

# Radio Industry

A GAGE  
PUBLICATION

\$1 a Year  
15c a Copy

Radio Supplement Electrical Record  
**The Business Paper of the Radio Trade**

April, 1925  
Vol. 2, No. 4



## *An even better seller!*

The Improved MARV-O-DYNE is going to beat even the records for fast selling which the original MARV-O-DYNE hung up. Why? Because its performance, its appearance, and the quality of its units place it head and shoulders above any other set of its type, regardless of cost.

That's a strong statement to make—but it is a true one nevertheless. And a statement like that means you cannot afford to ignore the Improved MARV-O-DYNE, model 612-C. If you like to stock up on items that move without undue pushing, items that create goodwill, then reach for your order blank and write the word MARV-O-DYNE on it.

The Improved MARV-O-DYNE is equipped with the Fil-a-meter, that

exclusive device that keeps tubes always at their best operating point. Then there's a push switch by means of which the B battery voltage can be read directly on the genuine Weston meter. Stromberg-Carlson transformers are standard; so are Haig and Haig Straightline condensers. Solid bakelite throughout, with a mahogany cabinet that is a beauty.

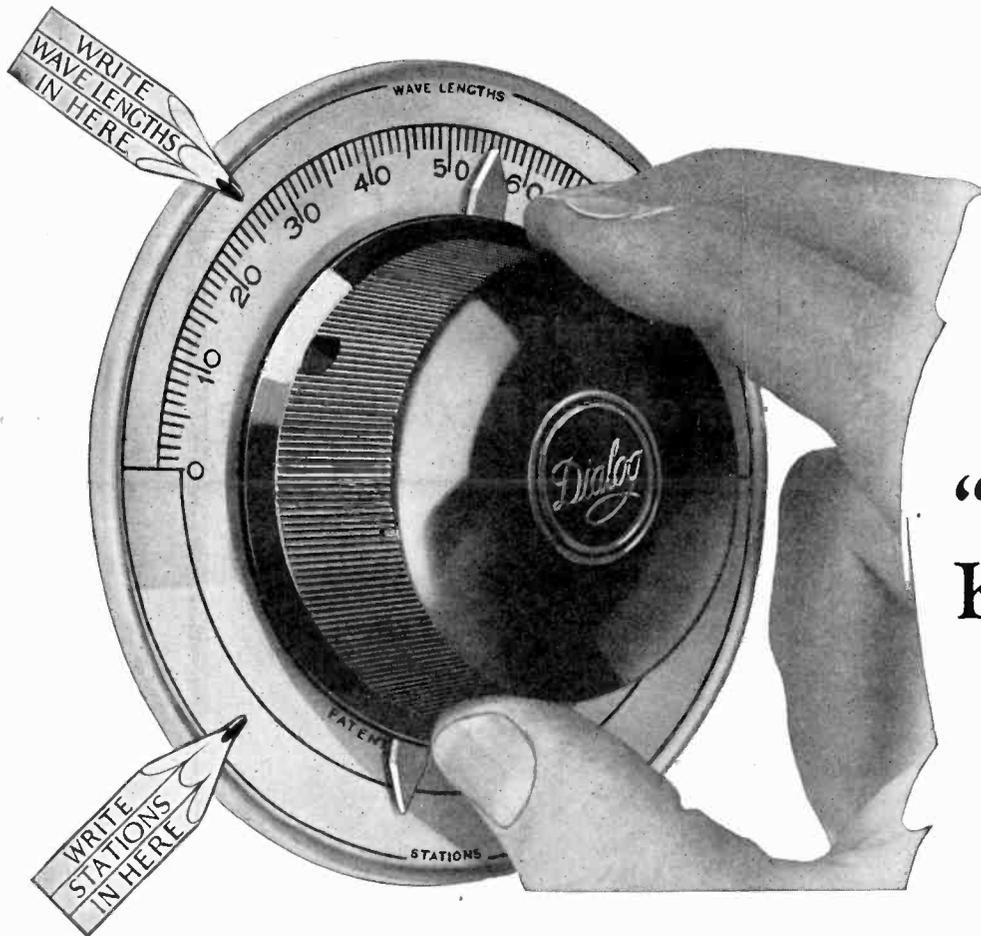
The list price is only \$110! Better write us at once.

AMBER MANUFACTURING CORP.  
115 WEST BROADWAY, NEW YORK

*The Improved Amber*  
**MARV-O-DYNE**  
*The set with the Fil-a-meter!*

## Beg Pardon!

By mistake last month an incorrect cut ran in our announcement. Note that the Dialog has TWO pointers instead of one, that upper half of dial is for wave lengths and that lower half is for stations.



# "It's a Knockout!"

# Dialog

Trademark  
Registered U. S. Pat. Office

**\$1.25**  
black knob  
silver dial

**\$1.50 in mahogany  
and gold**

Patents Pending

**T**HAT is the trade verdict. Orders, inquiries—by wire and mail—from jobbers, dealers and manufacturers are deluging us. Pardon us if we may not have answered your communication as promptly as usual.

Here's the information for those who didn't see the first announcement: The world's *smoo-oothest* vernier control—with *erasable* logging disc—and genuine Bakelite knob—at \$1.25 retail list (black knob, silver dial) and \$1.50 (mahogany knob, gold dial).

Guaranteed 100% positive for life. No gears, cogs, springs, levers or cams—can't be worn out. Can't back-lash or wobble. Entirely new principle of construction (patents pending). You've never seen anything like it before.

The vernier control that can be mounted flush against the panel with a single hole mounting condenser.

No drilling of panel. No shortening of shaft. Can be attached by anyone in less than a minute. *Only one screw to tighten.*

May be used without logging disc, if desired.

Large Bakelite knob, 2-11/16" diameter. Neatly etched metal dial, 4 1/4" diameter. Knob extends only 1 1/8" from panel when installed.

Ratio fine enough to tune in stations otherwise missed. Continuous vernier.

Double pointers.

Unconditionally guaranteed in every way.

Packed in standard cartons of twelve. Each Dialog individually boxed.

The largest, most far-reaching campaign in Walnut history is starting on the Dialog. Watch the public "grab" the Dialog—with its revolutionary features and astounding low price! Be ready!

*Write or wire today for discounts and full particulars on this "fast one."*

**WALNART ELECTRIC MFG. CO.**

"The Makers of  Good Goods Only"

GREEN STREET AT JACKSON BLVD., CHICAGO

# How to Answer the Questions of Customers

## 1—On Radio Sets

Turn to page 25 of this issue. Beginning thereon and extending to page 50 will be found the name and address of every set manufacturer. With the Encyclopedia of Radio Sets before you, you are in a position to quote your customer on any set which may have taken his fancy or has been recommended to him.

## 2—On Battery Chargers, Rectifiers and Substitutes

These vital accessories of Radio are listed beginning on page 53. Acceptable radio reception demands a satisfactory battery or substitute, hence there is continuous interest in the subject.

## 3—On Radio Storage Batteries

Storage Batteries to fit every purse will be found listed on page 63 and thereafter. Not only does the Encyclopedia of Storage Batteries contain a complete price list, but full detailed information relative to the characteristics of the battery described.

RADIO INDUSTRY is the only radio paper publishing complete Encyclopedias for its readers. This information is of the utmost value to dealers, as it enables them to have at all times a comprehensive grasp of the radio market.

It will cost you an average of less than two cents a week to receive RADIO INDUSTRY and its exclusive information monthly. Thousands of dealers are using it as their guide book and you can, too—\$1.00 per year.

Send cash or check, and when signing form below, be sure and give local address.

## RADIO INDUSTRY

THE GAGE PUBLISHING CO., Inc.

461 Eighth Avenue

New York, N. Y.

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### RADIO INDUSTRY

The Gage Publishing Co., Inc.  
461 Eighth Ave., New York, N. Y.

Attached find ONE DOLLAR (\$1.00) for which send every issue of RADIO INDUSTRY for one year.

Name .....

Street .....

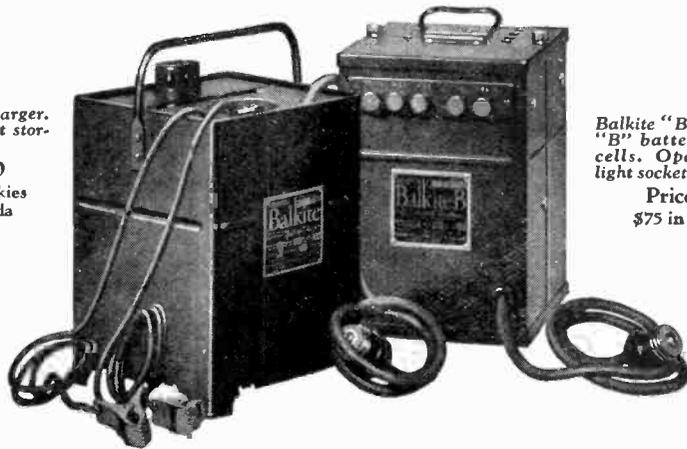
Town ..... State.....

Date .....  
4-7 16M



Balkite Battery Charger.  
For charging 6-volt storage batteries.

Price \$19.50  
\$20 West of Rockies  
\$27.50 in Canada



Balkite "B"—replaces "B" batteries or dry cells. Operates from light socket.

Price \$55  
\$75 in Canada

# Balkite Radio Power Units

*Two of the fastest-moving and most profitable items in radio*

Balkite Radio Power Units supply constant uniform voltage to both "A" and "B" radio circuits and increase the power and clarity of any set. The Balkite Charger charges storage "A" batteries. Balkite "B" replaces "B" batteries entirely and supplies plate current from the light socket.

Both the Balkite Charger and Balkite "B" are entirely noiseless. They are based on the same principle. Both have demonstrated their entire success over a long period of time. Both are free from service trouble, well advertised and fast-moving.

## FANSTEEL **Balkite** Radio Power Units

BALKITE BATTERY CHARGER — BALKITE "B" PLATE CURRENT SUPPLY

Factory Representatives

The Ekko Company  
111 W. Monroe St.  
Chicago, Ill.

A. S. Lindstrom  
274 Brannan St.  
San Francisco, California

J. P. Rainbault  
30 Church St.  
New York City, New York

Burddept. Ltd. I  
172 King St. W.  
Toronto, Canada

Wood & Lane  
915 Olive St.  
St. Louis, Missouri

Sparling-Markie, Ltd.  
276 Smith St.  
Winnipeg, Canada

Chas. F. Saenger & Co.  
942 Prospect Ave.  
Cleveland, Ohio

Lombard J. Smith  
324 N. San Pedro St.  
Los Angeles, Cal.

Detroit Electric Company  
113 E. Jefferson St.  
Detroit, Michigan

Geo. H. Maire  
95 Connecticut St.  
Seattle, Washington

Thos. S. Hoy  
719 McKnight Bldg.  
Minneapolis, Minn.

H. A. Killam  
146j N. 10th St.  
Portland, Oregon

Manufactured by FANSTEEL PRODUCTS COMPANY, Inc., North Chicago, Ill.

# How Responsible Radio Advertisers in Chicago Reach Solvent Radio Consumers

The Chicago Daily News Radio Pages are almost a complete directory of the legitimate sellers of radio supplies in the Chicago market.

The Daily News does not accept advertising that is not backed by commercial responsibility—and the fact that its regular advertisers have grown and prospered in their Chicago operations, is testimony alike to the merit of their merchandise and to the selling effectiveness of The Daily News among the radio “fans.”

Guided by the results of experience, sellers of radio products in Chicago rely more and more upon The Daily News to convey their messages to the followers of the science in Chicago.

In 1924, The Daily News published 167,608 agate lines of national radio advertising, 10,106 lines more than the daily paper having the next highest score in Chicago.

## THE CHICAGO DAILY NEWS

*First in Chicago*

N.B. Radio manufacturers wishing a special analysis of the Chicago market may obtain same by addressing the Merchandising Service Department, The Chicago Daily News, 15 North Wells Street, Chicago.

# Radio Industry

The Business Paper of the Radio Trade

Radio Supplement to ELECTRICAL RECORD

Volume 2

APRIL -- 1925

Number 4

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J. C. Prior, *Associate Editor*

Stanley A. Dennis  
*Editor*

Charles H. Roe, *Engineering Editor*

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J. F. McClure, *Vice-Pres. and Secretary*

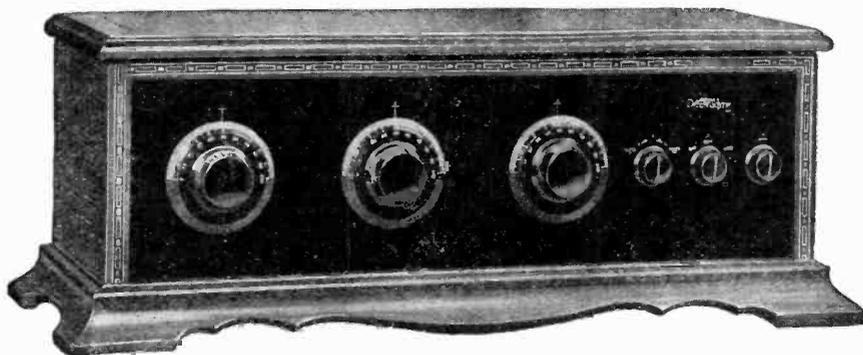
J. C. Prior, *Treasurer*

L. C. Fletcher, *Advertising Manager*

Chicago Office  
1742 Monadnock Block  
L. C. Bassett, *Manager*

461 Eighth Avenue, New York, N. Y.  
Boston Office  
Little Building

Cleveland Office  
516 Caxton Building  
Harry Krohn, *Manager*



## The Receiver of the Year

The year has brought forth one outstanding radio receiver—the Deresnadyne. It is the most advanced and talked-about on the market.

The Deresnadyne is remarkable first of all for its purity of tone and fidelity of reproduction. And tone is what counts after an owner has had a set a while. It answers the increasing demand on the part of the public for a set that is not merely a plaything for the fan but a musical instrument of the greatest and most lasting utility.

The Deresnadyne is remark-

able for its selectivity. In this respect it has no superior. Local or outside stations—it brings them in without interference.

It is remarkable for its distance. In one evening one owner got Calgary, Havana, Springfield, Mass., and Los Angeles.

Above all the Deresnadyne is remarkable because it does not choose between the essential qualities of a receiver. It does not sacrifice tone to power or vice versa. It combines them. It is not a Neutrodyne. It is not a Heterodyne. It is new in principle as well as results.

*De Luxe Model \$165 without accessories*

DEALERS: Order through your jobber

JOBBERS: Write to us

*Andrews*  
**Deresnadyne**  
DE-RÉS-NÁ-DÏNE · PATENTS PENDING  
*Radio Receiving Set*

Manufactured by ANDREWS RADIO COMPANY · 327 South La Salle Street · Chicago

# Radio Industry

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APRIL-1925

Number 4

## Make Every Sale Carry Its Load

The price cutter digs his own grave, for every sale which does not return in full measure the original cost of the merchandise plus overhead plus profit brings the business nearer failure

NET sales, like an individual sale, must represent the sum total of merchandise cost and overhead and profit, if the business is to continue to live and prosper. The price cutter defies the logic and reason

and mathematics in this principle of business management. If he defies it a sufficient number of times, in individual sales, he accumulates a loss which sinks him into bankruptcy. Think twice before cutting prices.

Cost Price ..... \$56.00

Overhead ..... 16.00

Salaries  
Rent  
Light, Heat, Power  
Telephone, Telegraph  
Advertising  
Depreciation  
Stationery, Printing  
Freight, Express  
Delivery  
Insurance  
Taxes  
Bad Debts  
Allowances  
Interest  
Supplies  
Association Dues  
Miscellaneous

*If you cut  
your prices,  
how will you  
pay these  
bills?*

Profit ..... 8.00

Selling Price ..... \$80.00

These figures emphasize the simple arithmetic that underlies a successful sale. The sooner the radio industry is freed of price cutters who think they can beat the arithmetic at its own game the better it will be for the radio dealers who deserve to stay



*Price cutting is a business pestilence. Don't spread it. Stamp it out.*

# Secretary Hoover Reviews Difficulties of Radio Broadcasting

Aims to increase radius of serviceable reception and expects gradual advance in power to bring number of effective alternative programs to eight or ten

By Herbert Hoover

Secretary, Department of Commerce

THERE can be only one point of view in the consideration of radio regulation and development. That is to assure increasing service to the listener. The radio is steadily enriching our homes. More particularly to our farmer folks it is bringing more of those contacts that the town populations have alone enjoyed up to this time. The road of progress is to stimulate the development of the art, to prevent interference with and between broadcasting stations through maintained competition, to secure greater perfection of reception, increase in the number of alternative and better programs.

## The Situation in Broadcasting Stations

There are today 563 broadcasting stations either in operation or under construction. Of these, 455 are Class A (of 500 watts power or less) and 108 are Class B (over 500 watts). It is generally believed that Class A stations have a radius of good practical reception of not more than 25 or 50 miles, while Class B stations, with their larger and increasing power, have a much wider radius.

The recent policy of the department of allowing the increase in power toward a possible maximum of 5000 watts will mean that the radius of serviceable reception will be greatly increased and the reception itself within the present radius will become very much more reliable. This is of particular importance to our agricultural people especially in summer and during daytime. The present plan in this particular is to permit advance in power use in stages of 500 watts, resting at each stage to determine what interference with other stations results. Probably 20 or 30 Class B stations are now increasing or planning to increase their power. It is quite possible that good, serviceable reception will be obtained for a radius of several hundred miles from such stations, thus increasing the alternative programs to listeners. This advance toward 5000-watt stations has no relation to the so-called "super power" 50,000-watt stations.

## Wave Length Distribution

The most difficult problem in radio regulation and development is the distribution of wave length use so as to prevent interference between stations. There are in all 86 different wave lengths available if we keep the stations ten kilocycles apart and stagger the assignment of wave lengths geographically so to prevent overlap in the area of effective reception. The recent experiment of the department in attempting to increase the number of wave lengths by decreasing the difference to seven kilocycles proved unsuccessful with the present development of instruments.

Class A stations (500 watts or less power) were assigned the wave length of 278 meters and below by recommendation of the radio conference, and there are in this area 39 possible wave lengths. Owing to their limited radius and the irregular character of their program (largely churches, educational institutions,

etc.), Class A stations have not presented so many difficulties in wave length assignment and interference as Class B stations, although there are 455 of them.

Class B stations present a far more serious situation because of their wider radius and their regular performance. There are 47 wave lengths to be divided over a total of 108 stations now operating or under construction. That is, there is now an average of less than one wave length for each two stations, which means that they must divide their time of operation. The Class B stations are the ones which furnish most of the regular programs and from which the public receives its most effective service. Most of them naturally desire and need to operate continuously, as the cost of overhead is much increased by dividing time.

## Physical Limitation on Number of Stations

One of the great difficulties in the distribution of wave lengths arises from the tendency of stations to congest in large centers of population. The worst conditions are at Chicago and New York. At Chicago five wave lengths are available for 10 operating Class B stations, and there are several others in course of construction. For New York there are six wave lengths available for 8 Class B stations and more are under construction.

It is practically impossible to increase the number of wave lengths available to these cities because they are all in use in other communities and because it is absolutely necessary to maintain a wide kilocycle separation between stations so close together. Otherwise they will destroy each other. Such multiplication as has already occurred in these centers gives no better service to the public, and if further division in time is forced it will decrease the value and efficiency of the established stations. Neither under the present law nor under the provisions of the White Bill was there any limitation of the number of stations. It is highly important that those who contemplate entering the broadcasting field should clearly understand that there is no assurance that they can be allotted a Class B wave length, and justice maintained to radio listeners. The department cannot give what it hasn't got. One reason for delay in legislation has been the hope of determining whether or not it would be necessary to include such limitations.

## Present Interference

There is, so far, only little interference between broadcasting stations. There is considerable interference from telegraphic code transmission, although it does not destroy the listeners' reception from nearby stations.

The great body of radio listeners in the country today have good, practical reception of three or four different programs simultaneously, and with the gradual advance in power in different parts of the country the number of effective alternative programs should shortly increase up to 8 or 10.

# Make the Sales Effort Personal

Contracts payable at the store, an ever-present service man, and free radio concerts will help give radio selling the personal touch

By Frank H. Williams

**P**ERSONAL contact with radio prospects and customers in the store and a really efficient servicing plan are the two chief sales-building methods employed by C. H. Randall, proprietor of the Randall Radio Shoppe in Santa Ana, Cal.

One of the methods used by Mr. Randall to get potential purchasers into the store is to have the time-payment-plan payments made at the store instead of direct to the finance company. Some dealers prefer to have it done with the finance company direct, but Mr. Randall thinks it works to his benefit to bring them back every month or whenever the payments are due, since it gives him a chance to talk over with them the performance of their sets and possibly to sell them more equipment.

Another very effective method of bringing more people into the store consists in always having a service man who is ready and able to help all patrons with any adjustments or information which will help them make their radio sets more effective.

## Service Even at Night

Instantaneous service is more highly appreciated by radio users than by almost any other class of people. Whenever a radio user finds his radio out of working order he wants instant action in getting it back into commission again. Whenever he is having trouble in getting volume, or in tuning in certain stations, he is tremendously anxious for immediate action. He certainly does not like to go to the store where he purchased his radio and then be told that the service man is out.

It is evident that this shop has been helped tremendously in building business by having a service man on the job all the time. It is also very interesting to note that the shop makes a specialty of giving instantaneous service until late at night, to all who phone in for service.

"We'll have a man out there at once," is the ready answer of Mr. Randall to all requests that come in for service. As the store lives up to this promise all the time, it is evident that this phase of its business makes a big impression on the customers and is a very vital factor in getting more business.

The store also has a courtesy receiving set in the Santa Ana depot of the Pickwick stage lines which is in operation all the time. Hundreds of people hear it every day. Attached to the loud speaker of this set is a card stating that the set is placed there through the courtesy of the Randall Radio Shoppe and urging all the folks who hear it to come to the store, listen to the radio sets there and talk radio to Mr. Randall or the employees. This little stunt constantly brings many people to the store who might not otherwise come.

The store, too, uses six billboards on main auto highways leading into Santa Ana on which it advertises the radio equipment it is offering for sale and on which, too, it presents an invitation to visit the store. These billboards are often commented on, which is the best sort of indication that they are effective in increasing

*Radio Industry, April, 1925*



Ready to Give Service

The stock of the Randall Radio Shoppe is arranged in an orderly, instead of overcrowded, fashion so that sets and parts are in full view and can be reached instantly

the number of prospects who visit the establishment.

In his newspaper advertising Mr. Randall emphasizes the things that his customers are doing with their radio equipment. He tells about the different stations that are being heard and about oddities in receiving. For instance, just after New Year's Day Mr. Randall used an advertisement in which he told how one of his customers followed the arrival of the new year across the continent from east to west. He told about this man hearing New York announce the new year and then Pittsburgh, then Chicago, then Omaha and then Los Angeles. He gave the exact times, according to Santa Ana time, when the customer heard all this and also gave the station letters and the methods used by the various stations in announcing the new year's arrival. This advertisement attracted a great deal of attention.

## Satisfied Users Help Sales

In addition to his efforts to get customers into his store, Mr. Randall relies heavily on his satisfied users in securing more sales. Every three months the establishment makes up a list of the people who have purchased receiving sets during the quarter period. This list gives the names of the individuals, their addresses and the type of equipment purchased. The list is arranged alphabetically.

When a prospect comes into the store and begins talking radio—and it is interesting to know that ten or twelve live prospects come in the store every day—the list is shown to them and Mr. Randall or the salesman says something like this to the prospect:

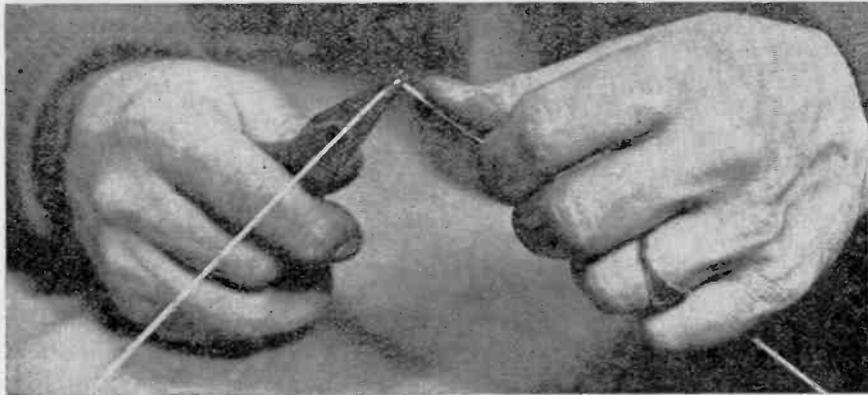
"Here is a list of the folks who have purchased sets from us during the past three months. Look the list over and see if you know anyone on the list. If you do, why not ask them what they think of the radio equipment we are selling and the service we are giving?"

Quite a number of people act on this suggestion and in many cases often come back to the store and make purchases.

The Randall Radio Shoppe also uses direct mail advertising quite extensively in pushing sales. A personal letter is sent to each purchaser just after his purchase and this is followed up by additional letters every month telling about new developments and urging him to come to the store for all his radio needs.

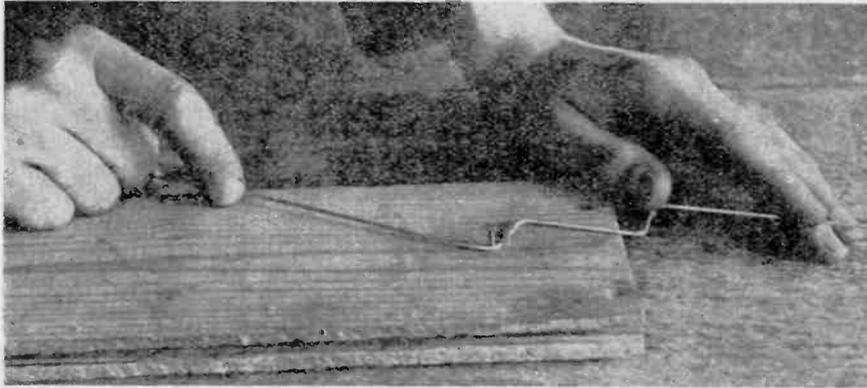
# Fitting Radio Bus Bar to Its Work

Bus bar is admittedly the best medium for neat connections on the radio set, but as in all other radio work, there is a right way and a wrong way of using it



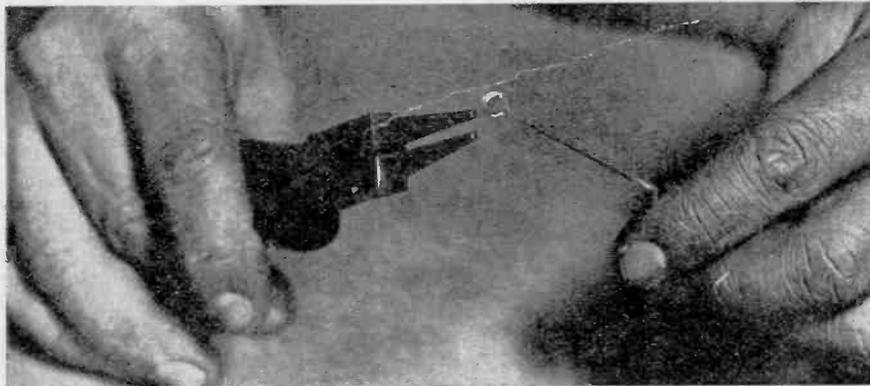
## Avoid Sharp Turns

Bus bar does not perform at its highest efficiency as a conductor when it is bent to too sharp turns. While very sharp right angles may add to appearance behind the panel, they undoubtedly increase losses. For this reason it is inadvisable to use flat-nosed pliers of the type shown in the illustration to the left when bending bus bar



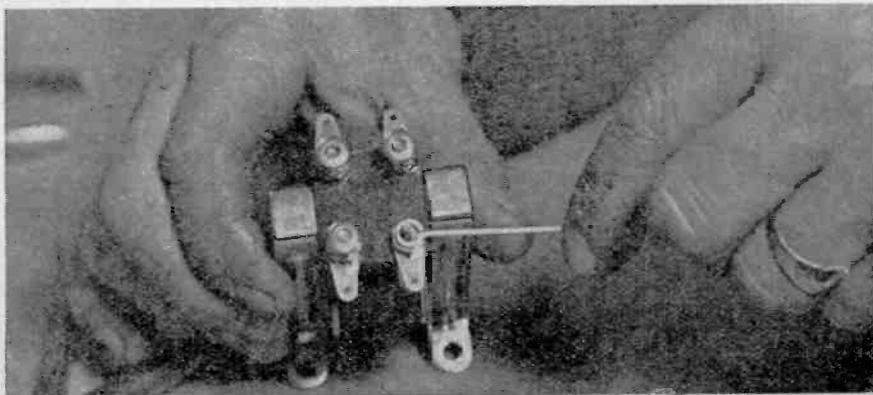
## Construct Your Own Bender

A simple bus bar bender can be made by driving two ten-penny nails in any odd piece of board. They should be driven in such a way that there is just sufficient space between them to allow the passage of the bus bar. If the board is large enough it will be an easy matter to keep the bus bar in alignment. All that is necessary is to keep it lying flat on the board



## Looping It for Terminals

Pliers with a long, round nose are handy in manipulating bus bar, not only because they eliminate sharp turns but because they can be used in making loops to fit over terminals and binding posts. There is no denying that the loop shown in this illustration will add to the workmanship of the job on which it is installed and it is quite as easy to make as a crooked, unsightly connection



## Fitting It to a Terminal

This shows the looped bus bar in place on the terminal of a transformer and it is in this manner that loops should be used on all connections where there is a binding post. The size of the loop can be gaged to the size of the screw it is to fit and a neat, tight connection will result. If soldered connections are preferred, solder to the lugs and not the binding posts because it will render the latter unfit for further use

# "—and Nothing But the Truth"

Ever-increasing tendency on the part of some radio advertisers to inject superlatives and doubtful statements into their copy calls forth a series of standards for truth in radio advertising

**T**HE Better Business Bureau of Washington, D. C., in cooperation with the local Radio Merchants' Association, recently promulgated a code of ethics to govern the handling of radio advertising copy of manufacturers and dealers. This code contains eight "commandments," each of which covers some feature of radio advertising which is in need of correction.

The code was unanimously approved and adopted by the radio men of the Capital city who have realized for some time that if the business is to grow in public favor its advertising cannot contain exaggerated or incorrect statements.

The code follows:

1. Appropriation of radio tube type numbers or any substantial or material part thereof, such numbers having been originated by and become identified with the products of certain well-known manufacturers, is a form of unfair competition. For example, "W. D. 12," "U. V. 199," "U. V. 201-a," etc., apply to tubes of the Radio Corporation of America, and "D. V. 2" applies to tubes manufactured by the DeForest Radio Telephone and Telegraph Company. These type numbers should not be used for advertising tubes of other makes.

2. Sets built by retail stores and containing certain licensed parts bearing the names of well-known manufacturers of sets using the same circuits, should be advertised and sold in such a way as to make it perfectly clear to the public that they are store-built rather than factory-built. Neurodyne sets are a case in point.

3. Claims for radio apparatus, such as distance or loud speaker reception, should in most cases be based on average performance rather than some rare, exceptional feat. If the exceptional instance is featured, the advertising copy should make clear the fact that same result is not to be expected in the average day-to-day performance. Much disappointment and dissatisfaction may be avoided if radio novices are given some information in advance that atmos-

pheric disturbances, seasons and other conditions affect radio reception.

4. Merchandise advertised as being reduced from a certain list price and represented as possessing the list price value, should carry all of the advantages, such as factory guarantee and repair privileges, to which any purchaser who buys it at the regular list price is entitled. Otherwise the customer is not getting the complete service or value that is included in the regular list price quoted in the advertisement.

5. Advertisements of radio sets should state what accessories, if any, are included in the price quoted, and if accessories are not included this should be apparent from the wording and arrangement of the copy.

6. Claims as to batteries and other accessories should accord with such limitations of performance as recognized scientific opinion in the industry has determined that the purchaser may reasonably expect from a particular type of product. Guarantee, refund and other sales appeals should be free from ambiguity or tricks that sometimes make them the cause of current dissatisfaction and a future distrust of advertising.

7. When a set is advertised at a reduced price after the model has been discontinued by the factory, it should not be represented as still possessing its regular list price in a way that leads the public to believe that it is securing a much better current value than actually is the case.

8. When any particular piece of radio merchandising is featured through advertising as a leader, the concern should be required to have a sufficient supply on hand to fill a reasonable public demand.

There has been much dissatisfaction occasioned by the claims of some radio advertisers in their copy and these principles enunciated by the Washington people will probably go a long way toward clearing up this "natural over-enthusiasm" in that city. This cannot but fail to react in favor of the radio industry and will do much to increase confidence on the part of the buying public.

## Truth in Radio Advertising

The popularity of radio has brought about a new clique in the Annapolis Club—a harmless group who tell of getting wonderful and unbelievable results from their favorite radio sets.

But the radio dealers of Washington have realized that if the business is to grow in public favor, its advertising cannot contain exaggerated or incorrect statements. To combat this natural over-enthusiasm, the Radio Merchants' Association and the Better Business Bureau have compiled a series of eight standards for better radio advertising.

These standards urge against unbelievable claims, such as distance and loud speaker reception. They favor caution, frankness and conservatism to the end that radio advertising be truthful, and thus build public confidence.

Complete copies of these standards may be had upon application to

## The Better Business Bureau of Washington

Warning the Public Against Untruthful Radio Advertising

The Better Business Bureau of Washington used newspaper advertisements such as this to acquaint the public with its efforts to improve radio advertising

Dealers Are Making Good Profits

# Selling Radio "Kits"



The "everything-right-in-the-one-box" outfits have proved to be excellent business-getters for the enthusiast who is a novice at the game, and they should not be overlooked by the dealer

IT is generally conceded that the selling of radio parts, especially to the man who is a beginner and is imbued with the idea of "making his own," is not always productive of the fullest satisfaction. The reason for this is usually because the purchaser does not buy parts which are properly matched, and as a consequence they will not work well together. To offset this, however, manufacturers are now producing radio "kits" made up of perfectly matched parts, generally the parts that are actually installed in their complete sets, and these are proving to be a most profitable branch of the business for the dealer.

In purchasing a kit, the enthusiast knows that the parts furnished are intended for that set and have been designed especially for it; that they will work if he will only put them together properly. This knowledge puts the performance of the completed set squarely up to the purchaser and lessens to a great degree the unpleasant situations that are constantly arriving to annoy dealers who sell parts that are not designed to perform satisfactorily in the particular "hook-up" chosen by the purchaser.

The situation existing today in the variable condenser market is a case in point. There are hundreds of different makes of this part now being sold. In some cases inexperienced manufacturers are giving an entirely incorrect rating to a condenser, and in some sets dissatisfaction is bound to result if it is used. Too much stress is being laid on the number of plates in a condenser rather than on its actual capacity, which is materially affected by a difference of a few thousandths of an inch in the spacing of these plates. Both dealers and manufacturers should encourage the sale of these instruments by their ratings rather than by the number of plates.

## Radio Kit Almost Fool-Proof

The radio kit does away almost entirely with the uncertainty of improper parts because the maker of the kit in a great many cases is turning out a set complete with the same parts as are used in the kit. The buyer can go wrong in many places in building his own set from odd parts, but with a kit there is only one chance for him to make a mistake, and that is to wire it incorrectly. If the kit is a good one—and most of them are—there is little chance for this to happen, and the dealer is protected from "returned as unsatisfactory" purchases. His goods stay sold.

The radio dealer should exercise caution in selecting kits for his stock. In a great many cases it is necessary to purchase extra parts, such as rheostats, sockets, wire, tubes, etc., and some of the cheaper outfits actually require that the buyer spend more money for the extra parts than the total cost of the kit itself. The better

ones are equipped with everything, including a drilled and engraved panel, and in a few cases even the wires are cut to length and numbered as to location. In such kits as these a full-sized print is furnished, showing the exact locations of the various parts and the key numbers for the wires. Everything is explained in such a clear manner that even the most inexperienced radio enthusiast can put such a set together in a short time, and an experienced man will have it working in a few hours.

One progressive dealer who found that he was selling a great number of kits of the incomplete class, made up an auxiliary kit containing all the parts needed for completing the set.

There is considerable talk in the trade at the present time about the falling sales of parts, but an actual check-up in the matter would probably indicate that while the odd parts may be dropping, the sales of kits are increasing. The purchaser knows that it is easier and more satisfactory to build a set from a kit of parts, and for this reason the sales of kits show an increase, to the detriment of the sales of loose parts.

National advertising carried on by manufacturers of radio kits is encouraging dealers to give prominence to this item in their stores. Some dealers have increased sales by actual demonstrations in their windows of how sets are put together with these outfits. One New York dealer tried this and was compelled by the police to stop the display when the pedestrian traffic grew to such proportions that the street was blocked.

## Things to be Considered

Of course, the location of the store and the class of trade must be very carefully considered by the dealer before putting in a large stock of kits, because in many places the sale of parts is still the mainstay of the business. In choosing the stock the class of trade must be studied closely. How much money do your customers pay for radio parts? It would hardly pay a small store in a poor neighborhood to stock kits for eight-tube superheterodynes, even though the kit was sold at a reasonable figure. The accessories on such kits frequently run to nearly double the cost of the kit, and the upkeep is an expensive item to the man who has not a great deal of money to invest.

Reflex sets of many varieties are very popular in the kit line. These may be secured in many different makes and a varying number of tubes. Usually these kits give good satisfaction.

Of course, the largest sellers are the five-tube kits, either for straight tuned radio frequency or for neutrodyne sets. Thousands have been built successfully by inexperienced enthusiasts.

The progressive dealer should think long and hard about the kit situation.

Let the Potential Broadcaster Answer the Question—

# How Will a Station Help Me?

Here are some facts and figures that may help the radio manufacturer, or any other kind, to decide whether or not he will enlist the "God-given voice" in his plans for increasing his business

By W. F. Crosby

**M**R. MANUFACTURER sits down in a comfortable chair after dinner, lights his cigar and turns on his radio receiving set. He learns that a well-known set of twins are about to entertain, and knows that the object of their visit to the microphone is to increase the sales of a certain household commodity. He has seen a box of it in his kitchen, and wonders if it was purchased as a result of their enterprise. Later, another station is tuned in, one owned by a manufacturer whose product is known from coast to coast. Has this means of advertising been of material assistance to this organization?

This musing brings several questions to his mind. What if his company operated a station? The product has a national distribution. Would it be helped by a high-powered installation? How much would it cost? How would one go about getting the artists? What are the operating expenses?

It is not an easy matter to arrive at any very definite figures in the matter, due mainly to the fact that many of the broadcasters have no records showing them, but approximate figures will help. This is especially true of the installation cost, where a considerable amount of experimenting has been done, as is usually the case.

One thing, however, is certain. Most of the more prominent broadcasters are using "standard 500-watt transmitters." These are almost universally used in the Class B stations which are heard over great distances. Most of the smaller Class C stations are equipped with "home-made" sets, which are certainly not an advertisement for their owners. Proper design of a transmitter of this kind calls for special telephone experience, and comparatively few engineers are capable of putting together a really first-class job. The cost of a high-powered station may run over \$100,000, while some of the lower-powered home-made outfits will total only \$1,200 or \$1,500. Little can be done below this figure.

## This Station Costs \$30,000 Annually

The owner of a well-known station in the Middle West says that his station costs nearly \$30,000 a year for maintenance in the style the company requires, and it has never directly returned a dollar on the investment. This man says:

"Broadcasting is the essence of liberality; it is the most generous impulse created. It is a free-will offering to the millions; it is generosity personified, the symbol of unselfishness.

"At first sight it seems like a waste, if not an extravagance of the wildest nature, to spend \$30,000 a year, but is it? A cold-blooded business man who wants to see a direct 6 per cent or better on every dollar invested would turn this proposition down cold at first sight, but on the other hand there are many conservative business builders who regard it as a sound advertising investment and builder of good-will.

"You see a billboard. The billboard broadcasts and your eyes listen in. You think. You read an advertisement in a newspaper. The paper broadcasts, your eyes listen in. You think. You hear a band on a wagon with a canvas sign on the sides. You read. The band broadcasts to your ears, your eyes read the sign, you listen in. You think.

"Anything which causes you to use your senses, causes an impression which reaches the mind and is interpreted, casts an indelible record which can never be effaced. Repeat that process often enough, long enough and strong enough to grip attention and you can control the footsteps of the buying power of the world. The broadcasting station is the greatest and quickest direct store-to-ears, school-to-mind, my-idea-to-your-brain advertising medium. What constitutes an advertisement? 'This is station ABCD, the North American Shoe Corporation.' Hammer that name often enough into your mind and when you think of a pair of shoes the chances are very much in favor of your thinking of North American shoes, and, being familiar and friendly with the corporation because of its broadcasting, the possibilities of your purchasing a pair of that make, all things being equal, are better than even in favor of that brand."

## Larger Station Now Operating

This enthusiastic broadcaster owned one of the earliest stations in his section of the country. This outfit had a capacity of 500 watts. At present he is using 5000 watts, with an estimated installation cost alone of \$100,000. Does broadcasting pay him? His business has steadily grown; he has built up good-will from one end of the country to the other, and his investment of \$100,000 has more than repaid him.

He figures that his station reaches 1,000,000 listeners a day, a total of 365,000,000 a year. Allowing for depreciation, he estimates his yearly cost at \$37,000, and taking into consideration the 1,000,000 listeners a day only, it costs him a fraction over 3 cents per person per year. In a given newspaper having 100,000 readers he estimates that it would cost him 45 cents per person per year for a given amount of space necessary to carry his message. Further, the likelihood of that 100,000 reading his advertisement must be taken into consideration.

The name of this concern is broadcast in a "non-advertising way" on an average of 28 times a day. Assuming an audience of only half of the estimate he placed on the numbers of listeners to his station, this means that this army is given 14,000,000 impressions every twenty-four hours. Day after day, year after year, with the constantly increasing number of broadcast listeners, this is something very real indeed.

American broadcasting stations at the present time run all the way from 5 watts up to some which are capable of delivering 5 kilowatts. Each station seems to have

its own particular place. The low-powered outfit, usually made by some amateur, is for local consumption only. The owner of such a station has to use care and judgment in his programs for such stations are usually noted for the lack of good modulation and the generally poor quality of the program.

A 5-watt station may be built for only a few hundred dollars, but the cost of experimenting may run it up a trifle higher. Broadcasting stations come under the heading of limited commercial stations and require the services of a licensed radio operator. This man must be a full-fledged ship operator who knows the code and the international regulations. In short, he must be a man who knows an "SOS" when he hears it so that his station may be closed down at once. This is a rigid requirement of the Department of Commerce. The salary of such an operator may run up to \$75 per week, and in some cases more, depending upon the amount of work to be done. Sometimes it is possible to engage a man for evening work only, the station being silent during the day.

### The Station Staff

Most of the middle grade of broadcasting stations employ two licensed operators, two announcers, a publicity and program man, and perhaps a stenographer or two. The average weekly salary cost may be put down as low as \$250 per week, or as high as \$500. In addition, the cost of rent, light, heat and power must be given consideration, and in some stations this runs into no small figure each year. This is especially true where a "remote control" studio is maintained in a nearby city. On the other hand, some manufacturing plant may have a broadcasting station as part of the factory, with the result that the costs are considerably reduced. In such cases, however, it is sometimes difficult to obtain the necessary artists to appear on the programs. This is the chief reason for the maintenance of the remote control studio, which is usually located at some central point and therefore where the rents are necessarily high. Owing to the wide variation of these figures it is almost impossible to name an amount to cover the situation.

Evidently broadcasting is of benefit to nearly every kind of business. Schools and colleges, electrical and radio stores, department stores, garages, traction companies, railroads, musical houses, chambers of commerce, municipalities, police departments, hotels and a multitude of other forms of business broadcast regularly, with many thousands of dollars tied up in their transmitting equipment.

For all practical purposes there are about 560 broadcasting stations in the United States and its possessions, with 60-odd more in Canada. Fortunately for the receiving equipment, most of these are of the lower powers, with consequent range limitations. There are just under 400 stations in Canada and the United States which have 100 watts or more. Taking all classes into consideration, both high and low power, the average installation cost would come not far from \$11,000, with an average yearly operating cost of between \$16,000 and \$20,000. These figures are, of course, only average, and in many cases are exceeded, especially for the popular 500-watt stations. Therefore, a station which has been in operation for a period of one year represents an outlay of something like \$30,000 in round numbers.

Multiplying this figure by 620, the approximate total number of stations in Canada and the United States and its possessions, brings the astounding figure of \$18,600,000 as representative of the initial costs and operating costs for one year of these stations.

Of course, the matter of "talent" is something else that deserves the most careful consideration. Broad-

casting stations located in some of the smaller towns are up against a hard proposition, and in many cases regular features are made up from the staffs either of the factory or from the studio staff itself. In most cases one or two announcers are employed who are qualified to fill in if the occasion demands.

The programs thrown out into the ether night after night, reaching every conceivable type of home and individual, is something that requires the utmost scrutiny from the broadcaster. The station that is to endure must furnish "acts" that are above reproach from every angle. The particular station mentioned in this article has iron-bound rules in this respect, and anything that will injure the good name and dignity of the organization will not be tolerated for a moment. The radio enthusiast is quick to criticize, and certain stations wherein the ordinary rules of "what's what" have not been observed, have actually hurt their owners more than helped them.

Much of the success of the station depends upon the program man. Who does he know and how much influence has he with the musical and theatrical managers and publicity men? Sometimes these men receive large salaries, and in one case a high-powered automobile has been added. This car is used for carrying the artists to and from the studio, but at all other times it is the property of the program man. Everything depends on this man's skill in making up interesting programs and getting good talent on hand on time.

Perhaps these facts and figures will be of some assistance to Mr. Manufacturer in arriving at a decision in the matter. Perhaps the most concise answer to the question of its "payability" to the company operating a broadcasting station is the total number of stations operating and the fact that this number is constantly on the increase. It is true that a certain number of stations discontinue after a time, but investigation would undoubtedly show a lack of management or some similar circumstance as the actual cause of the station's silence. Standing high above this group on the broadcasting horizon are the stations which have made the air pay.

### To Standardize Radio Apparatus

A beginning has been made toward the standardization of radio apparatus by the American Engineering Standards Committee, which has just announced the appointment of five subcommittees operating under the sectional committee, to study the subject under the following subdivisions: transmitting and receiving sets and installations, including circuits, methods of installation, and rating of apparatus, component parts and wiring, vacuum tubes, electro-acoustic devices, covering devices for sound production or amplification which are in part mechanical, including microphones, telephones, loud speakers, and mechanical amplifiers, power supply and outside plant, which will include lightning protection, radiation and inductive disturbances from outside lines, railways, and power sources, and current supply for dry batteries, storage batteries, and rectification devices.

The sectional committee having this work in charge is headed by Professor John H. Morecroft of Columbia University and the secretary is Dr. Alfred N. Goldsmith, chief broadcast engineer of the Radio Corporation of America and secretary of the Institute of Radio Engineers. The American Institute of Electrical Engineers and the Institute of Radio Engineers are taking formal leadership in the sectional committee work. One of the first and most important phases of the work will be the standardization of nomenclature.

# How Large Scale Installation Problems Were Worked Out in A Hotel with Radio in Every Room

More orders for radio equipment and more work for the radio contractor are promised when other hotels find that their guests are expecting a complete radio service

**I**T is now possible for the hotel guest to recline comfortably in bed and listen to the music and other entertainment broadcast daily over the radio. Or else he, or she, may eat breakfast or enjoy afternoon tea in the comfort of the hotel room while at the same time hearing the strains of a popular orchestra playing the latest tunes. The guest from a distant city may listen to the broadcasting station of his town as he sits down to write a letter to the folks at home.

Such a service has just been installed by the Robert Morris Hotel of Philadelphia for all its 208 rooms. Individual headphones are provided for every guest room and loud speakers for the large public rooms. The apparatus employed is so simple that it can be handled by the telephone operator at her switchboard, the chief part of the work being done automatically.

This system has been made commercially possible by the work of a twenty-three-year-old radio engineer, C. Brown Hyatt, of Philadelphia, who by a newly patented device has made practical the automatic tuning of the set. Volume, change of station, turning the set on and off, all can be cared for at a distance from the receiving unit by a simple manual control or else connected to a time clock and made entirely automatic. The former method is adopted in the Robert Morris, giving the control into the hands of the switchboard operator.

## Wide Adaptation of Plan Predicted

Due to this automatic feature, the first cost of installation equipment is practically the last cost, and the result is that the hotel proprietor can now bring to his guests in their own rooms the finest entertainment that radio broadcasters can offer. It is freely predicted in the hotel world that in five years radio reception will be as much a part of the hotel service as the private bath is today. Incidentally there is quite a bit of ro-

mance in the achievement of young Hyatt, who has opened up an immense new field in radio. The best minds in the radio world have been working for the last three years to open up the apartment house and hotel field to wholesale radio installation, but it remained for a hitherto unknown inventor to solve the many technical difficulties.

Even before the Robert Morris Hotel was built two years ago its proprietor, Robert W. Jennings, attempted to have a radio receiving apparatus installed so as to furnish every room with entertainment from the air. All the large radio corporations told him that it was an impossibility, and as late as last year he met with the same reply.

## Conventions Spurred Development

But before the Republican and Democratic conventions of 1924 Mr. Hyatt became interested in the hotel's problem. He offered to furnish the hotel with the radio reports of the conventions by a radio receiver and land telephone. This he successfully accomplished by the installation of a radio receiver in a suburb of Philadelphia and transmitting the radio reception over a private telephone wire to the hotel, where the waves were amplified and delivered through loud speakers. The situation of the hotel made this necessary because a receiving set located in the hotel could not cut out the powerful Philadelphia broadcasting stations nearby.

Then Hyatt set to work to design an equipment that would supply radio service throughout the hotel at all times. After considerable research he designed the present system, and it was tested out in the rooms on the fourteenth floor. So successfully did it work there that he was commissioned to install the service in all the 208 rooms of the hotel.

