem, Allentown, Easton, Nazareth, Leighton, Bangor, Catasauqua, Slatington, Coplay, Lansford, Bangor, Emans, Hellertown and all other points in the Lehigh Valley and United States.

OUR MOTTO IS "All orders must leave the same day they are received. Satisfaction guaranteed."

FEDERAL, ACME, DEFOREST, MURDOCK, FADA, PARAGON, GREBE, BRANDES, BALDWIN, RADIO CORPORATION, WESTINGHOUSE, etc. Products carried in STOCK at all times.

Send us a Trial Order. Catalog mailed postpaid \$1.00

Bell phone 2548J

LEHIGH RADIO CO.

BETHLEHEM, PA.

Center & Fairview St. A. F. BREISCH, Gen. Man.

YOSEMITE STATION

Yosemite Valley has completed the construction of a high-power station which will be operated by the United States government for the community.

Wireless experts, because of the location of the Yosemite, have termed it the "hole in the hills," and generally believed its natural obstacles would be unfavorable to transmission and reception by wireless. The new station has disproved this, and despite the 3,000 and 4,000-foot cliffs that surround it have been in communication with stations as far distant as Honolulu and Catalina Island.

The new system will make it possible to keep communication open despite the terrific storms that usually put the wire systems out of commission there.

Weiller's Unsurpassed Detector Crystal

IT is just what the name implies.

IT is the best, that can be commercially produced.

IT is sensitive on the entire surface.

IT will work equally well under light or heavy contact pressure.

IT is therefore easy to adjust.

We will offer CASH PRIZES for long distance records on phone broadcasting reception with our crystals.

Prices, information, and samples furnished on request.

We furnish all known crystals for radio use, mounted and unmounted, crystal detectors and complete crystal sets.

PAUL G. WEILLER

320 Market Street Newark, N. J.

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 Pacentized 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 range desired.

"In the case of Fort Wood (WYCB) 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 up' 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 (1/8 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-novice 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-telephone. 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

Organize National Association Now

(Continued from page 5)

We're talking about the RADIO BUSINESS, the RADIO INDUSTRY, you'll note. Note the science of radio or wireless progress. THE RADIO DEALER is interested in the dollars and cents side of radio. The scientific side should be watched, there's no radio dealer but wants to see this end developed as far as possible, but we need an association to help us all make more money, to help us all conduct business on a higher plane, and to make radio better known everywhere.

THE RADIO DEALER wants to hear from the trade on this question. What do you think about a national association of radio business men? Every dealer, every manufacturer, every jobber is invited to write us his views at length.

In our next issue we will present the consensus of opinion as viewed by our readers. Write that letter today!

PATENT WARNING

The Radio Corporation of America through its attorneys is notifying jobbers not to sell vacuum tubes for radio purposes made in infringement of their patents, No. 803,684, dated November 7, 1905, granted to John A. Fleming.

They claim all rights to vacuum tube production, under the Fleming grant, and likewise claim that certain detectors, amplifiers and oscillations used in radio work are controlled by them.

The Radio Co. of America also claims exclusive ownership and rights to radio equipment under the U. S. Patent, numbers 841,387 and 879,532, and particularly claims certain parts of the above numbered patent grants.

The Radio Corporation of America expects to ask for an accounting and will institute suits against infringements.

NEW CATALOG SOON

The A. H. Corwin Company of Newark, N. J., announces that their new catalog will be out shortly, and in the meantime they are furnishing inquirers with an eight page folder listing the equipment they are carrying in stock, a very complete line. The new catalog, according to announcement, will be absolutely up to the minute and will contain a great deal of valuable information for radio enthusiasts.

NEW PRICE LIST

The Radio Corporation of America has ready for issuance a price list of radio apparatus, effective April 1st, superseding all previous lists. Over one hundred items are listed in this folder.

NEW PRICE LIST

The National Carbon Company has just issued a new price list on radio batteries.