In order to obtain an efficient station, it was necessary



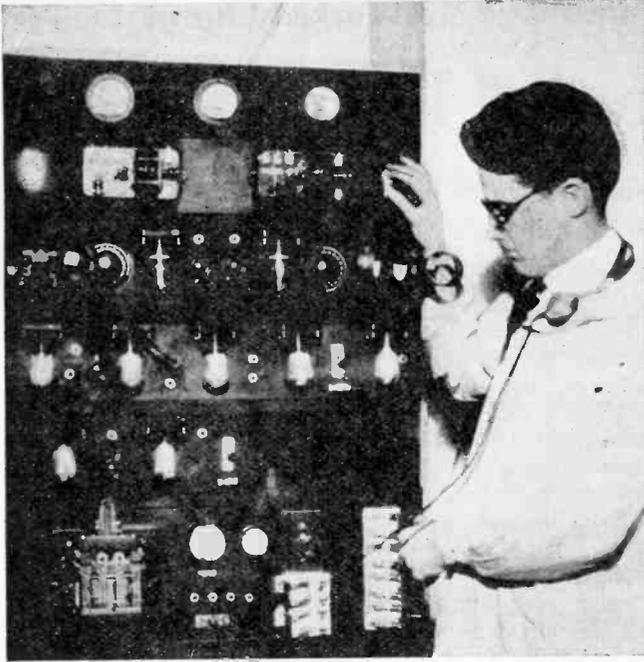
The Hotel That Entertains Its Guests by Radio

The Robert Morris Hotel, Philadelphia, maintains a special radio receiving system by means of which every room is supplied with broadcast programs from noon to midnight. The receiving apparatus is located on the top floor but the control is operated from the telephone central on the first floor

## Madame Has a Little Music with Her Lemonade

Each of the 208 rooms in the hotel is supplied with a head set for individual use. The dining rooms, and other public rooms, are equipped with loud speakers. The use of head phones in the rooms permits the guest to listen or not, as preferred





#### Remote Control Is Applied to a Radio Receiver

In order to avoid the necessity of having an expert operator at the receiving set all the time, C. Brown Hyatt, a young radio engineer of Philadelphia, designed and erected this control panel to enable the telephone operator to take care of the tuning as well as her switchboard

to locate the set on the fourteenth floor and place the controls on the first floor, operated by the telephone operator at her switchboard. In this manner, by a system of relays, it was possible to construct an apparatus that would not require an experienced operator to tune or maintain.

The difficulty of tuning different wave lengths was solved by using two single-pole double-throw relays, for in this case two wave lengths gave four different stations. These relays are actuated through an opening and closing switchboard located at the telephone switchboard. The contacts of the relays are connected to the tuning circuits and different wave lengths are thus obtained from the switchboard on the first floor. A switch changes the tuning circuit from the automatic controls to an external manual operated set to be used when special reception is required.

In order to obtain selective and yet broad tuning, the lateral wound inductance coils were constructed to oscillate at their respective frequencies. Thus only a minor adjustment is required, which is accomplished by small capacity condensers. The primary and secondary coils of the oscillators are coupled very loosely, due to their oscillation period. In this manner very clear reception can always be obtained. With the addition of more sets of relays and oscillators, it is possible to receive any number of desired wave lengths.

#### Batteries Controlled from Central

Two amplifier panels are used, one for the loud speakers and one for the head sets in the rooms, by connecting the primaries of both first audio transformers in parallel, and the circuits are amplified separately.

A compound relay incorporates the features of turning on and off the set and charging the A and B batteries in such a manner that they are fully charged at all times. This relay is actuated by a switch of the remote control panel, operated at the telephone switchboard by pressing a white button that energizes the closing solenoid, thus closing the relay.

When this relay closes, the A battery circuit to the filament is closed, and the A battery charging circuit is turned on. The A battery is now charged at the same rate as its discharge plus a 3 per cent overcharge to compensate for the battery losses. By this process the battery is only floating across the line and, therefore, the water decomposition due to charging is very small and requires replenishing only once in six months.

By the action of the relay closing, the B batteries are changed from a charging circuit to the operating circuit. It is possible in this manner of charging the B batteries to regulate the charging period and rate plus a 5 per cent battery loss to equal the discharge rate when the set is in operation. Since this charging rate is of such small value, the water decomposition is like that of the A battery.

At the completion of the program, which usually lasts from noon until midnight, the black button switch is closed. This, in turn, energizes the releasing solenoid of the relay, which opens the A battery and charging circuits, and throws the B batteries back on charge.

#### Maintaining Energy Level a Problem

An entirely different phase of the work presented itself when it came to running the lines throughout the 208 rooms on all the floors and loud speaker lines through a pipe shaft fourteen floors high. All of these lines had to be run in such a manner that the energy level would be the same in any part of the building, and yet, should any circuit fail, it would not throw out any other circuit. These technical difficulties, which vary for different structures, had to be solved by long and careful mathematical calculations.

Now that one hotel has led the way in the establishment of this sort of service for its patrons, it is hardly likely that the others throughout the country will be long in following a similar course. The appreciation already expressed of the service by the guests of the Robert Morris has shown its value many times over.



#### The Operator Chooses One of Four Programs

The telephone operator is located on the first floor but, by means of the push switches under her hand, she is able to tune the radio receiver on the fourteenth floor so as to transmit any one of four broadcast programs to the hotel head phone and loud speaker circuits

# The Government Patrols the Air

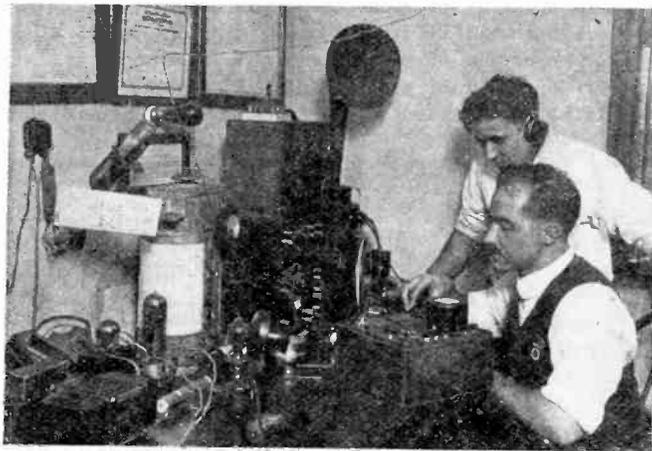
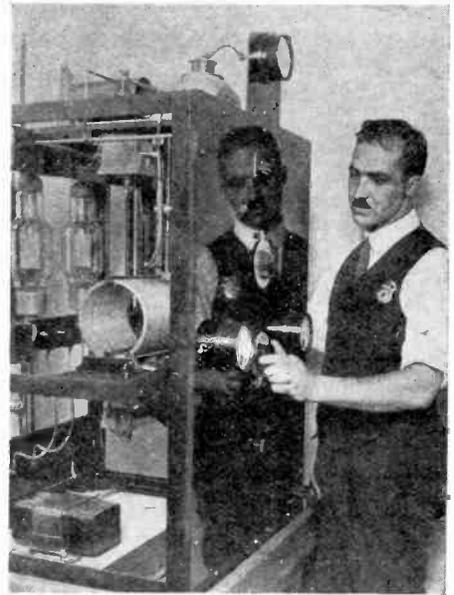
Keeping air traffic moving is a rather large task these days, so an entire governmental department is kept busy in its accomplishment

**M**AKING sure that the broadcasting stations are keeping to their own wave lengths, seeing that the amateur stations do likewise, checking up on the power of both types of stations, maintaining a vigilance over the numerous ship stations and eliminating as much unnecessary interference as is humanly possible are a few of the duties which fall in the province of the government's Radio Supervisors, the district heads of the radio section of the Bureau of Navigation, which is in turn a division of the Department of Commerce. The government's responsibilities in the licensing of radio stations is generally known, but few people realize that a large staff of inspectors and engineers is employed to see that the various stations now on the air operate under the terms of their licenses.

One interesting phase of this large task is shown in the accompanying illustrations. Here an inspector, Emery H. Lee, who is connected with the office of Arthur Batcheller, Radio Supervisor of the Second District, with headquarters in New York, is checking up on the wave lengths of an amateur, a ship and a broadcasting station. This phase of inspection is undertaken by the Government in an effort to avoid overlapping of wave bands and the resultant interference. Even this one branch of inspection is no small order, as one will readily understand if he stops to

Checking Up on a Broadcaster

Station W E B J, New York, is receiving the attention of Emery H. Lee, radio inspector connected with the staff of the Radio Supervisor for the Second District, whose job it is to see that broadcasters stay on the wave band assigned them



An Amateur Comes in for His Share

The operator of this amateur station is quite as concerned about the matter as Mr. Lee, for the continuance of his license depends upon his observation of the radio regulations

an even wave length by the stations sending programs for general reception, the government has started an "honor roll" of stations which show the least deviation from their allotted signal band over a month's time. In the first roll of six stations, recently published, but one station came through with an absolutely clean slate. The percentage of deviation on the remaining five in the list was small, to be sure, but all showed some variation from their assigned frequencies.



The Ships Are Also Included

In this photo Inspector Lee is making tests on the coastwise steamer "Maracaibo"

Radio Industry, April, 1925

count the number of radio transmitters on the ether and considers the comparatively limited number of available wave lengths.

It is obvious that broadcast listeners are more likely to suffer from interference than any other class of radio receivers and for this reason special attention is paid the broadcasting stations. To encourage maintenance of

experienced by the radio inspectors in their search for interference from outside causes. An average of twenty-five daily complaints is received in the office of the Second Radio District and the causes of these complaints vary from uninsulated power lines and neighboring X-ray machines to loose shoes on electric trains and apartment house elevators. The radio supervisors have no authority which enables them to take action against the owners of offending electrical apparatus, but they have found them exceptionally willing to cooperate in eliminating interference.

An example may be cited of an electrified railroad whose lines interfered with the reception of a host of radio fans. Advised of the difficulty, this railroad undertook an extensive investigation at its own expense and finally found it to be caused by a defective fuse, which was quickly replaced.

Not every source of interference is as easily remedied, even with the cooperation the supervisors have experienced, and some listeners-in seemed doomed to faulty reception. A constant effort is being made, however, to keep the air as clear as possible and to insure the joys of radio reception to America's vast radio audience, at the same time caring for commercial radio traffic.

# Teach Them How to Use a Charger

After making a battery charger installation, the contractor should take pains to see to it that its operation is understood by the radio purchaser. Here is one way to do it

**T**HE increasing use of the battery charger in the home is adding a duty of a semi-technical electrical nature to those already imposed on the housewife, for it frequently devolves upon her to take care of the charging of the radio batteries while the husband is away during the day. He wants them fresh and ready for the evening entertainment with his receiving set.

A printed form such as shown on this page contains the simplest kind of instructions and will be appreciated both by her and her husband if the contractor places it somewhere near the charger. The amount of charging necessary for operating the set over a given period can be readily calculated and filled in. Suppose, for example, the set uses four of the  $\frac{1}{4}$ -ampere tubes; then the total current will be  $4 \times \frac{1}{4}$ , or 1 ampere. In 10 hours the battery will be discharged 10 ampere-hours. To compensate for this we will have to put back into the battery 10 ampere-hours plus

about 25 per cent additional to make up for battery losses, or a total of  $12\frac{1}{2}$  ampere-hours. Suppose the battery charger is of the type which charges at a 5-ampere rate. In one hour it will put 5 ampere-hours into the battery and will take  $2\frac{1}{2}$  hours to put in  $12\frac{1}{2}$  ampere-hours.

The tendency toward compactness and the adaptation of cabinet-inclosed sets with a view to their decorative qualities has brought out large radio cabinets provided with a special compartment for holding the batteries and charging equipment. In such instances the contractor may, by judicious inquiry, find an opportunity to install a convenience outlet near the radio set so that the battery charger can be readily connected to the lighting circuit without removal from the cabinet.

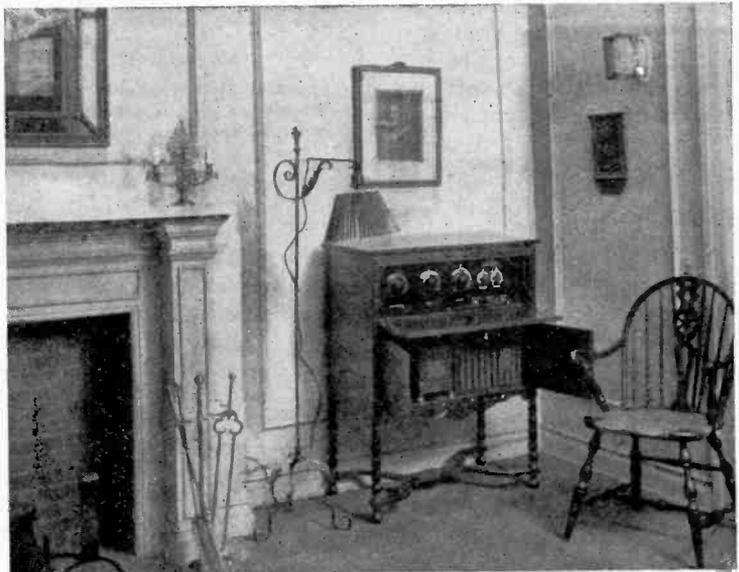
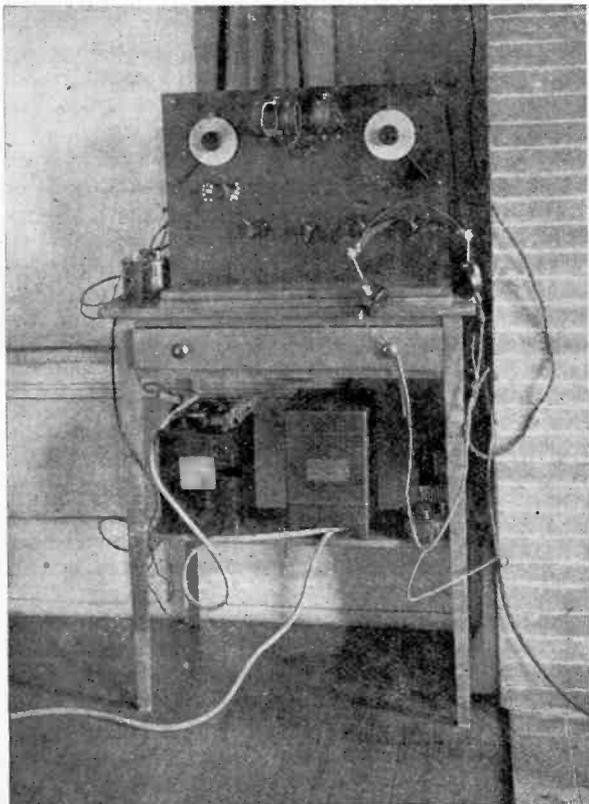
Sometimes, too, it may be planned to use a portable light near the radio set, and this presents another argument for the installation of a convenience outlet.

## Instructions for Charging Battery

Radio Set consumes.....amperes from "A" Battery  
 Battery Charger delivers.....amperes to "A" Battery  
 For 10 hours operation of radio charge "A" Battery.....hours  
 For 20 hours operation of radio charge "A" Battery.....hours  
 For 40 hours operation of radio charge "A" Battery.....hours  
 For 60 hours operation of radio charge "A" Battery.....hours  
 Radio should not be operated more than.....hours without re-charging battery.  
 Add distilled water to battery once per month to bring electrolyte  $\frac{1}{2}$  inch above plates.  
 For service, phone Main 0000.

**JOHN JONES & COMPANY**  
 Electrical Contractors

A card such as this one, kept near the charger, will serve as an instruction sheet and at the same time will keep the dealer's or contractor's name before the customer



### No Longer Is Radio a "Mess of Wires"

The trend in radio sets is toward the "furniture type" shown above. All necessary equipment is contained in the cabinet. The maze of wires shown at the left is fast becoming a thing of the past. The addition of a battery charger does not complicate matters because it also can easily be cared for in a cabinet. Whoever sells radio need keep in mind the fact that the woman in the home wants the decorative type of installation

# Fewer and Better Radio Dealers

Profitable radio retailing demands specialization, with service facilities and concentrated selling methods that the side-line dealer cannot give

By H. P. Bridge, Jr.

**T**HERE is a great deal being said just now with regard to the gradual, yet sure, adjustment in the merchandising of radio—the elimination of the weak dealer and the stabilizing of the stronger one. In a conversation the other day, the sales manager of a large radio concern spoke as follows:

"I am not surprised to find that a great many so-called radio dealers are slipping out from under—that is, getting out of the radio business as gracefully as they can, now that the big winter rush is over. This, of course, refers not so much to those comparatively few concerns handling radio alone as those all too numerous dealers in various trades who eagerly grasped this newcomer in the business world as a side line and accordingly purchased haphazardly a stock of sets and parts and began disposing of them as best they could. A great many such dealers were led by enthusiastic salesmen to go in for radio as a side issue who had no qualifications whatever—not to mention facilities—for handling such a business.

"Now, after a couple of years of this, a shake-down is the only natural result. It is only reasonable to surmise that many a clothier, druggist or furniture man who uses radio as a side issue and disposes of two or three sets a month cannot profitably compete with those concerns that take this new business more seriously and sell many times this number of sets. Thus, through the volume of business obtained these concerns are enabled to render a complete and satisfying radio service to their customers.

"The reason for this is simple. Radio is no longer a side line, and those who consider it as such are doomed either to failure or a sudden, rude awakening. The future successes in the radio field will be those concerns wherein radio occupies a separate department in charge of competent men who realize that radio merchandising is just a little different from that of any other line, and that special merchandising features must be employed."

The sales manager was entirely right. Naturally, the side-liner selling only three or four sets a month cannot offer a complete radio service which will compare with that of specialists in this line.

Service is of paramount importance in present-day radio selling. If radio could be definitely sold in the dealer's store or display room, and his responsibility practically end there, as is the case with phonographs or pianos, the problem would be easy and the side-liners could readily do a profitable business whether their sales amounted to one set or one hundred a month.

Just how much free service should be given with a radio set has been a much debated question. But the fact that there *must* be some degree of free service remains. Comparatively few sets are sold in which the

dealer is not again called upon by the purchaser. Whether this service be the replacement of tubes or batteries, the mere assurance that the set is working correctly and the cause for trouble has been weather conditions, or a real servicing of a distinct trouble is im-

material. The important part is that the dealer in radio must be prepared to render an efficient service, technically and otherwise, and this is mainly the reason side-liners find competition hard. A following of customers who have come to rely upon the judgment and knowledge of a service man who "knows his stuff" is one of a firm's most valued assets.

One must consider the matter of specialization. Whether the radio trade be only a small fraction of a firm's total business, in order to build for success, there should be one or more in the organization to whom it is not a side line but a serious, bread-and-butter business. If there are any prospects whatever for a profitable radio trade in a dealer's territory, these warrant the entire time of at least one good man in developing.

Being a new business with few precedents to follow, a lot of dealers

have been slow to learn. One dealer recently declared:

"The worst advertisement for radio our firm ever had was that of the old power amplifier which we used to keep hung over the entrance bellowing out baseball returns or whatever happened to be floating about. Sometime ago this was abandoned as a bad policy.

"Another thing we have learned from costly experience is never to demonstrate any more than is absolutely necessary in our store. In the midst of the business district with innumerable disturbances ranging from street cars to telephone exchange to furnish a chaos of odd noises, reception is seldom comparable to that obtained in the residential district where the prospect would use the outfit. Now, at the store we merely do our best to interest the prospect and either make a direct sale or secure his permission to demonstrate in his home. In doing this, we are always careful to avoid making any rash promises as to the performance of the set in question. Too often a casual statement about distant stations heard on the set bring disaster to the sale when the prospect fails to hear these stations in his home."

Another problem many dealers are slow in solving is whether or not they should remain open at night. Several who have already tried this report that a large percentage of their sales are made after 6 p. m., and they have accordingly adopted a schedule similar to that of drug stores and others, the nature of whose business requires them to remain open evenings. Just whether or not practically the same volume of business could be secured without these additional hours of work is a matter for the individual dealer to decide.

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## Four Aids to Better Sales

Radio dealers who expect to continue in the business, and at a profit, must keep in mind at least four things that are certainly essential to satisfactory sales.

1. Service is of paramount importance and adequate service must be provided.

2. Except in the store selling radio exclusively, radio demands a department to itself, in charge of an experienced and competent radio man.

3. The methods and plans that have proved their sales value must be given precedence over untried methods and experimental management.

4. Greatest possible attention must be given to buying, care being taken to avoid laying in too many lines, and especially inferior ones.

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# Tuning In on the Editor's Desk

## *Washington Takes the Lead*

IT remained for the Capital City to take the initiative in trying to do something with the unfair radio competition and untruthful radio advertising. Elsewhere in this issue is published a list of eight "commandments" recently enacted by the Radio Dealers' Association of Washington, D. C., in conjunction with the local Better Business Bureau. In them will be found "don'ts" covering some of the most flagrant violations which have been practiced at the expense of honesty and fair play in the youthful radio industry.

It is high time that the industry as a whole awakened to the dormant dangers that attend such dishonest practices. Radio's inflation days are fortunately over, and the industry is settling down to a sound business level. The time when it was possible to dispose of any old merchandise simply by opening a shop and hanging a sign outside—is a thing of the past. From now on only the man who really merchandises radio will reap the rewards. And one of the first steps toward sound merchandising and the reaping of rewards is honesty in dealing with the public.

Further, this public is fast becoming educated in radio, and is not taking the superlatives and flamboyant claims without the proverbial grain of salt. It is fast learning to separate the sheep from the goats among the manufacturers and dealers, and for that reason, if prompted by no higher motives, the industry should soft pedal some advertising and merchandising practices that are quite the vague today.

## *"Parts" Will Be Always with Us*

ONE advantage of radio over the automobile and the phonograph, according to Robert Himmel, president of the Hudson-Ross, Inc., Chicago, in a letter to the editor, lies in its opportunity for home-made sets. Says Mr. Himmel:

"No man ever bought parts to build his own phonograph. He probably could not get them if he wanted them. Only a few cracked mechanics ever built their own autos. Parts played no part in these two popular products.

"With radio it is so different. Radio has tapped the well-spring that lives as strongly in the heart of a man as in a boy. Radio gives him a chance to tinker with something, something that he does not have to hide in the cellar. Parts? They are like the poor. They'll always be with us. The more radio sets improve, the more parts will be simplified and perfected. And the more eager radio fans will be to put together their own sets.

"If I were a radio dealer I would go strong on parts. Keep a parts customer and in the end he will spend

more money tinkering than he will for an all-finished tailor-made set. To be sure, I'd carry sets. Plenty of men cannot hammer a nail. Carry sets for them. Radio is not a respecter of persons."

## *Radio Legislation*

HERBERT HOOVER, Secretary of the Department of Commerce, in discussing the need of radio legislation, said recently:

"Some misunderstanding seems to have arisen, due to failure of many people to read the White Bill and the recommendation which I made to Congress for the postponement of legislation for the control of radio until next session. The law of 1912 secures to the Government the fundamental control of radio, for it retains in its possession the channels through the air, just as effectively as it does the channels of navigation upon our rivers. There can be no monopoly unless the Government deliberately gives monopoly, and that would be parallel to the giving of exclusive right of navigation upon one of our rivers.

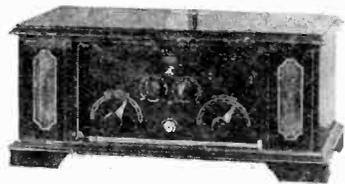
"The proposed legislation heretofore formulated was based upon our knowledge of the development of the art now nearly two years old. That legislation proposed to give very extensive authorities to the Secretary of Commerce, his discretion being practically unlimited, and very much broader than anything which I prepared as a temporary measure. There are some things, such as the assignment of wave lengths and limitation of power use, which are absolutely necessary for the external conduct of radio. My recommendation for immediate legislation was narrowed down to this field, leaving the bigger issues of regulation until we have enlarged knowledge of the art and of the problems with which we are now confronted. These milder proposals were in the direction of reducing departmental authority, not increasing it. Nor has the department ever proposed the control of programs, as has been said, but, on the contrary, has consistently opposed it. The character of the matter sent out must be left to the stations themselves, and they, in turn, must be governed by the wishes of their listeners. The public will unquestionably turn to the station from which it gets the most worthwhile material, and, in any event, interference by the government in the character of programs would inevitably mean censorship. It would become the negation of the fundamentals of free speech and free dissemination of information.

"It is my feeling that our ideas as to the character of legislative regulation should be clarified within another year. In the meantime the fine cooperation of the industry is preventing any infraction of public interest and the free competitive development of the art is bringing fine results in public service."

# New Radio Products to Sell

## Receiving Set

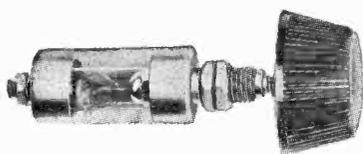
The Priess Radio Corporation, 653 Broadway, New York, announces two new models, the Priess type PR3 and the PR5. They are similar except that the latter is a console model with built-in loud speaker and concealed loop. It uses a reflex circuit with three stages of radio frequency amplification, one being tuned. Five tubes are employed.



The set is housed in a two-tone mahogany case with compartments for batteries. It is designed for loop reception, the loop being mounted on top of the cabinet. The present models are fitted with two crystal detectors, one fixed and the other adjustable. Either may be employed by the operator at will, but the manufacturers state that so great has been the success of the fixed crystal that the adjustable detector may be omitted in future.

## Crystal Detector

The Star Crystal Company, 525 Woodward Ave., Detroit, has a new style of crystal detector designed for panel mounting



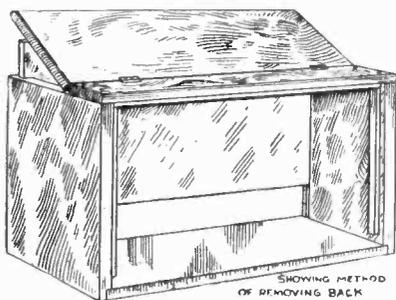
It is made with micrometer adjustment so that the brush of gold wires can be pressed against the silver galena crystal with any desired tension. This detector is especially recommended for reflex sets.

through a hole only 5/16 inch in diameter.

It is made with micrometer adjustment so that the brush of gold wires can be pressed against the

## Radio Table and Cabinet

The Radio Cabinet Company, 1504 Vine St., Philadelphia, Pa., is making a knock-down radio table and a knock-down radio cabinet.



The table, when packed, weighs only 38 pounds. When assembled it has the following dimensions: Height from floor to top, 29 in.; size of top, 34 by 13 in.; size of shelves, 24 by 10 in. The table is finished in imitation of antique mahogany. It is so constructed that it can be put together in five minutes. The doors fit into grooves. There are no hinges, nails or screws used in the construction. The top lies on large dowel pins. The bottom of the table is large enough to accommodate all the batteries. There is also space for the charger in the same compartment with the storage battery. The company also makes a line of knock-down radio cabinets, which features a sliding removable back.

*Radio Industry, April, 1925*

The cabinets are made in two styles, the difference being in the manner in which the front panel is mounted and the finish. Either style cabinet can be had in oak uncolored or in imitation mahogany finish. The cabinets are all 8 in. deep. Each is packed in a cardboard carton.

## Knock-down Set

Chas. Freshman Company, Inc., Freshman Bldg., 240 West Fortieth Street, New York, sells its Freshman Masterpiece receiving set in kit form now, all the



parts necessary to build this set being packed in box ready for delivery to the customer. The parts include panel and sub-panel, every screw, nut, bracket and bushing being included. Even spaghetti and bus bar have not been overlooked. The set is of the five-tube tuned radio frequency type. Complete instructions for assembly are given in a twenty-four page book.

## Receiving Set for Phonograph

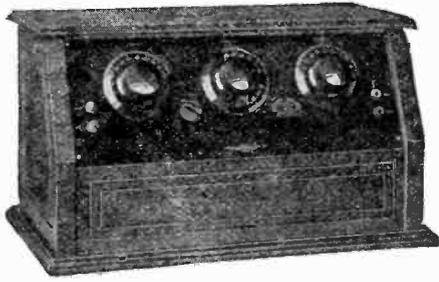
The A-C Electrical Manufacturing Company, Dayton, Ohio, is building its XL-5 model in a new form, called the Phono-Set, being the same set mounted on a base and panel designed to be installed in a phonograph cabinet below the mechanism so that operation of the phonograph is not interfered with and using the phonograph horn as a loud speaker.



The panel is drawn slightly forward when in use and when not in use is pushed back entirely within the cabinet so that all doors can be closed tightly. This set can be installed in either upright or console models.

### Receiving Set

The Culver-Stearns Manufacturing Company, 53 Graf-ton St., Worcester, Mass., presents the Lloyd C. Greene

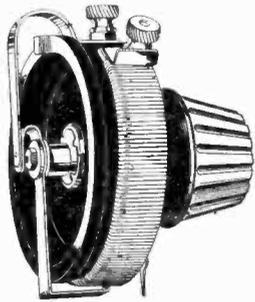


Concert Selector, a four tube receiving set. It is of the sloping panel type, with panel and base of bakelite and cabinet of mahogany. Three tuning controls are used, one of them with a vernier attachment. The cover is swung on a piano hinge and space is provided in the cabinet for both B and C batteries. The set will not operate on a loop.

Lloyd C. Greene Concert Selector, a four tube receiving set. It is of the sloping panel type, with panel and base of bakelite and cabinet of mahogany. Three tuning controls are used, one of them with a

### Battery Rheostat

Herbert H. Frost, Inc., 154 W. Lake St., Chicago, announces a new battery rheostat for filament circuits.



It has a sliding contact arm which is exceptionally long, due to its being curved around and making contact on the outside edge of the resistance wire. This gives it unusual spring and even tension. The connection between the shaft and the binding post is made by a wiping spring contact of phosphor bronze bearing against the end of the shaft. This eliminates all possibility of loose connections and consequent phone noises.

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### Insulator for Antenna Lead-in

The Philadelphia Rust-Proof Company, Philadelphia, has a new device for supporting and insulating the antenna lead-in wires. It consists of a brown porcelain insulator of spool shape held in a pressed steel holder formed to permit fastening to any convenient surface by means of nails or screws. The device is rust-proofed by the Udylite process.



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### Loud Speaker

Curtis-Leger Fixture Company, 235 West Jackson Blvd., Chicago, present the Invisible Speaker, a new form of radio loud speaker. It is in a cabinet by itself, but stands less than 3 in. high, and is so fashioned and proportioned that it can be used as a base for a receiving set or can be placed on top of it. The manufacturers state that the hollow, reverberating effect has been avoided in this style of construction. It is made



It is made in various sizes to conform to different sets, but the height is always the same. The finish is neutral so as to harmonize with any kind of cabinet.

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### Panel and Dial Material

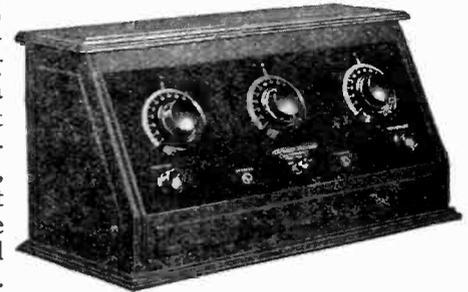
The E. I. DuPont de Nemours & Company, Pyralin Dept., Arlington, N. J., is making a new material for radio panels and dials, called Pyradiolin. It is a pyroxylin plastic, but has other compounds added to make it especially suitable for radio purposes. It is very easy to work, can be drilled, sawed, threaded, engraved or stamped without chipping or cracking. It will take a wood screw without drilling. Its surface is glossy and has the general appearance of highly polished hard wood. It is furnished in black, red and brown mahogany.



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### Receiving Set

The Stewart-Warner Speedometer Corporation, 1836 Diversey Blvd., Chicago, has recently placed on the market its new type TRF-5 Aeromaster radio receiving set. This is a five-tube set with three tuning controls, sloping front panel, with the cabinet finished in dark walnut.



It is not claimed that the circuit employed is new, but the manufacturers state that they have developed it to a high stage of perfection and that the set is especially suited to operation by the man or woman without technical knowledge or training.

### Modulating Diaphragm

The Audiphone Company of America, 59 Cortlandt St., New York, is marketing the Audiphone Modulating Diaphragm for use in radio loud speakers and phonographs. It is a semi-taut disk of soft felt held in a ring of nickel-plated metal. When placed in the throat of a loud speaker horn the manufacturers state it acts as an acoustic relay and eliminates scratches and objectionable sounds.

### Crystal Detector

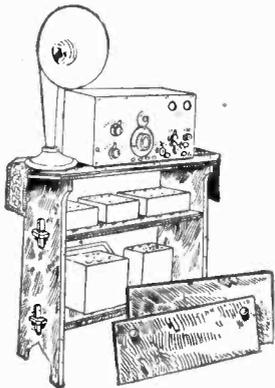
The Carborundum Company, Niagara Falls, N. Y., produces a carborundum crystal detector which is housed in a protective cartridge with binding posts on the ends for mounting and for making connections. It is a fixed detector and the manufacturers say it will not burn out.



It is a fixed detector and the manufacturers say it will not burn out.

### Radio Furniture

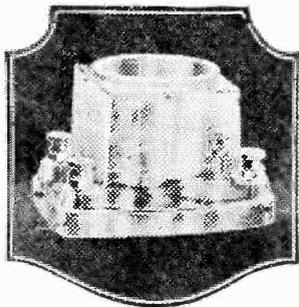
The Radio Cabinet and Equipment Company, 1504 Vine St., Philadelphia, announces two new items in radio furniture, the radio table, and the cabinet. Both are sold knocked-down and can be sold over the dealer's counter in the same way, ready for the customer to assemble. The table goes together without hinges, nails, or screws, and has compartments for batteries and charger. The cabinet is made in two styles, the Ready Cut, and the Perfection, the difference being in the manner of assembling the front panel and the cover. They are made in all sizes up to 7 x 26 inches.



### Glass Vacuum Tube Socket

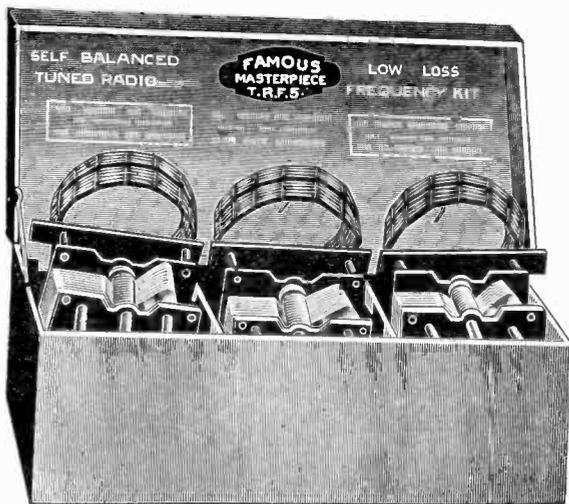
The Duray Radio Corporation, 31 Clinton St., Newark, N. J., produces vacuum tube sockets of glass and markets them under the name of Duray All-Glass Viralon socket. Some of the advantages of the use of glass in this way are obvious, such as the high insulation and transparency of the material. Another feature is the knurled surface of the contact springs against which the tube prongs press. This roughened surface is useful in cleaning and keeping clean

the ends of the tube prongs, eliminating tube noises and troubles due to poor contacts at this point. The springs are provided with extension lugs for soldering and with binding posts. These sockets are very compact and can be mounted closely together.



### Five-Tube Receiver Kit

The Lieber Radio Company, 109 Reade St., New York, is putting out the Famous Masterpiece five-tube tuned radio frequency receiving set kit. The outfit com-



prises three micrometric brass condensers and three tuned radio frequency coils, with a complete diagram and step-by-step instructions for building the set. It is

claimed that the resulting set will be self-balanced, non-oscillating, and that no neutralizing condensers are required.

### Portable Antenna

The Fishwick Radio Company, Edwards Bldg., Cincinnati, has a new form of portable indoor antenna which is named the Effarsee. It is made in the form of a curtain, consisting of a waterproof fabric with vertical wires woven into it to form the antenna conductors. At the bottom is a fixed condenser and a binding post terminal. This device is made in three sizes, 3 x 10, 3 x 6, and 2 x 7 feet. It can be hung up in the room with the set, in the attic, loft or other out-of-the-way place, or it can be used flat under a carpet or rug, and even rolled up for more sensitive sets.

### Neutrodyne Kits

The King Quality Products, Inc., 254 Rano Street, Buffalo, introduces two new neutrodyne kits, the No. 1400, which is for a five-tube set, and the No. 1200, which is designed to employ only four tubes. A panel drilled and engraved in white is a part of the outfit, and all



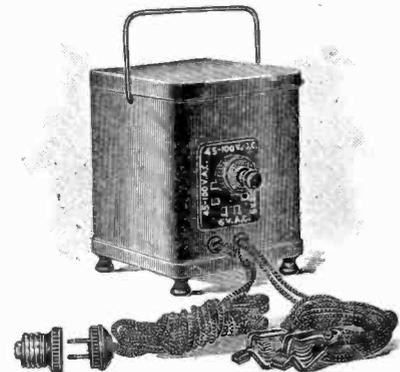
parts are said to have been especially built for this kit, not merely purchased and packed together. A special screwdriver is provided for adjusting the neutrodon in the final neutralization and a template is included to enable the assembler to set the neutroformers at just the right angle.



### Battery Charger

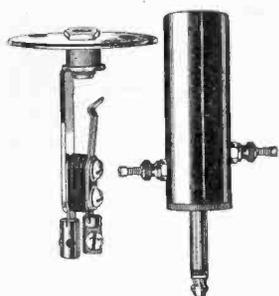
The Gold Seal Electric Company, 2110 Woodland Ave., Cleveland, is inviting attention to their new Chargall battery charger, universal in application, for it will operate on either alternating or direct current and charges A and B batteries and a u t o m o b i l e batteries. It is made in two sizes, 2 amperes and 5 amperes, and is built to sell at a very popular price.

It employs bulb rectifiers, has a safety fuse, color-identified cords, clips for battery terminals, two-piece plug and six feet of cord. It is housed in metal case finished in green enamel.



### Jack and Plug for Loops

Herbert H. Frost, Inc., 154 West Lake St., Chicago, has designed and offers a new device in the form of a jack and plug for loop antennae. The jack has a face plate which can be fitted to the top of the set or other surface, connections being made inside. The plug is strong enough to support the weight of the loop and of course it is free to turn in any direction so that the loop can be turned for tuning. Binding posts on the side of the plug provide for connections to the winding of the loop.



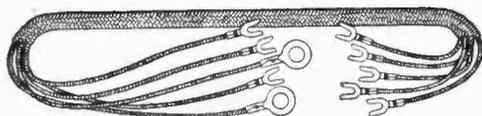
### Loud Speaker

The Amplion Corporation of America, Suite Z, 280 Madison Ave., New York, announces the new model AR-19 of the Amplion Dragon loud speaker. It stands 20½ inches high and has a diameter of bell of 14½ inches. The material is mahogany - finished wood. The unit may be removed and used with a proper adaptor on a phonograph.



### Battery Cord

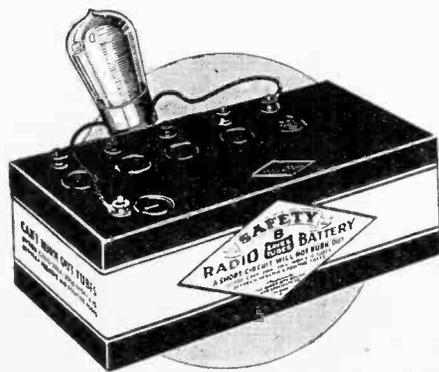
The Consolidated Wire and Associated Corporations, Green and Congress Sts., Chicago, are placing on the market a wiring harness or battery cord for making con-



nections between A and B batteries and the receiving set. There are five separate wires in the cord, each one marked by a distinctive color and each one provided with suitable terminals for making connections at both ends.

### B Battery with Safety Feature

The Queen City Brush and Specialty Company, 3208 Colerain Ave., Cincinnati, makes a dry B battery with a safety feature incorporated which protects the tube filaments by making it impossible to burn out a tube accidentally. This is accomplished by inserting a small resistance in series with the battery and sealing it into the case with the cells, this resistance being of such dimensions that it does not in the least interfere with the normal operation of the



battery in supplying the minute currents required for the plate circuits, and yet limiting the current which could flow in case of short circuit to less than required to damage a filament.

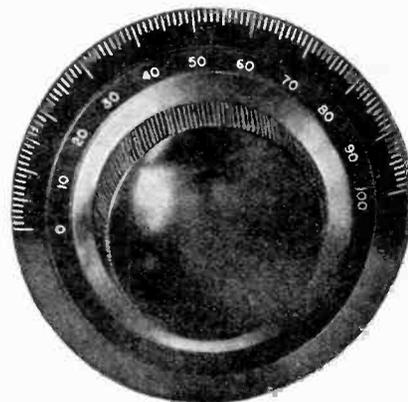
### Loud Speaker

The Grigsby-Grunow-Hinds Company, 4542 Armitage Ave., Chicago, offer a new model loud speaker which they call the Majestic Home Concert model WG. One of the features of this speaker is the constant-tension diaphragm. The base is finished in crystalline lacquer and has a new design. It is packed complete with 5 ft. of cord, weighing net 2½ lbs. Finishes available are ebony, shell mahogany, Japanese pearl, and mother of pearl. Another model equipped with the same reproducing unit is called the Baby Grand model BG, which can also be purchased with a carrying case.



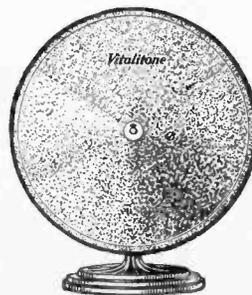
### Control Knob

The General Instrument Corporation 433 Broome St., New York, is making a new four-inch knob for tuning controls with a brass bushing inserted. It is molded from bakelite and the knurled section has been given a shape that will readily conform to a comfortable grip by the operator's fingers. The scale is from 0 to 100.



### Loud Speaker

The Audio Laboratories, Inc., 203 Sixth Ave., New York, is building the Vitalitone loud speaker, two cone-shaped diaphragms 19 in. in diameter being the principal features. The manufacturers call attention to the size of these diaphragms which they say provide over 300 times greater active area than most loud speakers. They claim greater fidelity of tone reproduction, particularly in the lower frequencies. The diaphragms are of a fibrous material. When used on the base it stands 22 in. high, but it can also be used by suspending it on the wall or ceiling. The mechanism is totally inclosed.



# News of the Radio Industry

## WMCA Is New Broadcasting Station of New York Hotel

On February 22 New York's thirteenth radio broadcasting station went on the air. The call letters of the new station, operated by the Hotel McAlpin, are WMCA. For a few weeks previous to the formal opening of the station, experimental programs were conducted under the call 2XH, 1280 Broadway. These programs were heard in the regions extending from Iowa and North Dakota as far west as the Pacific coast.

The antenna of WMCA is 430 feet from the ground and is of the sloping type. The transmitter is located on the top floor of the hotel. The Meissner inductive coupled type of circuit is used, with Heising modulation. Power is obtained from either storage battery or generator equipment. The reception room, studio and operating room are located on the twenty-fourth floor. Offices of the station director and other staff members are on the floor directly beneath the transmitting quarters.

## Radio Programs from London Are Rebroadcast Successfully

The success of the recent rebroadcasting by radio programs from London by WJZ, of the Radio Corporation of America, in New York, indicates that the exchange of programs between New York and London may soon become established as a regular radio feature. Some of the earlier attempts to pick up the program sent from station 2LO, London, and rebroadcast it here met with considerable difficulty due to static. The later rebroadcasts, however, were heard clearly by many persons.

During the trans-Atlantic tests the pro-

grams from 2LO were sent by land wire to Chelmsford, England, where they were put on the air on a 1600-meter wave length. The signals were received at Belfast, Maine, and sent over the air on a 122-meter wave length to the receiving station at Van Cortlandt Park, New York. They were then carried by land wire to WJZ and rebroadcast over the usual wave length.

## Splitdorf - Bethlehem Electrical Co. Is New Manufacturer

The Splitdorf Electrical Co. of Newark, N. J., and the Bethlehem Spark Plug Co., Inc., of Bethlehem, Pa., have combined and are now known as the Splitdorf-Bethlehem Electrical Co. M. W. Bartlett, president of the old Splitdorf company, is president of the new combination. E. H. Schwab, former president of the Bethlehem Spark Plug Co., is chairman of the board.

The membership of the board of directors will include Charles M. Schwab, chairman of the Bethlehem Steel Corp.; G. B. Alvord, C. E. Roraback, H. P. Ingals, Joseph Remick and Charles F. Splitdorf.

Products in the fields of automotive ignition and radio, formerly manufactured by the Splitdorf Electrical Corp. and the Bethlehem Spark Plug Co., will be continued by the new corporation. The plant and executive offices of the Splitdorf-Bethlehem Electrical Co. are at 392 High St., Newark, N. J.

## Amateur Convention and Radio Show Held in New York

The fifth annual radio show and amateur convention was held at the Hotel Pennsylvania, New York, from March 2

to March 7. About fifty manufacturers were represented in the displays on the main floor. There was very little evidence of short wave transmitting apparatus. The booths of the various individual amateur stations and radio clubs were located on the mezzanine floor.

## Lewis Crosley Elected Vice-President of Crosley Radio Corporation

Lewis Crosley, a brother of Powel Crosley, Jr., president and general manager of the Crosley Radio Corporation, has just been made vice-president of that company. Mr. Crosley was formerly production manager of the American Automobile Accessories Company. The Crosley Radio Corporation is a manufacturer located in Cincinnati, O.

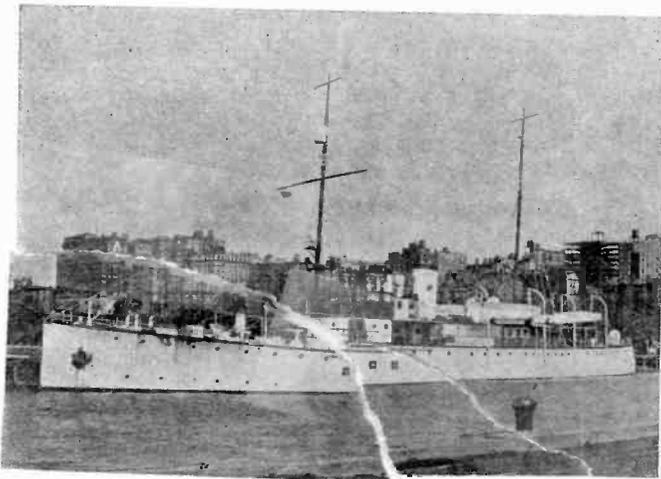
## Lincoln Radio Corporation Appoints New Officers and Distributors

The Lincoln Radio Corporation, 224 North Wells St., Chicago, manufacturer of radio apparatus, has announced the appointment of several new officers, as follows: J. H. Newman, president E. L. Schim, sales manager; H. P. Pullwitt, engineer. The company recently appointed the following distributors: F. J. Sheerin, for Pennsylvania, New Jersey, Maryland, Delaware and the District of Columbia; Industry Sales Company, state of New York; Harry Gerber, New England states; F. J. Pemberton, southern states; Walter H. Dyer & Company, Inc., for Missouri, Iowa, Nebraska, Kansas, Oklahoma and Arkansas.

## Kodel Radio Corporation Is New Cincinnati Consolidation

The Automatic Electrical Devices Company of Cincinnati, manufacturer of vibrating rectifiers, has purchased the Kodel Manufacturing Company, of that city. The two companies have been consolidated into a new corporation, capitalized at \$2,000,000, to be known as the Kodel Radio Corporation. Clarence E. Ogden, who has been pres-

## A Yacht Whose Radio Equipment Equals That of an Ocean Liner



W. K. Vanderbilt's yacht, the "Ara," boasts a more complete and modern radio equipment than any thus far installed on a boat of its size. In fact, the installation is almost identical with that on the ocean liner "Majestic." Mr. Vanderbilt uses



radio to keep in constant touch with stock market reports. In the picture at the right is shown the radio room of the "Ara" containing a 1½ k.w., C. W. transmitter, a radio compass, and receiving apparatus which covers both the long and short wave lengths

### E. N. Rauland Joins Iroquois Tribe



The president of the All-American Radio Corporation, who was recently adopted into the Iroquois Indian tribe, is shown here with Chief Little Chief

ident of the Automatic Electrical Devices Company, occupies the same position in the new corporation.

The new corporation takes over five separate manufacturing plants maintained by the old companies in Cincinnati. Expansion plans include the immediate enlargement of the battery charger line and a complete revision of the Kodol receivers.

### Fort Wayne Organizes Radio Trade Organization

Fort Wayne Radio Trades Association, of Fort Wayne, Ind., is the name of a recently organized group composed of radio dealers, jobbers and manufacturers of that city. The officers of the association are as follows: H. C. Wall, president; B. J. Duesler, vice-president; R. H. Chadwick, secretary.

The organization at present includes about twenty of the leading radio firms of Fort Wayne. It aims to secure closer business and social relations between its members, to protect the public from impositions, and to improve methods for the betterment of the radio business in Fort Wayne and vicinity.

### American Bosch Magneto Corporation Announces Organization Changes

A. K. Chambers, who has managed the Chicago branch of the American Bosch Magneto Corporation during the last four and one-half years, is now the personal field representative of the general sales manager with headquarters at Springfield, Mass., according to a recently issued announcement. Mr. Chambers is now head of the department of field survey. He has been replaced, as manager of the Chicago branch, by O. H. Smith. Mr. Smith was formerly assistant sales manager of the Thermoid Rubber Company.

### Jewett Radio & Phonograph Company Appoints Distributors

The following distributors have recently been appointed by the Jewett Radio & Phonograph Company, 5680 Twelfth St., Detroit, Mich.: Carolinas Auto Supply Company, 221 North College St., Charlotte,

N. C.; Southern Auto Supply Company, 1519 L. St., N. W., Washington, D. C.; Radio Appliances, Inc., 1420 Main St., Columbia, S. C.; Isaac Walker Hardware Company, 512 S. Washington St., Peoria, Ill.; Franklin H. Clark, 901 Fifth St., Sioux City, Iowa; Charleston Hardware Company, Charleston, W. Va.

### Di-Cast Condenser Corporation Acquires Plant of Radio Manufacturer

Di-Cast Condenser Corporation, 25 West Forty-third St., New York, manufacturer of condensers, has acquired the entire plant of the Radio Development and Manufacturing Company, a manufacturer located at 45 Lispenard St., New York.

### Lewis M. Clement Joins Engineering Staff of F. A. D. Andrea, Inc.

Lewis M. Clement, who for the last nine years has been in charge of radio receiver and special development work for the Western Electric Company, now the Bell Telephone Laboratories, Inc., of New York, recently joined the engineering staff of F. A. D. Andrea, Inc.

Mr. Clement is a pioneer in the field of duplex radio telephone circuits. In 1919 the equipment for the Peking-Tientsin radio telephone system in China was worked out under his supervision. The following year the Los Angeles-Avalon toll circuit, a link in the Bell Telephone system was designed and installed under his supervision. During the period 1920-25, Mr. Clement's work included the design of radio receivers, secrecy systems, signaling systems, and radio telegraph and telephone transmitters.

Mr. Clement is a member of the Radio Club of America, the Institute of Radio Engineers and the American Institute of Electrical Engineers.



Lewis M. Clement

### New Corporation to Control Five Radio Companies

Federated Radio Corporation has been organized, under the laws of Delaware, to acquire a controlling interest in five radio companies which constitute a self-contained combination of the radio industry. The five concerns are Rova Radio Corporation of Delaware, Equitable Radio Corporation of Delaware, Voluma Products, Inc., of New York, Radcab Company of America, Inc., of New Jersey, and the Eureka Battery Company, Inc., of New York. These companies represent all the interests in radio, from the manufacture of parts to merchandising.

Louis T. McFadden, president of the Federated Radio Corporation, is chairman of the Committee on Banking and Currency of the United States Congress. The capitalization of the company is 500,000 shares of no par value capital stock of which 200,000 shares will be outstanding. The company has no bonds or preferred stock.