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 wherein 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 advanced 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

RADIO MANUFACTURERS

If you want a good outlet for your products write to

THE WHITE RADIO CO.

Distributors of Radio Supplies
141 West 33d Street, New York City

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 agoing 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.

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, Witherbee A Batteries and Radion 50,000 volt dielectric panels and unbreakable dials, as advertised in the RADIO NEWS. *Radio Club Supply House, 10726 110th 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.

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

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 Micheal 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 system of circuits 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-

tained by any apparatus constructed by man.

"The importance of the feedback circuit in the reception of wireless electrical oscillator, not only in wireless telegraphy but also in wire telegraphy and other departments of applied electricity, cannot be over estimated.

"It is admitted by those skilled in the wireless art that the ordinary electro-magnetic generator of high power will before long be superseded by the vacuum-tube oscillator, which also will bring about more or less reconstruction of wireless transmitting stations.

"It goes without saying that long distance radio communication and radio phone broadcasting would be impossible without this invention."

Armstrong graduated from Columbia in 1913 in electricity and began experiments in radio with a so-called Fleming valve and in 1910 he became interested in the De Forest audion, or three-electrode vacuum tube detector. Experimental work went on for several years and in the court proceedings it was intimated Armstrong had discussed his contemplated improvements too freely.

Lee De Forest claimed prior rights

when the Armstrong patent was being marketed.

Asked, in court, what he will do with himself now that the big fight is over, Armstrong laughed and replied:

"Well, I have just one more thing to put over, and then I am going over to Paris for a rest."

Armstrong would give no hint as to the nature of the "one thing more."

END WIRE EXCHANGE

A consent decree dissolving the Wire Goods Exchange has been signed by Federal Judge Knox. An investigation into the activities of the exchange begun by United States District Attorney Hayward resulted in evidence indicating that the exchange was violating the Sherman Anti-Trust law, in the matter of reporting a plan of prices, in the extent of production and the selling terms to be followed by its members.

The members of the exchange were the Wickwire Spencer Steel Corporation, Bromwell Brush and Wire Goods Company, Inc.; Mamblin and Russell Manufacturing Company, Inc.; the J. F. Meyers Manufacturing Company, Inc., and Stuber and Kuck Company, Inc. The association organized the Central Wire Goods Company, Inc., for the purpose of acquiring competing patents so as to control the industry. This company is also dissolved under the decree.

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

A Brief Summary of Some Points in Wireless Law

The owner of an amateur wireless telephone or telegraph transmitting set must have a station license before it can be operated if the signals radiated from the set can be heard in another state or if it is of sufficient power as to interfere with neighboring licensed stations in the receipt of signals from transmitting stations outside the state. Station licenses will be issued only to citizens of the United States and its dependencies.

No license is necessary for a receiving set, but it is necessary to be sure that the erection of the set conforms with the city fire laws and that there is no local ordinance requiring registration, or compelling the installation of any wires inside any house by licensed electricians.

Sending stations must be operated under the supervision of a person holding an operator's license. The person in whose name the station is registered is held liable for its activities.

Government licenses granted for amateur stations are divided into three classes:

"Special" amateur stations, known as the "Z" class of stations, are permitted to operate on wave lengths up to approximately 375 meters. "General" amateur stations are permitted to transmit on a wave length up to 200 meters. They are restricted to a power input of one kilowatt. "Restricted" amateur stations are those located within five nautical miles of a naval radio station. They are restricted to one-half kilowatt input and cannot transmit on a wave length in excess of 200 meters.

"Special" amateur stations located on or near the sea coast must be operated by someone holding a commercial operator's certificate. This is largely because of the possibility that unknowing operators might interfere seriously with marine use of the air.

The Department of Commerce has charge of the regulation of amateur wireless, and in their discretion school and college radio stations, known as the "Y" class, are allowed greater power and longer wave lengths. Experimental stations which are classed along with the "Y" class, being known as the "X" class, are also allowed similar privileges.