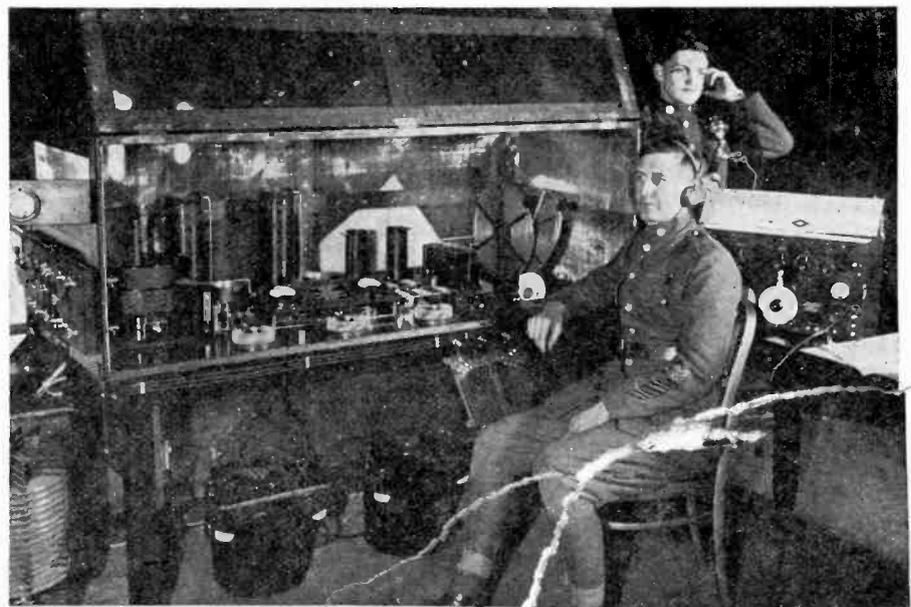
### Beg Your Pardon!

In the January issue of Radio Industry it was erroneously reported that Nathaniel Baldwin, Inc., a manufacturer of radio apparatus and holder of the original Baldwin telephone patents, had discontinued business. The Bankers Trust Company of Salt Lake City, Utah, was appointed receiver for Nathaniel Baldwin, Inc., on October 8, 1924, and has continued operation of the company's plant at full capacity since that time.

Ready Radio Company, 135 Liberty St., New York, is the name and address of a recently organized dealer in radio parts and sets. Bernard S. Roberts is president.

Crosley Radio Corporation, a manufacturer, has announced the appointment of Walter B. Fulghum as general sales manager. Mr. Fulghum has been associated for many years with the Victor Talking Machine Company, in charge of its order department in Camden, N. J.

### U. S. Army Exhibits Latest Type Transmitter



During the amateur convention and radio show held in the Hotel Pennsylvania in New York, the U. S. Army placed on exhibition its new 500-watt transmitter. This is the very latest type and has just been accepted. It has a minimum range of 500 miles. Note the metal shielding which entirely surrounds the transmitter

# Encyclopedia of Radio Receiving Sets

All data, including prices, has been verified up to April 1, 1925.

The outstanding features of each unit are given, with illustration, but where pictures could not be obtained, the text alone appears including model numbers. Every effort has been made to secure the character of information most useful to dealers in Radio, and the specifications given will be helpful to all engaged in the purchase and distribution of Radio Products. *NOTE*—All sets listed operate on indoor and outdoor antenna, unless otherwise specified. This list is as nearly alphabetical in arrangement as the exigencies of make-up have permitted

**A-C Electrical Mfg. Co.,**  
Dayton, Ohio  
(See Announcement Page 47)



**Model XL-5**  
Trade Name—"A-C Dayton XL 5"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Dim.—8 x 24 x 8½; Wt.—19 lbs.; Price—\$115.00; Plate glass incased, \$125.00; Installed in standard phonograph cabinet, \$120.00.



**A-C Dayton Console**  
Same as Model X-L 5, except as noted. Incased in Console, \$250.00.

**Adams-Morgan Co.,**  
24 Alvin Ave., Upper Montclair, N. J.



**Model No. 4**  
Trade Name—"Paragon Paradyne" Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; "C" 4½ Volts; Controls—Tuning, 1; Dim.—20% x 7% x 8; Wt.—11½ lbs.; Price—\$65.00.



**Model No. 3**  
Same as Model No. 4, except as noted. Type—Regenerative; Tubes—3; Dim.—16% x 6% x 7; Wt.—9½ lbs.; Price—\$48.50.

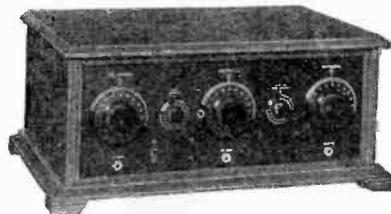


**Model No. 2**  
Same as Model No. 3, except as noted. Tubes—2; Dim.—11 x 6% x 8; Wt.—5% lbs.; Price—\$27.50.

**Adler Mfg. Co.,**  
881 Broadway, New York, N. Y.



**Model 199**  
Trade Name—"Adler-Royal"; Type—Neutrodyne; Tubes—5; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 3; Tube 2; Dim.—87 x 10½ x 10½; Price—\$165.00.



**Model 201**  
Same as model 199, except as noted. Battery—"A" Storage; Dim.—24 x 16 x 10½; Price—\$160.00.

**Ainsworth-Gates Radio Co.,**  
416 Main St., Cincinnati, Ohio.

Trade Name—"Ranger Five"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 2; Dim.—7 x 18; Price—\$95.00.

**Air-Way Electric Appliance Corp.,**  
Toledo, Ohio

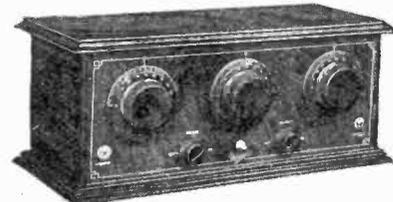


**Model 41**  
Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 3; Dim.—8½ x 8½ x 16½; Price—\$65.00.

**Model 51**  
Same as Model 41, except as noted. Tubes—5; Controls—Tuning, 3; Tube, 4; Dim.—27½ x 9½ x 9½; Price—\$125.00.

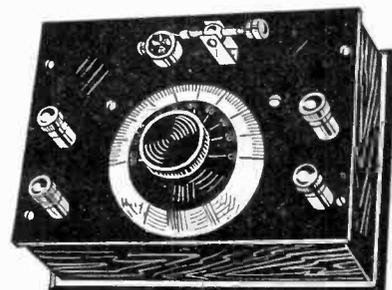
**Model 52**  
Same as Model 51, except as noted. Style—Console, with built-in Loud Speaker and battery compartment; Dim.—36% x 44% x 21¼; Price—\$375.00.

**Airo-Master Corp.,**  
227 West 17th St., New York, N. Y.

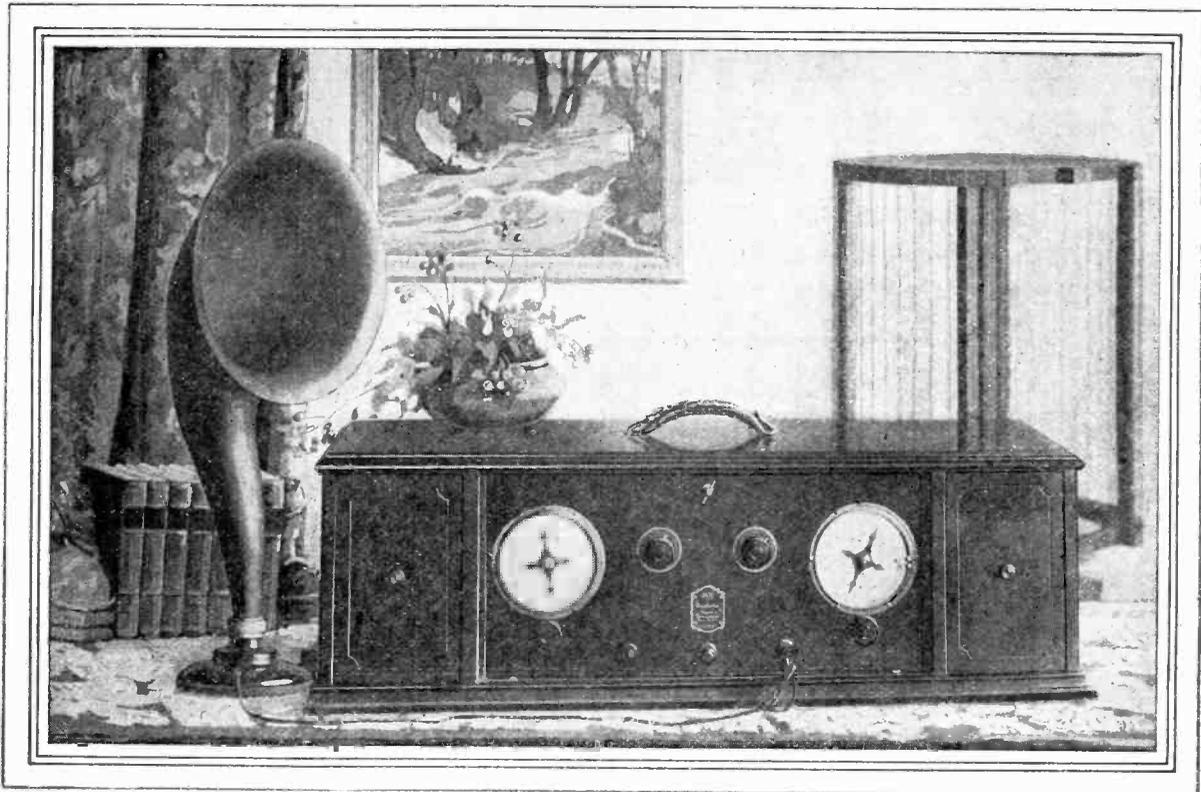


Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube 2; Dim.—9 x 9½ x 20; Price—\$60.00.

**Ajax Electric Specialty Co.,**  
St. Louis, Mo.



Trade Name—"Ajax"; Type—Crystal; Antenna—Outdoor; Price—\$5.00.



### *Radiola Super-Heterodyne*

Known from coast to coast—the "Super-Het" that needs no antenna, and no ground connections—gets the station you want always at the same marked spot on the dials. Famous for *rare tone quality!* With six Radiotrons UV-199 and Radiola Loud Speaker UZ-1325. List .....\$256

The external loop is extra and means further distance records, with battery economy. Model AG-814. List .....\$12

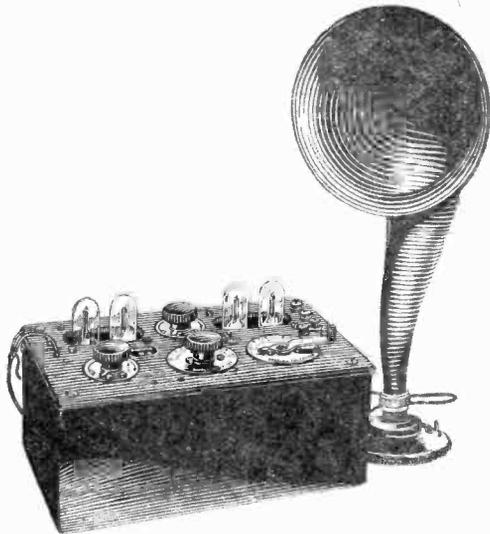
Quality of *performance*  
and quality of *tone*  
mean sales /

# Radiola

REG. U. S. PAT. OFF.

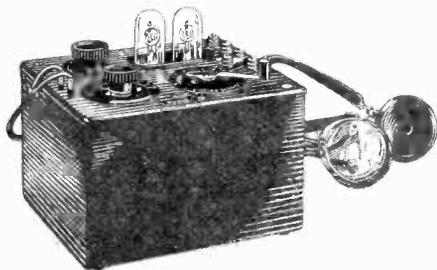
PRODUCED ONLY BY RCA





**Radiola III-a**

A four-tube Radiola, noted for distance, simplicity, clearness—at very moderate cost. With four Radiotrons WD-11 and Radiola Loud speaker UZ-1325. List .....\$83



**Radiola III**

A two-tube Radiola that actually costs less than you could build it for yourself. Gets distance on the headphones and near stations on a loudspeaker. With two Radiotrons WD-11 and headphones. List .....\$35

You can always add a Radiola Balanced Amplifier, later, to get distance on a loudspeaker.

Radio Corporation of America  
Sales Offices: Suite No. 154  
233 Broadway, New York

10 So. La Salle St., Chicago, Ill.      28 Geary St., San Francisco, Ca.



**Radiola Loudspeaker**

UZ-1325  
**\$18**  
List

Known for its wide tone range — its faithfulness — its mellowness. It has contributed to the fame of the best known Radiolas—and gets the best out of any set.

**Radiola**  
REG. U.S. PAT. OFF.  
**LOUDSPEAKER**

# Radiola

REG. U.S. PAT. OFF.

**PRODUCED ONLY BY RCA**

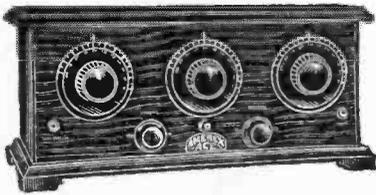


**Amber Mfg. Co.,**  
115 W. Broadway, New York, N. Y.  
(See Announcement Front Cover)



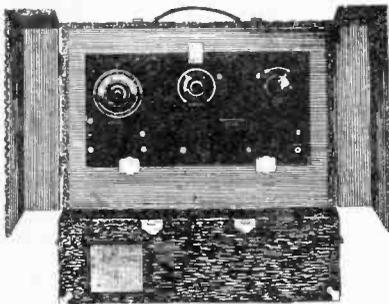
**Model 612-C**  
Trade Name—"Marv-o-Dyne"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—28 x 9 x 7½; Wt.—20 lbs.; Price—\$110.00.

**Amerex Electric Corp.,**  
232 Greenwich St., New York, N. Y.



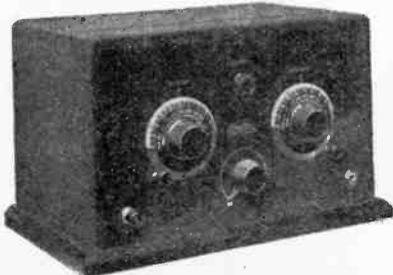
Trade Name—"Amerex Ace"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry, "B" 45-90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—7 x 7 x 18; Wt.—18 lbs.; Style—Genuine Solid Mahogany Cabinet; Price—\$59.00.

**American European Radio Corp.,**  
342 Madison Ave., New York, N. Y.



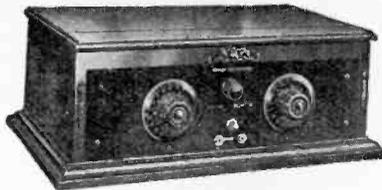
Trade Name—"Porto-O-Radio"; Type—Tuned Radio Frequency; Tubes—6; Battery—"A" Dry; "B" 90 Volts; Controls—1; Tuning, 1; Antenna—None; Dim.—16 x 16 x 4; Weight—24 lbs.; Style—Portable; Price—\$200.00.

**American Etherphone Corp.,**  
39 West Milwaukee Ave., Detroit, Mich.



**Model RX-3**  
Trade Name—"Etherphone"; Type—Reflex; Tubes—2; Battery—"A" Dry or Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—8 x 18 x 8; Wt.—10 lbs.; Price—\$45.00.

**American Radio & Research Corp.**  
Dept. E  
Medford Hillside, Mass.



**Neutrodyne Model**  
Trade Name—"Amrad"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—17½ x 6½ x 12; Weight—14 lbs.; Price—\$85.00.



**Model 3500-4**  
Trade Name—"Amrad Neutrodyne Cabinette"; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—12 x 29 x 14; Wt.—26 lbs.; Price—\$180.00.

**American Specialty Co.**  
Bridgeport, Conn.



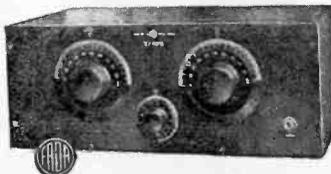
**Model Standard**  
Trade Name—"Electrola"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tubes, 2; Dim.—25 x 10 x 10; Wt.—20 lbs.; Price—\$100.00.

**Model Grand**  
Same as Model Standard, except as noted. Dim.—25 x 23 x 16; Wt.—30 lbs.; Price—\$150.00; Style—Console.

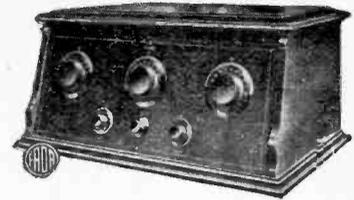
**F. A. D. Andrea, Inc.**  
1581 Jerome Ave., New York, N. Y.



**Model 160-A**  
Trade Name—"Fada One-Sixty"; Type—Neutrodyne; Tubes—4; Battery—"A" Storage; "B" 90 to 120 Volts; Controls—Tuning, 3; Tube, 2; Dim.—19 x 8 x 8; Wt.—12 lbs.; Price—\$120.00.



**Model 195-A**  
Trade Name—"Fada Neutro-Junior"; Type—Neutrodyne; Tubes—Radio Amplifier, Reflex Audio (1), Detector (1), Audio Amplifier (1); Battery—"A" Storage; "B" 60 to 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—17 x 7 x 8½; Wt.—13 lbs.; Price—\$75.00.



**Model 175-A**  
Same as 160-A, except as noted. Trade Name—"Fada Neutroceiver"; Dim.—25 x 17 x 12; Wt.—27 lbs.; Price—\$160.00.



**Model 175/90-A**  
Same as 175-A, except as noted. Trade Name—"Fada Neutroceiver Grand"; Dim.—27 x 18 x 44; Wt.—50 lbs.; Price—\$210.00.



**Model 185-A**  
Same as 175-A, except as noted. Trade Name—"Fada Neutrola"; Dim.—27 x 17 x 21; Wt.—35 lbs.; Price—\$220.00.



**Model 185/90-A**  
Same as 185-A, except as noted. Trade Name—"Fada Neutrola Grand"; Dim.—27 x 18 x 51; Wt.—60 lbs.; Price—\$270.00.

**Andrews Radio Co.,**  
827 S. La Salle St., Chicago, Ill.  
Tribune Tower

(See announcement page 4)



**Model De Luxe**

Trade Name—"Deresnadyne"; Type—Non-oscillating Radio Frequency; Tubes—6; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Dim.—27½ x 9¼ x 9; Wt.—80 lbs.; Price—\$165.00.

**Apex Electric Mfg. Co.,**  
Dept. 415, 1410 W. 59th St., Chicago, Ill.  
(See Announcement Page 43)



**Model Super-Five**

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—20 x 9 x 9½; Wt.—; Price—\$95.00.

**Armley Radio Corp.,**

68 Fleet St., Jersey City, N. J.

Trade Name—"Karryadio"; Type—Radio Frequency; Style—Traveling; Tubes—6; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—18 x 13 x 6; Wt.—29 lbs.; Price—\$75.00 without accessories.

**Atlas Colonial Corp.,**

East Ave. and 10th St., Long Island City, N. Y.

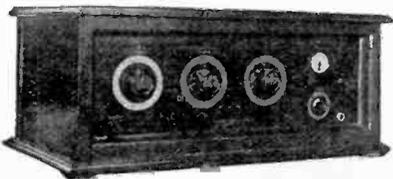


**Model No. 16-Six**

Trade Name—"Colonial"; Type—Tuned Radio Frequency; Tubes—6; Battery—"A" Dry or Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Outdoor or Indoor; Dim.—28½ x 16 x 12; Wt.—40½ lbs.; Price—\$175.00.

**Model 16-5**

Same as Model 16-Six, except as noted. Tubes—5; Price—\$150.00.



**Model No. 17**

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Outdoor; Dim.—8¼ x 12¼ x 18¼; Wt.—17½ lbs.; Price—\$85.00.

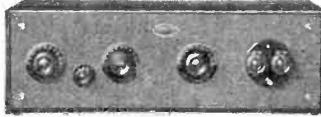
**Atwater Kent Mfg. Co.**

4722 Wissahickon Ave., Philadelphia, Pa.



**Model 10**

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 60 to 100 Volts; Controls—Tuning, 3; Tube, 2; Dim.—26 x 10 x 6; Wt.—16 lbs.; Price—\$85.00.



**Model 20**

Same as Model 10, except as noted. Dim.—26 x 8¾; Wt.—17 lbs.; Price—\$100.00.



**Model 9**

Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 60 to 100 Volts; Controls—Tuning, 2; Tubes, 2; Dim.—20 x 10 x 6; Wt.—11 lbs.; Price—\$65.00.



**Model 19**

Same as 9, except as noted. Dim.—29 x 8¾; Wt.—12 lbs.; Price—\$85.00.

**Audiola Radio Co.,**

430 S. Green St., Chicago, Ill.

**Model "Audiodyne"**

Trade Name—"Audiola"; Type—Tuned Radio Frequency; Style—Portable; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; "C" 4½ Volts; Controls—Tuning, 2; Tube, 3. Dim.—21 x 10 x 8½; Price—\$75.00.

**Model "Super"**

Same as Model "Audiodyne," except as noted. Tubes—5; Dim.—24 x 11 x 9½; Price—\$100.00.

**Model "Grand"**

Type—Reflex; Style—Portable; Tube—3; Battery—"A" Storage; "B" 90 Volts; "C" 4½ Volts; Controls—Tuning, 1; Tube, 2; Antenna—Outdoor or Loop; Dim.—21 x 10 x 8½; Price—\$45.00.

**Model "Midget"**

Type—Non-Regenerative; Style—Portable; Tube—1; Control—1; Antenna—Outdoor. Battery—"A" Dry; "B" 22½ Volts; Dim.—7½ x 5½ x 4; Price—\$10.00.

**M. B. Austin Co.,**

108 S. Desplaines St., Chicago, Ill.



Trade Name—"Radiogrand"; Type—Tuned Radio Frequency; Style—Console; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—6; Tuning, 3; Antenna—Outdoor; Dim.—43½ in. high, 33 in. wide, 16 in. deep; Price—Without tubes or batteries but with built-in loud speaker, \$300.00.

**Auto Indicator Co.,**

210 Ottawa Ave., N. W., Grand Rapids, Mich.

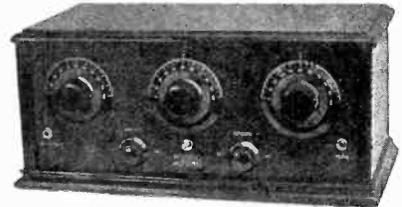


**Model Standard B**

Trade Name—"Pocket Radio"; Type—Non-regenerative; Style—Pocket Portable; Tubes—Detector (1); Battery—"A" Storage or Dry; "B" 22½ Volts; Controls—Tuning, 1; Tube, 1; Antenna—Loop and Outdoor; Dim.—4 x 12½ x 2½; Wt.—4 lbs.; Price—\$23.50.

**Baltimore Hub-Wheel & Mfg. Co.**

221 N. Gay St., Baltimore, Md.



Trade Name—"Hubco Baby Grand"; Tuned Radio Frequency; Style—Portable; Tubes—5; Controls—Tuning, 3; Tubes, 2; Price—\$60.00.

**Model "Standard"**

Trade Name—"Hubco Super-Five"; Type—Tuned Radio Frequency; Style—Portable; Tubes—5; Battery—"A" Storage; "B" 90 to 130 Volts; "C" 4½ Volts; Controls—Tuning, 3; Tubes, 2; Price—\$150.00.

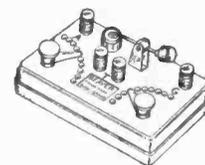
**Beaver Machine & Tool Co., Inc.**

625 North Third St., Newark, N. J.



**Model R-1**

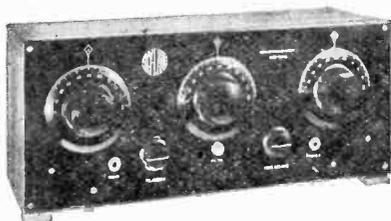
Trade Name—"Baby Grand"; Type—Crystal; Style—Vest-Pocket; Antenna—Outdoor; Dim.—1½ x 2¼ x 3¼; Price—\$3.50.



**R-21**

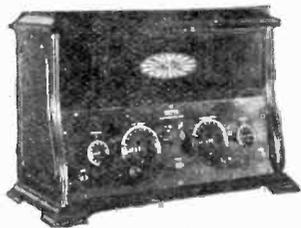
Same as R-1, except as noted. Box and top surface are molded together. Price—\$3.50.

**Benler Radio Co.,**  
148 Duane St., New York, N. Y.



Trade Name—"Sky Lark"; Type—Tuned Radio Frequency; Tubes—5; Dim.—7 x 7 x 18; Wt.—12 lbs.; Bevel Panel; Price—\$58.00.

**Betts & Betts Corp.**  
648 W. 43rd St., New York, N. Y.



Model T8

Trade Name—"Trans-Continental 8"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 8; Tube, 2; Antenna—Loop, Indoor and Outdoor; Dim.—25 x 11 x 16½; Wt.—29 lbs.; Price—\$225.00.

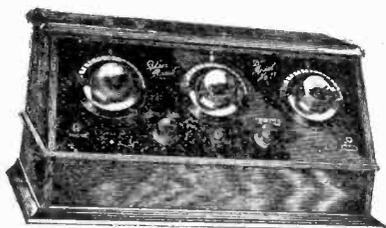
**Bird Radio Corporation,**  
822 Main St., Cincinnati, Ohio



Model F-1

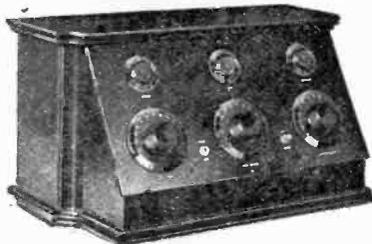
Type—Crystal; Wt.—1 lb.; Price—\$6.00.

**Blair Radio Laboratories,**  
23rd St. and Sixth Ave., New York, N. Y.



Type—Tuned Radio Frequency; Tubes—6; Battery—"A" Storage or Dry; "B" 135 Volts; Controls—Tuning, 3; Tube, 2; Dim.—7 x 18 x 10; Wt.—21 lbs.

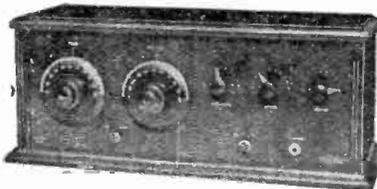
**Carlyd Electric & Radio Co.**  
342 Madison Ave., New York, N. Y.



Model Mark II

Trade Name—"Malone-Lemmon"; Type—Neurodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Dim.—21 x 11 x 12; Wt.—80 lbs.; Price—\$175.00.

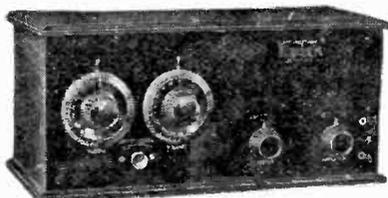
**Chelsea Radio Co.,**  
150 Fifth St., Chelsea, Mass.



Model 107

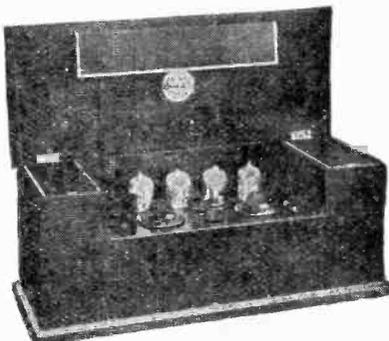
Trade Name—"Regenodyne"; Type—Regenerative—Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 2; Dim.—24 x 10 x 10; Wt.—8 lbs.; Price—\$75.00.

**Clapp-Eastham Co.**  
129 Main St., Cambridge, Mass.



Model DD

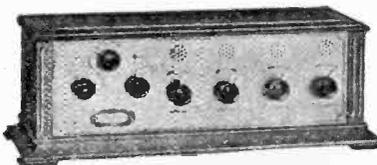
Trade Name—"Radak"; Type—Regenerative; Tubes—3; Battery—Storage or Dry, "B" 67½ volts; Controls—Tuning, 2; Tube, 2; Dim.—; Wt.—; Price—In Leatherette finish, \$34.00; Walnut, \$36.00.



Gold Seal Model

Trade Name—"Super-Radak"; Type—Regenerative Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 67½ Volts; Controls—Tuning, 2; Tubes, 3; Dim.—16½ x 10 x 8¼; Wt.—6¼ lbs.; Price—\$75.00.

**Clearstone Radio Co.,**  
Cincinnati, Ohio



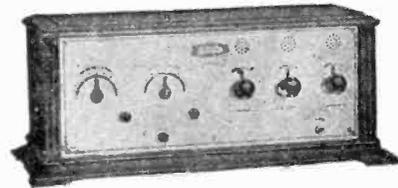
Model 60

Trade Name—"Goldcrest"; Type—Radio Frequency; Tubes—4; Battery—"A" Storage or

Dry; "B" 90 Volts; Controls—Tuning, 3; Tubes, 4; Wt.—15 lbs.; Price—\$60.00.

Model 62

Same as Model 60, except as noted. Style—Console; Wt.—100 lbs.; Price—\$120.00.



Model 70

Trade Name—"Clearodyne"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 3; Dim.—22 x 9 x 9; Wt.—16 lbs.; Price—\$75.00.



Model 72

Same as Model 70, except as noted. Style—Console; Wt.—100 lbs.; Price—\$135.00.

Model 80

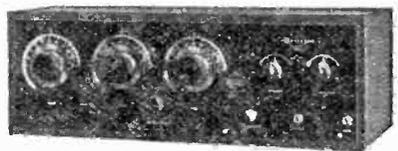
Trade Name—"Super Clear-O-Dyne"; Type—Tuned Radio Frequency; Style—Portable; Tubes—5; Batteries—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Wt.—25 lbs.; Price—\$120.00.



Model 82

Same as Model 80, except as noted. Style—Console; Wt.—115 lbs.; Price—\$190.00.

**Cleveland Products Co.,**  
714 Huron Rd., Cleveland, Ohio



Model A-5

Trade Name—"Cleveland"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tubes, 2; Dim.—7 x 22 x 8; Wt.—15 lbs.; Price—\$120.00.

**Concert Radiophone Co.,**  
626 Huron Road, Cleveland, Ohio



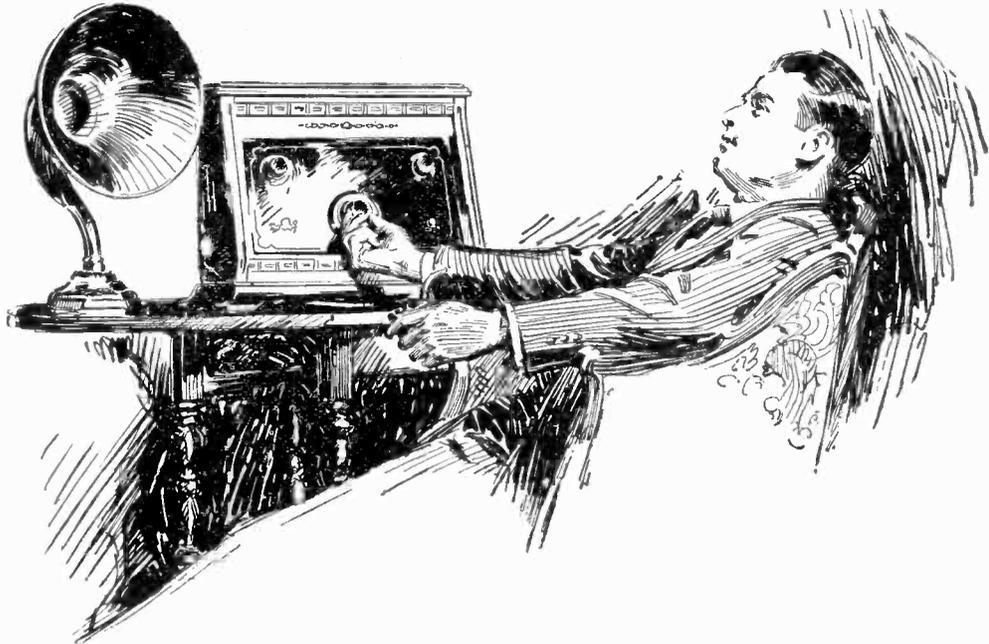
Trade Name—"Concert Grand"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube,

# Mohawk Radio

5 TUBES—JUST ONE DIAL TO TUNE



Mohawk Model VA uses five tubes, operates on either "loop" or overhead aerial. Sealed and guaranteed for one year. \$150 without accessories.

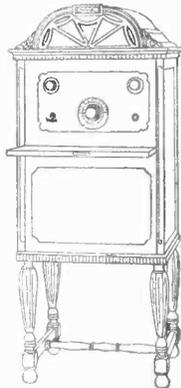


## Where are your radio profits going?

**T**OO many dealers selling radio today are spending a dangerously large portion of their profits in keeping the customer satisfied.

How can the dealer's service cost be reduced? That is a problem for the manufacturer, we feel, even more than for the dealer. In designing the Mohawk Radio we kept this problem well in mind, and we believe we have solved it greatly to the dealer's profit.

Simplicity is the key word of the Mohawk. Simplicity of design. Simplicity of operation. All working parts are enclosed, sealed and backed by a one-year factory guarantee when the seal is unbroken. No screws are used—all connections are riveted. This insures safety in handling. No other radio is made this way. Just one dial to tune, and nothing about



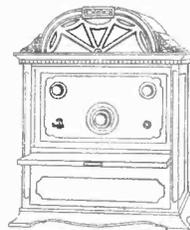
*"Hearing is Believing"*

Mohawk Model XII. Same as Model VA, but in Italian Renaissance console cabinet with built-in loud speaker. \$300 without accessories.

the set to invite tinkering by the owner.

The more you learn about the Mohawk the better you will like it. Dependable, coast-to-coast loud-speaker reception; utmost selectivity; a clear, golden, life-like tone that wins the admiration of all who hear it. Nationally advertised in leading publications and backed by dominant local publicity.

Mohawk Model X. Same as Model XII, but made for use on a table or stand. Loud speaker is built-in. \$250 without accessories.



The Mohawk Franchise Plan will give you some new ideas on the subject of building a permanent, growing, profitable radio business. Wire, write or mail coupon for details today. We will also send full information about our financing plan for time payment sales.

MOHAWK ELECTRIC CORP.,  
2250-B Diversey Parkway, Chicago

Please send, without obligation, full details of the Mohawk Franchise Plan.

Name \_\_\_\_\_

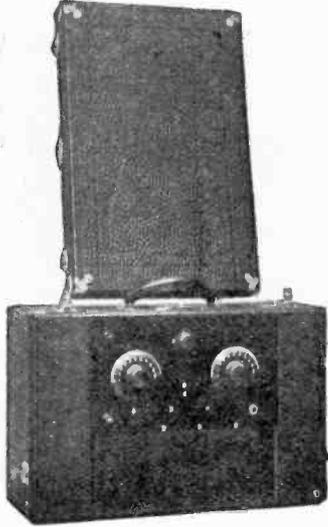
Address \_\_\_\_\_

Mohawk Electric Corporation  
2250-B Diversey Parkway CHICAGO

2; Dim.—7 x 7 x 28; Wt.—25 lbs.; Price—\$120.00.

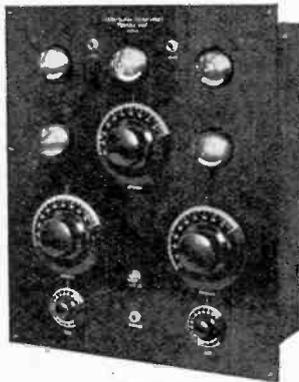


Trade Name—"Concert Jr."; Type—Crystal; Antenna—Outdoor; Price—\$2.50.



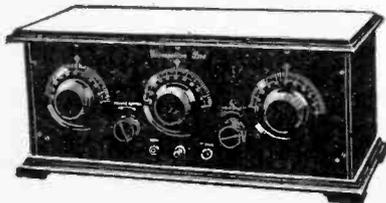
Trade Name—"Concert Sr."; Type—Reflex; Tubes—2; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Indoor or Loop; Dim.—13 x 11 x 19; Wt.—25 lbs.; Price—\$75.00.

Cosmopolitan Phusiformer Corp.,  
15 W. 18th St., New York City



Model A

Style—Console Unit; Tubes—5; Battery—"A" Storage or Dry; "B" 90 to 135 Volts; Controls—Tuning, 3; Tube, 5; Antenna—Outdoor or Loop; Dim.—14½ x 17½; Wt.—14 lbs.; Price—\$105.00.



"Cosmopolitan Five"

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Dim.—7 x 18 x 7; Wt.—23 lbs.; Price—\$66.00.

"Super Five"

Same as "Cosmopolitan Five," except as noted. Has Phusiformers and Built-in "B" Battery Compartment; Dim.—7 x 24 x 12; Price—\$125.00.

Coto-Coil Co.,

87 Willard Ave., Providence, R. I.



Trade Name—"Coto Symphonic"; Type—Tuned Radio Frequency; Style—Portable; Tubes—4; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 4; Price—\$125.00.

Crosley Radio Corp.

48 Sassafraz St., Cincinnati, Ohio



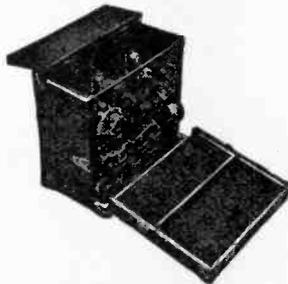
Model 51

Trade Name—"Crosley"; Type—Regenerative; Tubes—2; Battery—"A" Storage or Dry; "B" 67½ Volts; "C" 4½ Volts; Controls—Tuning, 1; Tube, 2; Dim.—4½ x 5½ x 11; Wt.—9 lbs.; Price—\$23.50.



Model 50

Trade Name—"Crosley"; Type—Regenerative; Tubes—Detector (1); Battery—"A" Storage or Dry; "B" 22½ to 45 Volts; Controls—Tuning, 1; Tube, 1; Dim.—4½ x 5½ x 11; Wt.—7½ lbs.; Price—\$14.50.



Model 51-P

Same as Model 51, except as noted. Style—Traveling; Dim.—12½ x 11½ x 7½; Wt.—21 lbs.; Price—\$25.00.



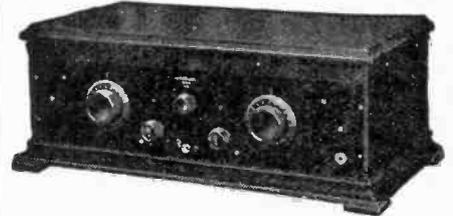
Model 52

Same as Model 51, except as noted. Tubes—3; Battery—"B" 45 to 90 Volts; Dim.—4¾ x 5¾ x 18¾; Wt.—10 lbs.; Price—\$30.00.



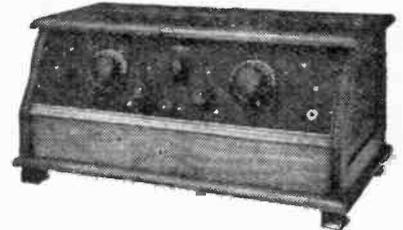
Model 3R3

Trade Name—"Trirdyn"; Type—Regenerative Radio Frequency (Reflexed); Tubes—3; Battery—"A" Storage or Dry; "B" 90 Volts; "C" 4½ Volts; Controls—Tuning, 2; Tube, 3; Dim.—22 x 6¼ x 7¾; Wt.—15 lbs.; Price—\$50.00.



Model 3R3 Special

Same as Model 3R3, except as noted. Dim.—24 x 9 x 14; Wt.—20 lbs.; Price—\$60.00.

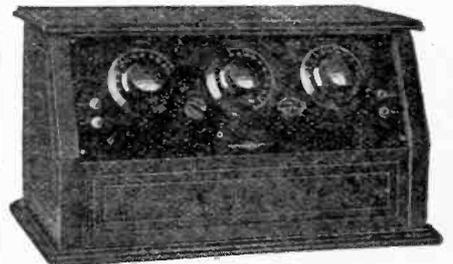


Model 1123

Same as Model 3R3, except as noted. Trade Name—"Triryn Newport"; Battery—"B" 45 to 100 Volts; Controls—Tuning, 2; Tube, 2; Price—\$85.00.

Culver-Stearns Mfg. Co.,

53 Grafton St., Worcester, Mass.



Trade Name—"Lloyd C. Greene Concert Selector"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Antenna—Outdoor; Weight—30 lbs.; Price—\$100. Has compartment for "B" and "C" batteries.

Dalco Radio Co.,

148 Chambers St., New York, N. Y.



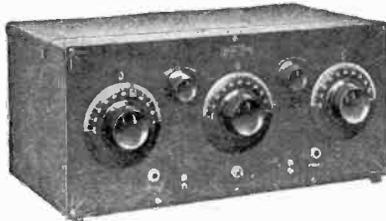
Trade Name—"Dalcofone"; Type—Radio Frequency; Battery—"A" Storage or Dry; "B" 90 Volts; Tube—1; Controls—Tuning, 1; Tube, 1; Antenna—Outdoor; Dim.—11½ x 5½ x 7; Wt.—3 lbs.; Price—\$8.75.

**Dayton Fan & Motor Co.,  
Dayton, Ohio**



**Model OEM-11**

Trade Name—"Day-Fan Duo-Plex"; Type—Radio Frequency Modified Reflex; Tubes—3; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Dim.—21 x 9 x 7; Wt.—14½ lbs.; Price—\$90.00.



Trade Name—"Airtrola"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 45 Volts; Controls—Tuning, 3; Tube, 2; Wt.—10 lbs.; Price—\$39.50.

**Model OEM-7**

Same as Model OEM-11, except as noted. Tubes—4; Price—\$98.00.

**"Dayola" Model**

Same as Model OEM with drop front "B" Battery Compartment. Price—\$125.00.

**"Daycraft" Model**

Same as Model OEM with drop front "B" Battery Compartment and built-in Loud Speaker. Price—\$160.00.

**"Dayradia" Model**

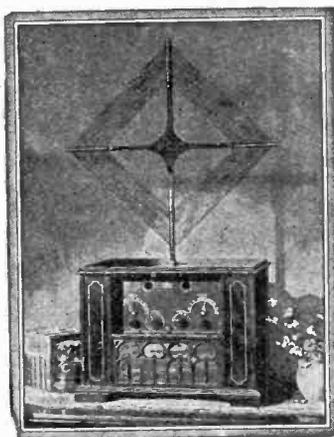
Same as Model OEM with "A" and "B" Batteries and built-in Recharging Equipment. Price—\$225.00.

**"Daytonia" Model**

Same as Model OEM, except as noted. Console style, with "A" and "B" Batteries and built-in Recharging Equipment. Price—\$285.00.

**De Forest Radio Co.,**

Franklin St. and Central Ave., Jersey City, N. J.



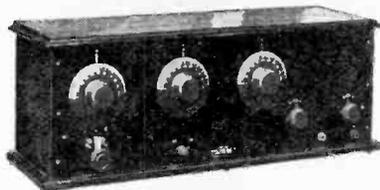
**Model D-17**

Trade Name—"Radiophone"; Type—Tuned Radio Frequency; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Loop; Dim.—22 x 16½ x 16¼; Wt.—45 lbs.; Price—Two Tone Mahogany without Batteries, \$195.00; Two Tone Fabrikoid without Batteries, \$185.00.

**Model D-17 A**

Same as Model D-17, except as noted. Dim.—20¾ x 13¼ x 10¼; Price—Without accessories, \$125.00.

**Deron Bros. Electric Co.,  
325 B. St., Hamilton, Ohio**

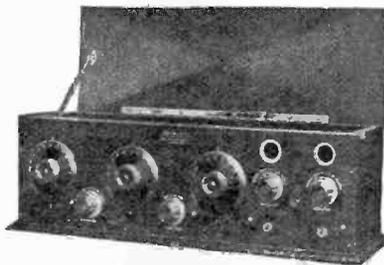


**Model R-5**

Trade Name—"Super-Equidyne"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—28 x 10 x 10; Wt.—60 lbs.; Price—\$125.00.

**William B. Duck Co.**

711 Adams St., Toledo, Ohio



Type—Tuned Radio Frequency; Style—Portable; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 4; Dim.—24 x 7¾ x 8½; Wt.—17 lbs.; Price—\$100.00.

**Eagle Radio Co.,**

15 Boyden Place, Newark, N. J.



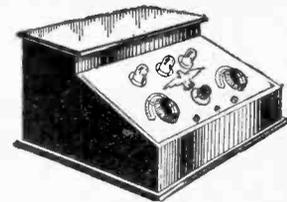
**Model B**

Trade Name—"Eagle Balanced"; Type—Neurodyne; Tubes—5; Battery—"A" Storage; "B" 90 to 135 Volts; Controls—Tuning, 1; Tube, 3; Dim.—7½ x 29 x 8½; Wt.—27 lbs.; Price—\$175.00.



**Model B-S**

Same as Model B, except as noted. Type—Console Cabinet, built of Walnut or Mahogany; Price—\$275.00.



**Model C**

Trade Name—"Eaglet"; Type—Neurodyne; Tubes—3; Battery—"A" Dry; "B" 90 Volts; Controls—2; Tuning, 2; Tube, 2; Dim.—17½ x 15¼ x 10¼; Wt.—14 lbs.; Price—\$75.00.

**Echophone Radio, Inc.,**

1120 N. Ashland Ave., Chicago, Ill.



**Model V-3**

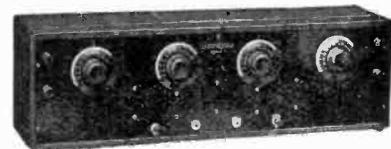
Trade Name—"Echophone"; Type—Regenerative; Tubes—3; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 1; Volume, 1; Price—\$65.00.

**Model F-5**

Same as Model "4," except as noted. Type—Radio Frequency; Tubes—5; Controls—2 Main Controls; Antenna—Loop; Indoor or Outdoor Aerial; Price—\$110.00.

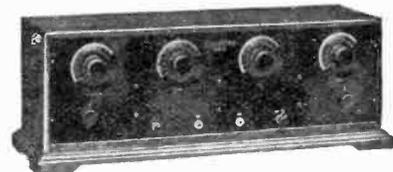
**Ecodyne Radio Co.,**

Irwin, Pa.



**Model RT-13**

Trade Name—"Ecodyne"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 4 (Tube, "Amperite" Control); Dim.—8 x 8 x 26; Wt.—15 lbs.; Price—\$115.00.

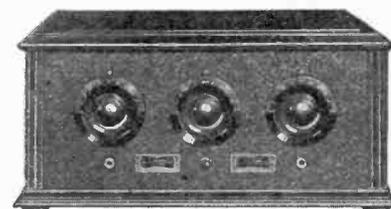


**Model R-5**

Same as Model RT-13, except as noted. Dim.—24 x 9 x 9; Wt.—19 lbs.; Price—\$150.00.

**Eisemann Magneto Corp.**

165 Broadway, New York, N. Y.



**Model 6-D**

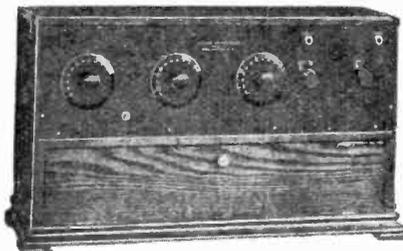
Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 5; Dim.—19¾ x 18¼ x 9¾; Wt.—15½ lbs.; Price—\$125.00.

**Electrical Supply and Radio Corp.,**  
17 Warren St., New York, N. Y.  
(See Announcement Page 49)



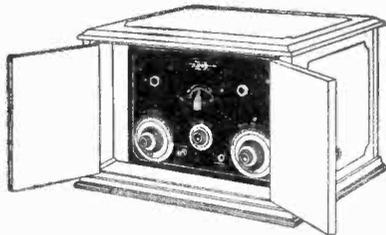
Trade Name—"Champion Five"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry, "B" 90 Volts; Controls—4; Tuning, 3; Tube, 5; Antenna—Indoor or Outdoor; Dim.—7 x 8 x 21; Wt.—30 lbs.; Style—Slope Panel; Price—\$65.00.

**Fairview Electric Shop,**  
85 Fairview Ave., Binghamton, N. Y.

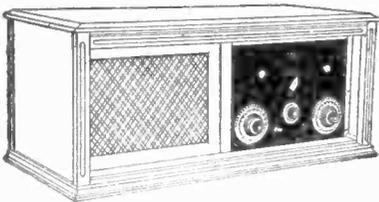


**Model J 400**  
Trade Name—"Lasher Capacidyne." Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 to 112½ Volts; "C" 4½ Volts; Controls—Tuning, 3; Tube, 2; Wt.—12 lbs.; Price—\$110.00.

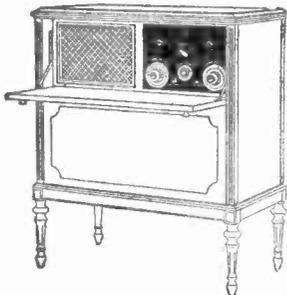
**Federal Telephone Mfg. Corp.,**  
Buffalo, N. Y.



**Model 141**  
Type—Radio Frequency; Tubes—5; Battery—"A"; Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 3; Dim.—13 x 17¼ x 19½; Wt.—42 lbs.; Price—\$150.00.

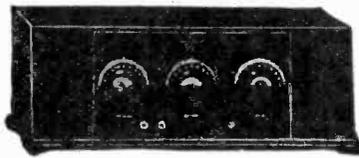


**Model 142**  
Same as Model 141, except as noted. Dim.—14½ x 17½ x 22¾; Wt.—73 lbs.; Price—\$230.00.



**Model 143**  
Same as Model 142, except as noted. Dim.—20 x 34½ x 43; Wt.—138 lbs.; Price—\$380.00.

**J. B. Ferguson,**  
80 Beaver St., New York, N. Y.



**Model No. 3**

Trade Name—"TRF"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 3; Dim.—24¼ x 9¾ x 9¾; Wt.—27 lbs.; Price—\$130.00.

**Model No. 3-A**

Same as Model No. 3, except as noted. Special Low Wave Receiver, Range 30 to 120 Meters. Price—\$130.00.

**Traveling Model**

Same as Model No. 3, except as noted. Style—Traveling; Price—\$120.00.

**Model 3-V**

Same as Model No. 3, except as noted. Style—Victor Phonograph Insert; Price—\$110.00.

**Foreign & Domestic Electrical Commodities, Inc.,**

629 West 23rd St., New York, N. Y.



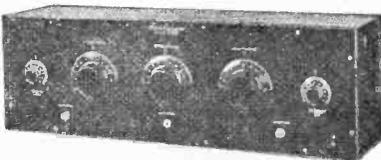
Trade Name—"Electradyne"; Type—Reflex Tubes—2; Battery—None (equipped with Rectifier to operate on 110 volts A. C.); Controls—Tuning 3; Tube 1; Dim.—15 x 13 x 15½; Wt.—37 lbs.; Price—\$110.00.

**Freed-Eisemann Radio Corp.**  
36 Flatbush Ave. Ext., Brooklyn, N. Y.



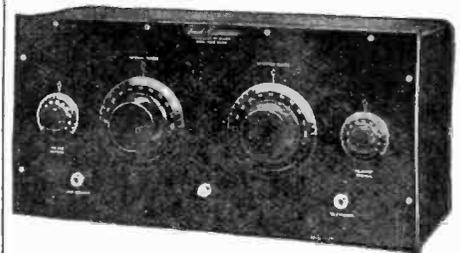
**Model NR5**

Trade Name—"Freed-Eisemann"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—23 in. long; Wt.—17 lbs.; Price—\$150.00.



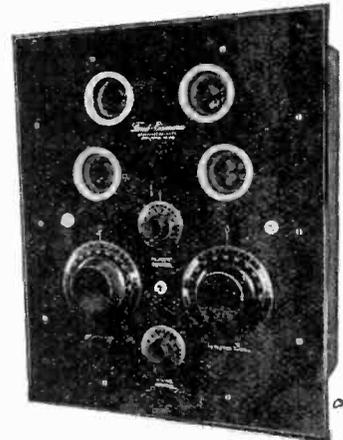
**Model NR-6**

Same as Model NR-5, except as noted. Battery—"A" Storage; "B" 90 Volts; Dim.—13 x 29 x 12; Wt.—20 lbs.; Price—\$150.00.



**Model NR-12**

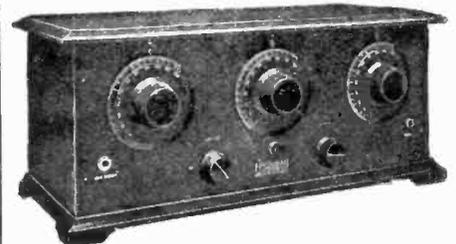
Same as Model NR-5, except as noted. Tubes—4; Controls—Tuning, 2; Tube, 3; Dim.—12 x 22 x 12½; Wt.—18 lbs.; Price—\$100.00.



**Model NR-215**

Same as Model NR-5, except as noted. Style—Victrola Console Unit; Dim.—14½ x 17½ x 11; Wt.—13½ lbs.; Price—\$95.00.

**Chas. Freshman Co., Inc.,**  
Freshman Bldg., 240-248 W. 40th St.,  
New York, N. Y.



Trade Name—"Masterpiece"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—7 x 7 x 18; Wt.—21 lbs.; Price—\$60.00.

**Garod Corporation**  
120 Pacific St., Newark, N. J.



**Model V**

Trade Name—"Garod"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 135 Volts; Controls—Tuning, 3; Tube, 2; Dim.—24½ x 18½ x 11½; Wt.—25 lbs.; Price—\$195.00.



# STICKS OUT!

Merchandise displayed in the SHERER Radio Display Case sticks out. It arrests the eye, prods the desire for possession, and clinches the sale.

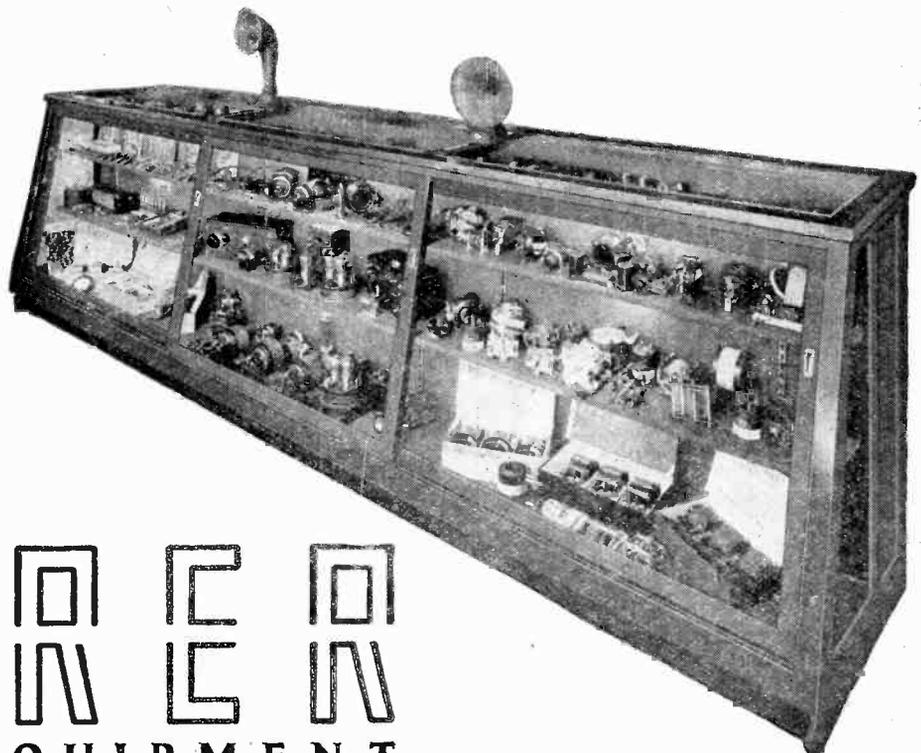
SHERER equipment furnishes ample display space plus generous storage room for surplus stock. It multiplies turnover, makes service faster, keeps stock fresh and clean, and gives the store a snappy appearance.

SHERER Cases are paying investments and installed only where they *will* prove profitable.

The SHERER Retail Advisory Bureau studies your problem thoroughly. A staff man consults with you and renders worthwhile service with a view of increasing your business and decreasing your costs. *After* this has been done the advisability of installing SHERER equipment is determined.

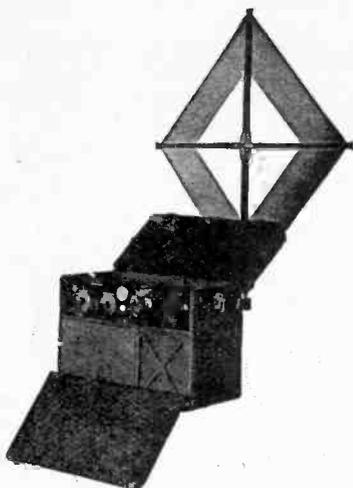
Write for literature, or state when you can consult with a Retail Display Advisor.

SHERER-GILLETT COMPANY, 17th and S. Clark Sts., CHICAGO



**SHERER**  
DISPLAY EQUIPMENT

**General American Radio Mfg. Corp.,**  
345 Madison Ave., New York, N. Y.



Trade Name—"Voceleste"; Type—Radio Frequency; Style—Traveling; Tubes—6; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 2; Dim.—9½ x 17½ x 12; Wt.—30 lbs.; Price—\$215.00.

**Model D**

Same as above, except as noted. Style—Portable; Battery—"A" Storage or Dry; Dim.—15 x 9 x 11; Wt.—15 lbs.; Price—\$150.00.

**Model E**

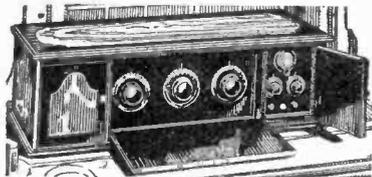
Same as Model D, except as noted. Style—Portable; Dim.—17 x 15 x 25; Wt.—75 lbs.; Price—\$265.00.

**Model F**

Same as Model D, except as noted. Style—Console; Dim.—25 x 15 x 45; Wt.—99 lbs.; Price—\$320.00.

**Gilfillan Bros.,**

1815 West 16th St., Los Angeles, Cal.



**Model GN-1**

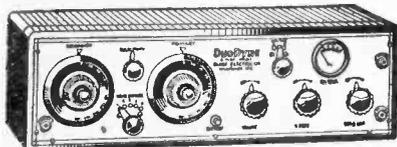
Trade Name—"Gilfillan"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—10 x 12 x 18; Wt.—35 lbs.; Price—\$150.00.

**Model GN-2**

Same as Model GN-1, except as noted. Dim.—10 x 10¾ x 28¾; Price—\$120.00.

**Globe Electric Co.,**

14 Keefe Ave., Milwaukee, Wis.



**Model 815**

Trade Name—"Duodyne"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 70 to 100 Volts; Controls—Tuning, 3; Tube, 2; Dim.—6 x 21; Wt.—25 lbs.; Price—\$110.00.

**Model 900**

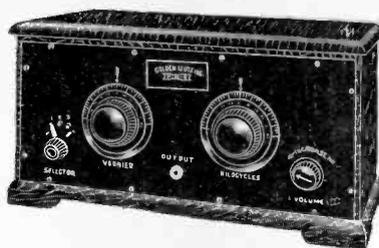
Same as Model 815, except as noted. Dim.—28 x 9¾; Wt.—30 lbs.; Price—\$135.00.

**Model 770**

Same as Model 815, except as noted. Trade Name—"Globe"; Style—Portable; Tubes—4; Controls—Tuning, 2; Tube, 2; Antenna—Outdoor; Dim.—(Panel) 6 x 18; Wt.—20 lbs.; Price—\$55.00.

**Golden-Leutz Corp.,**

476 Broadway, New York, N. Y.

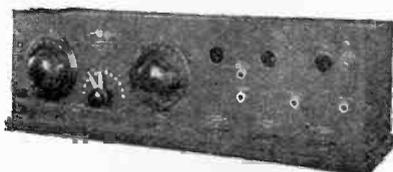


**Model "Plio-6"**

Type—Tuned Radio Frequency; Tubes—6; Battery—"A" Storage; 6 Volts; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Wt.—40 lbs.; Dim.—19 x 8 x 8; Price—Without equipment, \$60.00; with equipment, \$150.00.

**A. H. Grebe & Co.,**

70 Van Wyck Blvd., Richmond Hill, N. Y.



**Model CR9**

Type—Regenerative; Tubes—3; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 3; Dim.—22¾ x 7¾ x 8½; Wt.—15½ lbs.; Price—\$130.00.



**Model MU1**

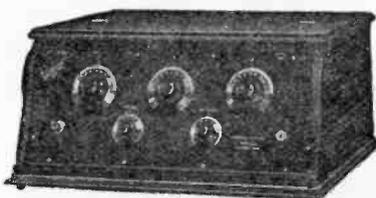
Trade Name—"Synchrophase"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Dim.—22 x 12½ x 9½; Wt.—22 lbs.; Price—\$155.00.

**Model MU2**

Trade Name—"Synchrophase"; Type—Tuned Radio Frequency; Tubes—6 (Type UV-199); Battery—Storage (4½ Volts); "B" 90 Volts; Controls—Tuning, 3; Dim.—22 x 12½ x 9½; Wt.—22 lbs.; Price—\$155.00.

**David Grimes, Inc.,**

1571 Broadway, New York City



**Model 3XP**

Type—Reflex "Grimes Inverse Duplex"; Tubes—3; Battery—"A" Storage "B" 90 volts; Controls—Tuning, 3; Tube, 3; Dim.—20 x 16 x 9½; Wt.—15 lbs.; Price—\$85.00.

**Halldorson Co.,**

1772 Wilson Ave., Chicago, Ill.

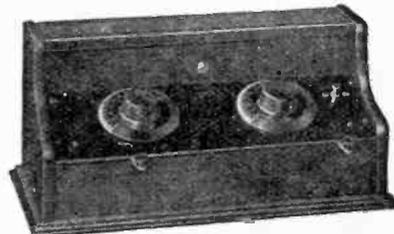


**Model RF 500**

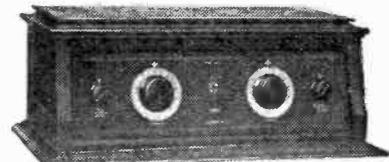
Type—Tuned Radio Frequency; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—22 x 9 x 18; Wt.—18 lbs.; Price—\$115.00.

**Hansen Storage Co.,**

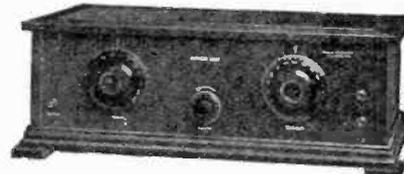
120 Jefferson St., Milwaukee, Wis.



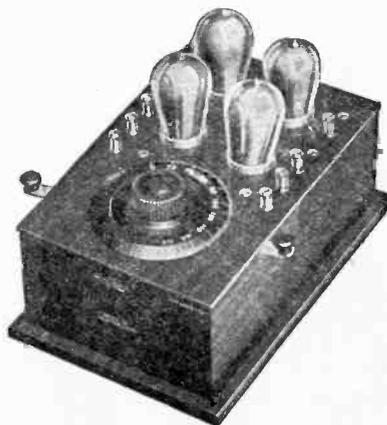
Same as "Nightingale," except as noted. Trade Name—"Blue Bird"; Type—Tuned Radio Frequency; Controls—Tuning, 2; Tube, 4; Dim.—8¾ x 8¾ x 16; Price—\$57.50.



Trade Name—"Gold Finch"; Type—Tuned R. F.; Tubes—5; Controls—Tuning, 2; Tube, 3; Dim.—23 x 14 x 9¾; Wt.—; Price—\$75.00.

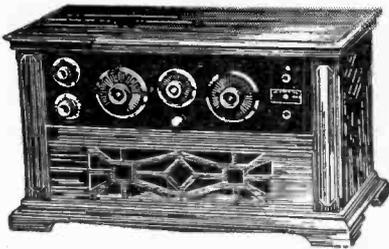


Trade Name—"American Crest"; Type—Tuned R. F.; Tube—6; Controls—Tuning, 2; Tube, 1; Antenna—Loop; Dim.—23 x 8 x 8; Wt.—; Price—\$150.00.



Trade Name—"Nightingale"; Type—Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 1; Tube, 4; Antenna—Outdoor; Dim.—10 x 6¾ x 4; Wt.—6½ lbs.; Price—\$32.50.

H. W. Harmon & Sons Co.,  
418 Poplar St., Grove City, Pa.



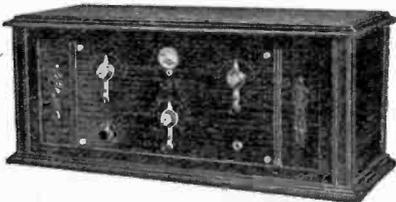
Trade Name—"Harmonson"; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—23 x 14 x 15; Wt.—25 lbs.; Price—\$160.00.

Harmony Mfg. Co.,  
2812 Griffith Ave., Cincinnati, Ohio



Model 5  
Trade Name—"Harmony"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage; Controls—Tuning, 1; Tube, 4; Antenna—Loop; Dim.—22½ x 9 x 10; Price—\$162.50.

Hartman Electrical Mfg. Co.,  
31 E. Fifth St., Mansfield, Ohio



Model 12-C  
Trade Name—"Hartman"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Volume, 1; Dim.—26 x 11 x 11; Wt.—20 lbs.; Price—\$120.00.

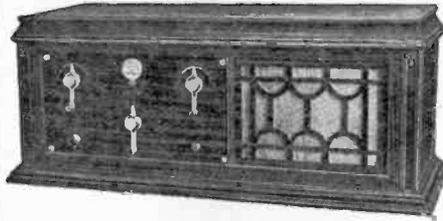
Model 10-C  
Same as Model 12-C, except as noted. Tubes—4; Controls—Tuning, 2; Price—\$100.00



Model 12-A  
Same as Model 12-C, except as noted. Tubes—5; Controls—Tuning, 3; Tube, 3; Volume, 1; Dim.—32 x 43 x 14½; Wt.—89 lbs.; Price—\$245.00.

Model 10-A

Same as Model 12-A, except as noted. Tubes—4; Controls—Tuning 2; Price—\$225.00.



Model 12-B

Same as Model 12-C, except as noted. Dim.—31 x 12 x 14; Wt.—33 lbs.; Price—\$155.00.

Model 10-B

Same as Model 12-B, except as noted. Tubes—4; Controls—Tuning 2; Price—\$135.00.

Heteroplex Mfg. Co.,  
423 Market St., Philadelphia, Pa.



Model de Luxe

Trade Name—"Worner Heteroplex"; Tubes—3; Battery—"A" Storage; "B" 90 Volts; "C" 4½ Volts; Controls—Tuning, 2; Tube, 1; Dim.—6½ x 17½ x 7½; Wt.—12 lbs.; Price—\$100.00.

Howard Mfg. Co.,

451 E. Ohio St., Chicago, Ill.  
(See Announcement Page 39)



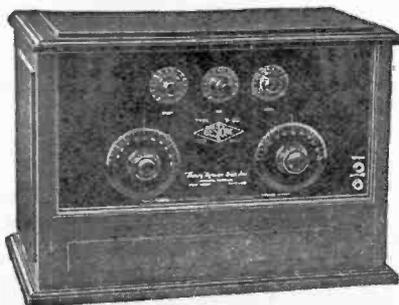
Model A

Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 to 130 Volts; Controls—Tuning, 3; Dim.—32 x 12½ x 9½; Wt.—41 lbs.; Price—\$200.00.

Model D

Same as Model A, except as noted. Tubes—4; Dim.—22½ x 9½ x 10½; Wt.—24 lbs.; Price—\$135.00.

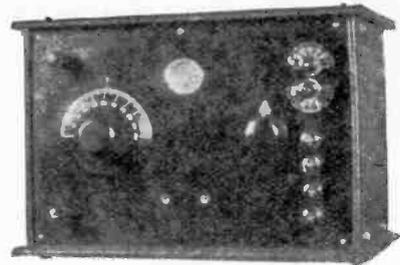
Henry Hyman & Co., Inc.  
476 Broadway, New York, N. Y.



Model V-40

Trade Name—"Bestone"; Type—Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 to 135 Volts; Controls—Tuning, 2; Tube, 2; Dim.—15 x 21 x 10; Wt.—30 lbs.; Price—\$150.00.

International Radio Co.,  
152 W. 42nd St., New York, N. Y.



Trade Name—"Lark"; Type—Regenerative; Tubes—1; Battery—"A" Storage; "B" 22½ Volts; Controls—Tuning, 1; Tube, 1; Dim.—7 x 11½; Wt.—6 lbs.; Price—\$7.50.

Colin B. Kennedy Co.,  
6460 Plymouth Ave., St. Louis, Mo.



Model III

Trade Name—"Kennedy"; Type—Regenerative; Style—Traveling; Tubes—3; Battery—"A" Storage or Dry; "B" 67½ Volts; Controls—Tuning, 1; Tube, 1; Dim.—13¾ x 13¾ x 8; Wt.—25½ lbs.; Price—\$101.50.



Model V

Same as Model III, except as noted. Dim.—16 x 14¼ x 9¾; Wt.—15 lbs.; Price—\$88.75.



Trade Name—"Royal Grand"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A"

Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—4'2" x 2'4" x 1'4"; Wt.—70 lbs.; Price—\$235.00.



Model VI

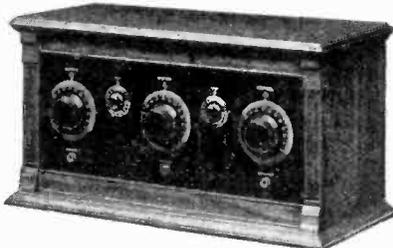
Same as Model XI, except as noted. Dim.—16 x 14½ x 9½; Wt.—16 lbs.; Price—\$105.00.



Model XV

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Indoor, Outdoor and Loop; Dim.—21½ x 15½ x 10½; Wt.—25 lbs.; Price—\$142.50.

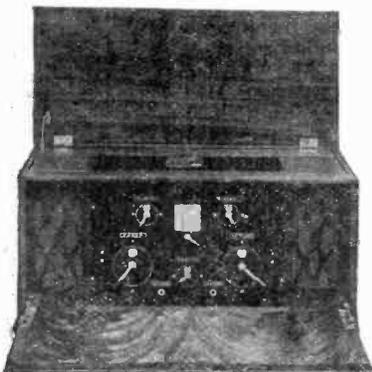
King Quality Products, Inc.,  
90 Welland St., Buffalo, N. Y.



Model 10SK

Trade Name—"King Quality"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—87 x 10½ x 10½; Price—\$160.00.

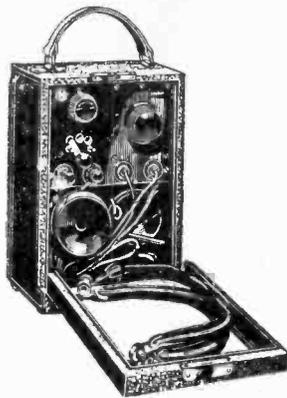
Klitzgen Radio Mfg. Co.,  
Leonard Bldg., Grand Rapids, Mich.



Model MRC4

Trade Name—"Michigan"; Type—Regenerative Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Dim.—26½ x 12½ x 14; Price—\$150.00.

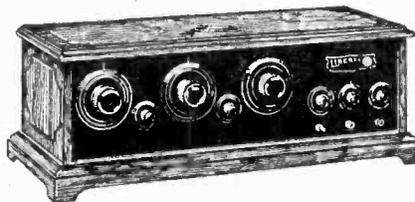
Kodak Radio Corp.,  
118 Third St., W., Cincinnati, Ohio



Model 1

Trade Name—"Kodak"; Type—Non-regenerative; Tubes—Detector (1); Battery—"A" Dry; "B" 22½ Volts; Controls—Tuning, 1; Tube, 1; Dim.—4½ x 5 x 8; Wt.—4½ lbs.; Price—\$16.00.

Liberty Transformer Co.,  
657 N. Parkside Ave., Chicago, Ill.



Trade Name—"Liberty Sealed Five"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 6; Dim.—28½ x 10½ x 12; Wt.—25 lbs.; Price—\$100.00.

Magnavox Co.,  
Oakland, Cal.



Model TRF50

Trade Name—"Magnavox"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 1; Volume, 1; Filament, 1; Dim.—14½ x 20½ x 18½; Price—Without tubes or batteries, \$110.00.



Model TRF5

Same as Model TRF-50, except as noted. Dim.—9½ x 20½ x 14½; Price—With M-4 reproducer, without tubes or batteries, \$90.00.

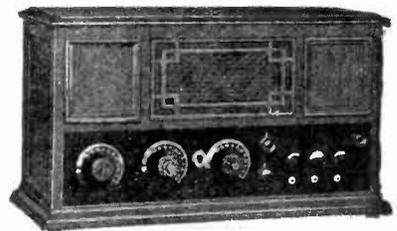
Marwol Radio Corp.,  
85 Mercer St., New York, N. Y.



Model A-1

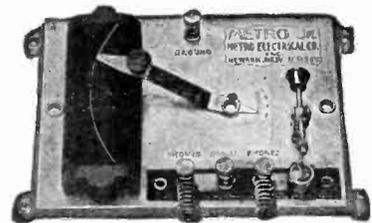
Trade Name—"Marwol"; Type—Tuned Radio Frequency; Tubes—3; Battery—"A" Storage or Dry "B"; Controls—Tuning, 3; Tubes, 2; Dim.—7 x 18 x 6½; Price—\$60.00.

Mazda Radio Manufacturing Co.,  
3405 Perkins Ave., Cleveland, Ohio



Trade Name—"Consomello Grand"; Type—Tuned Radio Frequency; Tubes—6; Battery—"A" Storage; "B" 60-135 Volts; Controls—Tuning, 3; Tubes, 3; Antenna—Loop, Indoor and Outdoor; Dim.—30 x 17½ x 13; Wt.—50 lbs.; Price—\$285.00.

Metro Electrical Co.,  
67 Goble St., Newark, N. J.



Model A2

Trade Name—"Metro Junior"; Type—Crystal; Price—\$2.50.

Model A3

Trade Name—"Metro Little Gem"; Type—Crystal; Price—\$6.50.

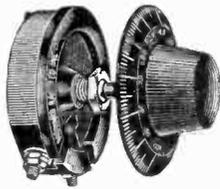


Midwest Radio Co.,  
815 Main St., Cincinnati, Ohio



Model MW

Trade Name—"Miraco"; Type—Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 45 to 135 Volts; Controls—Tuning, 2; Tube, 4; Dim.—7 x 7 x 24; Wt.—20 lbs.; Price—\$54.50.



The standard HOWARD rheostat with single hole mounting and DIAL. Made in 6 1/2-25-40 and 80 ohms resistance.

List Price \$1.10

HOWARD



Above is shown an unusual development in MICROMETER RHEOSTAT construction. Single hole mounting with Dial. Has instantaneous "single-knob" control. You'll want this one in stock because there is great demand for it.

List Price \$1.50



Here is the HOWARD LOW LOSS SOCKET with the "sure side contact." A high grade product that is sure to be a fast seller in any radio stock.

List Price \$1.25



## The Famous 5-Tube Neutrodyne

Recognized everywhere as a set without a peer, the HOWARD is a dependable performer—day in and day out—summer and winter. It meets every demand of the most critical radio buyer.

The HOWARD is most selective and brings in distant stations clearly and with plenty of volume.

Licensed under Hazeltine patents, it incorporates exclusive and special features. Made in two styles—cabinet and console—of beautifully finished selected black walnut, presenting a handsome appearance. Expert workmanship and a positive guarantee insure satisfaction for your customers.

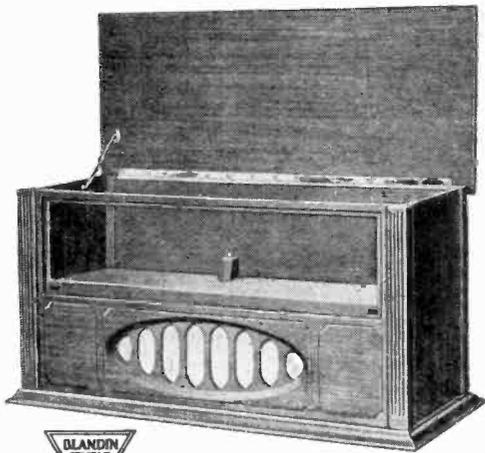
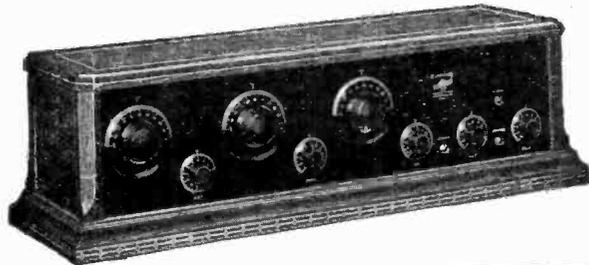
Howard Manufacturing Co.

451-469 E. Ohio St.

CHICAGO, ILL.

Jobbers and Dealers

There's real satisfaction in selling the HOWARD. Let us send full details and discounts. You'll profit by writing us today.



### The New Blandin "35D" Radio Cabinet

Panel at top 7 x 26". Depth 10. Filler strips for panel 7 x 18, 7 x 21 or 7 x 24". Built-in spruce horn back of silk lined grille. Horn fits all standard units. Two compartments each side of horn ample for complete dry cell set. Door in back. Built of genuine select Mahogany—latest Lacquer hand rubbed piano finish. Equipment includes extra 1/2" mounting board, full continuous piano hinge, two folding lid supports and rubber feet under bottom.

Write for illustrated price list.

Jobbers and dealers, write for discounts.

**BLANDIN PHONOGRAPH COMPANY, Inc.**  
1600 16th ST. RACINE, WIS.

## Selling Faster Than We Can Build Them

# ORIOLE-FIVE

Sells Itself—Makes More Sales



**\$4750**

LIST PRICE

A 5 Tube  
Tuned Radio  
Frequency Receiver

**\$2375**

NET PRICE

**A GUARANTEED RECEIVER**

AT A NEW LOW PRICE

Made of the best low loss parts. Encased in a beautiful mahogany finish cabinet. Powerful and efficient for long range reception. In design and construction like sets selling for twice its price. **ALL WIRING CONCEALED BENEATH SUB-PANEL.** Each set equipped with multi-colored battery cable.

Dealers and Jobbers communicate

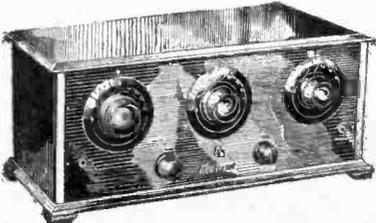
**HENRY C. ROBERTS RADIO CO., INC.**  
112-114 Trinity Place, New York, N. Y.

**Mohawk Electric Co.,**  
2250B Diversey Parkway, Chicago, Ill.  
(See Announcement Page 31)



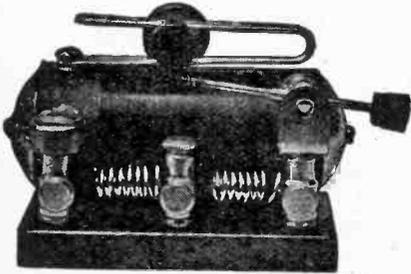
Trade Name—"Mohawk"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 1; Tube, 2; Dim.—21½ x 16¼ x 14¼; Wt.—30 lbs.; Price—\$150.00.

**Montrose Radio Laboratories,**  
1333 Fulton Street, Brooklyn, N. Y.  
(See Announcement Page 49)



Trade Name—"Montroset"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Dim.—7 x 18 x 8; Wt.—18 lbs.; Price—\$65.00.

**Multi-Point H. P. Co.,**  
West Philadelphia, Pa.



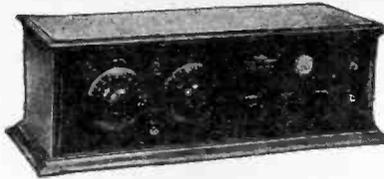
Trade Name—"Multi-Point Jr."; Type—Crystal; Price—\$3.50.

**Mu-Rad Laboratories, Inc.**  
Dept. Z., Asbury Park, N. J.



Model MA18

Trade Name—"Mu-Rad"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 1; Dim.—12¼ x 7½ x 15; Wt.—18 lbs.; Price—\$110.00.



Model MA15

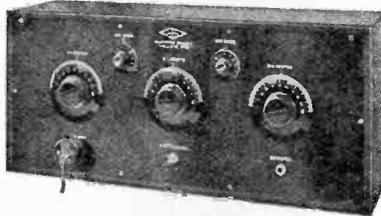
Same as Model MA18, except as noted.  
Tubes—6; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 1; Tube, 3; Antenna—Loop; Dim.—24 x 9 x 8; Wt.—18 lbs.; Price—\$180.00.



Model MA20

Trade Name—"Triplex"; Type—Radio Frequency; Tubes—3 (1 reflexed); Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 1; Dim.—8 x 9 x 24; Wt.—16 lbs.; Price—\$75.00.

**Wm. J. Murdock Co.,**  
347 Washington Ave., Chelsea, Mass.

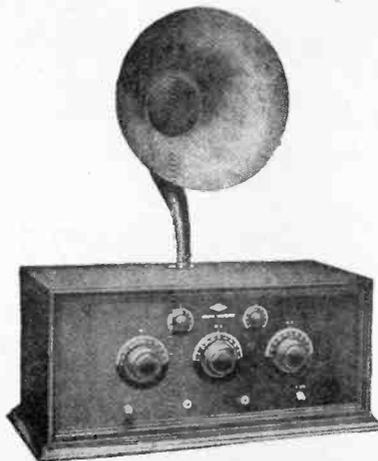


Model CS32

Trade Name—"Murdock"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; Controls—Tuning, 3; Tube, 2; Dim.—25 x 11½ x 7; Wt.—20 lbs.; Price—\$130.00 (with Headphones and Plug).

Model CS-33

Same as Model CS32, except as noted.  
Price—\$140.00 (Including Headphones and Plug Jack).



Model 100

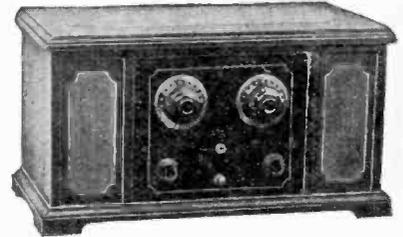
Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Built-in Loud Speaker; Price—\$100.00.

Model 110

Same as Model 100, except as noted.  
With adjustable Loud Speaker Unit; Price—\$110.00.

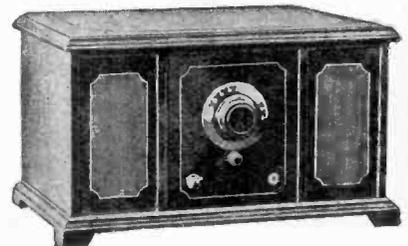
**National Airphone Corp.**

16 Hudson St., New York, N. Y.



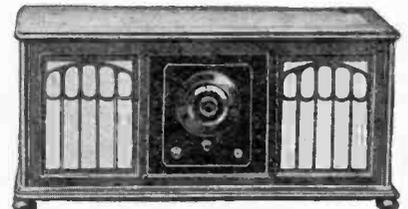
Stratford Model 4A

Trade Name—"Somerset"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" (Storage or Dry); "B" (Storage or Dry) 45-90 Volts; Controls—Tuning, 2; Tubes, 2; Dim.—21 x 15 x 11; Wt.—18¼ lbs.; Price—\$65.00.



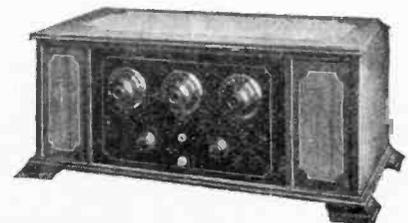
Shelbourne Model 4B

Same as Stratford Model, except as noted.  
Battery—"A" Storage; "B" Dry, 45-90 Volts; Controls—Tuning, 1; Tubes, 1; Dim.—27 x 15 x 12; Wt.—26 lbs.; Price—\$85.00.



Standish Model 4C

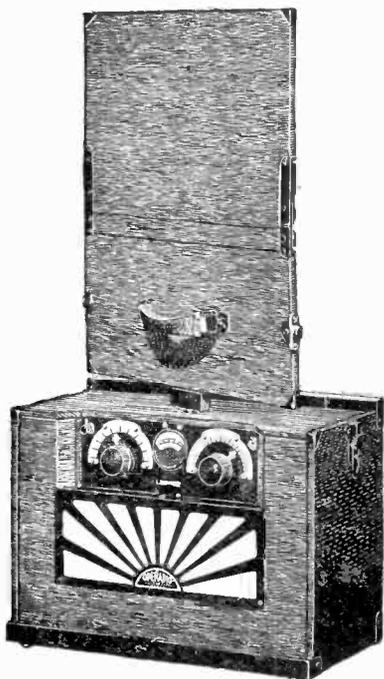
Same as Shelbourne Model, except as noted.  
Battery—"A" Storage or Dry; "B" Storage or Dry, 45-90 Volts; Dim.—29 x 13 x 14; Wt.—35 lbs.; Price—\$150.00.



Mars Model 5A

Same as Standish Model, except as noted.  
Tubes—5; Controls—Tuning, 3; Tubes, 2; Dim.—29 x 14 x 12; Wt.—31 lbs.; Price—\$75.00.

**Operadio Corp.,**  
8 S. Dearborn St., Chicago, Ill.



**Model 1925**

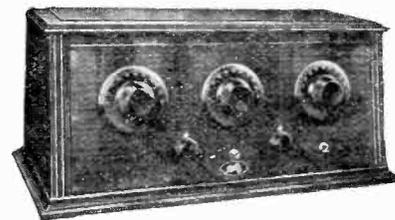
Trade Name—"Operadio"; Type—Radio Frequency; Tubes—6; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 1; Antenna—Loop; Dim.—17 x 12 x 9; Wt.—40 lbs.; Price—\$195.00 complete.

**Pathe Phonograph & Radio Corp.,**  
10-34 Grand Ave., Brooklyn, N. Y.



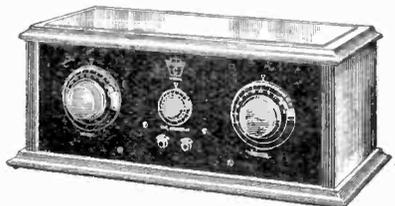
**Model B-5**

Trade Name—"Minute Man"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—27½ x 9 x 8; Wt.—21 lbs.; Price—\$90.00.



Same as "Minute Man," except as noted. Dim.—21¼ x 9 x 10¼; Price—\$60.00.

**Pennsylvania Wireless Mfg. Co.,**  
507 Florence Ave., New Castle, Pa.



**Model Special**

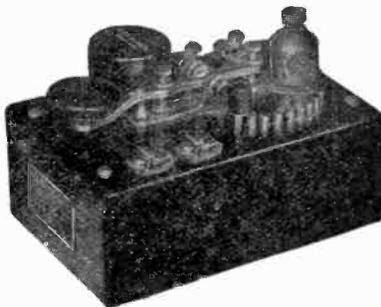
Trade Name—"Penn-C"; Type—Regenerative; Tubes—3; Battery—Storage or Dry; Controls—2; Tuning, 2; Tube, 2; Antenna—Outdoor; Dim.—9 x 10 x 21; Wt.—12 lbs.; Price—\$65.00.



**Model De Luxe Five**

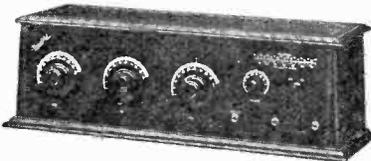
Trade Name—"Penn C"; Type—Tuned Radio Frequency; Tubes—5; Battery—Storage or Dry; Controls—Tuning, 3; Tube, 2; Antenna—Outdoor; Dim.—24 x 9 x 12; Wt.—18 lbs.; Price—\$90.00.

**Frank B. Perry & Sons,**  
513 Hospital Trust Bldg., Providence, R. I.



Trade Name—"Radio Blinker"; Type—Crystal; Antenna—Outdoor; Price—\$6.00.

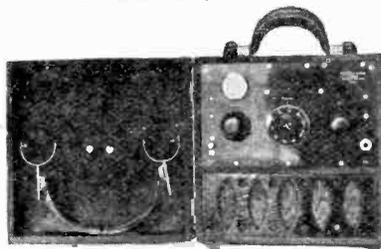
**Pfanstiehl Radio Co.,**  
11 So. La Salle St., Chicago, Ill.



**Model 7**

Trade Name—"Pfanstiehl"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Dim.—27 x 10 x 8½; Wt.—18 lbs.; Price—\$140.00.

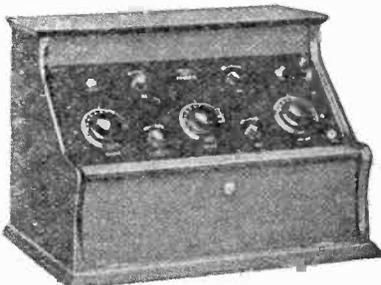
**Portola Radio Co.,**  
5th and Market Sts., Philadelphia, Pa.



**Model 101**

Trade Name—"Portola"; Type—Radio Frequency; Tubes—6; Battery—"A" Dry; Controls—Tuning, 2; (Has Enclosed Horn) Antenna—Self enclosed—Loop; Dim.—10¼ in. square; Wt.—27 lbs.; Price—\$160.00.

**Precl Radio Mfg. Co.,**  
227 Erie St., Toledo, Ohio



Trade Name—"Superfive"; Type—Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Antenna—Loop, Indoor and Outdoor; Dim.—15¼ x 12¼ x 15¼; Wt.—22 lbs.; Price—\$180.00.

**Premier Radio Corp.,**  
Defiance, Ohio

**Model Premier 7-A**

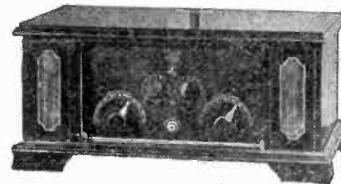
Type—Reflex; Tubes—5; Batteries—"A" Storage; two 45-Volt "B"; Controls—2; Price—Complete with loud speaker, \$290.00.

**Model 7-B**

Same as Model 7-A, except as noted. Table Model complete with Mahogany Cabinet, \$160.00.

**Priess Radio Corp.,**

653 Broadway, New York, N. Y.



**Model P. R. 3**

Type—Reflex; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 2; Tube, 5; Antenna—Loop; Dim.—10 x 12 x 24; Wt.—22 lbs.; Price—\$145.00 (including Loop).

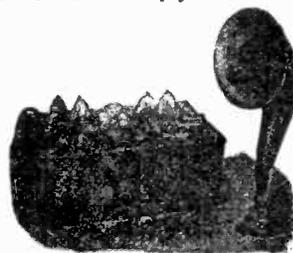
**Model P. R. 5**

Same as Model P. R. 3, except as noted. Console Model with Built-in Loud Speaker; Price—\$225.00.

**Radio Corporation of America**

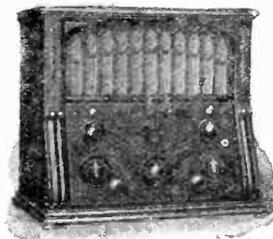
Suite 154, 233 Broadway, New York, N. Y.

(See announcement pages 26 and 27)



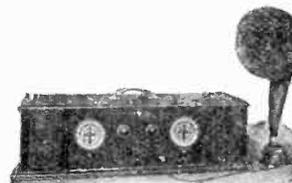
**Model Radiola III-A**

Antenna—Outdoor; Tubes—4; Battery—"A" Dry; "B" 90 Volts; "C" 4½ Volts; Dim.—11¼ x 6¼ x 5¼; Wt.—6¼ lbs.; Controls—Tuning, 1, also Amplification Control; Tube, 2; Price—With following equipment: 4 WD-11 Radiotrons, phones and UZ-1325 loud speaker, \$83.00; without speaker, \$65.00. (Not sold without equipment.)



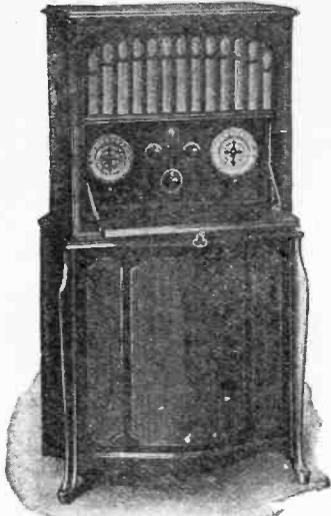
**Model Radiola X**

Tubes—4; Battery—"A" Dry; "B" 90 Volts; "C" 4½ Volts; Dim.—21¼ x 15¼ x 19¼; Wt.—8½ lbs.; Controls—Tuning, 2; station selectors, 1 and 2, also amplification and volume, tube controls, 1; Price—With following equipment: Self-contained loud speaker, phone and 4 WD-11 Radiotrons, \$160.00. (Not sold without equipment.)



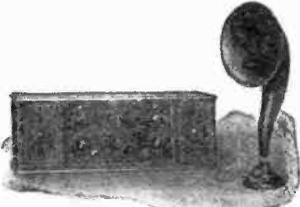
**Model Radiola Super-Heterodyne (Second Harmonic)**

Antenna—Loop; Tubes—6; Battery—"A" Dry; "B" 90 Volts; "C" 4½ Volts; Dim.—35 x 11¼ x 11; Wt.—37 lbs.; Controls—Tuning, 2; Station Selectors, 1 and 2; Tube Controls, 2; Price—With following equipment: 6 UV199 Radiotrons and UZ-1325 loud speaker, \$256.00; without Radiotrons or loud speaker, \$220.00.



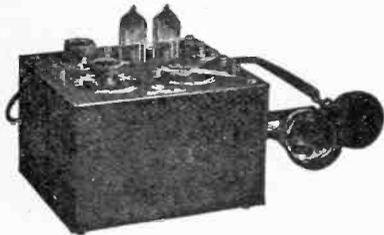
Model Radiola Super-VIII

Antenna—Loop (self-contained); Tubes—6  
Battery—"A" Dry; "B" 90 Volts; "C" 4½  
Volts; Dim.—19 x 26½ x 49; Wt.—98 lbs.  
Controls—Tuning, 2; Station Selectors, 1 and 2;  
Price—With following equipment: Self-con-  
tained loud speaker and 6 UV-199 Radiotrons,  
\$425.00. (Not sold without equipment.)



Model Radiola Regenoflex

Antenna—Outdoor; Tubes—4; Battery—"A"  
Dry; "B" 90 Volts; "C" 4½ Volts; Dim.—  
80½ x 11½ x 11½; Wt.—27 lbs.; Controls—  
Tuning Controls, 2; Station Selectors, 1 and 2,  
also amplification and volume control; Tube  
controls, 1; with lock and key; Price—With  
following equipment: 4 WD-11 Radiotrons and  
UZ-1325 loud speaker, \$120.00; without Radio-  
trons or loud speaker, \$90.00.



Model Radiola III

Antenna—Outdoor; Tubes—2; Battery—"A"  
Dry; "B" 45 to 90 Volts; "C" 1½ to 4½  
Volts; Dim.—7½ x 6½ x 5½; Wt.—3½ lbs.;  
Controls—Tuning, 2; Amplification and Station  
Selector; Tube Controls, 1; Price—With follow-  
ing equipment: 2 Radiotrons WD-11 and head-  
phones, \$35.00. (Not sold without equipment.)

Radio-Master Corp. of America  
Bay City, Mich.



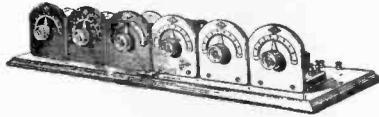
Model—No. 100

Trade Name—"Simpliform"; Type—Radio  
Frequency; Tubes—4; Battery—"A" Storage or  
Dry; "B" 90 Volts; Controls—Tuning, 2; Tube,  
3; Dim.—26 x 15½ x 17; Wt.—80 lbs.; Price—  
\$185.00.

Model—No. 275  
Same as Model No. 100, except as noted.  
Style—Console; Dim.—34 x 39 x 17; Wt.—125  
lbs.; Price—\$225.00.

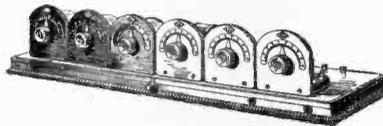
Model—No. 375  
Same as Model No. 100, except as noted.  
Style—Console; Tubes—5; Controls—Tuning,  
2; Tube, 4; Dim.—43 x 48 x 18; Wt.—175 lbs.;  
Price—\$315.00.

Radio Products Mfg. Co.,  
501 S. Jefferson St., Chicago, Ill.  
(See Announcement Page 49)



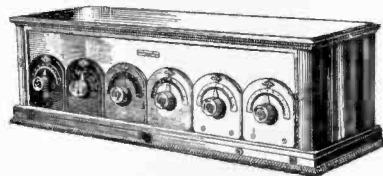
Model 50

Trade Name—"RPM" Type—Tuned Radio  
Frequency; Tubes—6; Battery—"A" Storage or  
Dry; "B" 90 Volts; Controls—Tuning, 3; Tube,  
3; Dim.—30 x 11 x 5; Wt.—13½ lbs.; Price—  
\$100.00.



Model 51

Same as Model 50, except as noted. Has  
hand carved base and 2 mounted jacks and a  
switch. Price—\$110.00.



Model 52

Same as Model 51, except as noted.  
Hand rubbed solid walnut cabinet with plate  
glass front above panels; Dim.—31 x 12 x 10;  
Wt.—23 lbs.; Price—\$135.00.

Radio Receptor Co.,  
106 Seventh Ave., New York, N. Y.



Model R-M 1

Trade Name—"Receptrad Multiflex"; Type—  
Tuned Radio Frequency Reflex; Tubes—4; Battery  
—"A" Storage or Dry; "B" 90 Volts; Controls  
—Tuning, 2; Tube, 1; Dim.—27½ x 10½ x 9½;  
Wt.—15 lbs.; Price—\$100.00.



Model R-M 2

Same as Model R-M 1, except as noted.  
100-120 Volt D. C. or Rectified Current. No  
batteries required; Wt.—20 lbs.; Price—\$120.00.

Resas, Inc.,  
112 Chambers St., New York, N. Y.



Model 5T

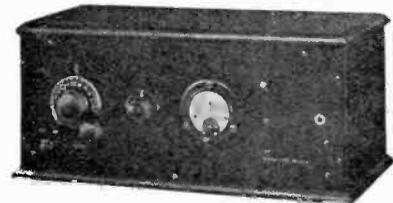
Trade Name—"Tone-A-Dyne"; Type—Tuned  
Radio Frequency; Tubes—5; Battery—"A" Stor-  
age; "B" 90 Volts; "C" 4½ Volts; Controls—  
Tuning, 3; Tube, 2; Dim.—8 x 9 x 26½; Wt.—  
30 lbs.; Price—\$78.00.

Henry C. Roberts Radio Co., Inc.,  
112-114 Trinity Place, New York  
(See Announcement Page 39)



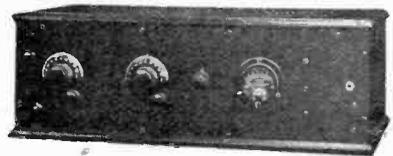
Trade Name—"Oriole Five"; Type—Tuned  
Radio Frequency; Tubes—5; Battery—"A" Stor-  
age or Dry; "B" 90 Volts; Controls—Tuning, 3;  
Tube, 2; Dim.—7 x 14 x 8; Wt.—8 lbs.; List  
Price—\$47.50.

Sears Mfg. Co.,  
1226 East 152nd St., Cleveland, Ohio



Model A

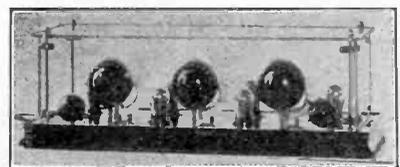
Type—Acme Reflex; Tubes—4; Battery—"A"  
Storage; "B" 90 Volts; Controls—Tuning, 1;  
Tube, 4; Antenna—Loop; Dim.—7 x 18 x 8½;  
Wt.—24 lbs.; Price—\$135.00; Style—Portable.



Model B

Same as Model A, except as noted.  
Tubes—5; Battery—Also "C" 4½ Volts; Con-  
trols—Tuning, 2; Tube, 5; Dim.—7 x 24 x 8½;  
Wt.—27 lbs.; Price—\$175.00.

Sherman Mfg. Corp.,  
112 Trinity Place, New York, N. Y.



Trade Name—"Clearfield"; Type—Tuned Radio  
Frequency; Tubes—6; Battery—"A" Storage;  
"B" 90 Volts; Controls—Tuning, 2; Tube, 2;  
Antenna—Outdoor; Dim.—9 x 28 x 8; Wt.—  
35 lbs.; Price—\$85.00.

**THE NEW  
FRESHMAN  
MASTERPIECE**

**Complete Knockdown Set**



**\$39.50**

**To Build  
the Five  
Tube  
Radio  
Frequency  
Receiver**

This wonder knockdown set contains every single part necessary to construct the FRESHMAN MASTERPIECE including every bracket, screw, nut and bushing that is required as well as an ample supply of spaghetti and bus bar. It certainly is

*The Kit the Whole World's Been Waiting For*

A 24 page booklet of instructions packed with every kit. Seven full page illustrations and many smaller ones explain every operation step by step.

*No radio stock is complete without this new Knock-down set. Write for catalog today.*

**Chas. Freshman Co. Inc.**  
*Radio Receivers and Parts*  
FRESHMAN BUILDING  
240-246 WEST 40TH ST.-NEW YORK, N.Y.

**55th Year  
National Electrical  
Supply Company**

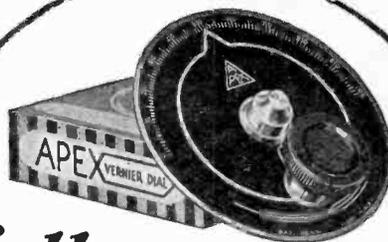
1328-30 New York Avenue  
Washington, D. C.

**Jobbers**

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**Radio Equipment  
Electrical Supplies and Appliances  
Machinery and Mill Supplies  
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Authorized Distributors for Radio Corporation  
of America—Music Master—Fada—Dubilier, etc.