All wireless stations are required to use the least amount of power necessary to carry on successful communication. "Special" amateur stations

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.

may be licensed at the will of the Secretary of Commerce to use a longer wave length and higher power than "General" stations. As a rule these licenses will not be given for mere pleasure seekers. Most of the "Special" stations are doing work for the betterment of the science of radio communication.

Clubs can take out licenses if they are incorporated.

All persons are required by law to maintain secrecy in regard to any messages they may overhear in the air which are not intended for them.

Malicious or wilful interference with any radio station is punishable by heavy fine and imprisonment, as well as revocation of licenses.

The transmission of a fake S. O. S. or distress call is also punished by heavy penalties.

There is no charge for issuing an operator's license or a sending station license.

PARIS ALL HET UP

Eiffel Tower wireless concerts, which started at Paris, France, several weeks ago, have taken hold on the popular imagination. The popularity of the idea can be measured by the protests from all parts of France, flooding the Bureau Director. Although though not more than twenty concerts have been given, the listening in public are demanding a change of program. By post and wireless the Director is daily deluged with requests for "a little variation."

SAVES 4 DAYS

Four days' time formerly consumed by mail communication is now being saved by the Kreetan 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. Marconi.)

"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 proceeds."—Guglielmo Marconi, in an interview published in *McClure's Magazine*, March, 1897.

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.

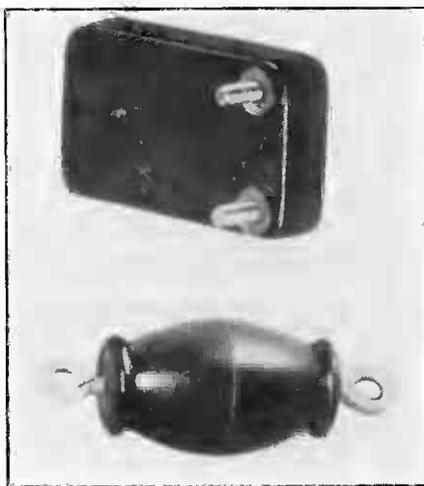
And as manufacturers they offer Insulators, Mounted and Unmounted Galena, Galena Cups, Binding Posts,

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."

MORSCAN FIXED CONDENSER



MORSCAN 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.



EUGENE J. SCANLON



ALBERT J. MORRIS

“WE ADMIT WE’RE GOOD
— MAKE US PROVE IT.”



RETAIL STORES
COMPLETELY EQUIPPED

Morsean 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

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	\$.90
2 Buzzers86
2 Formica Panels 7x10.....	2.88
1 Formica Panel 7x18.....	2.40
1 Formica Panel 12x14.....	2.80
1 Simplex Variometer	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 Condensers	5.40
1 Rheostat	1.13
3 Vacuum Tubes No. 200.....	11.25
3 Vacuum Tubes No. 201.....	14.64
1 dz. Crystal Detectors	6.72
6 Pr. Murdoch Phones	27.00
1 Marvel Set	11.25
6 B Batteries	9.90
100 Switch Points	1.00
6 Switch Levers	2.94
25 Phone Condensers	6.50

25 Gridleak Condensers	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
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
3 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 they sell to a 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 anent 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 resell.

Recently a co-operative buying case was decided and it now appears as if "the status" is that the manufacturer must sell his products, 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.

USE BOOTH

One of the large radio dealers in New York has installed a radio receiver in a booth similar to those employed in the phonograph shops. The prospective purchaser is allowed to "listen in" without being disturbed by the noise made by the "mob" of "bugs" around the counter.

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

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 on the manufacturers will be enabled 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 "made 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 \$207,858,757 in the previous year.

Net earnings were \$10,166,337, as against \$8,277,414 in the previous, 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 must be 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, sermons 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 put over "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 "feelers" 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 will 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 when it comes to monopolizing the air for mercenary (advertising) purposes a real man-sized vocal rebellion can be expected.

Can the would-be sellers of air advertising anticipate interference when they start broadcasting advertising?

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

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 Schnectady 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.