**Sell  
APEX VERNIER DIALS**

Equip the Receiving Sets you have on display with the Apex Vernier Dials—show your customers the range—big volume—fine selectivity and absence of interference that they bring about. A demonstration of Apex Vernier Dials means a sale and a sale means profit and added volume of sales.

Retail prices—Royal Brass Finish, \$2.00—Satin Silver Finish, \$2.50—De Luxe Gold Plated (24k), \$3.50.

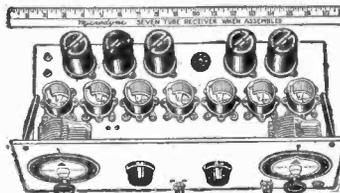
Dealers: Write or wire your Jobber now — Apex Vernier Dials are money makers for you.



**The Apex Super Five**

is a tuned radio frequency receiver of the highest type. Built into a highly finished walnut cabinet—complete with Jones Multiple Battery Cable, all fittings highly gold plated. List price \$95.00 complete, without tubes, batteries, etc.

Apex Radio Products are nationally advertised in the Saturday Evening Post, Radio Publications, and Metropolitan Newspapers.



**7-Tube Microdyne Super-Heterodyne**

Here is a knockdown set that gives coast to coast reception on loop. Parts include drilled and engraved panels, condensers, sockets, transformers, dials, connecting plugs, cables, etc., with drawings, diagrams and instructions. Sells for \$97.50. You can't offer a more efficient knockdown set for the money.

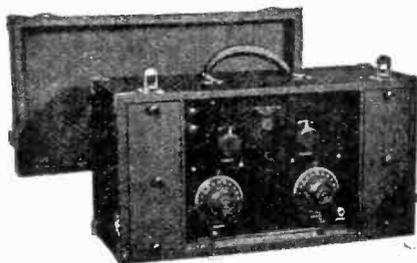
**APEX ELECTRIC MFG. COMPANY**  
1410 West 59th St., Dept. 415,  
CHICAGO

**Simplex Radio Co.**  
1018 Ridge Ave., Philadelphia, Pa.



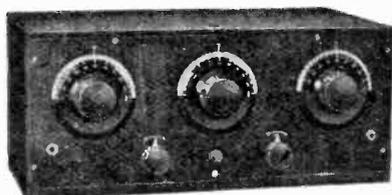
**Model RX**

Trade Name—"Simplex"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Dry; "B" 67½ Volts; Controls—Tuning, 2; Tube, 2; Dim.—10 x 13 x 9; Wt.—14 lbs.; Price—\$80.00.



**Travel Model**

Same as Model RX, except as noted. Dim.—10 x 19 x 9; Wt.—14 lbs.; Price—\$80.00.



**Model SR5**

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—8 x 8 x 19; List Price—\$57.00 list.

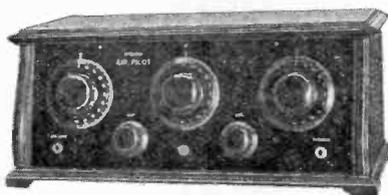
**Sleeper Radio Corporation**  
6th Ave. and Washington St.,  
Long Island City, N. Y.



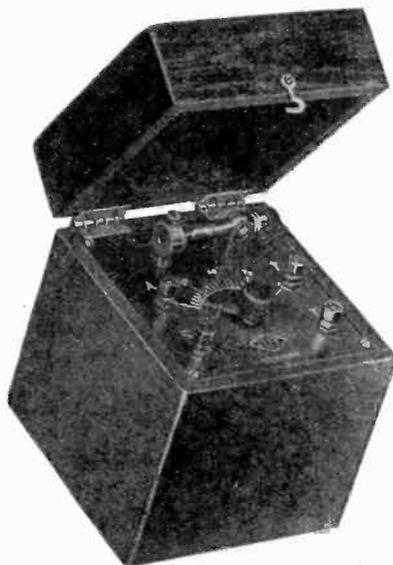
**Model 54**

Type—Reflex ("Grimes Inverse Duplex"); Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 1; Wt.—35 lbs.; Price—\$130.00.

**Spielman Electric Co.,**  
311 West 59th St., New York, N. Y.



Trade Name—"Air Pilot"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—21 x 10 x 11; Wt.—18 lbs.; Price—\$60.00.



Type—Crystal Set; Double Tuning Coil; Dim.—5 x 5 x 7; Price—\$5.00.

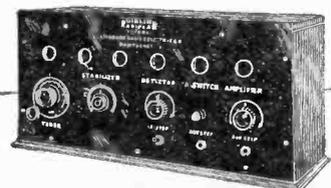
**Splittorf Electrical Co.,**  
302 High St., Newark, N. J.



**Model R-100**

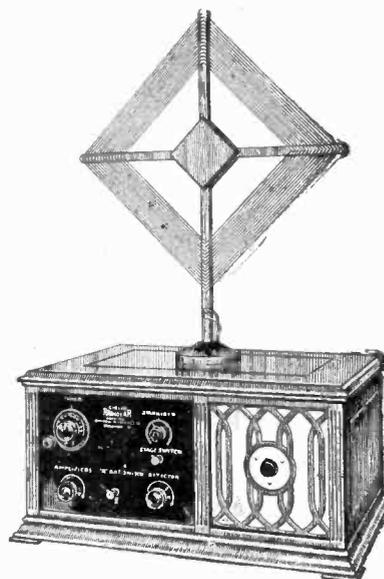
Trade Name—"Splittorf"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 to 120 Volts; "C" 3-7 Volts; Controls—Tuning, 3; Tube, 2; Dim.—3¼ x 11½ x 8½; Wt.—27 lbs.; Price—\$150.00.

**Standard Radio & Electric Co.,**  
90 Bayley St., Pawtucket, R. I.



**Model RL**

Trade Name—"Giblin Broadcast Receiver"; Type—RL Coupled Radio Frequency; Tubes—6; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Loop; Dim.—22 x 12 x 10½; Wt.—21 lbs.; Price—\$125.00.



Same as Model RL, except as noted. Type—"C"; Dim.—26 x 18 x 12½; Wt.—34 lbs.; Price—\$185.00.

**Star Crystal Co.,**  
519 Woodward Ave., Detroit, Mich.



Trade Name—"De Luxe"; Type—Ivory Crystal Set; Dim.—1½ x 2¼ x 3¼; Wt.—3 oz.; Price—\$3.00.

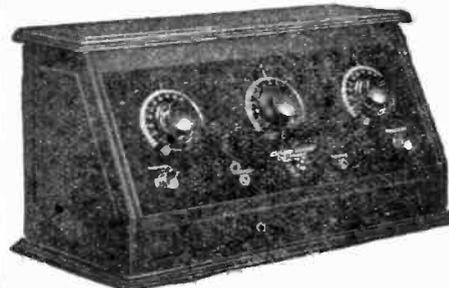
**Starr Equipment Corp.,**  
866 Hamilton Ave., Brooklyn, N. Y.



**Model D**

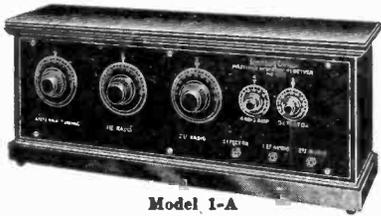
Trade Name—"Starr-Harmonic"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Control, Tuning, 3; Tube, 4; Dim.—24 x 10 x 12½; Wt.—20 lbs.; Price—\$150.00.

**Stewart-Warner Speedometer Corp.,**  
1826 Diversey Parkway, Chicago, Ill.



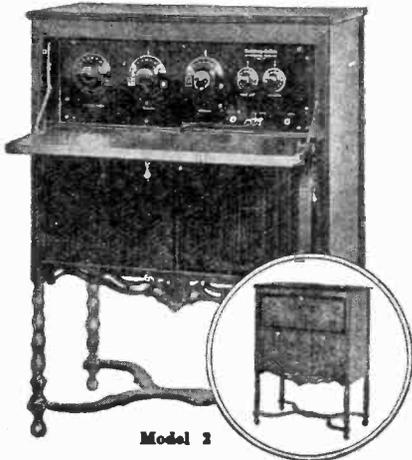
Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Antenna—None; Price—\$125.00 without accessories.

**Stromberg-Carlson Telephone Mfg. Co.**  
1060 University Ave., Rochester, N. Y.



**Model I-A**

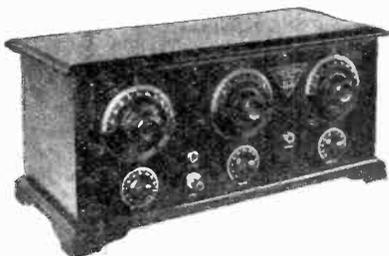
Trade Name—"Stromberg-Carlson"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 4; Dim.—28½ x 11½ x 9½; Wt.—44 lbs.; Price—\$180.00.



**Model I**

Same as Model I-A, except as noted.  
Style—Console; Dim.—32½ x 17½ x 43¼; Wt.—150 lbs.; Price—\$310.00.

**Sunbeam Radio Sales Corp.,**  
1834 Broadway, New York, N. Y.



Trade Name—"Akradyne"; Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 5; Antenna—Outdoor; Dim.—7 x 7 x 18; Wt.—20 lbs.; Price—\$75.00.

**Sypher Mfg. Co.,**

1524 Fernwood Ave., Toledo, Ohio  
(See Announcement Page 47)



Trade Name—"Super-Reflex"; Type—Reflex; Tubes—3; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 2; Tube, 2; Dim.—15 x 7 x 7½; Wt.—12 lbs.; Price—\$65.00.

**Telephone Maintenance Co.,**  
30 S. Wells St., Chicago, Ill.



**Model P1**

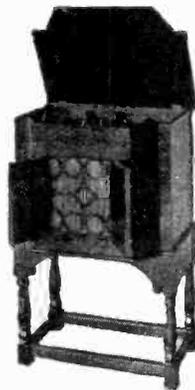
Trade Name—"Telmaco"; Type—Acme Reflex; Style—Travelling; Tubes—4; Battery—"A" Dry; "B" 67½ Volts; Controls—Tuning, 1; Tube, 1; Antenna—Loop or antenna and ground; Dim.—8 x 10 x 18; Wt.—26 lbs.; Price—\$125.00.

**Teletone Company of America,**  
449 W. 42nd St., New York, N. Y.



**Model R-F 5**

Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—7 x 12 x 11; Wt.—15 lbs.; Price—\$75.00.

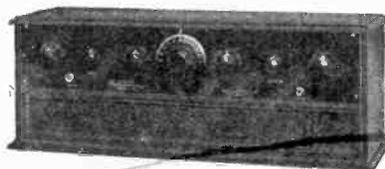


**Model T-210**

Same as Model R-F5, except as noted.  
Style—Console; Dim. 40 x 27 x 18; Wt.—; Price—\$200.00.

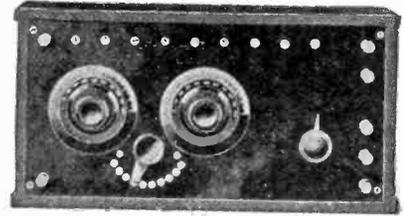
**Thermiodyne Radio Corp.,**

Plattsburgh, N. Y.



**Model TF6**

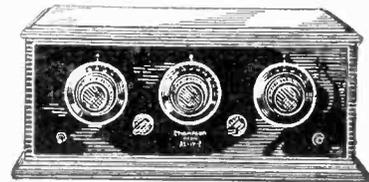
Trade Name—"Thermiodyne"; Type—Thermionic; Tubes—6; Battery—"A" Storage or Dry; "B" 90 to 120 Volts; Controls—Tuning, 1; Volume, 1; Tube, 1; Antenna—Loop, Indoor, Outdoor or None; Dim.—26 x 9 x 9; Wt.—15 lbs.; Price—\$140.00.



**Model T-12**

Trade Name—"Sheepco All Purpose"; Type—Universal Circuit; Tubes—Detector, 1; Battery—"A" Storage or Dry; "B" 22½ to 45 Volts; Controls—Tuning, 2; Tube, 1; Dim.—13 x 6 x 6; Wt.—10½ lbs.; Price—\$21.00.

**R. E. Thompson Mfg. Co.,**  
60 Church St., New York, N. Y.



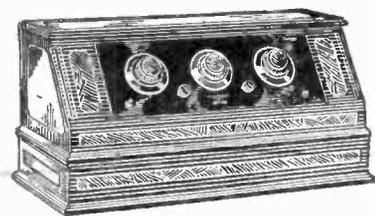
**Model V-50**

Trade Name—"Grandette"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Antenna—Outdoor; Dim.—22½ x 8½ x 10½; Wt.—19½ lbs.; Price \$125.00.



**Model S-60**

Same as Model V-50, except as noted.  
Trade Name—"Parlor Grand"; Dim. 22½ x 10 x 18; Wt. 21½ lbs.; Price \$145.00.



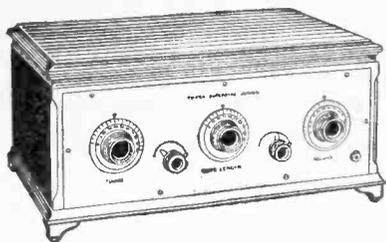
**Model S-70**

Same as Model V-50, except as noted.  
Trade Name—"Concert Grand"; Tubes—6; Dim.—29 x 14 x 13½; Wt.—29 lbs.; Price—\$180.00.

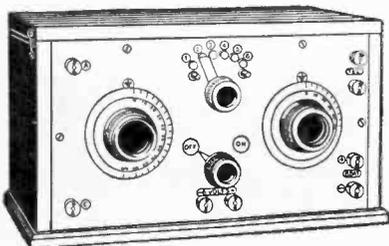
SIDE CHINA AND GRIPPER

**The C. D. Tuska Co.**  
83 Homestead Ave., Hartford, Conn.

**Model 305**  
Trade Name—"Superdyne"; Type—Regenerative-Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" Detector; 18 to 22½ Volts; Plate Circuit; 67½ to 100 Volts; Controls—Tuning, 2; Tube, 2; Dim.—24 x 18½ x 9½; Wt.—22 lbs.; Price—\$115.00.

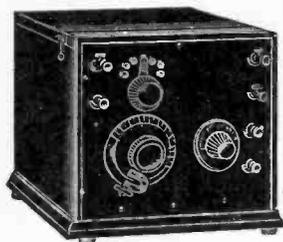


**Model 301**  
Same as Model 305, except as noted.  
Trade Name—"Superdyne, Jr."; Tubes—3; Dim.—19 x 9 x 12; Wt.—17 lbs.; Price—\$85.00.



**Model 224**  
Trade Name—"Tuska Radio"; Type—Regenerative; Tubes—Detector, 1; Battery—"A" Storage or Dry; "B" 18 to 22½ Volts; Controls—Tuning, 2; Tube, 1; Dim.—12 x 6 x 7; Wt.—7 lbs.; Price—\$85.00.

**Vibroplex Co., Inc.**  
825 Broadway, New York, N. Y.



**Model No. 1**  
Trade Name—"Martinola Type 1"; Type—Non-Regenerative; Tubes—Detector, 1; Battery—"A" Storage or Dry; "B" 16 to 22½ Volts; Controls—Tuning, 1; Tube, 1; Dim.—8 x 8 x 9; Wt.—6 lbs.; Price—\$20.00.



**Model No. 4**  
Trade Name—"Martinola Type 4"; Type—Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 45 to 120 Volts; Controls—Tuning, 2; Tubes, 4; Dim.—8 x 8 x 23; Wt.—14½ lbs.; Price—\$75.00.

**Model No. 5**  
Same as Model No. 4, except as noted.  
Trade Name—"Martinola Type 5"; Tubes—5; Price—\$85.00.

**Ware Radio Corp.**  
529 West 42nd St., New York, N. Y.



**Model W**  
Trade Name—"Ware"; Type—Neurodyne; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 1; Dim.—21½ x 8½ x 10½; Wt.—22 lbs.; Price—\$175.00.



**Model X**  
Same as Model W, except as noted.  
Type—Neurodyne Reflex; Tubes—4; Dim.—; Wt.—86 lbs.; Price—\$150.00.

**Model T**  
Same as Model X, except as noted.  
Tubes—3; Battery—"A" Dry; Controls—Tuning, 2; Tube, 1; Dim.—10½ x 14 x 13½; Price—\$65.00.

**Washburn Burner Corp.**  
Kokomo, Ind.

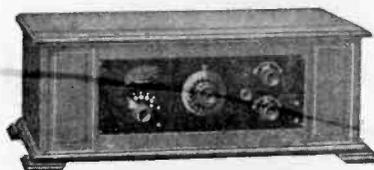


Type—Tuned Radio Frequency; Style—Console; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tubes, 2; Wt.—150 lbs.; Dim.—46 x 37 x 17; Price—\$225.00 (includes built-in loud speaker).



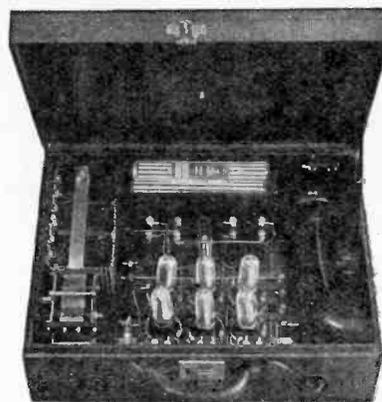
Type—Tuned Radio Frequency; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, 3; Dim.—7 x 21 x 7; Price—\$90.00.

**Wells Mfg. Co.**  
Fond du Lac, Wis.



**Model 24**  
Trade Name—"Arlington"; Type—Radio Frequency; Tubes—4; Battery—"A" Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 1; Dim.—23 x 9 x 10; Price—\$70.00.

**Westburr, Inc.**  
250 West 54th St., New York, N. Y.

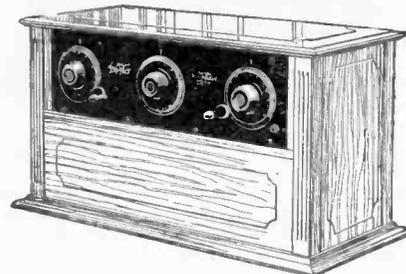


**Model WB-6**  
Trade Name—"Westburr-6"; Type—Radio Frequency; Tubes—6; Battery—"A" Dry "B" 67½ Volts; Controls—Tuning, 1; Tubes, 2; Antenna—Loop; Dim.—13 x 17 x 5; Wt.—21 lbs.; Price—\$165.00 (Complete with Tubes, Loud Speaker and Batteries).

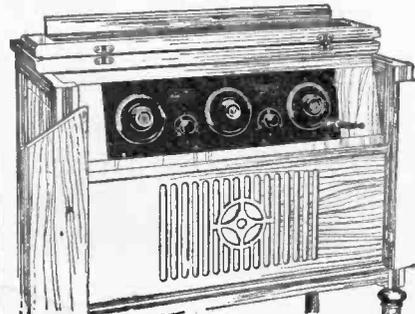
**Western Coil & Electrical Co.**  
313 Fifth St., Racine, Wis.



**Model WC-11 Console**  
Same as Model WC-5B, except as noted.  
Tubes—6; Battery—"A" Storage; "B" 67½ to 90 Volts; Controls—Tuning, 3; Volume, 1; Tube, 1; Dim.—30 x 37 x 19; Wt.—50 lbs.; Price—\$250.00.

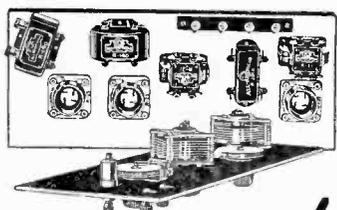


**Model WC11B**  
Same as Model WC-11, except as noted.  
Dim.—24½ x 15 x 11; Wt.—28 lbs.; Price—\$150.00.



**Model WC12 Console**  
Same as Model WC11B, except as noted.  
Tubes—6; Battery—"A" Dry; "B" 90 Volts; Dim.—30 x 37 x 19; Wt.—48 lbs.; Price—\$200.00.

SIDE CUTTING AND CRIBBED



*Not a Kit!*



The ALL-AMERICAN Slogan Contest is building pyramids of profits for dealers. If you're not running this contest in your store, wire us at once (or your jobber) for details.

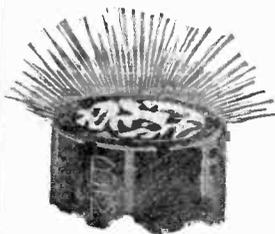
ALL-AMERICAN RADIO CORPORATION, 2658 Coyne Street, Chicago, U. S. A.

A REASONABLY priced five tube receiver that sells and satisfies. Write for details.

THE A-C ELECTRICAL MFG. CO. Dayton, Ohio



### A Real Radio Gem



Group broadcasting of the same program by stations all over the country is increasing the demand for good crystal sets.

Any set is only as good as the crystal used in it. Be sure you have the best—B Metal Loud Talking Crystal. It now sells for 25c.

B-Metal Refining Co.

519 Woodward Ave.

Detroit, Mich.



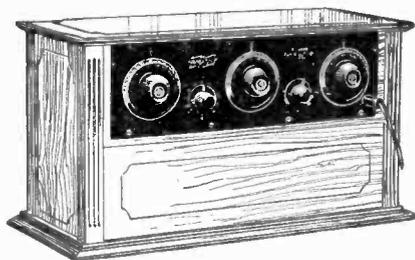
**SYPPER** THE NEW NO. 2 SUPER-REFLEX \$65.00

The Last Word in Low Loss Reflexes

Sypher Radio developments are always a step in advance. This new 3-tube Super-Reflex logs perfectly—has 4 to 5 tube volume—200 minimum and 600 maximum wave lengths. Clear, full mellow tone. Range equal to any 8 tube set. Reradiation at minimum. Mahogany case with two dial control. Low loss condenser and low loss coils in tuning and filter circuits. This set will move faster than anything in your store. One set will sell another. It's a profit maker from the word go. Write for latest circular and dealer's proposition.

SYPPER MANUFACTURING COMPANY

1524 FERNWOOD AVE., TOLEDO, OHIO



Model WC12B

Same as Model WC12, except as noted.  
Dim.—24½ x 15 x 11; Wt.—28 lbs.; Price—\$100.00.

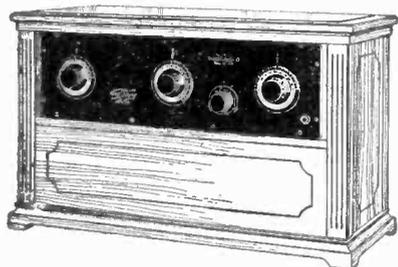
Model W-C 14 Unit

Trade Name—"Radiodyne"; Tubes—5; Battery—"A" Storage; "B" 90 Volts; Controls—Tuning, 3; Tube, None; Dim.—6 x 20 x 8½; Wt.—8 lbs.; Price—\$59.50; Style—Unit only for any cabinet having opening.



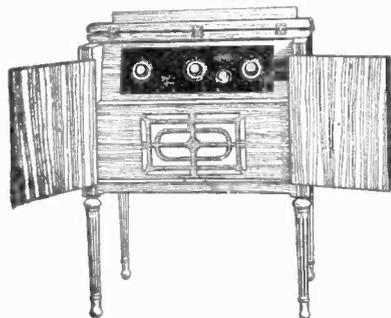
Model W-C 14 A

Same as Model W-C 14 Unit, except as noted.  
Small portable cabinet; Price—\$65.00.



Model W-C 14 B

Same as Model W-C 14 A, except as noted.  
Style—Two Deck Cabinet with "B" Battery Space; Dim.—24½ x 15½ x 11½; Wt.—27 lbs.; Price—\$85.00.

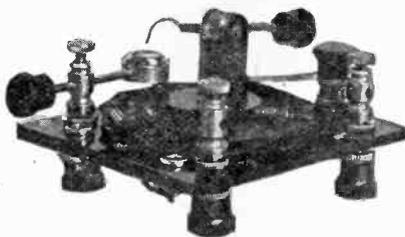


Model 14 Consolette

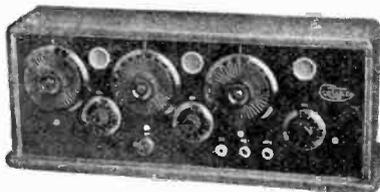
Same as Model W-C 14 B, except as noted.  
Style—Consolette with Built-in Speaker; Dim.—30 x 37 x 19; Wt.—48 lbs.; Price—\$185.00.

Wolverine Radio Co.

108 W. Atwater St., Detroit, Mich.



Trade Name—"Trix"; Type—Crystal; Antenna—Outdoor; Price—\$5.00.

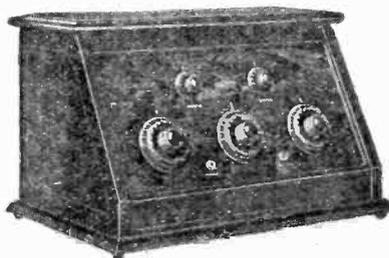


Model 25B

Trade Name—"Combidyne"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; Controls—Tuning, 3; Tube, 2; Dim.—21½ x 8½ x 8; Price—\$100.00.

The WorkRite Mfg. Co.

1812 E. 80th St., Cleveland, Ohio



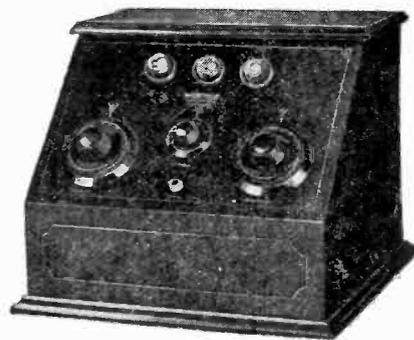
Model—"Air Master"

Trade Name—"Air Master"; Type—Neutrodyne; Tubes—5; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 3; Tube, 2; Dim.—21 x 14 x 14; Wt.—25 lbs.; Price—\$120.00.



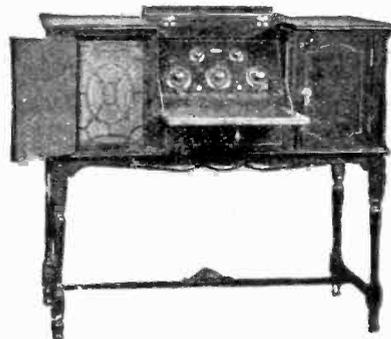
Model—"Radio King"

Same as "Air Master," except as noted.  
Trade Name—"Work-Rite Radio King"; Dim.—22 x 20 x 17; Wt.—28½ lbs.; Price—\$170.00.



Model Chum

Trade Name—"Chum"; Type—Neutrodyne Reflex; Tubes—3; Price—\$65.00.

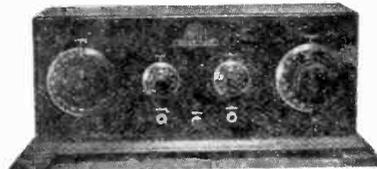


Model—"Aristocrat"

Same as "Air Master," except as noted.  
Trade Name—"WorkRite Aristocrat"; Style—Console; Dim.—42 x 41 x 20; Wt.—30 lbs.; Price—\$850.00.

World Wireless Corp.

862 Broadway, New York, N. Y.



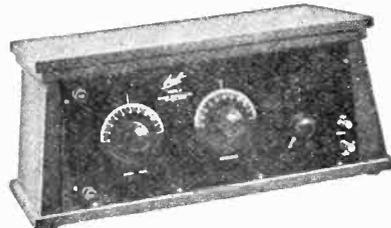
Trade Name—"Super-Four"; Type—Tuned Radio Frequency; Tubes—4; Battery—"A" Storage; "B" 90 Volts; Wt.—10 lbs.; Price—\$65.00.

Wright Radio Mfg. Co.,

1466 Selby Ave., St. Paul, Minn.

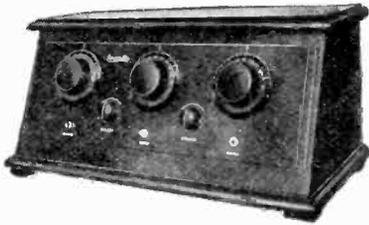
Model A

Trade Name—"Wright"; Type—Non-Regenerative; Style—Portable; Tubes—4; Battery—"A" Storage or Dry; "B" 67½ Volts; Controls—Tuning, 2; Tube, 4; Antenna—Outdoor; Dim.—22 x 9 x 9; Wt.—18 lbs.; Price—\$30.00.



Model B

Trade Name—"Wright"; Type—Radio Frequency; Tubes—2; Battery—"A" Storage or Dry; "B" 45 Volts; Controls—Tuning, 2; Tube, 1; Antenna—Outdoor; Dim.—8 x 16; Wt.—10 lbs.; Price—\$50.00.



**The Champion Five**

Solid Mahogany Cabinet mounted on four legs with green felt pads to protect table. Piano finish.

**Champion Five performance is fully guaranteed**

The Champion Five is a five tube, self-balanced set with two stages of tuned radio frequency.

It is guaranteed not to squeal or howl. Both on local and long distance reception it singles out each station sharply, clearly—instantly.

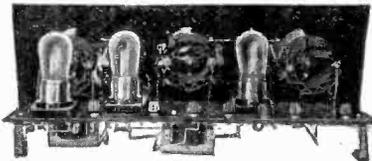
A few Champion territories are now open. Each assignment carries absolute protection.

Dealers write for free trial offer. Special discounts.

**Electrical Supply & Radio Corp.**  
17 Warren St., New York, N. Y.

Also distributors of electrical supplies and apparatus.

Interior view of the Champion Five. Simple design, high class material and expert workmanship are behind Champion guaranteed performance.



**MONTROSET**  
Quick Selling and Profitable



**5 Tube Tuned Radio Frequency DX Receiver**

A Guaranteed Receiver at **\$65** LIST

A better 5 tube set designed and perfected in our own laboratories. All parts manufactured and assembled in our own factory. Montroset is very selective, permits sharp tuning with amazing volume and clarity. You can sell Montroset with confidence. Our Guarantee protects you and your customers.

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M. R. L. Low Loss Condensers, Variable and Vernier  
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USING OUR FAMOUS

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An Assurance to Set Builders of

Finer Selectivity  
Greater Volume

Clearer Reception  
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List Price **\$15.00**

Our New  
**One-Hole Mount RHEOSTATS**  
GUARANTEE

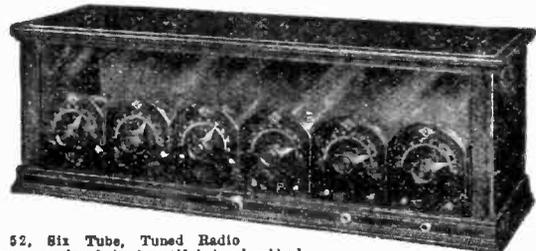
LONGER TUBE LIFE  
MAXIMUM VOLUME  
MINIMUM DISTORTION  
LESS CURRENT

WRITE FOR PRICES

**United Scientific Lab., Inc.**  
80-82 Fourth Ave., New York



**A Set That Sells Itself!**



Model 52, Six Tube, Tuned Radio Frequency; enclosed in beautiful hand-rubbed Walnut Case with plate glass front. \$135.00

Sales come easy to the dealer who shows this set. A demonstration and your customers have the whole story of R.P.M. quality. They see it in the superiority of working parts—in the remarkable performance—and the exceptional beauty of cabinet and exterior.

Dealers—Jobbers: Write us today. We have an unusual selling plan—liberal discounts—ample territory—genuine sales assistance!

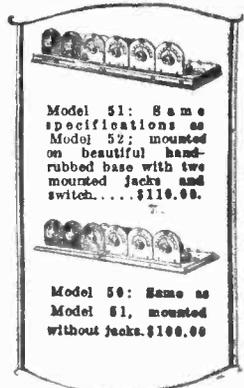
Our complete facilities are exceptional for making mouldings of any required design or any quantity. Inquiries are solicited. Quotations promptly furnished.

**RADIO PRODUCTS MFG. CO.**

501 S. Jefferson St.

Chicago, Ill.

**RECEPTION PERFECTLY MASTERED**



Model 51: Same specifications as Model 52; mounted on beautiful hand-rubbed base with two mounted jacks and switch. \$110.00.

Model 50: Same as Model 51, mounted without jacks. \$100.00

**Zenith Radio Corp.**

328 S. Michigan Ave., Chicago, Ill.

**Model 3R**

Trade Name—"Zenith"; Type—Regenerative-Radio Frequency; Tubes—4; Battery—"A" Storage or Dry; "B" 90 Volts; Controls—Tuning, 1; Tube, 4; Antenna—Loop, Outdoor and Indoor; Dim.— $23\frac{1}{4}$  x  $9\frac{1}{2}$  x  $10\frac{1}{2}$  (width at bottom);  $6\frac{1}{2}$  (width at top); Wt.—27 lbs.; Price \$100.00.

**Model 4R**

Same as Model 3R, except as noted. Type—Regenerative; Antenna—Outdoor; Dim.— $20\frac{1}{4}$  x  $9\frac{1}{4}$  x 8; Wt.—19 lbs.; Price—\$100.00.

**Model VII**

Trade Name—"Super-Zenith"; Type—Non-Regenerative; Tubes—6; Battery—"A" Storage or Dry; "B" — Volts; Controls—Tuning, 2; Dim.— $44\frac{1}{2}$  x  $16\frac{1}{4}$  x  $10\frac{1}{2}$ ; Wt.— —; Price—\$240.00.

**Model VIII**

Same as Model VII except style, which is Console. Price—\$260.00.

**Super-Zenith IX****Model IX**

Same as Model VIII, with built-in Loud Speaker. Price—\$355.00.

**Model X**

Same as Model VIII, with built-in twin Loud Speakers; operates without batteries. Equipped with Zenith Battery Eliminator. Price—\$475.00.

The  
*Radio Industry*  
**ENCYCLOPEDIA**  
of Radio Receiving Sets

The RADIO INDUSTRY Encyclopedia of Radio Receiving Sets which appears on this and the preceding pages first appeared in RADIO INDUSTRY.

RADIO INDUSTRY, as usual, pioneered in this which has been commended as the biggest publishing contribution to the radio trade.

It is so good, so necessary and practical that other papers are now making it a part of their publishing service.

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THE GAGE PUBLISHING CO., Inc.

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Radio Buyers

# Music Master Success



**Music Master**  
Resonant Wood Insures  
Natural Tone Quality

Model VI, 14" wood bell \$30  
Model VII, 21" wood bell \$35

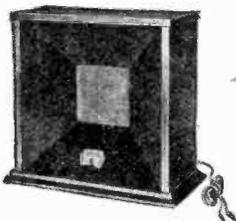
Connect Music Master in place of headphones. No batteries. No adjustments.

Prices of all models slightly higher in Canada

—Its True Significance



Model VIII, Mahogany Cabinet \$35  
with "full-floating" wood bell



Model V, wood bell, Metal Cabinet, Mahogany finish \$18

THE advent of Music Master sounded the death knell of the mere "loud speaker." For it transformed the radio receiving set into a musical instrument—a triumph of re-creative art.

Two years ago Music Master's full voiced volume and characteristic tone qualities heralded the New Era of Radio Art. It made possible the re-creation of supreme Music, Song and Speech, in the wonderful stellar programme now an established feature of American nation-wide broadcasting.

Music Master does more than reproduce—it interprets, it re-creates—it transforms mere radio receiving into artistic enjoyment. Music Master has been inadequately imitated, but never equaled. Music Master remains the supreme musical instrument of radio—and there IS no substitute.

**MUSIC MASTER—the Ultimate of Artistic Radio Re-Creation**

Music Master's precision instrument is the acme of scientific perfection. Music Master's tone chamber of heavy cast aluminum is a marvelous mold of sound without distortion. Music Master's amplifying bell of resonant wood gives to every sound its full, vibrant qualities and natural and lifelike characteristics.

Music Master's manufacturers hold that every purchase of their product carries with it an implicit pledge of unreserved and unconditional protection. Back of the dealer's full and unfailing service stands the Music Master Corporation to guarantee its products direct, to anyone, anywhere, at any time.

## Music Master Corporation

Makers and Distributors of High-Grade Radio Apparatus  
Tenth and Cherry Streets

Chicago      Philadelphia      Pittsburgh  
Canadian Factory: Kitchener, Ontario

And now—

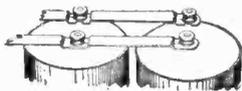
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**RIGID BATTERY CONNECTORS**

Make perfect contacts  
Hold cells rigidly in place

Provide a strong, neat and simple mechanical means of securing a perfect contact and eliminate the danger and nuisance of a confusing tangle of loose wires resulting from the use of flexible wire connectors.



Parallel Connection  
(4 sizes—2 to 5 cells)



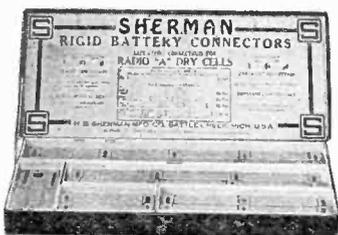
They snap on in a jiffy without removing nuts



Series Connection



Space cells slightly apart and hold them rigid



**SELF-SELLING ASSORTMENT**

A handsome display box containing properly balanced quantities of all sizes. Enables dealers to secure initial stock at small outlay. Contains 102 pieces listing at \$9.00. **\$5.00** Dealer's Price

For replacement the five numbers are packed separately in cartons of fifty. Prices on request.

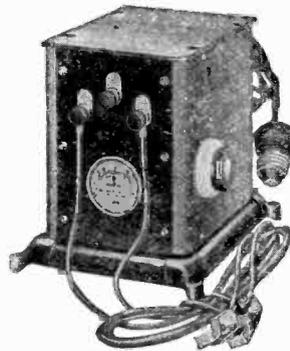
Truly Needed—Immediate Sales  
Good Profits  
Sold by Jobbers



Made by  
**H. B. SHERMAN MFG. CO.**  
Battle Creek, Michigan

**FORE'S MASTER FORE BATTERY CHARGER**

Charges Radio A6 Volt and 24-48 Volt B Batteries in Series or Several in Multiple



Charges 6 Volt Automobile Batteries

**A Remarkable Charger**

Every owner of a receiving set requires a battery charger. No radio product has such a wide field for sales.

The FORE Battery Charger will keep any set "pepped up" to its maximum receiving qualities. It meets every requirement of the set owner and the radio trade.

Jobbers and Dealers—You'll profit by getting full details and prices. Write either address below.

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**Eagle Battery Charger**



The One Real  
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Successfully sold by more than 150 of the leading distributors and 3,500 of the best dealers in Radio.

Eagle Chargers stay sold—and have sales features which make them easy to sell to the intelligent buyer.

Bulb type—with or without B battery winding—so safe they are built without a fuse—so efficient that engineers everywhere have seen fit to recommend them without qualification.

There is a big sales opportunity open to the live dealer through the sale of Eagle Chargers—drop a line and let us explain.

**Foreign & Domestic Electrical Commodities, Inc.**

Eastern Office  
629-635 West 23rd Street  
New York, N. Y.

Western Office  
11502 Madison Ave.  
Cleveland, Ohio

# Encyclopedia of Radio Storage Battery Charging Rectifiers

Radio Battery Substitutes (Eliminators) (see page 61)

Radio Storage Batteries (see page 63)

All data, including prices, revised up to April 1, 1925

This is the most complete record of Radio Storage Battery Charging Rectifiers, Battery Substitutes and Radio Storage Batteries ever compiled. Every make is illustrated and listed with complete data: manufacturer's name and address, Model Number, Trade Name, Type, Charging Rate, Voltage, Capacity, Material, Finish, Dimensions, Weight and List Price.

Besides the Rectifiers noted in this compilation

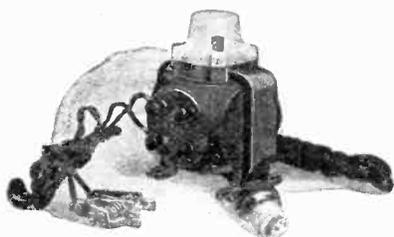
there will also be found Low Capacity Chargers of the Motor-Generator type.

The Battery Section includes all Storage Batteries for Radio, "A" and "B," as well as several types of Batteries having built-in Rectifiers.

Key to abbreviations:

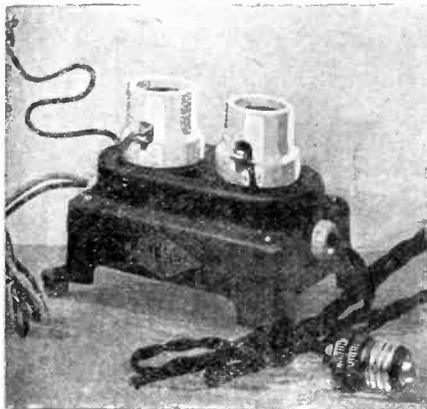
A.C.—alternating current; A.H.—ampere hours; D.C.—direct current; Dim.—dimensions; M.A.H.—milliampere hours; Wt.—weight.

Acme Electric & Manufacturing Co.,  
1441 Hamilton Ave., Cleveland, Ohio



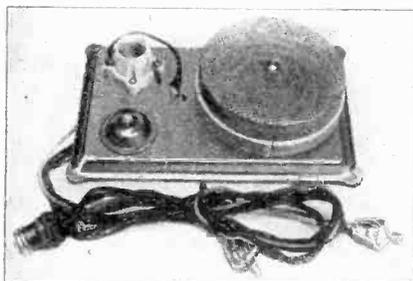
Model A-2

Trade Name—"Acme"; Type—Bulb; operates from 110 volts A. C., 60 cycle; charges "A" battery only; Charging Rate—2 amperes, 6 volts; can be supplied with attachment for charging "B" batteries up to 100 volts; Price—\$8.50; with "B" battery attachment. \$10.50 (without bulbs).



Model BE-120

Trade Name—"Acme One Shot"; Type—Bulb; operates from 110 volts A. C., 60 cycle; charges "B" battery only; Charging Rate—250 milli-amperes, 100 volts; Price—\$7.00 (without bulbs).



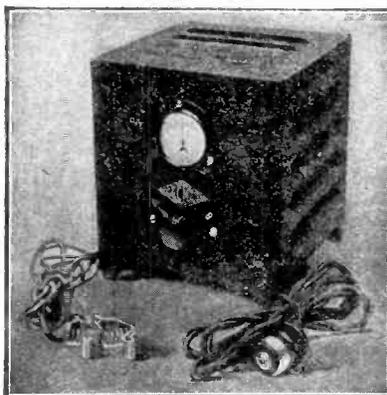
Silent Nite A Model

Trade Name—"Acme"; Type—Bulb; operates from 110 volts, A. C. or D. C.; charges "A"

battery only; Charging Rate—2 amperes (A.C.), 4 amperes (D.C.) at from 6 to 8 volts.

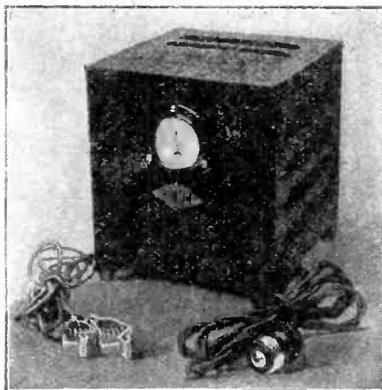
Silent Nite B Model

Same as "Silent Nite A" Model except as noted; charges "B" batteries from 110 volts, A.C., 60 cycle, at maximum rate of 250 milli-amperes.



Model ABM

Trade Name—"Acme Sr. De Luxe"; Type—Bulb; operates from 120 volt A. C., 60 cycle (also made for other frequencies); charges "A" or "B" batteries; Charging Rate—2 or 5 amperes; Equipment—Ammeter and switch; Material of Case—Enameled sheet steel; Price—\$16.50 (2 ampere size), \$20.50 (5 ampere size), without meter, switch or bulb; \$22.00 with meter and switch.



Models D-110, DM-110, D-32 and DM-32

Trade Name—"Acme Directo"; Type—Resistance; Charging Rate—2.5 amperes, 110 volts; 4 amperes, 32 volts (D. C.); mounted in metal case; Price—\$8.50 (without ammeter), \$12.00 (with ammeter).

Acme Engineering Co.,  
Louisville, Ky.



Model A-2

Trade Name—"Acme"; Type—Electrolytic; operates from 104 to 110 volts, A.C., 25 to 60 cycle; Charging Rate—3 to 5 amperes, 6 to 12 volts; Equipment—Ammeter, also special connection for "B" battery; Dim.—7½ x 8½ x 6 in. high; Weight—40 lbs.; Price—\$15.00 (without bulb).



Model B-23

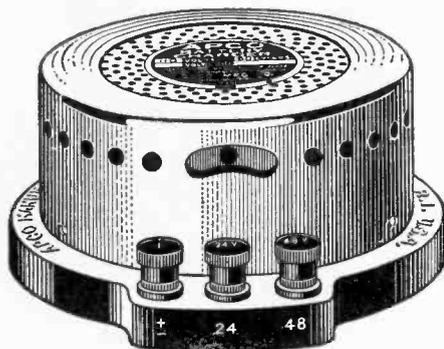
Trade Name—"Recti-charger"; Type—Bulb; operates from 104 to 110 volts A.C., 25, 50 or 60 cycle; charges "A" battery; Charging Rate—2 to 3 amperes, 6 to 12 volts; Equipment—Ammeter, also special connection for "B" battery; Material of Case—Cast iron and sheet metal, enameled; Dim.—6 x 5 x 5 in. high; Weight—17 lbs.; Price—\$12.00 (without bulb).

Apco Manufacturing Co.,  
1200 Eddy St., Providence, R. I.



Model No. 77

Trade Name—"Apco"; Type—Vibrator; operates from 110 volts A.C., 40 to 60 cycle and 220 volts A.C., 60 cycle; charges "A" battery only; Charging Rate—7½ amperes; Equipment—Charging Indicator; Material of Case—Hard rubber base with aluminum cover; Dim.—5 in. diameter, 4 in. high; Weight—6 lb.; Price—\$18.50.



Model No. 88

Trade Name—"Apco"; Type—Vibrator; operates from 110 volt, A.C., 60 cycle; charges "B" battery only; Charging Rate—200-400 milliamperes, 24 or 48 volts; Equipment—Charging Indicator; Material of Case—Hard rubber with aluminum cover; Dim.—5 in. diameter, 3 in. high; Weight—3 lbs.; Price—\$10.00.

Austin-Brandmeier Corp.,  
365 Broadway, New York, N. Y.



Trade Name—"Every-man's"; Type—Bulb; operates from 110 volts, A.C.; Charging Rate—6 amperes, 6 to 24 volts; Material of Case—Japanned steel; Dim.—6½ x 6½ x 9 in. high; Weight—13½ lbs.; Price—\$29.50.

2-Ampere Model

Same as 6-ampere model except as noted; Charging Rate—2 amperes, 6 to 24 volts, charge "B" battery; Dim.—5½ x 5½ x 8 in. high; Weight—9½ lbs.; Price—\$18.50.

Burton & Rogers Manufacturing Co.,  
755 Boylston St., Boston, Mass.

Model 2

Trade Name—"Burton & Rogers"; Type—Bulb; operates from 110 volts, A.C., 25 or 60 cycle; charges "B" battery; Charging Rate—2 amperes, 6 volts; Dim.—5½ x 5½ x 8 in. high; Material of Case—Steel; Weight—10 lbs.; Price \$15.00 (without bulb).

Model 6

Trade Name—"Burton & Rogers"; Type—Bulb; operates from 110 volts, A.C., 25 or 60 cycle; Charging Rate—6 amperes, 6 volts or 12 amperes, 3 volts; charges "B" battery; Material of Case—Steel; Dim.—6½ x 6½ x 9 in. high; Weight—16 lbs.; Price—\$20.00 (without bulb).

Cleveland Engineering Laboratories  
Co.,

2104 Superior Viaduct, N. W., Cleveland, Ohio



Model No. 4

Trade Name—"Storad"; Type—Electrolytic; operates from A.C.; Charging Rate—30 to 350 milliamperes, 2 to 48 volts; charges "B" battery only; Material—Glass jar; Size—1 quart; Weight—2¼ lb.; Price—\$2.75.

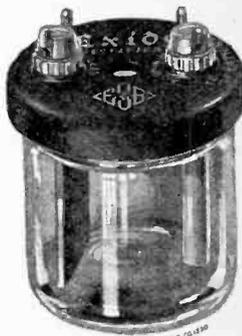
Detroit Battery Charger Co.,  
3683 Willis Ave., Detroit, Mich.



Trade Name—"Delco Jr."; Type—Bulb; operates on 60 cycle, A.C.; Charging Rate—4 amperes, 6 volts; 250-750 milliamperes, 96 volts; charges "B" battery; Material of Case—Zinc; black enamel; Weight—8 lbs.; Price—\$18.50.

Electric Storage Battery Co.,

Allegheny Ave. and 19th St., Philadelphia, Pa.



Trade Name—"Exide"; Type—Electrolytic; operates from 110 volts, A. C.; any frequency; Charging Rate—200 milliamperes, 2 to 50 volts; charges "B" battery only; Material—Glass jar and hard rubber cover; Dim.—Overall height, 5 in.; diameter, 3 in.; Weight—2 lbs.; Price—Not stated.

Fansteel Products Co., Inc.,  
North Chicago, Ill.

(See Announcement Page 1)



Trade Name—"Balkite"; Type—Electrolytic; operates from 110-120 volts A.C., 60 cycle; also made for 50 cycle; Charging Rate—2½ to 3 amperes, 6 volts; Material of Case—Terne plate, enameled; Dim.—6 x 6½ x 9 inches high; Weight—14 lbs.; Price—\$19.50.

Foreign and Domestic Electrical Com-  
modities, Inc.,

629 West 23rd St., New York  
(See Announcement Page 52)



Model 6A-6AB

Trade Name—"Eagle"; Type—Bulb; operates from 110 volts, 60 cycle, A. C.; Charging Rate—2-6 amperes, 6 and 12 volts; charges "B" battery; Equipment—Charge indicator; Material of Case—Japanned steel; Dim.—6 x 8 x 7½ in. high; Weight—17 lbs.; Price—\$29.00; with "B" battery winding, \$29.50.

Model 2-AB

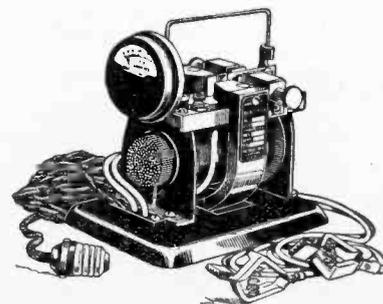
Trade Name—"Eagle"; Type—Bulb; operates from 110 volts, A.C., 60 cycle; Charging Rate—1 to 2 amperes, 6 volts; charges "B" battery; Material of Case—Japanned steel; Dim.—6¼ x 4½ x 7 in. high; Weight—10 lbs.; Price—\$18.00; with "B" battery winding, \$19.50.

France Manufacturing Co.,  
10321 Berea Road, Cleveland, Ohio.



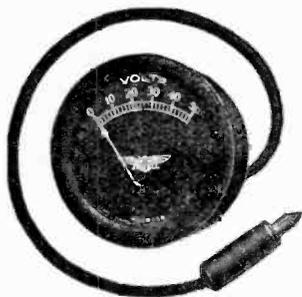
Super-Charger Model

Trade Name—"France"; Type—Vibrator; operates from 110 volts A.C., 60 cycle; also made for other voltages and frequencies; Charging Rate—5 to 7 amperes, 2, 4, 6 or 8 volts; charges "B" battery; Equipment—Ammeter; Material of Case—Metal, crystallized japan finish; Dim.—6½ x 6½ inches; Weight—15 lbs.; Price—\$22.00.



Model 6

Trade Name—"France"; Type—Vibrator; operates from 110 volts, 60 cycle only; Charging Rate—6 amperes, 6 to 8 volts; Equipment—Ammeter; open construction; Dim.—7 x 5 inches; Weight—9 lbs.; Price—\$16.00.



No. 84

## "B" Battery Voltmeter

Every dealer should carry the Jewell No. 84 "B" Battery Voltmeter in stock. Our advertising in the leading radio magazines supports the dealer and our sales cooperation with jobbers has made the Jewell line of radio instruments the leader.

HAVE YOU A QUANTITY  
OF OUR 15A RADIO  
CIRCULARS?

**Jewell Electrical Instrument Co.**

1650 Walnut St. - Chicago

"25 Years Making Good Instruments"



## Two Standard Products

Up-to-date sets will include a good voltmeter. Dongan Accurate Voltmeters built by an organization of 15 years' experience in fine instrument production have no equal on the market. Four Types for Panel Mounting and Portable Testing, all of the latest design.

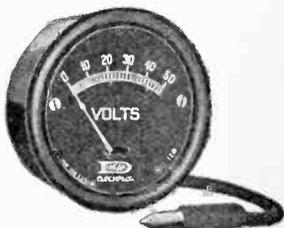
Dongan Audio Transformers are a by-word in Radio. Used by 35 Set Manufacturers.

Ask for sales information and discounts.

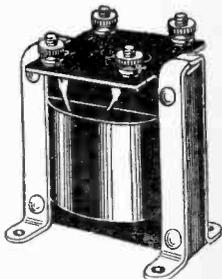
**Dongan Electric Manufacturing Co.**

2989 Franklin Street, Detroit, Mich.

Transformers of Merit for 15 Years



Type F  
List \$1.25 to \$2.00  
Capacity Range  
0-7 to 0-100 Volts



Audio Transformer  
Type C  
List \$3.00



## Performance and Only Performance Counts

Economical — efficient — simple — safe — and perfect in operation. Guaranteed!

No more unsightly, expensive, always-dying B batteries! At last the perfect plate current supply, which gives pure, direct current for any type of receiving set, right from the 60-cycle 110-volt Alternating Current house line.

FORDEC is no "pinch hitter" for B batteries. We don't say it is "just as good." FORDEC is better than the best B battery—gives better tone quality, greater volume, more distance, and makes any good set better—and costs practically nothing to operate. A nine-tube super can be operated with FORDEC at one-quarter of a cent a day. There is nothing about FORDEC to run down or wear out. Tubes give long service in FORDEC, for they cannot be overworked. The design and construction prevent this.

Some of the best radio engineers, manufacturers and distributors have recommended FORDEC after thorough test.

Live dealers see its money-making possibilities. One sale is equal in money to a year's supply of B batteries—and all the profit comes on one transaction. This makes it a good item to handle.

### Exclusive FORDEC Features:

- Perfect reception on either local or distant stations.
- Entire freedom from hum.
- No distortion.
- Rectifies both sides of the cycle.
- Costs less than 1/4c per day to operate.
- Does not overwork tubes.
- Will operate ANY receiving set from 1 to 8 tubes of any type.
- Complete control of both detector and amplifier voltages.
- Detectors 0 to 45.
- Amplifier, 0 to 160.
- Compact — neat — clean.
- No acids.
- Quickly and easily connected.



Insist upon your jobber securing a FORDEC for you at once—show it—cash the public demand. FORDEC is fully guaranteed, and works wonderfully under practically every condition.

Order direct if you prefer—we will supply you through your own distributor. But don't lose time—get started.

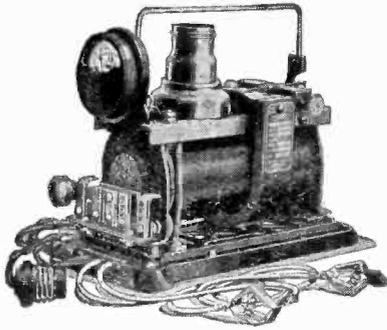
**Fordec \$38.50**  
B BATTERY

This price without tubes. If desired, two perfectly matched, specially made rectifying tubes may be had at \$3.00 each. These tubes carry the same guarantee as FORDEC.

## Foreign & Domestic Electrical Commodities, Inc.

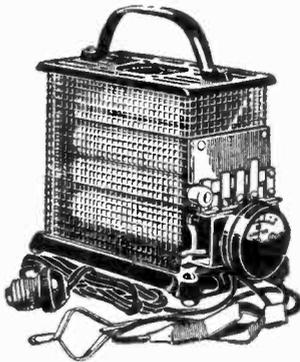
Eastern Office  
629-635 West 23rd St.  
New York, N. Y.

Western Office  
11502 Madison Ave.  
Cleveland, Ohio



Model A-B

Trade Name—"France"; Type—Vibrator; operates from 110 volts, 60 cycles; also made for other frequencies and voltages; Charging Rate—8 amperes, 6 to 8 volts; charges "B" battery; Equipment—Ammeter; open construction; Dim.—9 x 5 inches; Weight—14 lbs.; Price—\$20.00.



Model 106.

Trade Name—"France"; Type—Resistance; operates on 110 volts D.C.; Charging Rate—6 amperes, 6 to 12 volts; Dim.—5 x 7 x 9 inches high; Weight—10 lbs.; Price—\$16.00.

Model 32.

Same as Model 106 except as noted; operates from 32 volts, D.C.; Charging Rate—8, 6, 9, 12 amperes, 6 to 12 volts.

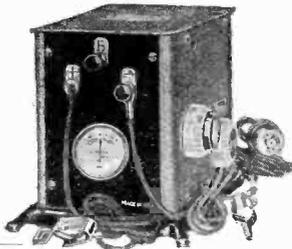
Model No. 1019.

Same as Model 106 except as noted; Charging Rate—2, 4, 6, 8 amperes; Price—\$18.00.

Model No. 2019.

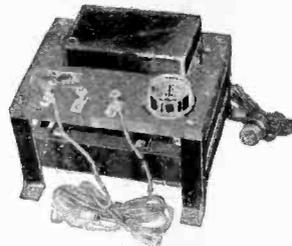
Same as Model 106 except as noted; operates on 220 volts; Charging Rate—2-4 amperes; Price—\$18.00.

**Fore Electrical Manufacturing Co., Inc.**  
5255 North Market St., St. Louis, Mo.  
(See Announcement on Page 52)



Master Model.

Trade Name—"Fore"; Type—Vibrator; operates from 220 and 110 volts, A.C., 25 to 60 cycle; Charging Rate—6 amperes, 6 volts; charges "B" battery; Equipment—Ammeter; Material—Metal case, enameled; Dim.—6½ x 8½ x 7½ inches high; Weight—18 lbs.; Price—\$18.50 to \$23.00.



Model 1-A.

Trade Name—"Fore"; Type—Vibrator; operates from 110 and 220 volts, A.C., 25 and 60 cycle; Charging Rate—6 amperes, 6 volts; Equipment—Ammeter; Material of Case—Slate base with cast supports; Dim.—5 x 6 x 7 inches high; Weight—18 lbs.; Price—\$17.50 to \$24.20.

**Forest Electric Co.,**  
272 New St., Newark, N. J.



Model 0

Trade Name—"Unitron"; Type—Bulb; operates from 110 or 220 volts, 40 or 60 cycle; Charging Rate—6 amperes; charges "B" battery; Equipment—Indicator; Material of Case—Metal; Dim.—8½ x 6½ x 9¾ inches high; Weight—13¾ lbs.; Price—\$30.00.



Model 00

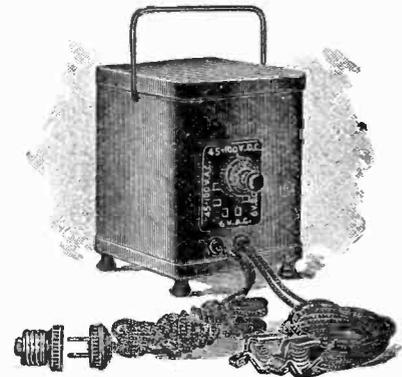
Trade Name—"Unitron"; Type—Bulb; operates from 110 or 220 volts, A.C., 25, 40 or 60 cycle; Charging Rate—2½ amperes; attachment for charging "B" batteries; Material of Case—Metal; Dim.—6¼ x 6¼ x 8½ inches high; Weight—9½ lbs.; Price—\$18.00.

**General Electric Company,**  
Schenectady, N. Y.



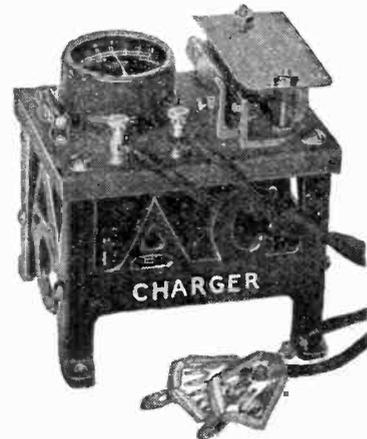
Trade Name—"Tungar"; Type—Bulb; operates from 115 volts, A.C., 25 to 60 cycle; Charging Rate—6 volts, with attachments for 2 and 4 volts; charges "A," with attachments for charging "B" battery; Price—60 cycles, \$18.00; other frequencies up to \$28.00.

**Gold Seal Electric Co.,**  
2110 Woodland Ave., Cleveland, Ohio



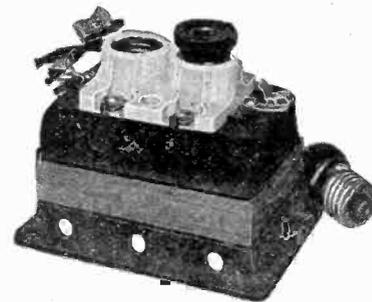
Trade Name—"Chargall"; Type—Bulb; operates from 110 volts, D.C. or A.C.; Charging Rate—2 and 5 amperes; charges "B" battery; Material of Case—Metal, enameled in green; Price—2-ampere size, \$4.00; 5-ampere size, \$6.00; (without bulb).

**Holmes Electrical Mfg. Co.,**  
1810 Leland Ave., Chicago, Ill.



Catalog No. 176.

Trade Name—"A-C Charger"; Type—Vibrator; operates from 110 volts, A.C., 60 cycle; Charging Rate—5 amperes, 6 volts; charges "B" battery; Equipment—Ammeter; Material of Case—Metal, japanned, porcelain panel; Dim.—4¼ x 5 x 5 inches high; Weight—7 lbs.; Price—\$16.50.



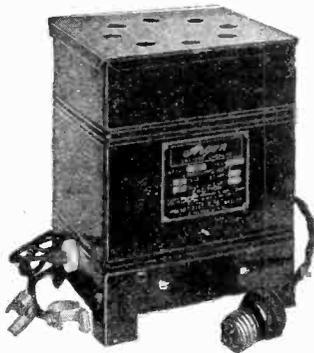
Catalog No. 184.

Trade Name—"Autocharger"; Type—Bulb; operates from 110 volts, A.C., 60 cycle; Charging Rate—2 amperes, 2 to 12 volts; charges "B" battery; Material of Case—Metal, japanned; Dim.—4 x 6 x 3½ inches high; Weight—6 lbs.; Price—\$11.00 (without bulb).



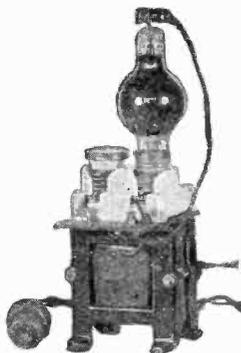
Catalog No. 202.

Trade Name—"Holmes"; Type—Resistance; operates from 110 volts, D.C.; Charging Rate—4 to 5 amperes, 2 to 12 volts; Equipment—Ammeter; Material of Case—Metal, with perforated metal shield and black porcelain panel; Dim.—4½ x 5 x 9¾ inches high; Weight—10 lbs.; Price—\$16.50.



Catalog No. 198

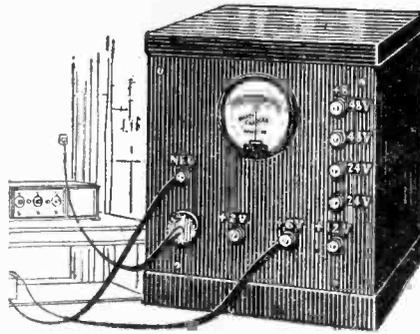
Trade Name—"Argon"; Type—Bulb; operates from 110 volts, A.C., 60 cycle; Charging Rate—2 and 5 amperes, 2 to 12 volts; charges "B" battery; Material of Case—Pressed steel, enameled; Dim.—2 amperes, 5½ x 6 x 8 inches high; 5 amperes, 7½ x 6 x 9 inches high; Weight—2 amperes, 10 lbs.; 5 amperes, 15 lbs.; Price—2 amperes, \$14.00; 5 amperes, \$20.00 (without bulb).



Model B.

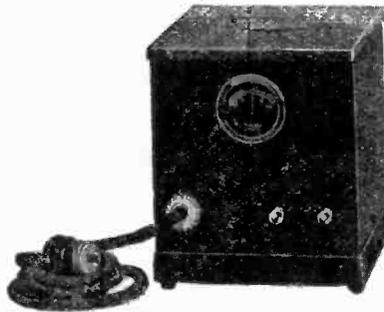
Trade Name—"Autocharger" Type—Bulb; operates 110 volts, A. C., 60 cycles; Price—\$9.50 (without bulb).

Interstate Electric Co.,  
4339 Duncan Ave., St. Louis, Mo.



Model—Ultra.

Trade Name—"Ultra Handy"; Type—Vibrator; operates from 110 volts, 25 to 60 cycles, A.C.; Charging Rate—1 to 7 amperes, 2 to 12 volts; charges "B" battery at 100 to 250 milli-amperes, 24 or 48 volts; Equipment—Ammeter; Material of Case—Sheet metal, mahogany finish; Dim.—7¾ x 6½ x 7 inches; Weight—18 lbs.; Price—\$18.00; for 25 to 40 cycles, \$20.00.



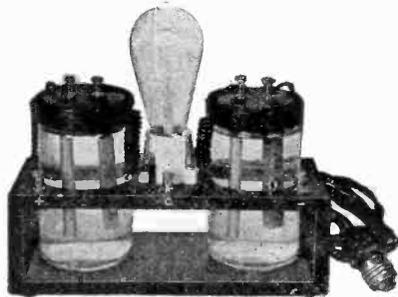
Simplex Model.

Trade Name—"Simplex"; Type—Vibrator; operates from 110 volts, 25 to 60 cycles, A.C.; Charging Rate—5 amperes, 6 volts; Equipment—Ammeter; Material of Case—Sheet metal, enameled; Dim.—7¾ x 6½ x 7 inches; Weight—17 lbs.; Price—\$16.00; for 25 to 40 cycles, \$20.00.

Kimley Electric Co.,  
2665 Main St., Buffalo, N. Y.

Models K-1 and K-2.

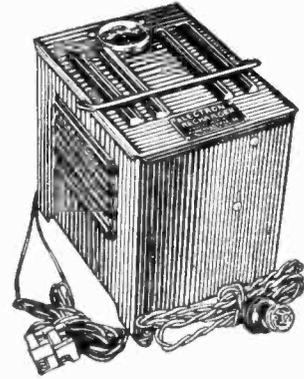
Trade Name—"Kic-O"; Type—Electrolytic; single cell; operates from 110 volts, A.C.; Charging Rate—1 to .75 amperes, 70 volts; charges "B" battery only; tray mounting; Dim.—9 x 9 x 6 inches high; Weight—5 lbs.; Price—Model K-1, no mounting, \$1.50; Model K-2, with mounting, \$3.50.



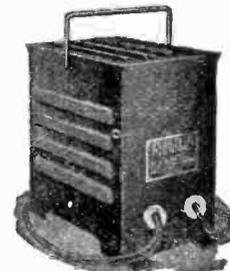
Model K-3.

Trade Name—"Kic-O"; Type—Electrolytic; two-cell; operates from 110 volts, A.C., 60 cycle; Charging Rate—1 to .75 amperes, 140 volts, maximum; charges "B" battery only; tray mounting; Dim.—6 x 9 x 12 inches high; Weight—6 lbs.; Price—with mounting, \$5.00.

King Electric Manufacturing Co.,  
1681 Fillmore Ave., Buffalo, N. Y.



Trade Name—"Electron"; Type—Bulb; operates from 110 volts, 60, 50, 40 or 25 cycles, A.C., 6 amperes, 6 or 12 volts; furnished with or without meter; Material of Case—Sheet metal, enameled; Weight—27½ lbs.; Price—\$27.50; with meter, \$29.00.



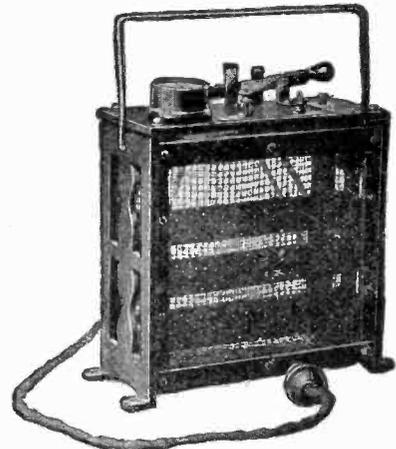
Trade Name—"Electron Junior"; Type—Bulb; operates from 110 volts, 60, 50, 40 and 25 cycles, A.C.; Charging Rate—2 to 3 amperes, 6 or 12 volts; Material of Case—Sheet metal, enameled; Weight—11 lbs.; Price—\$18.00.

Kodel Radio Corp.,  
118 West Third St., Cincinnati, Ohio



Gold Seal Model

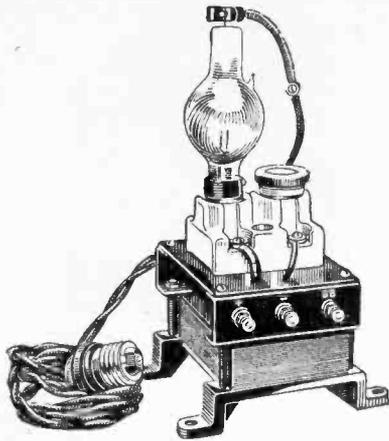
Trade Name—"Homecharger"; Type—Vibrator; operates from 110 volts, A.C.; charges "B" battery; Equipment—Ammeter; Material of Case—Metal, mahogany finish; Dim.—8¼ x 6¼ x 7½ in. high; Weight—12½ lbs.; Price—\$18.50.



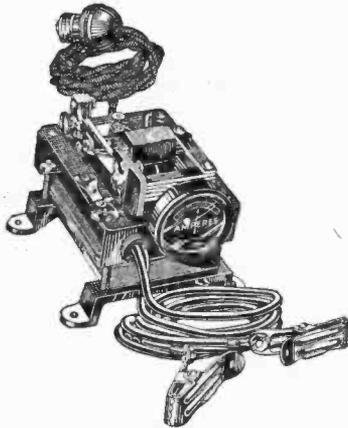
Model S. A.

Trade Name—"Homecharger"; Type—Resistance; operates from 32, 110 or 220 volts, D. C.;

Charging Rate—2, 4 and 6 amperes at 6, 12 and 19 volts; Material of Case—Metal and wire mesh; Dim.—9½ x 4 x 9¼ in. high; Weight—10 lbs. Price—\$18.50.



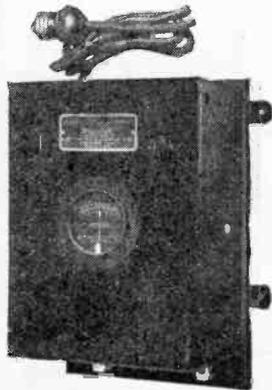
Trade Name—"Crescent"; Type—Bulb; operates from 110 volts, A.C., charges "B" battery; made in two sizes, 2 amperes and 5 amperes; Dim.—2 ampere size, 5 x 5½ x 8 in. high; Weight—6¼ lbs; 5 ampere size, 5 x 5½ x 12½ in. high; Weight—11 lbs.; Price—For 110 volt, 60 cycle, 2 ampere size, \$8.00; 5 ampere size, \$11.00; all other frequencies and voltages; 2 ampere size, \$9.00; 5 ampere size, \$12.00.



Trade Name—"Star"; Type—Vibrator; operates from 110 volts, A.C.; charges "B" battery; Dim.—6¼ x 5 x 5½ in. high; Weight—6½ lbs.; Equipment—Ammeter; Price—For 110 volt, 60 cycle, \$12.00; all other frequencies and voltages \$13.00.

Trade Name—"Midget"; Type—Resistance; operates from 32, 110 and 220 volts, D.C.; Charging Rate—4 amperes; Equipment—Ammeter; Material of Case—Metal and wire mesh; Dim.—10½ x 5 x 4 in. high; Weight—3¼ lbs.; Price—\$12.00.

Leich Electric Co.,  
Genoa, Ill.



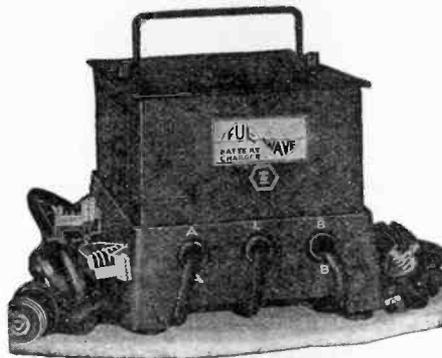
Trade Name—"Non Tune"; Type—Vibrator; operates from 110 volts, 25, 30 or 60 cycles, A.C.; Charging Rate—2 amperes, 4 or 6 volts; Material of Case—Steel, enameled; Equipment—Ammeter; Dim.—5¾ x 6 x 9¼ inches.

Liberty Electric Corporation,  
342 Madison Ave., New York, N. Y.



Model A.

Trade Name—"Ful-Wave"; Type—Vibrator; operates from 110-120 volts, 40 to 60 cycles, A.C.; Charging Rate—6 to 8 amperes, 6 volts; Material of Case—Sheet metal, enameled; Dim.—5½ x 7¾ x 5½ inches; Weight—12 lbs.; Price—\$18.00.



Model AB

Trade Name—"Ful-Wave"; Type—Vibrator; operates from 110-120 volts, 40 to 60 cycles, A.C.; Charging Rate—4 to 6 amperes, 6 volts, and 100 to 300 milliamperes at 48 to 100 volts; charges "A" and "B" batteries simultaneously; Material of Case—Sheet metal, enameled; Dim. 5½ x 7¾ x 5½ inches high; Weight—12½ lbs.; Price—\$22.00.

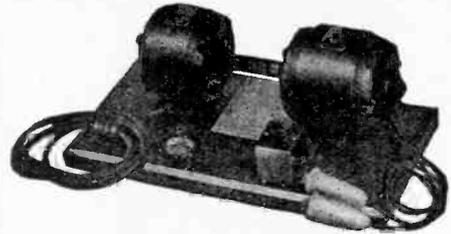
Niles Mfg. Co.,  
Ypsilanti, Mich.



Model A

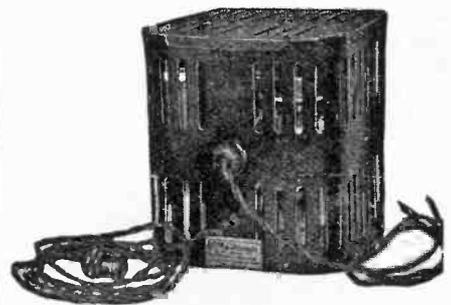
Trade Name—"Niles"; Type—Vibrator; operates on 110 volts, A.C., 60 cycles; Charging Rate—10 amperes, 6 volts; Material of Case—Steel stamping, black crystallized lacquer; Dim.—8½ x 8 x 5 inches high; Weight—14 lbs.; Price—\$19.00.

Ohio Electric & Controller Co.,  
5904 Maurice Ave., Cleveland, Ohio.



Trade Name—"Ohio"; Type—Motor-generator; operates from 32 to 250 volts, D.C. or A.C., 1, 2 or 3 phase, 110 to 550 volts; Equipment—Ammeter; Dim. of Base—12 x 19 inches; Weight—55 to 60 lbs.; Price—\$45.00 to \$80.00.

Philadelphia Storage Battery Co.,  
Ontario and C Sts., Philadelphia, Pa.



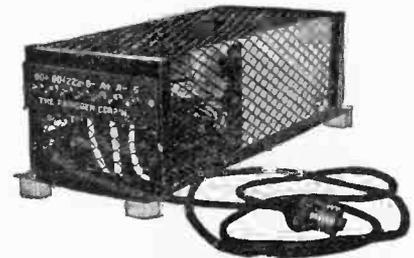
Model 32.

Trade Name—"Philco"; Type—Electrolytic, two cell; operates from 110 volts, A.C.; Charging Rate—1 ampere, 6 volts; charges "B" battery; Material of Case—Sheet metal, enameled; Dim.—8½ x 8½ x 9¼ inches high; Price—\$15.00.

Model No. 31

Same as Model No. 32 except as noted; Type—Single cell; Charging Rate—½ ampere; Dim.—4½ x 8½ x 9½ inches high; Weight—7½ lbs.; Price—\$9.75.

Radiogem Corporation,  
66 W. Broadway, New York, N. Y.



Trade Name—"A-B Power Unit"; Type—Resistance; operates from 110 to 125 volts, D.C.; delivers "A" current for filaments up to 10 tubes and "B" current at 22, 45, and 90 volts; Dim.—6 x 14 x 5 inches high; Weight—12 lbs.; Price—\$30.00.



Packed in traveling case for auto tourists, etc.



**\$12.50**  
Complete for Model WG-10  
Ebony  
WG-20 Shell  
Mahogany \$15.00

Model WG  
Japanese Pearl \$17.50  
Model WG-50  
Mother of Pearl \$20.00



Ideal for home use—takes up little room.

### Highest Quality at Half Regular Prices

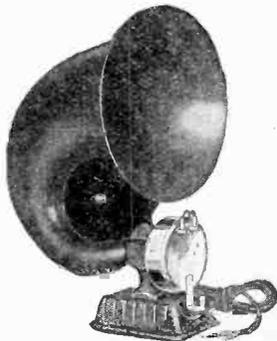
We claim there is no better speaker on the market at double or more our price. The Majestic is unequalled in tone, quality, volume and beauty of design.

Every range of conditions in Radio reception are perfectly operated by our exclusive "constant tension diaphragm."

Listen while a Majestic perfectly reproduces a piano or pipe organ selection—the acid test of good loud speakers. Height over all—22 inches; diameter of Bell 13 inches complete with 5 feet of cord. Base furnished in beautiful crystalline lacquer. Lever adjustment to control volume. Horn of DuPont Pyralin—no audible period of vibration—faithfully reproduces without harshness or metallic sounds.

## Majestic Reproducer

The Majestic Baby Grand Model is smaller in size with horn of genuine DuPont Pyralin (practically indestructible) and constant tension Diaphragm unit.



Model BG  
Baby Grand  
List Price \$9.00

Retail price **\$9.00**

Complete

Height over all 13 in., fitted with 5 foot cord. Packed in single cartons.

This small yet extremely efficient reproducer fills the demand for Auto Tourists, Campers, Picknickers, etc. especially where a portable set is used. It is practically unbreakable and will withstand rough traveling and hard usage.



Model BT  
Complete with Carrying Case  
List Price \$16.50

# GRIGSBY = GRUNOW = HINDS = CO

4542 Armitage Avenue, CHICAGO

Re-Vi-Vo, Inc.,  
40 W. 20th St., New York, N. Y.



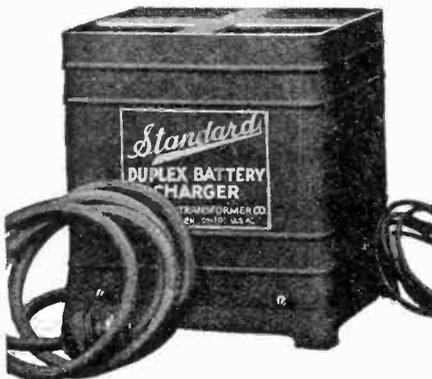
Trade Name—"Re-Vi-Vo"; Type—Electrolytic; operates from 110 volts, A.C.; Charging Rate—1 ampere at 1½ to 90 volts; charges "B" battery; Material—Glass jar, with hard rubber cap; Dim.—3½ inches in diameter, 6 inches high; Weight—2 lbs., 3 oz.; Price—\$1.25.

A. P. Spartana,  
806 N. Gay St., Baltimore, Md.



Trade Name—"Spartan"; Type—Bulb; operates from 110 volts, A.C.; Charging Rate—3 amperes, 4, 6 or 12 volts; charges "B" battery; Material of Case—Iron, blue enameled; Dim.—6 x 6 x 9 inches high; Weight—10 lbs.; Price—\$19.50.

Standard Transformer Co.,  
Dana Ave., Warren, Ohio.



Trade Name—"Standard Duplex"; Type—Bulb; operates from 110 to 220 volts, 25 to 90 cycles, A.C.; Charging Rate—3 to 6 amperes, 6 to 12 volts; 35 to 250 milliamperes, 12 to 48 volts; Material of Case—Sheet metal, enameled; Dim.—7 x 8 x 8 inches high; Weight—18 lbs.; Price—Without bulb, \$18.00 to \$22.00.

Sterling Mfg. Co.,  
2831 Prospect Ave., Cleveland, Ohio.



Model 17.

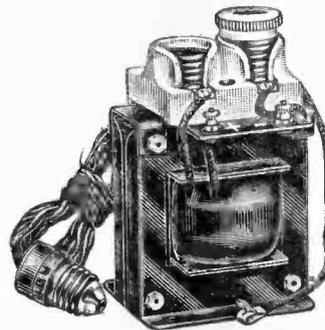
Trade Name—"Sterling"; Type—Vibrator; operates from 110 volts, 25, 50 or 60 cycles, A.C.; Charging Rate—5 amperes, 6 volts; charges "A" battery; Equipment—Ammeter; Material of Case—Steel; Dim.—6½ x 7¼ x 6¾ inches high; Weight—10 lbs.; Price—For 50 or 60 cycles, \$18.50; for 25 cycles, \$21.00.



Model 19.

Trade Name—"Sterling"; Type—Vibrator; operates from 110 volts, 25, 50 or 60 cycles, A.C.; Charging Rate—5 amperes, 6 volts, with "B" battery connection up to 72 volts; Equipment—Ammeter; Material of Case—Steel; Dim.—6½ x 7¼ x 6¾ inches high; Weight—10 lbs.; Price—For 50 or 60 cycles, \$22.50; for 25 cycles, \$25.00.

Telephone Maintenance Co.,  
20 S. Wells St., Chicago, Ill.



Model T-100.

Trade Name—"Telmaco"; Type—Bulb; operates from 110 volts, 60 cycles, A.C.; Charging Rate—2 amperes, 6 volts; Price—\$12.00.

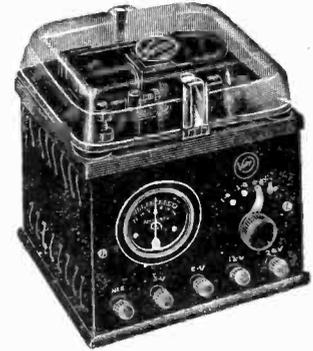
Todd Electric Company,  
109 W. 23rd St., New York, N. Y.



Model CR.

Trade Name—"Todd"; Type—Bulb; operates from 110 volts, 60 cycles, A.C.; Charging Rate—About ¼ ampere at 70 volts; charges "B" battery only; Material of Case—Metal; Dim.—3½ x 3½ x 9½ inches high; Weight—3 lbs.; Price—\$9.50.

Valley Electric Company,  
3157 S. Kingshighway, St. Louis, Mo.

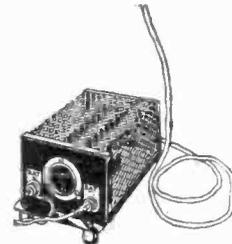


Trade Name—"Valley"; Type—Vibrator; operates from 110 volts, 25 to 60 cycles, A.C.; Charging Rate—6 amperes, 2, 4, 6 or 12 volts; charges "B" battery; Equipment—Ammeter; Material of Case—Metal, slate base, glass cover; Dim.—6 x 6¾ x 7½ inches high; Weight—21 lbs.; Price—\$18.50; 25 to 40 cycles, \$20.00.



Trade Name—"Radel"; Type—Resistance; operates from 32 volts, D.C.; delivers current at 2, 4, 6 or 12 volts for "A" batteries and 24 volts for "B" batteries; Equipment—Ammeter; Material of Case—Metal, enameled, bakelite panel; Dim.—6 x 6¾ x 6 inches high; Weight—15 lbs.; Price—\$14.50.

Ward Leonard Electric Co.,  
Mt. Vernon, N. Y.



Trade Name—"Ward Leonard"; Type—Resistance; operates from 110 volts, D.C.; Charging Rate—4 amperes, 6 or 12 volts; Equipment—Ammeter; Material of Case—Steel, mesh; Dim.—13 x 6 x 5 inches high; Weight—4¼ lbs.; Price—\$12.00.

Westinghouse Electric & Manufacturing Co.,  
East Pittsburgh, Pa.



Trade Name—"Radio Rectigon"; Type—Bulb; operates from 115 volts, 60 cycles, A.C.; also made for 230 volts; Charging Rate—¼ to 2 amperes, 7½ to 15 volts; Material of Case—Sheet metal, enameled; Weight—9 lbs.; Price—\$19.50.

# Radio Battery Substitutes

These devices may be used with any radio receiving set (vacuum tube type). Devices made for use only with receiving sets of a certain make

are not listed here, nor are combinations of batteries and chargers. For Combinations of Batteries and Chargers, see Encyclopedia of Storage Batteries on Page 63.

**Acme Engineering Co.,**  
Louisville, Ky.



Trade Name—"Power Bee"; Type—Bulb; Operates from 105-120 volts, 60 cycles, A.C.; replaces "B" Battery; delivers current at 0 to 45 volts for detector, and 0 to 130 volts for amplifiers; Material of Case—Metal, enameled; Dim.—4½ x 8 x 7½ in. high; Price—\$27.50.

**American Bosch Magneto Co.,**  
Springfield, Mass.



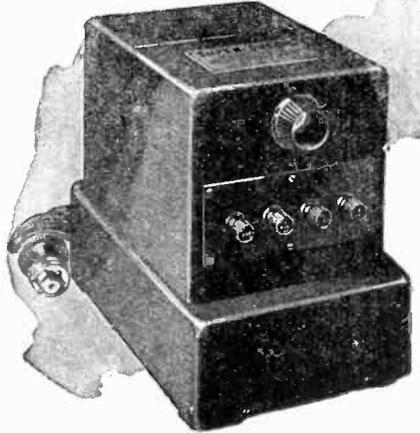
Trade Name—"Bosch Nobattery"; replaces "B" battery; operates on 110 volt, A.C., 50-60 cycles; also built for D.C.; Material of Case—Sheet steel; Finish—Dull gunmetal; Dim.— —; Weight—35 lbs.; Price—A.C., \$49.50, D.C., \$30.00.

**Apco Mfg. Co.,**  
1200 Eddy St., Providence, R. I.



Trade Name—"Rectodyne"; Type—Bulb rectifier with filter circuit; uses two tubes (type 201A) to rectify both sides of wave; replaces "B" battery; operates from 110 volts, A.C.; Dim.—6¼ x 12 x 5 in. high; Price—\$44.00, less tubes. Also made in resistance type with filter circuit; operates from D.C.; replaces "B" battery; Price—\$32.50.

**Dubilier Condenser and Radio Corp.,**  
48 W. 4th St., New York, N. Y.



Model 800

Trade Name—"Super-Ducon"; Type—Bulb; rectifier with filter circuit; uses special 2-filament bulb, full wave rectification; operates from 110 volts for detector and 90 volts for amplifiers; replaces "B" battery; Dim.—9¾ x 5½ x 8 in. high; Weight—18 lbs.; Price—\$47.50.

Model 801

Trade Name—"Super-Ducon"; Type—Resistance with filter circuit; operates from 110-125 volts, D.C.; delivers 15-50 volts for detector and 90 volts for amplifiers; replaces "B" battery; Dim.—10 x 5 x 5 in. high; Weight—10 lbs.; Price—\$30.00.

**Fansteel Products Co., Inc.,**  
North Chicago, Ill.

See announcement, page 1



Trade Name—"Balkite B"; Type—Electrolytic; operates from 110-120 volts, 60 cycles, A.C.; also made for 50 cycles; delivers current of 40 milliamperes at 90 volts, with taps for varying output to meet requirements of various sets; replaces "B" battery; Material of Case—Terne plate, enameled; Dim.—7¼ x 6 x 9 in. high; Weight—10 lbs.; Price—\$55.00.

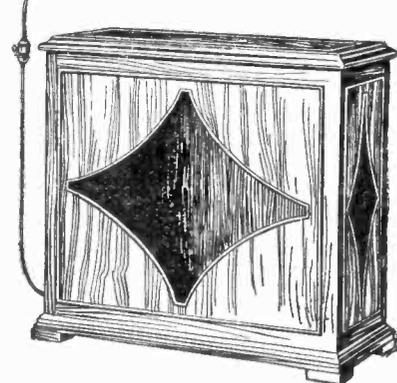
**Foreign and Domestic Electrical Commodities, Inc.,**

629 W. 23rd St., New York, N. Y.  
See announcement on page 55



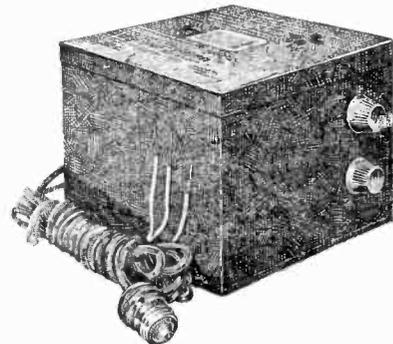
Trade Name—"Fordec"; Type—Bulb rectifier with filter circuit; uses two rectifying bulbs to rectify both sides of wave; operates from 110 volts, 60 cycles, A. C.; delivers 0-45 volts for the detector, 0-140 volts for the amplifiers; maximum current, 75 milliamperes; replaces "B" battery; Material of Case—Metal; Dim.—5½ x 8 x 6 in. high; Weight—9½ lbs.; Price—\$38.50.

**Kellogg Switchboard & Supply Co.,**  
Adams and Aberdeen Sts., Chicago, Ill.



Trade Name—"Trans-B-Former"; Type—Bulb, using any 2 or 3 element tubes; operates from 110 volts, A.C.; delivers 5-35 volts for detectors and 45-100 volts for amplifiers; replaces "B" battery; built in two styles, table and wall. Dim. —; Weight —; Price —.

**MacFadden & Co.,**  
2202 Arch St., Philadelphia, Pa.



Trade Name—"B-Power Generator"; Type—Bulb (uses 201-A type); operates from 110 volt, A.C.; replaces "B" battery. Dim.—8 x 8; Weight— —; Price—\$35.00.

**Mu-Rad Laboratories, Inc.**  
Asbury Park, N. J.



Trade Name—"B-Radicator"; Type—Bulb rectifier with filter circuit, 1 or 2 bulbs, rectifying both sides of wave with 2; replaces "B" battery. Dim.—10 x 4½ x 6 in.; Weight—18 lbs.; Price—\$45.00 without tubes.

**Rader Appliance Co.,**  
4912 Hudson Blvd., West New York, N. Y.

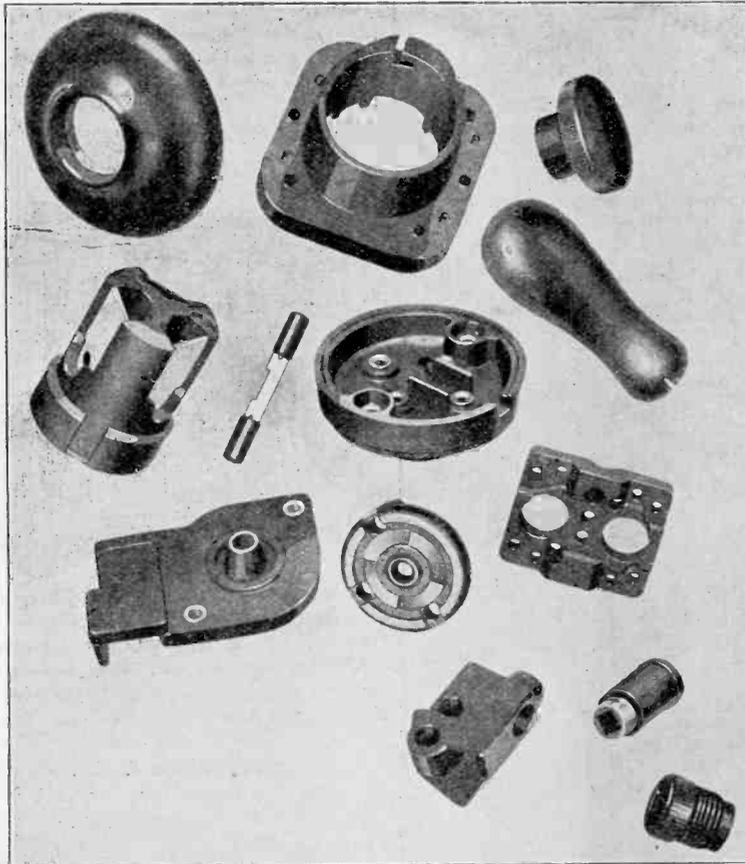


Trade Name—"Run-a-Radio"; Type—Bulb rectifier with filter circuit, use 2 bulbs to rectify both sides of wave; operates from 110 volts, 60 cycles, A.C.; delivers current for "A" circuit up to 9 tubes at 1¼ ampere each, "B" circuit up to 100 volts, and "C" circuit; replaces "A", "B" and "C" batteries; Material of Case—Metal, Gold crackle, enameled; Dim.—9 x 15 x 9 in. high; Weight—46 lbs.; Price—\$85.00.

**Timmons Radio Products Corp.,**  
Germantown, Philadelphia, Pa.



Trade Name—"B-Liminator"; Type—Bulb; operates from 110 volts; 60 cycles, A.C.; delivers current of 25 milliamperes (maximum), 120 (maximum); replaces "B" battery; Material of Case—Metal; Dim.—3 x 7 x 8¼ in. high; Weight—6½ lbs; Price—\$35.00.



### Precision Moulded Parts from Bakelite and Shellac Composition

Our modern methods enable us to mould these materials in the most economical manner.

It will pay you to get our prices.

International Insulating Corp.  
Elyria, Ohio

**DECKEL**  
**ENGRAVING MACHINES**  
**MARKING MACHINES**  
EIGHT TYPES AND SIZES  
**H.P. PREIS & CO. INC. NEWARK, N.J.**



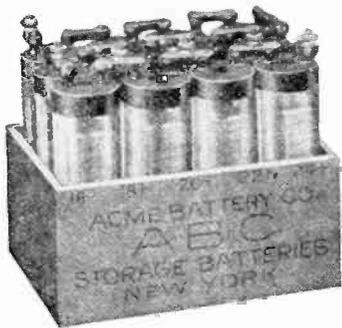
Send for this Money-Saving Radio and Electrical Catalog today.

Wholesale Only

**Gershon Electric Company**  
1818 Walnut St., Kansas City, Mo.

# Encyclopedia of Radio Storage Batteries

**Acme Battery Co.,**  
1830 Madison Ave., New York, N. Y.



Trade Name—"A B C"; Type—"B", open cell, wood tray; Capacity—4500 M.A.H.; Voltage—48.

**Advance Battery Mfg. Co.,**  
Louisville, Ky.

Trade Name—"Powerfield"; Type—"A"; Capacity—Made in 4 sizes; 60, 85, 115, 145 A.H.; Material of Case—Composition; equipped with rubber grip bale handle; Finish—Black; Dim.—; Price—\$15.00.

**American Storage Battery Co.,**  
326 Newbury St., Boston, Mass.

Model No. BARC-11

Trade Name—"Harvard"; Type—"A"; Capacity—100 A. H.; Material of Case—Rubber; equipped with nickel bale handle and special lugs; Finish—Black; Dim.—9 x 7 x 9 1/4; Price—\$23.00.

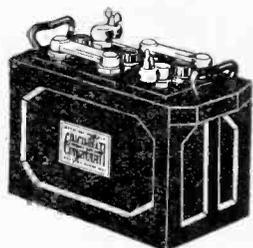
Model No. 24B

Trade Name—"Harvard"; Type—"B"; Capacity—4500 M.A.H.; Voltage—24; Material of Case—Mahogany; Finish—Lacquered; Dim.—9 1/2 x 7 1/2 x 5 1/4; Price—\$10.50.

**Brant Battery Co.,**  
1622 W. 16th St., Los Angeles, Cal.

Trade Name—"Brant"; Type—"B"; Capacity—2750 M.A.H.; Voltage—100; Material of Case—Wood; Finish—Oak; Dim.—5 x 9 1/2; Price—\$24.00.

**Cincinnati Storage Battery Co.,**  
8829 St. Clair Ave., Cincinnati, Ohio



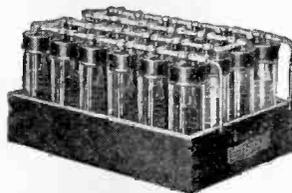
Trade Name—"Cincinnati"; Type—"A"; Capacity—Made in 3 sizes; 70-80, 90-110, 120-140 A. H.; Material of Case—Rubber Composition; equipped with removable handle, screw type lugs; Finish—Black; Dim.—; Price—\$18.00, \$22.50 and \$28.50.



Trade Name—"Cincinnati"; Type—"B"; Capacity—3000 A.H.; Voltage—24 and 84; Material of Case—Wood; Finish—Mahogany; equipped with soft rubber cork insert cover; Price—\$9.15 (24 volt); \$16.25 (48 volt).

**Cleveland Engineering Laboratories Co.,**

2104 Superior Viaduct, N. W., Cleveland, Ohio



Model No. 4548

Trade Name—"Storad"; Type—"B", open cell, wood tray; Capacity—4500 M.A.H.; Voltage—24 and 48; Finish—Black; Dim.—; Price—

**Cole Battery & Sales Corp.,**  
2435 Indiana Ave., Chicago, Ill.

Model No. RR-7

Trade Name—"Cole"; Type—"A"; Capacity—80 A. H. (6 volts); Material of Case—Rubber, equipped with bale handle; Finish—Black; Dim.—6 1/16 x 6 1/2 x 7 1/2; Weight—32 lbs.; Price—\$18.10; also Models RR-9 (90 A. H.) 40 lbs. \$22.55; RR-11 (100 A.H.) 45 lbs, \$24.35; RR-13 (120 A. H.) 53 lbs., \$27.85.

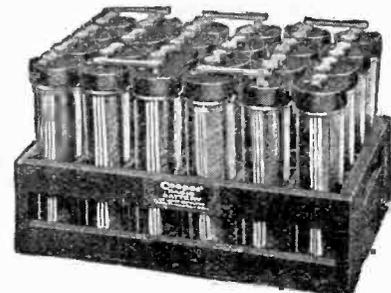
Model No. WR-7

Same as Model No. RR-7, except as noted; Material of Case—Wood, no handle; Finish—Black or mahogany; Dim.—6 1/2 x 7 5/16 x 9 3/8; Weight—33 lbs.; Price—\$17.50; also Models WR-9 (90 A. H.) 41 lbs, \$20.25; WR-11 (100 A. H.) 48 lbs, \$22.60; WR-13 (120 A. H.) 57 lbs., \$26.00; also Models WR-2 (120 A. H.-2 volts) 21 lbs, \$19.50; WR-4 (100 A.H.-4 volts) 33 lbs, \$10.50.

**Cooper Corporation,**  
Cincinnati, Ohio



Type—"A"; Capacity—100 A.H.; Material of Case—"Rub-Mika" composition; equipped with bale handle; also made with wood case.



Type—"B", open cell, wood tray; Capacity—5000 M.A.H.; Voltage—24 and 48.

**Dixie Storage Battery Co.,**

1412 W. Lafayette Ave., Baltimore, Md.

Trade Name—"Dixie"; Type—"A"; Capacity—Made in 3 sizes, 60, 90, 120 A.H.; Material of Case—Wood or rubber; Finish—; Dim.—; Price—\$16.00, \$20.00, \$24.00.

**Economic Appliance Co.,**  
Irwin, Pa.



Trade Name—"Eaco"; Type—"B" (alkaline solution); Capacity—250 M.A.H.; Voltage—28-30; Material of Case—Glass; Dim.—8 1/2 x 3 1/2 x 4; Price—\$6.00.

**Edison Storage Battery Co.,**  
Orange, N. J.



Trade Name—"Edison"; Type—"A"; Capacity—10 sizes, up to 150 A.H.; 1½ to 6 volts; Material of Case—Wood; equipped with built-in rectifier (bulb type) for charging "A" and "B" batteries. Price—1½-volt, \$11.80 (without charger); \$34.65 (with charger); 6 volt, \$40.00 (without charger); \$60.00 (with charger).



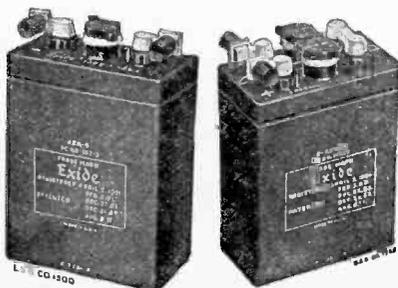
Type—"B" (nickel-iron elements in alkaline solution); Capacity—2500 M.A.H.; Voltage—22½; Material of Case—Molded composition; Finish—Black; Dim.—4¼ x 7¼ x 6½; Price—\$13.60; also 45 volt, Dim. 7¼ x 10 x 6¾, \$24.75 (equipped with Fahnestock clips).

**Electric Storage Battery Co.,**  
Allegheny Ave. and 19th St., Philadelphia, Pa.

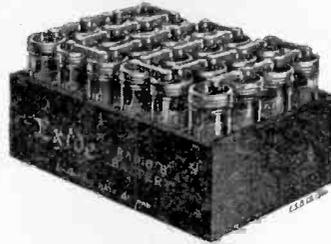


Model No. 3-LXL

Trade Name—"Exide"; Type—"A"; Capacity—Made in 5 sizes, 50-150; A.H.; Material of Case—Composition; equipped with attachable handle, special lugs and binding posts.



Models—1-KZR-5, 2 volts, for Type WD-11 and similar tubes; 2-KZR-3, 4 volts for Type UV-199 and similar tubes.



Model No. LR-2

Trade Name—"Exide"; Type—"B", open cell, wood tray; Capacity—6000 M.A.H.; Voltage—24 and 48; Finish—Acid-resisting paint; Dim.—; Price—

**General Lead Battery Co.,**  
4 Lister Ave., Newark, N. J.



Model No. TWL

Trade Name—"Titan"; Type—"B", open cell, wood tray; Capacity—6000 M.A.H.; Voltage—24, 48 or 96; Finish—Mahogany; equipped with semi-hard rubber cover, screw type; Dim.—8 x 12½ x 7½; Price—\$19.00.