- | | | | |
|---|---|--|--|
| <ul style="list-style-type: none"> Aerial wire ammeters amplifier detectors amplifier tubes amplifying head sets amplifying transformers antenna switches antenna connectors antenna, loup antenna wire attachment plugs audible transmitters audio frequency trans-
formers automatic transmitters
 Batteries, dry ("B") batteries, storage ("A") battery chemicals battery clips battery handles batteries and tube circuits battery potentiometer bakelite dials bakelite dilecto sheets binding posts books buzzers bulbs
 Cat whiskers cabinets cap nuts carbon walls cardboard tubes clips coil mountings coils, honeycomb coil plugs coils, spark complete receiving units complete sets condenser parts condensers connection block connectors, antenna control panels copper ribbon copper wire CORDS for receivers cord tips crystals crystal detectors crystal detector holders crystal receiving sets | <ul style="list-style-type: none"> Detectors detector panels detector tubes detector minerals detector and two stage cabi-
nets dials dial and knob sets double speed keys dry cells Ear cushions ear 'phones electrose knobs engraving Fan switches filter reactors fixed condensers flashlights fore rectifiers
 Galena gaps, spark generators goldite grid condensers ground clamps ground pipe fittings ground switches ground wires
 Headsets and bands high potential condensers hookswitches horns hydrometers
 Inductances insulators insulation
 Jacks
 Keys knobs
 Learners sets levers, switch learners books lightning arresters loose couplers loud speakers locked lever switches lock nuts loop antenna lugs
 Magnetic modulator mica | <ul style="list-style-type: none"> mica diaphragm telephones microphone transformers millimi-meters milli-voltmeters motors mounting coils minerals
 Name plates nicked screws nuts
 Omnigraphs oscillation transformers
 Panel plugs panels control panels detector panels formica 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 schools radio publications reactor, plate circuit receiving head sets receiving sets receiving transformers receptors receiver magnets receiving transformers rectifiers, fore rheostats rheostat wire rods for sliders rotary lever switchers rotary spark gaps rotary variable condensers rubber pads rotors
 Stator sections scales safety switches | <ul style="list-style-type: none"> safety fuses sending apparatus short wave regenerative
sets silicon sliders and rods sockets soft metal shielded dials special apparatus spark coil selectors spark gaps storage batteries sectional receiving sets switches switch levers switch points symbols
 Telephone jacks telephone plugs telephone receivers telegraph teachers testing clips thermometers tools transformers transmitters tuning coils tubing, flexible tube sockets tuner and detector cabinets two stage cabinets
 Unit type receiving sets
 Vacuum Tubes vacuum tube sockets variable condensers vairo-meters vairo-couplers variable grid leak vernier adjusters vibrators vocalouds voltmeters vulcanized fibre sheets
 Washers watch case receivers wattmeters wave meters wave tuner wire wire, magnet |
|---|---|--|--|

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-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 perforce 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.

HARRY M. KONWISER, Publisher,
THE RADIO DEALER,
1133 Broadway, New York City.

I am a dealer in radio equipment and supplies and believe the radio manufacturer ought to create the proper plans to permit us to guarantee broadcasting service to our customers. Count me in on any movement to this end.

(Name) (Address)

SUBSCRIPTION ORDER

HARRY M. KONWISER, Publisher,
THE RADIO DEALER,
1133 Broadway, New York City.

Please enter our name as subscribers to the RADIO DEALER for one year, to begin with the next issue. We will remit the price of \$1.00 for the year on receipt of bill.

(Signed)

(Address)

(City and State)

ADVERTISING ORDER

HARRY M. KONWISER, Publisher,
THE RADIO DEALER,
1133 Broadway, New York City.

You may insert our advertisement, copy attached, in the next four issues of the RADIO DEALER, to occupy space of inches, for which we agree to pay you at the rate of three dollars per column inch monthly after publication.

(Signed)

(Address)

(City and State)

Advertising rates, three dollars per column inch. \$90 per page.