**Globe Electric Co.,**  
14 Keefe Ave., Milwaukee, Wis.



Model No. 715

Trade Name—"Globe"; Type—"A"; Capacity—105 A.H.; Material of Case—Wood; equipped with bale handle (cover furnished with rubber case batteries); Finish—Black; Dim.—; Price—\$20.00.

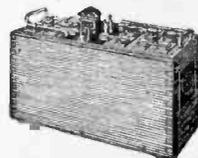
Also made in capacities from 60 to 330 A.H.; wood, rubber case, or sealed glass jars; Price from \$6.10 to \$46.50.

Model 700L

Trade Name—"Globe"; Type—"B"; Capacity—2500 M.A.H.; Voltage—24; Material of Case—Glass; Dim.—; Price—\$7.50.

Also Model 703L, 48 volts; Price—\$15.00.

**Gould Storage Battery Co.,**  
250 Park Ave., New York, N. Y.

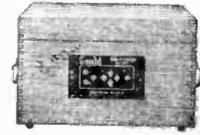


Model ACA-3

Trade Name—"Gould Unipower"; Type "A"; with built-in rectifier operating from 110 volts,

A.C. 60 cycle; Capacity—60 A.H.; 6 volts; Charging Rate—2 to 3 amperes; Material of Case—Wood; Finish—Oak; Equipped with switch, cord, attachment plug and connectors; Dim.—7 5/16 x 15 5/8 x 9 5/8 inches high; Wt.—50 lbs.; Price—\$45.00.

Also Model DCA-3 operating from D.C.; Wt.—40 lbs.; Price—\$40.00.



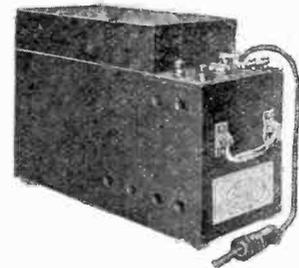
Model ACC-33E

Trade Name—"Gould Unipower"; Type—Combination "A" and "B" with built-in rectifier operating from 110 volts A.C., 60 cycle; Capacity—"A", 60 A.H.—"B", 2000 m.a.h.; Charging Rate—"A", 2 to 3 amperes, "B", .1 ampere; Voltage—"A", 6; "B", 96; Material of Case—Wood; Finish—Oak; Equipped with switch, cord, attachment plug, and connectors; Dim.—14 5/16 x 25 9/16 x 11 5/8 inches high; Wt.—115 lbs.; Price—\$130.00.

Also Model ACC-34E for 120 volts "B"; Wt.—122 lbs.; Price—\$135.00.

Also Model DCC-33E operating from D.C.; Wt.—95 lbs.; Price—\$110.00.

Also Model DCC-34E operating from D.C., "B"; Voltage—120; Price—\$115.00.



Model ACA-2S

Trade Name—"Gould Unipower"; Type—"A"; special enclosed type, with built-in rectifier, all assembled in gas-tight case provided with ventilating feature for carrying off gases generated while charging; Capacity—14 A.H., 4 volts; Material of Case—Wood, with Bakelite terminal plate; Finish—Black; Dim.—8 1/8 x 5 1/16 x 8 7/16 inches high; Wt.—17 lbs.; Price—\$36.00.

Model ACA-3S

Same as Model ACA-2S except as noted; Capacity—35 A.H., 6 volts; Dim.—12 x 7 5/16 x 9 1/2 inches high; Wt.—43 lbs.; Price—\$45.00 (equipped with voltmeter).



Model R6-80

Trade Name—"Gould Dreadnaught"; Type—"A"; Capacity—80 A.H.; Material of Case—Hard rubber, equipped with nickel finished handle; Dim.—9 1/16 x 7 5/16 x 10 1/8 inches high; Price \$21.00.

Also made in 120 A.H. size; Price—\$24.00.

# To help you sell more sets

**H**OOSICK Radio Parts will enable you to offer higher quality sets at lower prices, for Hoosick parts are of the highest quality obtainable, yet their prices are kept low by production in vast quantities to meet many manufacturers' needs. Hoosick parts will help you sell more sets. It will be well worth your while to investigate.



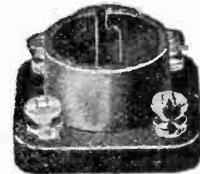
No. 103  
WD-11 Socket



No. 300  
Rheostat



No. 302  
Potentiometer



No. 104 U-V 199  
Socket with Square Base



No. 153  
Plain Binding Post



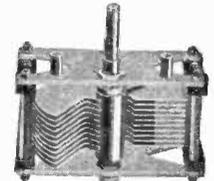
2, 3, or 4 Inch  
Two Piece Bakelite  
Dials



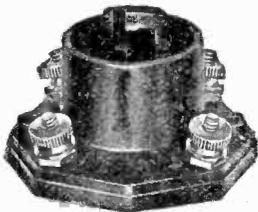
No. 116 U-V 199  
Combination Panel or base mounting  
triple socket.



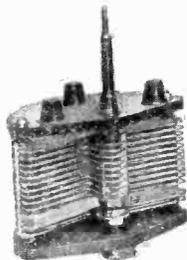
No. 154  
New Type Engraved Binding Posts



11, 15 or 21 Plate Low  
Loss Condenser



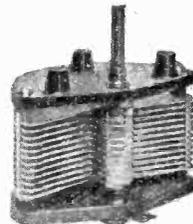
No. 104 U-V 199 Socket  
with Octagonal Base



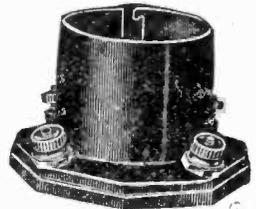
No. 401-V  
Vernier  
Condenser



No. 152  
Antenna Insulator



No. 400  
Plain Condenser



No. 102 Regular VT  
Socket with Octagonal Base



No. 108  
Triple Regular VT Sockets. Base  
or Panel Mounting



No. 115  
Regular VT Socket



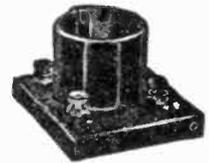
Bakelite or Composition  
two-piece Dial with Brass  
Bushings—4-in. only.



2, 3 or 4-in. One Piece  
Bakelite or Composition  
Dials



No. 404 Adapter



No. 107  
Combination  
Panel or Base  
Mounting Socket



## HOOSICK FALLS RADIO PARTS MANUFACTURING CO., Inc.

HOOSICK FALLS, N. Y.

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Detroit, Mich.  
Edward J. Beckley,  
Suite 1501, Tribune Bldg.,  
154 Nassau St.,  
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Stackhouse & Allen,  
27 No. Morgan St.,  
Chicago, Ill.

Carl A. Stone Co.,  
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San Francisco, Calif.

Carl A. Stone Co.,  
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Goldfus-Lewis Co.,  
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Minneapolis, Minn.

E. N. Hyde Electric Co.,  
1011 Chestnut St.,  
Philadelphia, Pa.

Mr. C. C. Pierce,  
11 High St.,  
Boston, Mass.

Wood & Lane Co.,  
915 Olive St.,  
St. Louis, Mo.

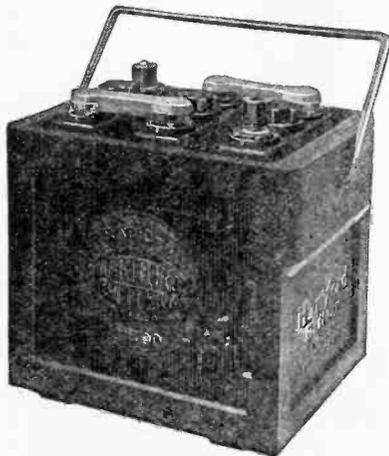
Mr. I. D. Livinson,  
5335 Park Ave., Suite 14,  
Montreal, Canada



Trade Name—"Gould Dreadnaught"; Type—"B"; Capacity—2000 M.A.H.; Voltage—24 and 96; Material of Case—Hard rubber; Finish—Black; Dim.—6 $\frac{1}{2}$  x 3 $\frac{3}{4}$  x 4 $\frac{1}{8}$ ; Price—\$8.50 (24 volt), \$42.00 (96 volt).

### Hartford Battery Mfg. Co.,

Milldale, Conn.



Trade Name—"Hartford"; Type—"A"; Capacity—Made in 4 sizes, 50-70-90-110 A.H.; equipped with Bale handle; Material of Case—Hard rubber; Finish—Black; Dim.— —; Price—\$16.80, \$19.00, \$22.00, \$26.25.

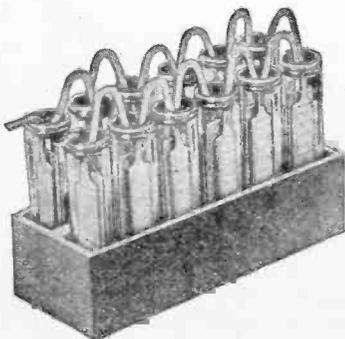
#### Model No. 12W

Type—"B"; Voltage—24; Price—\$10.50. Also Model No. 48WB; Voltage—48, \$21.00.

### Hazelett Storage Battery Co.,

2133 Columbus Rd., Cleveland, Ohio

Trade Name—"Hazelett"; Type—"A"; Capacity—80-100 A.H.; Material of Case—Rubber; equipped with handle; Finish—Black; Dim.—8 x 8 $\frac{1}{2}$  x 7; Price—\$16.50.

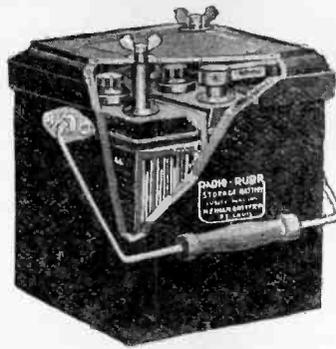


Model No. B 41

Trade Name—"Hazelett"; Type—"B", open cell, wood tray; Capacity—2000 M.A.H.; Voltage—96; Finish—Oak; Dim.—13 $\frac{3}{4}$  x 9 $\frac{3}{4}$  x 7; Price—\$19.50.

### Heiman Bros. Battery Co.,

2012 Locust St., St. Louis, Mo.



Model No. 50

Trade Name—"Radio-Rubr"; Type—"A"; Capacity—60 A.H.; Material of Case—Rubber composition; equipped with cover and bale handle; Dim.—6 $\frac{1}{2}$  x 6 $\frac{1}{2}$  x 9; Price—\$16.00.

Also Models No. 51 to 57 inclusive; capacities from 80 to 160 A.H. inclusive; made with closed rubber case, open rubber case with handles, or closed hard Maple case, mahogany finish. Prices from \$18.00 to \$31.75.

#### Model No. 6-CW

Trade Name—"Radio-Rubr"; Type—"A"; Capacity—60 A.H.; Material of Case—Wood; equipped with cover and outside connections; Dim.—6 $\frac{1}{2}$  x 7 $\frac{1}{4}$  x 10; Price—\$15.00.

Also made in capacities 80 to 160 A.H.; Prices from \$17.50 to \$33.75.

#### Model 6-OW

Trade Name—"Radio-Rubr"; Type—"A"; Capacity—60 A.H.; Material of Case—Wood; equipped with carrier handle; Dim.—6 $\frac{1}{2}$  x 7 $\frac{1}{4}$  x 9 $\frac{1}{4}$ ; Price—\$18.75.

Also made in capacities, 80 to 180 A.H. Prices \$16.75 to \$37.00.

#### Model No. 6-RR

Trade Name—"Radio-Rubr"; Type—"A"; Capacity—60 A.H.; Material of Case—Rubber; equipped with carrier handle; Dim.—6 $\frac{1}{2}$  x 7 x 9 $\frac{1}{4}$ ; Price—\$14.75.

Also made in capacities from 80 to 160 A.H. Prices \$17.75 to \$34.50.

#### Model No. 4-CJW

Trade Name—"Radio-Rubr. Jr"; Type—"A"; Capacity—100 A. H. (2 and 4 volts); Material of Case; Wood; equipped with cover and rubber grip Bale handle; Dim.— —; Price—\$15.00.

Also made for 120 A.H., \$18.00, for 140 A.H., \$21.00.

Also made with closed rubber case 60 A.H., \$13.50; 80 A.H., \$15.00; 100 A.H., \$18.00.

#### Model No. 101

Trade Name—"Radio-Rubr"; Type—"B"; Capacity—3800 M.A.H.; Voltage 24; Open cell type, rubber tray; Price—\$7.00; Dim.—13 $\frac{1}{2}$  x 4 $\frac{1}{2}$  x 5 $\frac{1}{2}$ .

Also made for 48 volt (Model No. 105); Dim.—11 $\frac{1}{2}$  x 7 x 6 $\frac{1}{2}$ ; Price—\$13.75.

### Jordan Battery Co.,

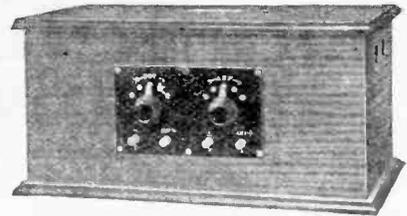
Ypsilanti, Mich.



Trade Name—"Ray-dio"; Type—"B"; Capacity—4500 M.A.H.; Voltage—24; open cell style, hard rubber tray; Finish—Black; Dim.—14 $\frac{1}{4}$  x 5 $\frac{1}{2}$  x 4 $\frac{1}{2}$ ; Price—\$7.50.

### Kimley Electric Co.,

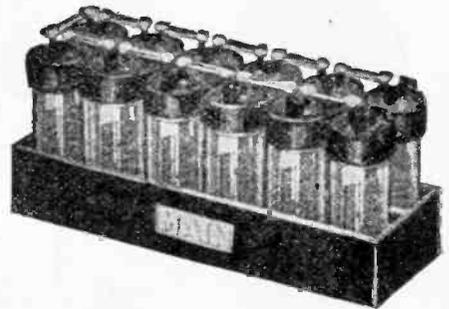
2665 Main St., Buffalo, N. Y.



Trade Name—"Kico"; Type—"B", nickel-zinc element in alkaline solution; Voltage—22 $\frac{1}{2}$  to 130; Material of Case—Wood; equipped with control panel.

### Main Radio Batteries, Inc.,

7016 Euclid Ave., Cleveland, Ohio



Trade Name—"Main"; Type—"B"; Capacity—5000 M.A.H.; Voltage—24; Material of Case—Hard rubber; Finish—Black; Dim.—13 $\frac{1}{4}$  x 4 $\frac{1}{2}$  x 5; Price—\$8.75.

### Marko Storage Battery Co.,

1402 Atlantic Ave., Brooklyn, N. Y.

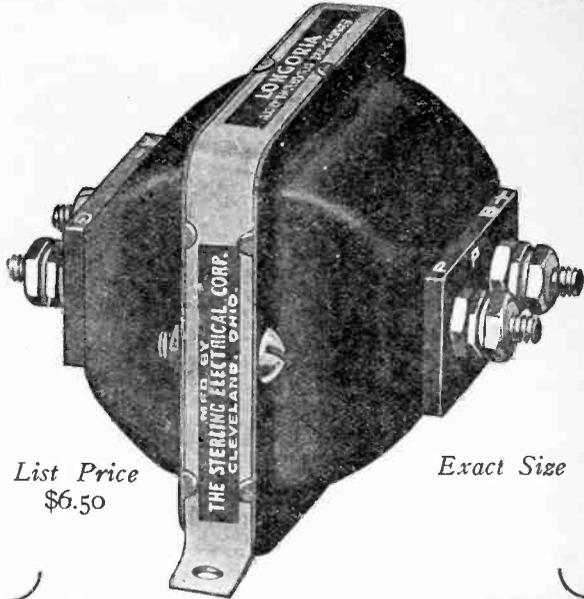


Model No. 6W7

Trade Name—"Marko"; Type—"A"; Capacity—90 A.H.; Material of Case—Rubberlith; equipped with hard rubber cover, rubber covered steel handle and standard lugs; Finish—Black; Dim.—9 $\frac{1}{4}$  x 6 $\frac{1}{2}$  x 9 $\frac{1}{2}$ ; Price—\$10.50.



Trade Name—"Marko"; Type—"B"; Voltage—24 and 48; Material of Case—Rubber; equipped with gum rubber cover.



List Price  
\$6.50

Exact Size

Would you know how to buy an AUDIO TRANSFORMER on specifications? Probably not—however, the LONGORIA TRANSFORMER specifications are so rigid that even if you drew the most exacting requirements this transformer would fulfill them. Write us today for our proposition.

## The Longoria Audio Transformer

**A few inside facts--** The LONGORIA AUDIO TRANSFORMER is scientifically designed in every particular.

It has a complete metal shielding for protection only. The characteristics of its coils are so perfect that metal shielding is not necessary for their proper function.

It has 4 to 1 ratio as standard, as this is proven to be the best for broadcasting frequencies as used today. The inductance and impedance are figured to properly correspond to the characteristics of the present tubes. Do not depend, however, on the ratio alone in picking a transformer.\*

The coil windings are in even layers, separated .0008" from each other by the highest insulating material.

There is an insulation value of 1,000 Volts D.C. between the core and primary and 1,000 Volts D. C. between primary and secondary.

The core is built up (laminated) of thin pieces of stamped silicon steel with absolutely no burred edges. Burrs produce edges.\* It can be used on first and second stage of audio with perfect results.

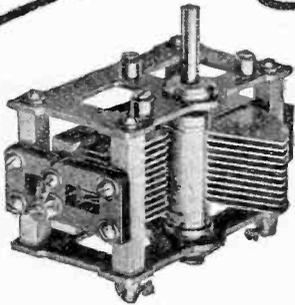
\*Our booklet on "Amplification" gives the reasons why the above are so essentially necessary in a first-class transformer. The ratio is only one factor in the design. Learn how to read and pick a transformer from its characteristic curves and many other points of real information. Write us for this booklet and it will be sent to you free of charge.

MANUFACTURED BY

**THE STERLING ELECTRICAL CORP.**  
2711 Church Ave. Cleveland, Ohio.

# BEACON

PLAIN	
13 PL. .00029 mfd.	\$3.25
17 PL. .00037 mfd.	\$3.50
23 PL. .0005 mfd.	\$3.75
43 PL. .001 mfd.	\$4.75



VERNIER	
13 PL. .00029 mfd.	\$4.25
17 PL. .00037 mfd.	\$4.50
23 PL. .0005 mfd.	\$4.75
43 PL. .001 mfd.	\$5.75

### BEACON Is Sturdy and Dependable—

Stresses and strains will not put BEACON condensers out of alignment. The rectangular design, with a heavy metal post at each corner, assures rigidity. You can use BEACON condensers, or even abuse them, and the rugged construction keeps them in shape. Other features are: die-cast rotor and stator, anti-friction bearings, Bakelite insulation, etc. Write for further details.

**BEACON PLUG**  
Genuine Bakelite



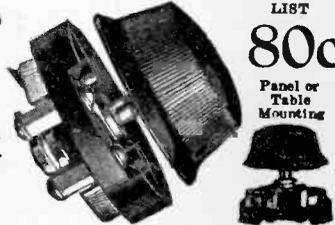
LIST  
**50c**

Licensed under Patent No. 1,498,196.

The BEACON plug, too, is of improved design and construction. It is of the new automatic type, which requires no tools for the insertion of cord tips. Connections once made "stay put" until deliberately removed. They're as tight as a sailor's knot.

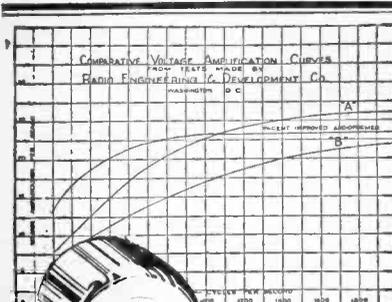
BEACON RADIO MFG. CO., Inc. 100 South 3rd Street, Brooklyn, N. Y.  
Eastern Sales Representatives: Gross-Brennan, Inc., 342 Madison Ave., N. Y.

**BEACON RHEOSTAT**

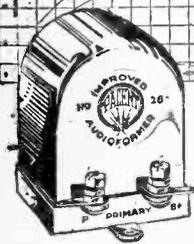


LIST  
**80c**  
Panel or Table Mounting

Reversible genuine Bakelite body accommodates it to table or panel mounting. The extra heavy, tempered slider with the Convex Contact assures uniform, non-microphonic contact. Resistances are furnished in 6, 20 or 30 ohms. Large Bakelite knob with raised arrow.



Another Pacent money-maker for you!



## Examine this chart

Uniform—high—undistorted amplification over the *entire* band of sound frequencies—and no single high peaks! That's why the Pacent Improved Audioformer gives your customers the maximum satisfaction and keeps them sold on your service.

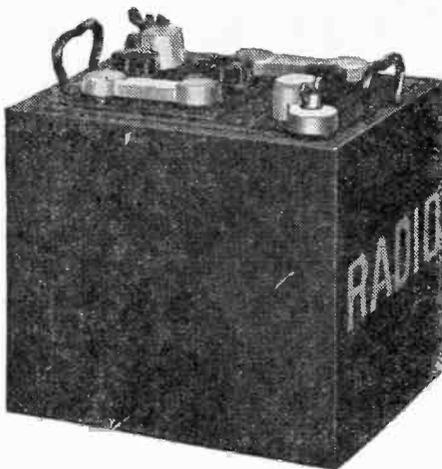
Get in touch with your jobber—or write direct for complete catalog and dealer's discounts.

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91 Seventh Avenue, New York City

Washington Chicago **Pacent** Birmingham Buffalo  
San Francisco Boston Jacksonville Detroit  
Philadelphia St. Louis **RADIO ESSENTIALS** Minneapolis  
Canadian Licensees: R. H. White Radio Co., Hamilton, Ont.

**DON'T IMPROVISE - PACENTIZE**

**National Lead Battery Co.,**  
1704 Roslyn Ave., St. Paul, Minn.



Model No. 65TRF

Trade Name—"National"; Type—"A"; Capacity—50 A.H.; Material of Case—Wood; equipped with handle, cover and standard lugs; Finish—Varnished; Dim.— —; Price—\$12.50; also Model 69TRF (100 A.H.), \$17.50; Model 613TR7 (150 A.H.), \$21.00.

Trade Name—"National"; Type—"B"; Capacity—3500 M.A.H.; Voltage—24; Material of Case—Composition; Finish—Black; Dim.— —; Price—\$5.00.

**Oxidite Battery Co.,**

1485 Marshall Ave., St. Paul, Minn.



Trade Name—"Super"; Type—"B"; Capacity—3000 M.A.H.; Voltage—24; open cell type, rubber tray, equipped with screw type cover; Finish—Black; Dim.—4¼ x 13 x 15; Price—\$7.00.

**Philadelphia Storage Battery Co.,**

Ontario and C Sts., Philadelphia, Pa.

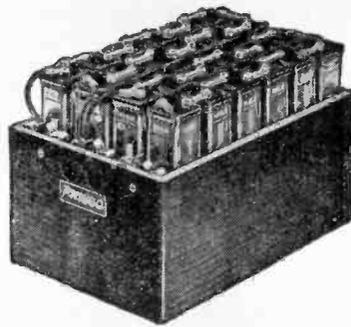


Model UD 86

Trade Name—"Philco"; Type—"A"; Capacity—30-36 A.H., 6 volts; Material of Case—Glass; equipped with charge indicator; Dim.—4¾ x 10 x 6¾; Wt.—20 lbs.; Price—\$16.00.

Also Model No. RAR, with mahogany case, equipped with filler cap charge tester; Price—\$15.50.

Also Model No. UD 44, 2 and 4 volts, 8 lbs., 15-30 A.H.; Price—\$8.00.



Model No. 248-DX

Trade Name—"Philco"; Type—"B"; Capacity—6000 M.A.H.; Voltage—48; Dim.—11¾ x 7½ x 6¾; Wt.—22 lbs.; Material of Case—Wood; equipped with built-in charge indicators and cover; Finish—Mahogany; Price—\$20.00; without cover, \$16.50.

Also Model No. 272-DX, 72 volts; Price—\$27.50; without cover, \$23.75.

**Prest-O-Lite Co.,**

Indianapolis, Ind.



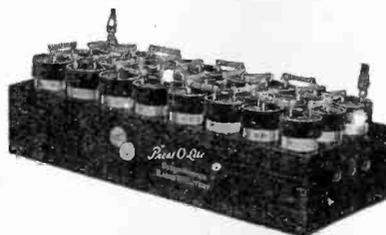
Model No. KPR

Type—"A"; Capacity—28 and 38 A.H.; Material of Case—Wood; equipped with bale handle.



Model No. KRL

Type—"A"; Material of Case—Open wood frame; Capacity—40 A.H.



Model No. XRR

Trade Name—"Super Service"; Type—"B"; Capacity—2500 M.A.H.; Voltage—24 and 48; also Model No. LRR, 4500 M.A.H.

**Radio Rabat Co.,**

1759 St. Clair Ave., Cleveland, Ohio



Model Junior

Type—"B", open cell; Capacity—1200 M.A.H.; Voltage—24.

Also Model Senior, 4200 M.A.H., 24 and 48 volts.

**Re-Vi-Vo., Inc.,**

40 W. 20th St., New York, N. Y.



Trade Name—"Re-Vi-Vo"; Types—"A" and "B" (rechargeable dry cells); Capacity—"A" 15 A.H., 1.6 volts; "B" 1½ A.H., 22½ volts and 45 volts; Material of Case—Zinc; Price—\$0.50, "A"; \$2.00 and \$4.00, "B".

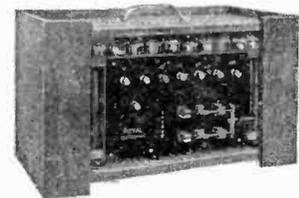
**Roberts "B" Battery Co.,**

1122 Myrtle Ave., Brooklyn, N. Y.

Trade Name—"Roberts"; Type—"B"; Capacity—1600 M.A.H.; Voltage—100 to 140; Material of Case—Wood; Finish—Mahogany; Dim.—6 x 7 x 14; Price—\$21.50, \$24.50, \$27.50, \$31.00.

**Royal Battery Co.,**

124 W. 34th St., New York, N. Y.



Trade Name—"Royal"; Type—"B"; nickel-iron alkaline type; Capacity—1250 M.A.H.; Voltage—100; Material of Case—Wood; Finish—Oak; equipped with brass handle, switch and nickel-plated binding posts; Dim.—14¼ x 8 x 7¼; Price—\$18.00.

# PORTOLA-LOUD SPEAKER

TRADE-MARK



Model 2

Patents Pend.

## Tonal Beauty of the Harp!

A low-priced cabinet loud speaker with clear, rich natural tone fully equal to expensive speakers. Renders perfectly the full range of audible sound from the highest tones of the violin to the most profound notes of the organ.

Works with any set. Size 6½" high, 9¼" long, 8" deep.

*Small in size, vast in volume.*

Nothing equal to it at near the price. A wonderful value—a quick seller!

**JOBBERs and DEALERs**—Send for samples. Make your own comparisons. You will be enthusiastic. Write today.

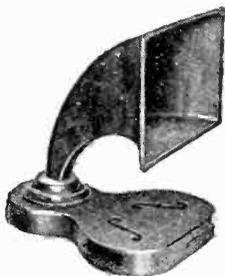
Model No. 2 \$15. Model No. 1 \$12.50  
 Retails at (Without Legs)

**PORTOLA RADIO CO., MFRS.**

5th and Market Sts., Phila., Pa.

# TIMBRETONE

"The Loud Speaker That Does What the Others Advertise"



### Have You Heard It?

For the Fan Who Prefers A Sensitive Speaker With a Pure Quality Note in Preference to Excessive Volume—it is Without a Rival. No "Blah"—Just Tone.

Write Us and We Will Arrange It So That You Can Hear It.

A dealer writes, "after trying it on my own set—was thoroughly convinced that no horn could equal same for reception."

Another letter—"The carrying quality of your reproducer is amazing, perhaps due to its purity of tone, if I remember my acoustics correctly."

"At times it appears that the broadcaster is in the room. It is startling in this respect at times."

From Florida—"I am using a 9 tube set partly of my own design and partly based on the Ultradyne design. With this set and one of the small Timbretone Loud Speakers together with a three foot loop, part of the concert was almost too loud for the ordinary room and could easily have filled a small Concert Hall. (W.E.A.F.)"



These are a Sample of the Reports Our Customers are Sending In. Better Hurry and Join Them.

**TIMBRETONE MFG. CO.**

Hoosick Falls, N. Y.

# AMPLION

The World's Standard Loud Speaker



The New Amplion Dragon, AR-19 . . . \$42.50

All Amplion Units have an adjustment knob at rear which permits adjusting the mechanism to each individual set.

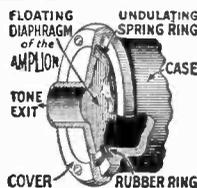
## Experience

[a third of a century of it]

## perfected The Amplion

Alfred Graham & Co., of London, England, are noted the world over as the originators and oldest makers of loud speakers. The Amplion is their masterpiece. Solely through its supremacy of performance, the coveted position of the world's largest selling loud speaker has long been held by it.

The Amplion Corporation of America was formed only last summer to market and produce Amplions over here. Already, however, The Amplion is firmly entrenched in popularity. Next season we intend to establish The Amplion in even a bigger, broader way—the way it deserves. Now is the time to investigate the proposition for 1925-26.



Diaphragm (Special metal), insulated from contact with other metal by rubber, rests on narrow ledge—lightly held there by a spring ring with enough pressure to prevent "chatter" when extreme volume is desired. Diaphragm thus "floats," free from strain, stress or undue tension and free to vibrate in exact accord with the variations of current flowing through electro-magnetic system. As a consequence, faithful reproduction is obtained throughout the entire musical scale—WITHOUT DISTORTION.

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Alfred Graham & Co. London, England, Patentees



Amplion Photograph Units \$19 and \$25



Amplion Dragonfly Model AR-102 \$13.50



The Amplion Junior DeLuxe Wood Horn AR-114 \$27.50

The Amplion Junior Model Metal Horn AR-111 \$24.00

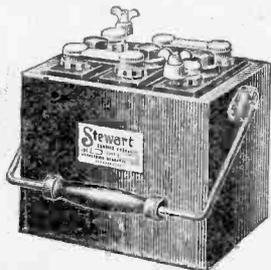


All prices slightly higher in far west

**See-Jay Battery Co.,**  
915 Brook Ave., New York, N. Y.  
Trade Name—"See-Jay"; Type—"B"; Capacity—1250 M.A.H.; Voltage—104; Material of Case—Wood; Finish—Oak; Dim.—10½ x 15; Price—\$18.00.

**B. H. Smith,**  
Danbury, Conn.  
Model No. 2  
Trade Name—"Hawley"; Type—"B"; nickel-iron alkaline type; Capacity—1250 M.A.H.; Voltage—100-120; Material of Case—Wood; equipped with switch, and nickel-plated binding posts; Finish—Mahogany; Dim.—16 x 5½ x 7¾; Price—100 volt, \$22.50; 120 volt, \$25.00.

**Stewart Battery Co.,**  
861 W. Superior St., Chicago, Ill.

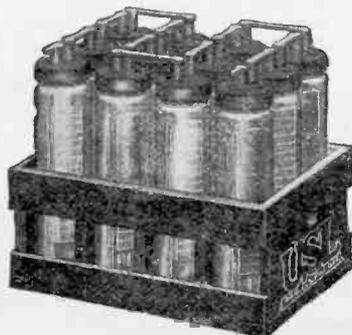


Trade Name—"Stewart"; Type—"A"; Capacity—60 A.H.; Material of Case—Rubber; equipped with rubber grip bale handle and gasket type cover; Finish—Black; Dim.—; Price—\$16.50; also 100 A.H., \$18.50; 120 A. H., \$21.00.

**U. S. Light & Heat Corp.,**  
Niagara Falls, N. Y.



Model DXA  
Trade Name—"USL"; Type—"A"; Capacity—Made in 6 sizes, 30-140 A.H.; Material of Case—Hard rubber; equipped with bushing cover, rubber gaskets, aluminum wing nuts and nickel-plated bail handle; Finish—Black; Dim.—; Price—\$6.20, \$7.60, \$14.70, \$18.90, \$24.00, \$30.05.

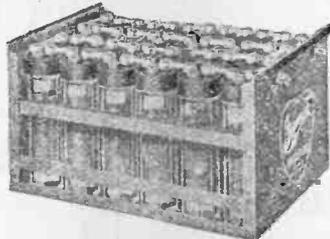


Model No. DXS-1202  
Trade Name—"U S L"; Type—"B"; Capacity—4500 M.A.H.; Voltage—24; Style—Open cell and tray; Dim.—8¾ x 6¾ x 7½; Price—\$8.75; also 48 volts, \$17.00, and 96 volts, \$34.00.

**Universal Battery Co.,**  
3410 S. La Salle St., Chicago, Ill.



Model No. WR  
Trade Name—"Universal"; Type—"A"; Capacity—60 A.H.; Material of Case—Wood; equipped with red colored position terminal and bail handle; Finish—Black; Dim.—9 x 7¼ x 9¾; Wt.—31 lbs.; Price—\$16.00.



Model No. RB-48  
Trade Name—"Universal"; Type—"B"; Capacity—3500 M.A.H.; Voltage—48; Material of Case—Steel; Finish—Gray; Dim.—11¾ x 7 x 6¾; Price—\$15.00.

**Westinghouse Union Battery Co.,**  
Swissvale, Pa.

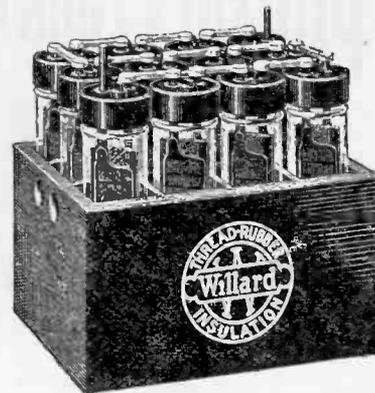


Model No. 24-RG-2  
Trade Name—"Westinghouse"; Type—"A"; Capacity—100 A.H.; Material of Case—Composition; equipped with bale handle; Finish—; Dim.—; Wt.—; Price—\$20.00.



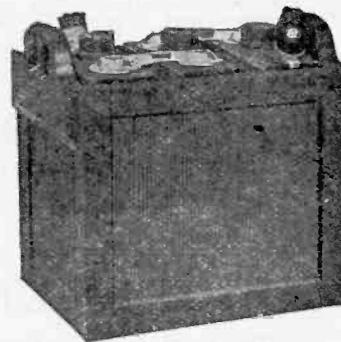
Trade Name—"Westinghouse Crystal Case"; Type—"B"; Capacity—3500 M.A.H.; Voltage—24; Material of Case—Glass; Dim.—7¾ x 5¾ x 4¾; Price—\$10.70.

**Willard Storage Battery Co.,**  
246 E. 131st St., Cleveland, Ohio



Type—"B", with hard rubber separators; Voltage—24.

**Witherbee Storage Battery Co.,**  
2 W. 61st St., New York, N. Y.

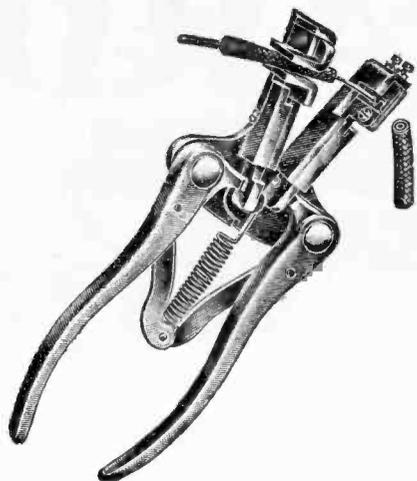


Model No. R-6-80  
Trade Name—"Witherbee"; Type—"A"; Capacity—80 A.H.; Material of Case—Hard rubber; equipped with lead lugs with hard rubber binding posts; Finish—Black; Price—\$21.00.

**Yale Electric Corp.,**  
Brooklyn, N. Y.



Model 6A90R  
Trade Name—"Yale"; Type—"A"; Capacity—90 A.H.; Material of Case—Rubber; equipped with bale handle; Finish—Black; Dim.—9¾ x 6¾ x 8¾; Wt.—42 lbs.; Price—\$19.70 f.o.b. New York; also made in 60 and 120 A.H.; also from 60 to 150 A.H. with mahogany case.



## A rugged time saver

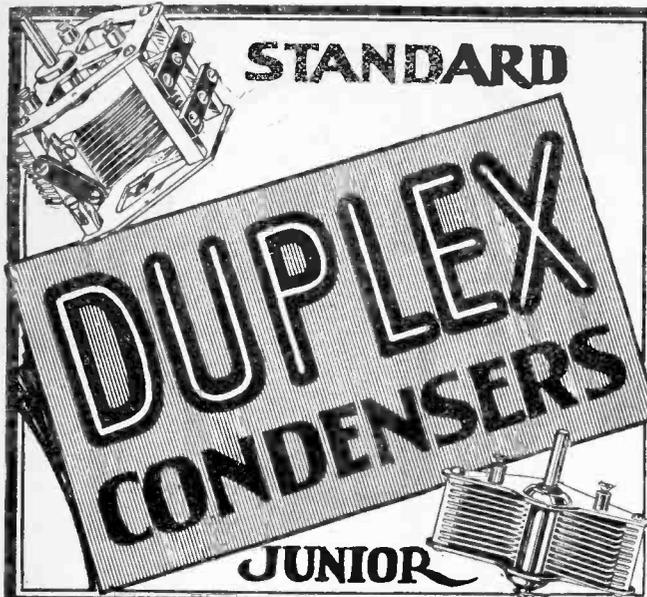
**M**ADE of case hardened, drop-forged steel, the Bard-Parker Wire Insulation Stripper will withstand all ordinary shop abuse.

The stripper works like a pair of pliers. In one operation, by simply closing your hand, this tool cuts and strips the insulation. The result is a clean, neat job—no nicked wire or frayed ends. Interchangeable blades are supplied for different varieties of work.

Whether for house or fixture wiring, radio or general wiring purposes, the wire stripper saves time and labor and produces superior work. This tool strips 1,200 ends an hour and is indispensable for quantity production.

Tool No. 1 regularly equipped with 3-hole stripper blades for No. 14-18-20 gauge wire. Where specified single hole interchangeable blades are supplied from No. 10 to 22 gauge even numbers. Price of complete Stripper f.o.b. New York \$7.00. Extra blades, 25c a pair.

**BARD-PARKER COMPANY, INC.**  
150 Lafayette Street. New York. N.Y.



### The MATCHED Set Feature of **DUPLEX CONDENSERS**

*Makes Bigger Profits!  
Through Easier Sales!*

No Condensers excel DUPLEX in low-loss or self-shielding qualities. They are made to conform to Bureau of Standards specifications. However, you are now spending much valuable time trying to prove why one type of condenser construction is worth more than another. We eliminate that time waste by giving you

#### A Brand New Condenser Sales Point

No matter how fine they are, condensers differ in maximum and minimum capacity. To give duplicate dial readings on tuned Radio Frequency, they must be matched by meter tests. Price considerations and construction features fade away when you put a set of DUPLEX MATCHED CONDENSERS on the counter, and state why they are matched.

#### A Consumer's Guarantee That Guarantees You Full List Price!!

The Duplex Condenser & Radio Corp. guarantees to co-operate with set builders in securing matched dial readings, even to the extent of replacing condensers—provided full list price was paid for the condensers.

#### DUPLEX NATIONAL ADVERTISING

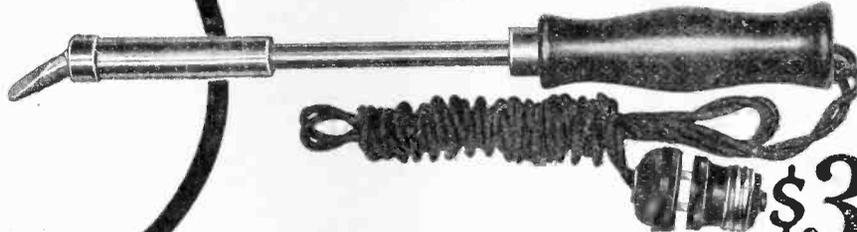
is educating your customers to all the facts about DUPLEX MATCHED CONDENSERS and why condensers should be matched. It is being told in all the leading Radio Magazines.

**Mail a Sample Order to your Jobber** Put one or two sets of DUPLEX MATCHED CONDENSERS in your stock. You will re-order! Because—you will find the DUPLEX way an easier, quicker, more profitable way to sell condensers than your present way.

**DUPLEX CONDENSER & RADIO CORP.**  
30 Flatbush Avenue Extension  
BROOKLYN, NEW YORK



# WARD



**\$3.25**

## The Soldering Iron With Swivel and Interchangeable Tips Made Especially for Radio

Its swivel point makes it possible to easily reach and repair properly difficult, inaccessible places. Unsurpassed for general repair work wherever a soldering iron is needed. For radio, Ward soldering irons have no equal.

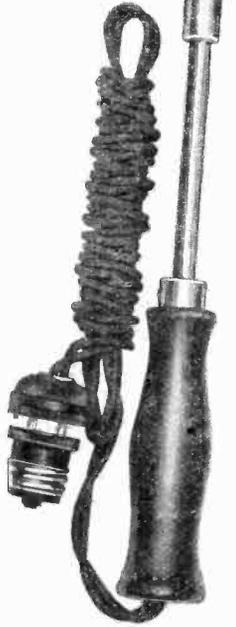
- NOTE**—
1. Exclusive patented swivel point, screwdriver tip.
  2. **INSULATED** so iron will not "ground."
  3. Built of highest quality materials and guaranteed to meet your demands for general use.
  4. Ward Soldering Irons are approved, and listed as standard by Underwriters' Laboratories.

Some of our distributors who can supply you at regular trade discount. Order from any of them. Prompt shipments will be made.

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 Monarch Tel. Mfg. Co., Chicago  
 Middle States Elec. Co., Chicago  
 Carolina States Elec. Co., Charlotte, N. C.  
 Tower Binford Electric Co., Richmond, Va.  
 St. Paul Electric, St. Paul, Minn.  
 Piedmont Electric Co., Asheville, N. C.

Kellogg Switchboard & Supply Co., Chicago  
 Illinois Electric Co., Chicago  
 Hibbard Spencer Bartlett Co., Chicago  
 Monarch Electric & Wire Co., Chicago  
 The Kormeyer Co., Lincoln, Neb.  
 Ed. Jones Hardware Co., San Francisco, Cal.

W. D. Allen Mfg. Co., Chicago  
 Stromberg-Carlson Tel. Mfg. Co., Chicago  
 American Elec. Co., Chicago  
 Palmer Electric Co., Chicago  
 Leich Elec. Co., Genoa, Ill.  
 Seville Mercantile Co., Atlanta, Ga.  
 Henkle & Joyce Hardware Co., Lincoln, Neb.  
 Metropolitan Electric Co., Chicago, Ill.



**\$2.75**

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Specialists in Soldering Irons

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SIX FEET OF SPECIAL FLEXIBLE RUBBER COVERED CORD.

TWO PIECE SEPARABLE PLUG FITS ANY WALL OR LIGHT SOCKET

KNOT HOLDS AGAINST SHOULDER IN HANDLE, RELIEVING ALL STRAINS ON CONNECTIONS.

HANDLE IS HARD WOOD WITH BAKED RUBBEROID FINISH

ALL METAL PARTS ARE ELECTRO NICKLE PLATED.

MICA LINING THOROUGHLY INSULATES INSIDE OF SLEEVE.

HIGHEST GRADE NICHROME WIRE WOUND ON SPECIAL CORE, INSURES LONG LIFE TO THE IRON.

POINT SWIVELS FROM STRAIGHT TO 45° POINT IS EASILY CHANGED SIMPLY BY LOOSENING NUT. TIGHT SURFACE OF BALL JOINT INSURES HEAT TRANSMISSION TO POINT. POINT IS ALREADY TINNED

—TRADE **WARD** MARK—

**ELECTRIC SOLDERING IRON**

PATENTS PENDING

MANUFACTURED BY WARD MFG. CO., INC., CHICAGO, U.S.A.



# Classified Index of Manufacturers

The Classified Index of Manufacturers, as published complete in ELECTRICAL RECORD, contains 39 pages embracing 465 subject headings. For the convenience of those dealing in Radio products, however, we have segregated the headings which have a direct bearing on Radio and have duplicated them in this Supplement. Under each heading, will be found all manufacturers of the goods indicated by the title.

**AERIAL PROTECTORS.** See Radio Antenna Equipment.  
**AMPLIFIER UNITS.** See Radio Receiver Parts.  
**ANTENNA LEAD-INS.** See Radio Antenna Equipment.  
**ARMS.** See Posts, Binding.  
**B RADIO BATTERIES.** See Batteries, Dry.

## BATTERIES, B, Dry

**CARRON PRODUCTS CO.,** Lancaster, O. "Ace," "Victor."  
**NATIONAL CARBON CO., INC.,** New York, N. Y. "Eveready," "Gray Label."  
**NIAGARA SALES CORP.,** 3 Waverly Place, New York, N. Y.  
**YALE ELECTRIC CORP.,** Brooklyn, N. Y. "Mono-Cells," "Powertaks."  
**Advance Battery Co.,** 109 Prince St., New York, N. Y. "ABC."  
**Bright Star Battery Co.,** Hoboken, N. J.  
**Business Battery Co.,** 111 W. Monroe St., Chicago, Ill.  
**Burn-Boston Battery & Mfg. Works,** 80 Boylston St., Boston. "Add Water," "Double-Life."  
**Champion Carbon Mfg. Co.,** 307 First National Bank Bldg., Cincinnati, O.  
**Comet Battery Co.,** 1362 E. Third St., Cleveland, O.  
**Deal Electric Co.,** 453 Broome St., New York, N. Y.  
**Diamond Electric Specialties Co.,** Local, Newark, N. J.  
**Enro Elec. Novelty Co.,** 306 W. 130th St., New York, N. Y.  
**Eureka Battery Co.,** 101 Wooster St., New York, N. Y. "B & C" Radio.  
**French Battery & Carbon Co.,** Madison, Wis. "Fleur de Lis," "Ray-O-Vac," "Ray-O-Lite."  
**Hipco Mfg. Co.,** 831 North Ave., N. S., Pittsburgh, Pa. "Hipco," "Radipla."  
**International Battery Co.,** 139 Spring St., New York, N. Y. "Kerton."  
**National Elec. Novelty Co.,** 407 Broome St., New York, N. Y. "Nemco."  
**Progressive Specialty Co.,** 315 Sycamore St., Cincinnati, O.  
**Queen City Brush & Specialty Co.,** 3203 Colerain Ave., Cincinnati, O. "Safety," "B" Radio.  
**Re-Via-Vo, Inc.,** 40 W. 20th St., New York, N. Y. (Rechargeable Dry Cell Storage.)  
**Standard Electric Novelty Co.,** 19 Bond St., New York, N. Y. "Cyclone."  
**Stuart Products Corp.,** 661 W. Washington Blvd., Chicago, Ill.  
**Toledo Battery Co.,** Toledo, O. "Old Master."  
**Twin Dry Cell Battery Co.,** 11400 Madison Ave., W., Cleveland, O. "Klearstone."  
**Underwood Battery Co.,** 1270 Ontario St., Cleveland, O.  
**Usama Mfg. Co.,** 103 E. 125th St., New York, N. Y. "Kwik-Lite."  
**Volton Battery Co.,** 21 Hopkins St., Brooklyn, N. Y.  
**Western Dry Battery Co.,** Seattle, Wash. "Bull Dog," "Bear."

## BATTERIES, Storage

**AMERICAN BATTERY CO.,** 2053 N. Racine Ave., Chicago, Ill.  
**MARKO STORAGE BATTERY CO.,** 1402 Atlantic Ave., Brooklyn, N. Y. "Rubber-It."  
**STEARNS MOTOR MFG. CO.,** Ludington, Mich.  
**YALE ELECTRIC CORP.,** Brooklyn, N. Y.  
**Advance Battery Mfg. Co.,** Louisville, Ky. "Powerfield."  
**Bartholomew Battery & Supply Co.,** Beethoven & Morganford Rd., St. Louis, Mo. "Sphinx."  
**Cleveland Engineering Laboratories Co.,** 2104 Superior Viaduct N. W., Cleveland, O. "B" Radio, "Storad."  
**Cooper Corp.,** Cincinnati, O. "B" Radio.  
**D-G Storage Battery Co.,** 2033 Indiana Ave., Chicago, Ill.  
**Englert Mfg. Co.,** Pittsburgh, Pa. "Dragon."  
**Economic Appliance Co.,** Irwin, Pa. "Eaco," "B" Radio.  
**Edison Storage Battery Co.,** Orange, N. J.  
**Electric Marine Mfg. Co.,** Hoboken, N. J.  
**Electric Storage Battery Co.,** Allegheny Ave. and 19th St., Philadelphia, Pa. "Eklde."  
**Fort Wayne Battery Mfg. Co.,** Fort Wayne, Ind.  
**Fraser Battery Co.,** Cleveland, O. "Bee" Comb Battery and Rectifier.  
**Gardner Ignition Co.,** 4522 Detroit Ave., Cleveland, O. (Wet "B" Battery.)  
**Gardner Storage Battery Co.,** New Bedford, Mass.  
**Globe Electric Co.,** 14 Keefe Ave., Milwaukee, Wis.  
**Gould Storage Battery Co.,** New York, N. Y. "Unipower."  
**Hartford Battery Mfg. Co.,** Middale, Conn.  
**Hazelett-Lancaster Co.,** Lancaster, Pa. "Lancaster."  
**Hazelett Storage Battery Co.,** 2135 Columbus Rd., Cleveland, O.  
**Helman Bros. Battery Co.,** St. Louis, Mo.  
**Jackson Battery Co.,** 1124 Jackson Blvd., Chicago. "Jaxon."  
**Jordan Battery Co.,** Ypsilanti, Mich. "Raydio," "B."  
**Kalb Elec. Co.,** St. Louis, Mo. "Keo."  
**Kimble Electric Co.,** Buffalo, N. Y. "Kic-O," "B."  
**Lithide Mfg. Co.,** Pittsburgh, Pa.  
**Master Storage Battery Co.,** College & Chestnut Sts., Washington, Pa.  
**Muller, A.,** Jamaica, N. Y. "Forex."  
**Nedick Storage Battery Co.,** Yonkers, N. Y.  
**New Bedford Battery Co.,** 540 Dartmouth St., New Bedford, Mass. Radio "A" and "B."  
**Ohio Storage Battery Co.,** 5324 Superior Ave., Cleveland, O.  
**Orum, S. R. M.,** 503 N. 11th St., Philadelphia, Pa. "Blue Bird," "B" Battery.  
**Oxide Battery Co.,** 1485 Marshall Ave., St. Paul, Minn.  
**Penn Paragon Battery Co.,** Pittsburgh, Pa.  
**Perfection Battery Mfg. Corp.,** 2306 S. La Salle St., Chicago, Ill.  
**Philadelphia Storage Battery Co.,** Ontario and C Sts., Philadelphia, Pa. "Philco."  
**Por-Cell Mfg. Co.,** 471 Hudson Ave., Brooklyn, N. Y. Radio "B."  
**Prent-O-Lite Co.,** Indianapolis, Ind.  
**Radio Rabat Co.,** 1758 St. Clair Ave., Cleveland. "Rabat" Rechargeable "B" Battery.  
**Roberts Radio Storage B Battery Co.,** 1122 Myrtle Ave., Brooklyn, N. Y.  
**Rochester Storage Battery Co.,** Rochester, N. Y.  
**Royal Battery Co.,** 121 W. 34th St., New York, N. Y. "B" Radio.  
**Sahara Dry Storage Battery Co.,** 232 Aborn St., Providence, R. I. "A" & "B."  
**Seneca Battery Corp.,** Buffalo, N. Y.  
**Todd Electric Co.,** 109 W. 23rd St., New York, N. Y.  
**Tufts, W. & G.,** Boston, Mass.  
**U. S. Light & Heat Corp.,** Niagara Falls, N. Y.  
**Universal Battery Co.,** 3410 S. La Salle St., Chicago, Ill. Rechargeable "B."  
**Wearite Storage Battery Co.,** 107 De Lancy St., Philadelphia, Pa.  
**Westinghouse Union Battery Co.,** Swinsvale, Pa.  
**Willard Storage Battery Co.,** 246 E. 131st St., Cleveland, O.  
**Witherbee Storage Battery Co.,** 2 W. 61st St., New York, N. Y.  
**Wolke Lead Batteries Co.,** Louisville, Ky. "Red Cap."  
**BINDING POSTS.** See Posts, Binding.

## CABINETS, Radio, Wood

**BLANDIN PHONOGRAPH CO.,** 1600 16th St., Racine, Wis.  
**JESSE MFG. CO.,** John O. Bryan, O.  
**KNOCKDOWN RADIO CABINET CORP.,** 260 Railroad Ave., Jersey City, N. J. "Ray-De-O-Case."  
**THERMODYNE RADIO CORP.,** Plattsburg, N. Y.  
**WINDSOR FURNITURE CO.,** 1432 Carroll Ave., Chicago, Ill.  
**American Radio Cabinet Co.,** Grand Rapids, Mich.  
**Bartholomew, G. A.,** 409 Guardian Bldg., Cleveland, O. "Favorite."  
**Bay View Furniture Co.,** Holland, Mich.  
**Boehman Cabinet Co.,** J., 2218 W. 63rd St., Cleveland O.  
**Drehsbach Radio Co.,** Audubon, N. J.  
**Elgin Phonograph & Novelty Co.,** Union & Chicago Sts., Elgin, Ill.  
**Empire-United Hat Block Co.,** 312 E. 22nd St., New York, N. Y.  
**Eveready Woodworking Co.,** 809 E. Fifth St., New York, N. Y.  
**Express Body Corp.,** Crystal Lake, Ill.  
**Jewett Radio & Phonograph Co.,** 5680 12th St., Detroit, Mich. "Parkay."  
**Kelton Mfg. Co.,** 76 Exchange St., Worcester, Mass.  
**Klumpf Sons, John G.,** 13 Baxter St., New York, N. Y.  
**Kundtz, Theodore,** Center, Elm and Washington Sts., Cleveland, O.  
**Mills Cabinet Co.,** Racine, Wis.  
**Natural Voice Talking Machine & Radio Cabinet Co.,** Oneida, N. Y.  
**Pleson Co.,** Rockford, Ill.  
**Pioneer Cabinet Co.,** 1500 Union Ave., S. E., Grand Rapids, Mich.

**Pooley Furniture Co., Inc.,** 16th St. & Indiana Ave., Philadelphia, Pa.  
**Radio Cabinet Co.,** 470 Bergen St., Brooklyn, N. Y.  
**Radio Cabinet & Equipment Co.,** 1504 Vine St., Philadelphia, Pa. (Cabinet Tables and Baseboards.)  
**Radio Mfg. Co.,** Div. of Pilled Lumber Co. Swanton, O.  
**Snell Cabinet Wks.,** 800 Gates Ave., Brooklyn, N. Y.  
**Southern Toy Co.,** Hickory, N. C.  
**Standard Cabinet Mfg. Co.,** Peru, Ind.  
**Stiefler Elec. Co.,** Eliza, N. Y. "Radio Cabinet."  
**Strodivara Co.,** Coshocton, O. (Combination Phonograph & Radio.)  
**Straus Cabinet Wks.,** Eugene, Baxter Ave., Louisville, Ky.  
**Sturm Radio Cabinet Factory,** 319 S. Jefferson St., Chicago, Ill.  
**Udell Wks.,** 28th St. & Barnes Ave., Indianapolis, Ind.  
**Wright Radio Mfg. Co.,** 1466 Selby St., St. Paul, Minn.

## CHARGING OUTFITS

Rectifiers and Complete Sets for Charging Storage Batteries.  
**ACME ENGINEERING CO.,** Dept. 4, Louisville, Ky. "Duo-Power."  
**AMERICAN BATTERY CO.,** 2053 N. Racine Ave., Chicago, Ill. "Ab-rec," "Amree."  
**FANSTEEL PRODUCTS CO.,** North Chicago, Ill. "Balkite."  
**FORE ELEC'L MFG. CO.,** 5255 N. Market St., St. Louis, Mo. "Master Fore."  
**FOREIGN & DOMESTIC ELEC'L COMMODITIES, INC.,** 635 W. 23rd St., New York, N. Y. "Eagle."  
**GENERAL ELEC. CO.,** Schenectady, N. Y. "Tunzar," "Kenetron."  
**HOLMES ELEC'L MFG. CO.,** 1810 Leland Ave., Chicago, Ill. "A. C." "Auto-charger," "Arcon."  
**LIBERTY ELECTRIC CORP. OF NEW YORK,** 342 Madison Ave., New York, N. Y. "Lib-Wave."  
**NATIONAL ELEC. CONTROLLER CO.,** 154 Whiting, Chicago, Ill.  
**OHIO ELEC. & CONTROLLER CO.,** 5904 Maurice Ave., Cleveland, O.  
**SHERMAN MFG. CO.,** H. B. Battle Creek, Mich.  
**STERLING MFG. CO.,** Dept. C., 2837 Prospect Ave., Cleveland, O.  
**VALLEY ELEC. CO.,** 3157 S. Kingshighway, St. Louis, Mo.  
**WARD LEONARD ELEC. CO.,** Mt. Vernon, N. Y.  
**WESTINGHOUSE ELEC. & MFG. CO.,** East Pittsburgh, Pa. "Rectigon," "Cooper Hewitt."  
**Acme Elec. & Mfg. Co.,** 1444 Hamilton Ave., Cleveland, O.  
**Adams Barre Co.,** 1246 High St., Columbus, O. "Setoto."  
**Advance Electric Co.,** Los Angeles, Cal.  
**Apo Mfg. Co.,** Providence, R. I.  
**Austin-Brandmire Corp.,** 160 Grand St., New York, N. Y. "Everyman's."  
**Beacon Rectifier Co.,** Hyde Park, Mass. "Silent Night" Battery Charger.  
**Blitz Elec. Co.,** 3115 Archer Ave., Chicago, Ill. "A and B."  
**Burton & Rogers Mfg. Co.,** 755 Boylston St., Boston, Mass.  
**Cleveland Engineering Laboratories Co.,** 2104 Superior Viaduct, N. W., Cleveland, O.  
**Develop Electric Mfg. Co.,** 35 Goodrich St., Buffalo, N. Y. "Niagara."  
**Detroit Battery Charger Co.,** 3683 Willis Ave., Detroit, Mich. "Deboo."  
**Electric Products Co.,** 1725 Clarkston Rd., Cleveland, O. "Wotten."  
**Electric Specialty Co.,** Stamford, Conn.  
**Forest Elec. Co.,** New and Wilsey Sts., Newark, N. J. "Unltron."  
**France Mfg. Co.,** 10325 Berea Rd., Cleveland, O. "F-F" "Silent Supercharger."  
**Fraser Battery Co.,** 5324 Superior Ave., Cleveland, O. (Comb. Battery and Rectifier.)  
**Gold Seal Elec. Co.,** 2110 Woodland Ave., Cleveland, O. "Chargall."  
**Hobart Bros. Co.,** Troy, O. "H-B" for constant potential charging.  
**Interstate Elec. Co.,** 433 Duncan Ave., St. Louis, Mo. "Handy," "Simplex."  
**Kimley Electric Co.,** 2663 Main St., Buffalo, N. Y. "Kic-O."  
**King Elec. Mfg. Co.,** 1681 Fillmore Ave., Buffalo, N. Y. "Radio-A," "Electron."  
**Kodel Radio Corp.,** 118 W. Third St., Cincinnati, O. "Unipanel," "Gold Seal Home-charger," "Homecharger."  
**Lech Elec. Co.,** Genoa, Ill. "Non-Tune," "Ultra Handy."  
**Magnetizer Mfg. Co.,** 6110 S. Main St., Los Angeles, Cal. "Colpin" (Magnets Recharger).  
**Marshall Elec. Co.,** St. Louis, Mo. (Motor Generator Sets for constant potential charging.)  
**Mohawk Elec. Mfg. Co.,** 15 Kirk Place, Newark, N. J.  
**Morrison & Chair-chair Co.,** 950 Polk St., San Francisco, Cal. "Quill."  
**Niles Mfg. Co.,** Ypsilanti, Mich.  
**Oxide Battery Co.,** 1485 Marshall Ave., St. Paul, Minn.  
**Price-Rochester Corp.,** 640 Driving Park Ave., Rochester, N. Y. (Motor Generator Sets for Constant Potential Charging.)  
**Radiogem Corp.,** 66 W. Broadway, New York, N. Y.  
**Radio Rabat Co.,** 1758 St. Clair Ave., Cleveland O.  
**Re-Via-Vo, Inc.,** 40 W. 20th St., New York, N. Y.  
**Riggs Mfg. Co.,** Urbana, O.  
**Roth Bros. & Co.,** 1401 W. Adams St., Chicago, Ill. (Motor Generator Sets for constant potential charging.)  
**Shreveport Battery Co.,** Shreveport, La. "Newson."  
**Seneca Battery Corp.,** Buffalo, N. Y.  
**Standard Transformer Co.,** Dana Ave., Warren, O.  
**Spartan, A. E.,** 806 N. Gar St., Baltimore, Md.  
**Superior Engineering Co.,** Pittsburgh, Pa.  
**Telephone Maintenance Co.,** 20 S. Wells Co., Chicago, Ill.  
**Todd Elec. Co.,** 109 W. 23rd St., New York, N. Y.  
**United Elec. Apparatus Co.,** Boston, Mass. "Economy."  
**Witwer, H. E.,** 13702 Shaw Ave., Cleveland O. "Canoe."

## CLAMPS, Ground

**APPLETON ELEC. CO.,** 1703 Wellington Ave., Chicago, Ill.  
**BLACKBURN SPECIALTY CO.,** 1970 E. 66th St., Cleveland, Ohio.  
**CHELTON ELEC. CO.,** 4865 Stanton Ave., Philadelphia, Pa.  
**CONNECTICUT ELEC. MFG. CO.,** Bridgeport, Conn.  
**EAGLE ELEC. MFG. CO.,** 34 S. Eighth St., Brooklyn, N. Y.  
**FAIRMONT ELECTRIC & MFG. CO.,** 59th St. & Woodland Ave., Philadelphia, Pa. "All-in-One," "Bendlick."  
**GENERAL ELEC. CO.,** Merchandise Dept., Bridgeport, Conn.  
**HART & HEGEMAN CO.,** Hartford, Conn.  
**HEINEMANN ELEC. CO.,** Philadelphia, Pa. "Surette."  
**KILLOUGH CO., DAVID,** Dodge Bldg., Park Place and West Broadway, New York, N. Y. "K. K. K."  
**KIRKMAN ENGINEERING CORP.,** 484 Broome St., New York, N. Y. "K-E."  
**RATTAN MFG. CO.,** New Haven, Conn. General Sales Agents, Hathaway & Co., 16 Hudson St., New York, N. Y. "Marr."  
**ROACH-APPLETON MFG. CO.,** 3982 Barry Ave., Chicago, Ill.  
**SEYLER MFG. CO.,** Pittsburgh, Pa.  
**SHERMAN MFG. CO.,** Battle Creek, Mich.  
**THOMAS & BETTS CO.,** 63 Vesey St., New York, N. Y.  
**Alloy Metal Stamping & Specialty Co.,** Williamston, N. J. "E-Z-On."  
**Austin Co. M. H.,** No. 8 DuPLAIN St., Chicago, Ill.  
**B. & D. Mfg. Co.,** Rock Island, Ill. "Lock Nut."  
**Cameron Appliance Co.,** Everett, Mass.  
**Chase-Shawmut Co.,** Newburyport, Mass.  
**Diamond Expansion Bolt Co.,** New York, N. Y.  
**Fishery Co.,** M. E., 8 Clinton St., Chicago, Ill. "Mefco."  
**Forbes, Robert R.,** Mt. Holly, New Jersey.  
**Gleason Co. James E.,** No. 540 W. Monroe St., Chicago, Ill.  
**Gillette-Vibber Co.,** New London, Conn. "Gee-Vee."  
**Globe Metal Mfg. Co.,** No. 2122 E. Hazard St., Philadelphia, Pa.  
**Grabler Mfg. Co.,** No. 6565 Broadway, S.E. Cleveland, O. "Square Gee."  
**Groundnut Co.,** Newark, N. J.  
**Hutton Elec. Mfg. Co.,** 2730 W. Allegheny Ave., Philadelphia, Pa.  
**Johnson Elec. Mfg. Co.,** Warren, E. I. "Car-Swivel-Set," "Unitey."  
**Mathen Elec. Mfg. Co.,** 4639 E. Thompson St., Philadelphia, Pa.  
**Merz Specialty Co.,** 1404 W. 3rd St., Wilmington, Del. "Saddle."  
**Overhagh Co.,** Cameron, No. 130 W. Austin Ave., Chicago, Ill.  
**Penn Pressed Metal Co.,** Newton Ave. and Live St., Camden, N. J. (Solderless Type).  
**Schmuckler & Sons, No. 2232 N. 28th St.,** Philadelphia, Pa.  
**Simson, Alexander B.,** No. 152 E. 53rd St., New York, N. Y.  
**Utility Fittings Co.,** No. 1932 E. Westmoreland St., Philadelphia, Pa.  
**Ward Electric Co.,** Philadelphia, Pa.  
**Windman-Goldsmith, Inc.,** Perth Amboy, New Jersey.

CLAMPS, Test

ANDERSON MFG. CO., ALBERT & J. M., 289 A St., Boston, Mass. "Alligator-Jaw."
FAIRMOUNT ELEC. & MFG. CO., 58th St. and Woodland Ave., Philadelphia, Pa. "H. H. W." "Alligator."
MORSE CO., FRANK W., 289 Congress St., Boston, Mass. "Eureka."

FIBRE

DIAMOND STATE FIBRE CO., Bridgeport, Pa. (near Philadelphia) "Condensite Cellulose."
FIBROC INSULATION CO., Valparaiso, Ind.
SPAULDING FIBRE CO., INC., Tonawanda, N. Y. "Bakelite Duresto."

FIBRE, Vulcanized

Sheet, Rod, Tube, Horn Fibre, Fish Paper, Paper Bushings, Washers, Cleats, Screw Machine Products.
BRANDYWINE FIBRE PRODUCTS CO., N. Walnut St., Wilmington, Del.
CAMPBELL FIBRE CO., Stanton, Del.
DELAWARE HARD FIBRE CO., Wilmington, Del. "Egyptian."

HYDROMETERS

RELIABLE PARTS MFG. CO., 2819 Prospect Ave., Cleveland, O.
American Bureau of Engineering, 2852 Prairie Ave., Chicago, Ill. "Ambu."
Eastery Equipment & Supply Co., 1858 S. Wabash Ave., Chicago, Ill. "Reeco."

INSTRUMENTS, Radio

DONGAN ELEC. MFG. CO., 2885 Franklin St., Detroit, Mich.
GENERAL ELEC. CO., Schenectady, N. Y.
ILLINOIS TESTING LABORATORIES, 141 West Austin Ave., Chicago, Ill.
JEWELL ELEC. INSTRUMENT CO., 1650 Walnut St., Chicago, Ill.
ROLLER-SMITH CO., 239 Broadway, New York, N. Y.

MAGNETS, Permanent

BULENS CO., D. K., Pottstown, Pa.
STROMBERG-CARLSON TELE MFG. CO., 1060 University Ave., Rochester, N. Y.
Chester Mechanical Advertising Co., 1416 Broadway, New York, N. Y.
Ind. Steel Products Co., Valparaiso, Ind.

MOLDED INSULATION

AMERICAN ELEC. CO., INC., 22 Prospect St., Newark, N. J. "Ameroid."
AMERICAN INSULATOR CORP., 52 Vanderbilt Ave., New York, N. Y. "Alico."
BAKELITE CORP., 247 Park Ave., New York, N. Y. "Bakelite," "Condensite," "Redmanol," "Evercool."

MOLDED INSULATION—Continued

GENERAL INSULATE CO., 1000 Atlantic Ave., Brooklyn, N. Y. "Hi-Heat." "Insulate," "Star Insulate."
INTERNATIONAL INSULATING CORP., Elyria, O.
ISOLANTITE CO. OF AMERICA, INC., Belleville, N. J.
JOHNS-PRATT CO., Hartford, Conn. "Vulcabeston," "Noark."

POSTS, Binding

Binding Posts and Lever Switch Parts, Stop Points, Contacts, Arms, Levers
This heading contains Advertisers only.
AJAX ELECTRIC SPECIALTY CO., St. Louis, Mo. "BBB."
AMERICAN RADIO & RESEARCH CO., Dept. E., Medford Hillside, Mass.
BUNNELL & CO., J. H., 32 Park Pl., New York, N. Y.

RADIO ANTENNA EQUIPMENT

Adjusters, Antenna Wire
Aerial Protectors (Lightning Arresters)
Antenna Lead-Ins
Insulators
Loop Antenna
Poles and Mast Fittings, Antenna
Plugs (Antenna Socket)

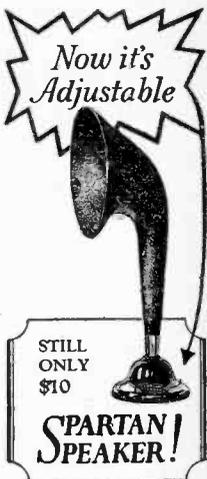
# play a winner



There's money in playing a winner—and there's the pride of choosing the fortunate side, too! Particularly when success has been built on real value.

The famous SPARTAN SPEAKER is now adjustable from the top side, has a pure rubber horn, a beautiful bakelite base and a felt covered metal bottom—and the well known price of \$10 only still holds good.

The SPARTAN AUTOMATIC PLUG is making a very popular 65c seller. Is your stock ready for the demand?



Write us for information on the complete Spartan Line and consult your distributor. Copies of our national advertising on request

**SPARTAN ELECTRIC CORP.**  
99 Chambers Street New York City

## The Line of Least Resistance

IT isn't hard to sell Premier Radio parts to the "fan" because they are designed specially to please him. They are strictly quality parts,—made of the best materials, assembled with utmost precision.

"HEGEHOG" Audio Transformer is only half as big as others but for natural tone quality and marvelous volume it is unsurpassed. Ratios 1 to 3, 1 to 4, 1 to 5, \$3.50. Ratio 1 to 10, \$4.50.

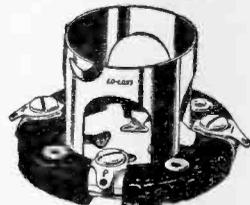
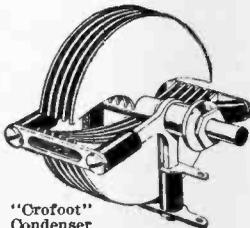
"CROFOOT" Low Loss Vario Condenser gives the lowest minimum capacity (.000007) and highest tuning ratio (1 to 74). All brass and hard rubber. Plates soldered. Price from \$2.75 to \$3.75. Complete with "EZ Toon" Vernier Dial 75 cents additional.

"LO LOSS" Tube Socket has lowest insulation leakage and lowest capacity. Contacts never take set and are always visible. Easy and sure cam-action lock. Price 90 cents.

FREE TO DEALERS—Diagrams of most popular hook ups for free distribution to your trade. Write for a supply today also copy of Bulletin No. 94 describing full line of Premier Quality Parts.

**PREMIER ELECTRIC CO.**  
3808 Ravenswood Ave., Chicago

**PREMIER**  
Quality Radio Parts



## Radio Fans Are Getting Wise

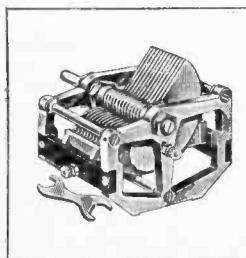
No other class of people absorb technical knowledge with quite such rapidity as the radio fan. Three months after he has purchased his first crystal set he is talking of such things as "harmonics" and "grid biases" and what is more important—he is picking his radio parts with a quick discrimination of the fit and the unfit.

With the education of the fan more and more is it to the dealer's advantage to sell only apparatus of known reliability.

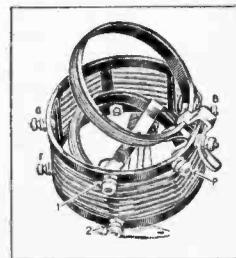
### Why you should stock B-T Parts

B-T Condensers and Inductances have won the unqualified endorsement of the fan and authority alike. Their greatest recommendation is "that they work."

A product second to none, backed by national advertising is the reason why jobbers and dealers find this one of their most profitable lines.



B-T Low Loss Condenser



B-T Low Loss Tuner

**BREMER-TULLY MFG. CO.**  
532 S. Canal St., Chicago

**RADIO ANTENNA EQUIPMENT—Continued**

WATERBURY BUTTON CO., Waterbury, Conn.	A I L P L I M
Aerovox Wireless Corp., 489 Broome St., New York, N. Y.	I F
American Porcelain Co., 229 E. Second St., East Liverpool, O.	I L
Amplifier Radio Corp., 35 Massachusetts Ave., Arlington, Mass.	L
Banker Wind Shield Co., Ellsworth Ave. & Sumner St., Pittsburgh, Pa.	L
Barkeley Elec. Mfg. Co., Middletown, O.	A
Bassett Metal Goods Co., Derby, Conn. (Sole Selling Agent Hatheway & Co., 16 Hudson St., New York, N. Y.)	L I
Betts & Betts Corp., 645 W. 43rd St., New York, N. Y.	L
Bi-Metallic Radio Parts Corp., 476 13th Ave., Newark, N. J.	A I L
Bisby Mfg. Co., 59 Warren St., New York, N. Y.	L I
Bogart, C. K., 1409 4th Ave., Seattle, Wash. (Folding "Van B")	L I
Brach Mfg. Co., L. S., 120 Sussex Ave., Newark, N. J.	A I L
Branson Co., Chas. A., 815 Main St., Buffalo, N. Y.	A
Chance Co., Centralia, Mo.	A
Cleveland Products Co., 714 Huron Rd., Cleveland, Ohio.	A L
Cook Elec. Co., 2700 Southport Ave., Chicago, Ill.	I
Corning Glass Co., Corning, N. Y. (Glass "Pyrex")	I
Davidson Porcelain Co., East Liverpool, Ohio.	I
Delgo Elec. & Mfg. Co., 131 Church St., New Brunswick, N. J.	A
D. X. Instrument Co., 218 W. 34th St., New York, N. Y. "Fill-Ko-Arrestor"	A
D & B Radio Service, 419 Ripelle St., Detroit, Mich.	P
Eagle Elec. Mfg. Co., 38 S. 8th St., Brooklyn, N. Y.	L I M
Eagle Radio Co., 16 Boyden Place, Newark, N. J. "Portabloop"	L
Electrical Research Laboratories, 2500 Cottage Grove Ave., Chicago, Ill. "Eria" (Collapsible)	L
Electrose Mfg. Co., 70 Washington St., Brooklyn, N. Y.	I
Essex Mfg. Co., 117 Mulberry St., Newark, N. J.	A
Federal Porcelain Co., Carey, O. "Fedco"	I
Fishwick Radio Co., Edwards Bldg., Cincinnati, O. "Effarsee" (Portable)	L
Footo, Pierson & Co., 109 Dunne St., New York, N. Y. "Argus"	A
Freitag Mfg. Co., Freeport, Ill.	M
General American Radio Mfg. Corp., 242 W. 55th St., New York, N. Y.	L
Harmony Mfg. Co., 2812 Griffith Ave., Cincinnati, O.	L
High Tension Supplies Co., Wilmington, Del.	L
Hull & Co., S. W., 2048 E. 79th St., Cleveland, Ohio. "Her-cules" (Masts)	A
Interstate Signal Co., 302 N. Grant Ave., Columbus, O. (Indoor Basket Aerial)	L
Korach Radio Co., 309 S. LaSalle St., Chicago, Ill.	L
Lincoln Radio Corp., 224 N. Wells St., Chicago, Ill.	L
Magnus Elec. Co., 787 E. 138th St., New York, N. Y.	A
Manhattan Elec'l Supply Co., 17 Park Place New York, N. Y. "Nap Loop"	L
Marion Electric Mfg. Co., 24 Cliff St., Jersey City, N. J.	L
Mass Seat Mfg. Co., 119 5th St., S. E. Minneapolis, Minn.	M
National Elec. Specialty Co., 314 N. Clair St., Toledo, Ohio. "Vac-M"	A
Peerless Aerial Adjuster & Insulator Co., 471 Sumner Ave., Brooklyn, N. Y. (Antenna Wire Adjusters)	M
Philadelphia Rust Proof Co., Montgomery Ave. at Howard St., Philadelphia, Pa. "Lead-In-Sulator"	L I
Phillips Laboratories, Grand Rapids, Mich.	L
Pollard Bros. Mfg. Co., 4032 N. Tripp Ave., Chicago, Ill.	L
Radio Amplifier Laboratory, 4884 N. Clark St., Chicago, Ill. "Flat" (Collapsible)	L
Radio Receptor Co., 59 Bank St., New York, N. Y. "Anchor R. R."	A I
Ritter Radio Corp., 232 Canal St., New York, N. Y.	L
R. U. F. Products Co., 638 Hendrix St., Brooklyn, N. Y.	A
Scott & Petzer Co., Cleveland, O. "Volunax" (Collapsible)	L
Shinn Mfg. Co., 154 Whiting St., Chicago, Ill.	L
Silver-Margall, Inc., 65 W. 42nd St., New York, N. Y.	L
Simpler Radio Co., 1013 Ridge Ave., Philadelphia, Pa.	A
Standard Porcelain Co., East Liverpool, O.	I
Stormproof Products Corp., 87 5th Ave., New York, N. Y.	I
Teleradio Engineering Corp., 484 Broome St., New York, N. Y.	A
Treble Porcelain Co., East Liverpool, O.	I
Trident Elec. Co., 16 Hudson St., New York, N. Y.	L I
Union Elec'l Works, Inc., Trenton, N. J.	I
Usma Radio Co., 309 S. St. Clair St., Toledo, O.	L
V. De-Lo Radio Mfg. Co., Ashbury Park, N. J.	L
Western Pipe & Steel Co., of Illinois, 4948 Bloomingdale Ave., Chicago, Ill. "Liberty"	M
Wheaton Co., Millville, N. J. (Glass)	I
Whitlsey Engineering Co., Williamson Bldg., Cleveland, O. (Masts)	M
Wright & Wright, 2115 N. Broad St., Philadelphia, Pa.	L
W. W. Mfg. Co., 2488 Kingston Rd., Cleveland, O.	F

**RADIO BROADCASTING EQUIPMENT**

WESTERN ELEC. CO., 100 E. 42nd St., New York, N. Y.	
Acme Apparatus Co., 37 Osborne St., Cambridge, Mass.	
RADIO CABINETS. See Cabinets, Wood.	

**RADIO CRYSTALS**

Galena, Silicon, Carborundum, Zincite, Pyrite, Molybdenite, Hossite, Graphite.

B-METAL REFINING CO., 519 Woodward Ave., Detroit, Mich.	
PHILMORE MFG. CO., 105 Chambers St., New York, N. Y.	
STAR CRYSTAL CO., 519 Woodward Ave., Detroit, Mich.	
WOLVERINE RADIO CO., 103 W. Atwater St., Detroit, Mich. "Merite," "Braz Band"	
Acme Apparatus Co., 37 Osborne St., Cambridge, Mass.	
Arla Crystal Co., 1402 Seventh Ave., Moline, Ill.	
Adrin Laboratories, Newark, N. J.	
All-Point Mfg. Co., Detroit, Mich.	
California Radio Minerals, 904 Oak Grove Ave., Burlingame, Cal. "A-1"	
Curry & Couteiller, 2843 W. 9th St., Los Angeles, Cal. "Radio Argentine"	
Foute Mineral Co., Philadelphia, Pa. "Triple Test"	
Galena Crystal Mfg. Co., Brooklyn, N. Y.	
Harris & Birdseye, New York, N. Y. "Ganserite," "Harco"	
Hatfield & Son, H. D., 4655 Hollywood Blvd., Hollywood, Cal.	
McCarthy Radio Products Co., 921 N. Almsworth St., Tacoma, Wash. "Mount Tacoma Panhandle"	
Martin-Hewitt Laboratory, 40 Fifth Ave., Masseth, N. Y. "Garrite"	
Miller Radio Co., A. H., 1224 20th St., Detroit, Mich. "B-Metal"	
M P M Sales Co., Los Angeles, Cal.	
Multi-Point, H. P., Co. (West Phila.), Philadelphia, Pa.	
Pacific Radio Specialty Co., 17 S. Orianna St., Philadelphia, Pa. "Death Valley"	
Post Trading Co., New York, N. Y.	
Radio Testing Station, Binghamton, N. Y. "R T S."	
Radio Minerals Co., 1935 Hazelwood Ave., Detroit, Mich.	
Rocky Mt. Radio Products, Inc., New York, N. Y.	
R. U. F. Products Co., 292 Liberty Ave., Brooklyn, N. Y.	
Rusonite Products Corp., New York, N. Y.	
Trimount Trading Co., 61 Court St., Boston, Mass.	
United Metal Stamping & Radio Co., 411 E. Pearl St., Cincinnati, O. "Flintex" "L D R"	
Walker Co., G. W., 5733 Broadway, Cleveland, O. "Crystalesette"	

**RADIO MOUNTINGS**

Coil Mountings, Coil Sliders and Rods, Detector and Grid Leak Mountings

MARSHALL-GERKEN CO., Toledo, O.	
MOHAVE ELECTRIC CORP., 2250 Diverser Parkway, Chicago, Ill. "Edsh"	
MUTER CO., LESLIE M., 76th St. & Greenwood Ave., Chicago, Ill.	
Aerovox Wireless Corp., 489 Broome St., New York, N. Y.	
Ajax Products Co., 105 Warren St., New York, N. Y.	
Alden Mfg. Co., Springfield, Mass. "Na-all"	
Asterfeld Mfg. Co., Inc., 416 Marcy Ave., Brooklyn, N. Y.	
Branson Co., Inc., Chas. A., 815 Main St., Buffalo, N. Y.	
Durham & Co., 1936 Market St., Philadelphia, Pa.	
Elec'l Dealers Supply House, Inc. Diverser & Logan Blvd., Chicago, Ill. "Edsh"	
Gelman & Wehnert, 42 Walnut St., Newark, N. J.	
Magnus Elec. Co., 787 E. 138th St., New York, N. Y.	
McClanahan Mfg. Co., 84 Columbia St., Seattle, Wash. "Tom Mack"	
Remler Radio Mfg. Co., 248 First St., San Francisco, Calif.	
United Radio & Mfg. Co., 191 Greenwich St., New York, N. Y.	

**RADIO RECEIVER PARTS**

Amplifier units	See A	Key	See P
Coils	See I	Plugs	See J
Condensers	See C	Potentiometers	See E
Couplers	See I	Rhenistats	See E
Detectors	See D	Sockets	See S
Diodes	See P	Socket Adapters	See S
Grid Leaks	See C	Transformers	See T
Inductances	See I	Transformer coils (Tuned R. F.)	See I
Jacks	See J	Variometers	See I
Lever Switches	See L	Wave selectors	See A

A-C. ELECTRICAL MFG. CO., Dayton, O. "Copp Varlo Selector" I C S B R P

ACME ENGINEERING CO., Dept. 4, Louisville, Ky. I C S B R P A

AEOLUS CORP., 161 Grand St., New York, N. Y. S R

AIR-WAY ELEC. APPLIANCE CORP., Toledo, O. C T R L D

AJAX ELEC. SPECIALTY CO., St. Louis, Mo. C S B J P

ALL AMERICAN RADIO CORP., 2658 Coyne St., Chicago, Ill. "Rauland-Lyric" "Senior" "Junior" (Reflex Kits) T S

ALLEN-BRADLEY CO., 493 Clinton St., Milwaukee, Wis. "Bradleylink" "Bradleyom" "Bradley-switch" "Bradleystat" "Bradley-leak" "Bradleyometer" "Bradleydenser" "Bradleyunit" C R J

AMERICAN BRAND CORP., 8 W. Park St., Newark, N. J. C R J

AMERICAN ELEC. CO., State & 64th St., Chicago, Ill. J

AMERICAN RADIO & RESEARCH CO., Dept. E., Medford Hillside, Mass. "Amrad" I

AMERICAN TRANSFORMER CO., Newark, N. J. "American" T

ANDREA F. A. D., 1581 Jerome Ave., New York, N. Y. "Pada" (Neutrodyne Kits) I C T R L D

APEX ELEC'L MFG. CO., Dept. 415, 1410 W. 59th St., Chicago, Ill. (Super Heterodyne Kits) C T

ATWATER KENT MFG. CO., 4722 Wissahickon Ave., Philadelphia, Pa. I C R L D P

AUTH ELEC'L SPECIALTY CO., 422 E. 53rd St., New York, N. Y. J

BEACON RADIO MFG. CO., 100 S. Third St., Brooklyn, N. Y. C S B J D

BELL MFG. CO., 11 Elkins St., Boston, Mass. S

BENJAMIN ELEC. MFG. CO., 120 S. Sangamon St., Chicago, Ill. "Cle-Ra-Tone" S L

BOONE RADIO CORP., J. T., 3489 E. Jefferson, Detroit, Mich. (Super Heterodyne Kits) I C T L

BREMER-TULLY MFG. CO., 532 S. Canal St., Chicago, Ill. "Lifetime" (Knockdown Kits) I C T P A

BROOKLYN METAL STAMPING CORP., 718 Atlantic Ave., Brooklyn, N. Y. "B. M. S." J D

BUNNELL & CO., J. H., 20 Park Pl., New York, N. Y. I C

CARLISLE & FINCH CO., 221 E. Clinton Ave., Cincinnati, O. C

CARTER RADIO CO., 1804 Republic Bldg., Chicago, Ill. "Holdite," "Imp," "Tusay" "One Way" C R J L

CASE ELECTRIC CO., 431 S. Dearborn St., Chicago, Ill. "Casebuilt" Radio Kit C R L D

CENTRAL RADIO LABORATORIES, 301 16th St., Milwaukee, Wis. "Centralab" C R L D

CHAFFMAN MACHINE CO., Terryville, Conn.  || CHELTEN ELEC. CO., 4865 Stenton Ave., Philadelphia, Pa. I C T S R J L D |  |
CIRCLE F. MFG. CO., 10 Prince St., Trenton, N. J. I C	
COTO-COIL CO., 87 Willard Ave., Providence, R. I. I C	
CROSLLEY RADIO CORP., 48 Sassafras St., Cincinnati, O. I C T S L	
CUTLER-HAMMER MFG. CO., Milwaukee Wis. C S R	
DAYTON FAN & MOTOR CO., 690 Bayard St., Dayton, O. I C T R	
DE JUIR PRODUCTS CO., Lafayette & Brown Sts., New York, N. Y. R	
DIAMOND STATE FIBRE CO., Bridgeport, Pa. P	
DIAGONAL ELEC. MFG. CO., 2989 Franklin St., Detroit, Mich. T	
DUBILIER CONDENSER & RADIO CORP., 39 W. 4th St., New York, N. Y. "Micon" "Durstron," "Microstat" C T	
DUPLIX CONDENSER & RADIO CORP., 30 Flatbush Ave. Ext., Brooklyn, N. Y. (Super Heterodyne Kits) C	
EAGLE ELECTRIC MFG. CO., 38 S. 8th St., Brooklyn, N. Y. C	
EBY MFG. CO., E. H., Philadelphia. "Tip Top" J	
EISEMANN MAGNETO CORP., 163 Broadway, New York, N. Y. I C T S R D P A	
ELECTRAD, INC., Dept. A., 428 Broadway, New York, N. Y. I C	
ELGIN RADIO CORP., Radio Division Elgin Tool Wks., 75 N. State St., Elgin, Ill. "Eliraco" C	
E-Z TOON RADIO CO., 3235 W. Washington St., Indianapolis, Ind. P	
FAIRMOUNT ELECTRIC & MFG. CO., 59th St. & Woodland Ave., Philadelphia, Pa. "Mayam" C T	
FEDERAL TELEPHONE & TELEGRAPH CO., Buffalo, N. Y. I	
FLERON & SON, M. M., Trenton, N. J. "Electra-sote" S P	
FOREST CITY RUBBER CO., 1276 Ontario St., Cleveland, O. I R L	
FRESHMAN CO., INC. CHAS., Freshman Bldg., 240 W. 40th St., New York, N. Y. (Radio Frequency Kits) C	
GENERAL INSULATE CO., 1000 Atlantic Ave., Brooklyn, N. Y. P	
GENERAL PORCELAIN CO., Camden Ave., S. S., Parkersburg, W. Va. S	
GRAMMES & SONS, L. F., 312 Union St., Allentown, Pa. "Rich Art" P	
GROSSER SONS CO., B., 51 Sudbury St., Boston, Mass. "Noi-Loss" C	
HALLDORSON CO., 1772 Wilson Ave., Chicago, Ill. T	
HART & BEGEMAN MFG. CO., Hartford, Conn. "Nutmer" I C T S R J L P	
HEATH RADIO & ELEC. MFG. CO., 206 First St., Newark, N. J. "Radiant" C S	
HEINEMANN ELEC. CO., Radio Div., Philadelphia, Pa. "Sensory" I C	
HOLMES ELECTRICAL MFG. CO., 1810 Leland Ave., Chicago, Ill. T S	
HOOSICK FALLS RADIO PARTS MFG. CO., INC., Hoosick Falls, N. Y. C S R P A	
HOWARD RADIO CO., 496 E. Ohio St., Chicago, Ill. I R J L P	
JEFFERSON ELEC. MFG. CO., 504 S. Green St., Chicago, Ill. T	
KELLOGG SWITCHBOARD & SUPPLY CO., 106 W. Adams St., Chicago, Ill. "Universal" Panel Kits I C T S R J L P	
KILLARK ELEC. MFG. CO., 3940 Easton Ave., St. Louis, Mo. C T	
KING QUALITY PRODUCTS CO., 90 Welland St., Buffalo, N. Y. I S R L P	
KURZ-KASCH CO., Dayton, O. S P	

# ISOLANTITE

*an insulation of eternal permanence*

Since the dawn of history, the process of manufacture of ceramics and insulation has remained substantially the same. As a result of the War of Nations, a revolutionary advance was made, comparable only with the advance of the steel process over the old iron process. This new process creates Isolantite, the Ideal.

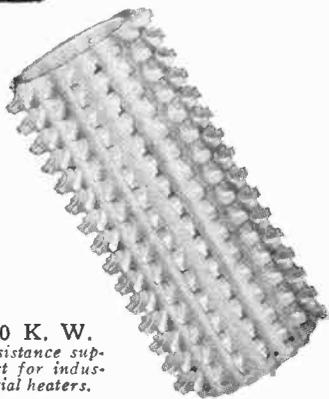
Scientists established for ceramic insulation these ideals—to be as hard as a precious stone—as strong as a metal, bronze—to be absolutely solid without voids—to be a chemical entity, not a mixture—absolutely homogeneous—to have definite mechanical and electrical unit constants regardless of size—to absorb no moisture—to stand temperatures at which steel boils—to resist all usual acids and alkalis—to have a constant dielectric strength greater than 17000 Volts for each mm of thickness—to have a phase angle less than a minute—enormous resistivities—to be machinable, permit tapping and threading and close tolerance—to stand severe heat shocks.

Isolantite fully meets these conditions—It is the ideal—Subsequent articles of this series will detail these qualities. Millions of pieces have proven Isolantite. Important companies, a few of our clients, use Isolantite for conditions demanding extreme quality. They, themselves, are quality producers.

*We will be pleased to tell you who they are.*

### TECHNICAL DATA

*State the nature of your insulation problem and we will send samples and data.*



10 K. W.  
Resistance support for industrial heaters.



High Tension Insulator

Flashover, 60,000 volts.  
Distance between cable ends, 1 3/4 in.—170,000 volts test under oil without puncture.

**ISOLANTITE COMPANY OF AMERICA  
INCORPORATED**  
BELLEVILLE, NEW JERSEY  
PARIS                      TURIN

RADIO RECEIVER PARTS—Continued

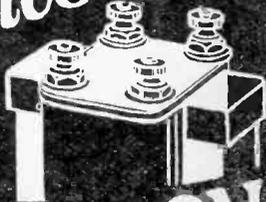
LIBERTY ELECTRIC CORP. OF NEW YORK, 342 Madison Ave., New York, N. Y. (Super-Heterodyne Kit)	I	C	T	S	R	J	L	D	P	A
MAGNAVOX CO., Oakland, Cal.	I	C	T							A
MARSHALL-GERKEN CO., Toledo, O.	C	S		L	F					
MODERN ELEC. MFG. CO., Toledo, O. "Rasia"	C	T								
MOHAWK ELECTRIC CORP., 225 Diversey Parkway, Chicago, Ill. "Edish"	C	S	R	J						P
MONTROSE RADIO LABORATORIES, 1333 Fulton St., Brooklyn, N. Y. "M. R. L." Radio Frequency Kit	C	T		R	J					
MORE CO., FRANKLIN, 289 Congress St., Boston, Mass. "Eureka"	I	C	S	R	J					P
MU-RAD LABORATORIES, Dept. Z, Asbury Park, N. J.	T									
MUTER CO., LESLIE M., 76th St. & Greenwood Ave., Chicago, Ill.	C	S								P
NATIONAL AIRPHONE CORP., 16 Hudson St., New York, N. Y.	T									
NATIONAL TRANSFORMER MFG. CO., Dept. E, 154 Whiting St., Chicago, Ill.	T									
PACENT ELEC. CO., 81 Seventh Ave., New York, N. Y. "Balcon"	C	T	S	R	J					D
PHILMORE MFG. CO., 105 Chambers St., New York, N. Y. "Atlas"	I	C	S	R	J	L	D			
POLYMET MFG. CO., 70 Lafayette St., New York, N. Y. "Poly," "E-Z Stat," "E-Z Ometer," "Poly Plug"	C		R	J						
PRECEL RADIO MFG. CO., 227 Erie St., Toledo, O. (Super-Heterodyne Kit)	I	T								
PREMIER ELEC. CO., 3808 Ravenswood Ave., Chicago, Ill. "Crofoot," "Jifty," "Radiotron," "Microstat"	I	C	T	S	R	J				
PROPP CO., M., New York, N. Y.										
RADIALL CO., 320 W. 42nd St., New York, N. Y. "Amperite"										
RADIO CORP. OF AMERICA, 233 Broadway, New York, N. Y.										A
RADIO PRODUCTS CO., Westport, Conn.	I	C								
RADIO PRODUCTS MFG. CO., 501 S. Jefferson St., Chicago, Ill. "Add-a-Unit," "R P M O'formers"	I	C	T	S	R	J	L	D		A
RADIO STORES CORP., Dept. E, R. 8, 220 W. 84th St., New York, N. Y. "Straitline," "Filkoostat"	C									
RADIO UNITS, INC., 1909 First Ave., Maywood Ill. "Tiny-Turn"										
RELIABLE PARTS MFG. CO., 2819 Prospect Ave., Cleveland, O.	I	C	T							
RHAMSTINE, J. THOMAS, 500 E. Woodbridge St., Detroit, Mich.	T	S	R	J						
RICHARDS & CO., GEO., Chicago, Ill. "Hemco"	S									
RICHARDSON RADIO, INC., 45 Lispenard St., New York, N. Y. (Super Heterodyne Kits)	I	T								
SAMSON ELEC. CO., Canton, Mass.	T									
SEARS MFG. CO., 1226 E. 152nd St., Cleveland, O. "Transformers"	T									
SELECTRON CO., 231 Inola Ave. N. W. Grand Rapids, Mich. (Super Heterodyne Kit)										
SIGNAL ELECTRIC MFG. CO., Dept. 5D, Menominee, Mich.	I	C	T	S	R	J	L	D		P
SPARTAN ELECTRIC CORP., 99 Chambers St., New York, N. Y. "Resist-O-Former" Kit										
SPALDING FIBRE CO., Tonawanda, N. Y. "Bakelite-Durasto"										P
SPER-DEE SPECIALTY CO., 199 Lafayette St., New York, N. Y.	C		R	J	L	D	P			
SPLITDORF ELEC'L CO., 392 High St., Newark, N. J.	C	T	S	R	J					P
STANLEY & PATTERSON, 250 West St., New York, N. Y. "DeVau"										
STAR CRYSTAL CO., 319 Woodward Ave., Detroit, Mich. "Crystalstat"										
STERLING ELEC'L CORP., 2711 Church Ave., Cleveland, O. "Longoria"	I	C	T		R					P
STERLING MFG. CO., Dept. C, 2837 Prospect Ave., Cleveland, O. "Microcondenser," "Soft Treas"	C	T		R	L					
STROMBERG-CARLSON TELE. MFG. CO., 1090 University Ave., Rochester, N. Y.	C	T		J						
THERMODYNE RADIO CORP., Plattsburg, N. Y. "Sheepo All Purpose"	I									A
THORDARSON ELEC. MFG. CO., Chicago, Ill.	C	T								
UNITED METAL STAMPING & RADIO CO., 411 E. Pearl St., Cincinnati, O.	I	C	T	S	R	J	L	D	P	A
UNITED RADIO LABORATORIES OF MONTROSE MFG. CO., 1333 Fulton St., Brooklyn, N. Y. "URL"	C	T		R						
UNITED SCIENTIFIC LABORATORIES, 92 E. 10th St., New York, (Radio Frequency Kits)	O									
UNITED SCIENTIFIC LABORATORIES, 92 E. 10th St., New York, N. Y.	C									
VULCANIZED RUBBER CO., INC., 251 Fourth Ave., New York, N. Y.										P
WALNART ELEC. MFG. CO., Green St., at Jackson Blvd., Chicago, Ill.	I	C	S	R	J	L	D			
WARD LEONARD ELEC. CO., Mount Vernon, N. Y.										
WATERBURY BUTTON CO., Waterbury, Conn.	I	C	S	R	J	L	D	P		
WESTON ELEC'L INSTRUMENT CORP., 43 Weston Ave., Newark, N. J.										
WOLVERINE RADIO CO., 103 W. Atwater St., Detroit, Mich.	C	T		R	J	L	D	P		
YAXLEY MFG. CO., Dept. R, 217 N. Desplaines St., Chicago Ill.	I	C		R	J	L	D	P		
Acme Apparatus Co., 37 Osborne St., Cambridge, Mass. "Acmeffex" (Reflex Kit)	C	T		R						A
Acme Engineering Co., Louisville, Ky.										
Adams-Morgan Co., Upper Montclair, N. J.	I	C	T		R	L	D	P		
Adams Radio Mfg. Co., 104 W. Van Buren St., Chicago, Ill.										
Advance Automobile Accessories Corp., 1721 Prairie Ave., Chicago, Ill. "Neutrowind"	I									
Aerovox Wireless Corp., 489 Broome St., New York, N. Y.	C	S	R	J	L	D	P			
Aetna Radio Panel Co., 30 Park Place, New York, N. Y.										P
Alex Co., 799 Greenwich St., New York, N. Y.	C									
Ajax Products Co., 105 Warren St., New York, N. Y.	C									
Albin Radio Co., 16 Hudson St., New York, N. Y. "Yankee"										
Alden Mfg. Co., Springfield, Mass.	C	T	S	R	J	L	D	P		
Ambassador Sales Co., 108 Greenwich St., New York, N. Y.	I									
Ambrose Radio Co., 220 Vernon Ave., Brooklyn, N. Y.										D
American Hard Rubber Co., 11 Mercer St., New York, N. Y.										
American Specialty Mfg. Co., 115 Holland Ave., Bridgeport, Conn. "Regal"	I	C		R	J	L	D	P		
Amsoe Products, Inc., 416 Broome St., New York, (Neutrodyne Kit)	I	C	T							
Audiola Radio Co., 430 Green St., Chicago, Ill.	I	C	T		R	L	D	P		
Automotive Equipment Co., 317 Halsey St., Newark, N. J. "Champion"										D
Baldwin-Pacific Co., Pacific Bldg., San Francisco, Cal. (Super-Heterodyne Kits)	C	T	S							
Barkeley Elec. Mfg. Co., Middletown, O.										
Barnett-Lloyd Co., 17 N. La Salle St., Chicago, Ill. "Hi-Power"	C									A
Barrett & Paden, 1314 Sedgwick St., Chicago, Ill.										
Bel-Tone Radio Co., 161 Jamaica Ave., Brooklyn, N. Y.	I									
Bennington Radio & Elec. Co., Bennington, Vt. "Brimco"										P
Betts & Betts Corp., 645 W. 43rd St., New York, N. Y.	I	T								D

RADIO RECEIVER PARTS—Continued

Blashy Mfg. Co., 59 Warren St., New York, N. Y.	I	C	T	S	R	J	L	D	P	A
Bliss Co., W., 139 Hollis Ave., Atlantic, Mass.	I	C	S	R	J	L	D	P		
Bonline C. E., 133 S. 12th St., Philadelphia, Pa.	I	C								
Boonton Rubber Mfg. Co., Boonton, N. J. "Baliantine"										A
Bowman & Co., A. W., Cambridge, Mass. "Airophone"										
Branston Co., Chas. A., 815 Main St., Buffalo, N. Y. (Super-Heterodyne Kits)	I	T								P
Bristol Co., Waterbury, Conn.										
Brockway Laboratories, Inc., Toledo Factories Bldg., Toledo, O.	C									A
Bruno Radio Corp., 221 Fulton St., New York, N. Y. "Ultra Varlo"	C	S								L
Buell Mfg. Co., 2975 Cottage Grove Ave., Chicago, Ill. "Fliewelling"	I	C	S							D
Carborundum Co., Niagara Falls, N. Y.										
Carter Mfg. Co., 81 Prospect St., Brooklyn, N. Y.	C	T								J
Carter Mfg. Co., 1728 Colt Road, Cleveland (East Cleveland, O.) "Carco"	I	T								
Central Radio Laboratories, 303 16th St., Milwaukee, Wis. "Centralab"	C		R	L						P
Clapp Eastham Co., Cambridge Mass. "Radak"	I	C								P
Cleveland Products Co., 714 Huron Rd., Cleveland	I	T	R	L						P
Columbia Radio Corp., 155 N. Union St., Chicago, Ill.	I									
Come Apparatus Co., 44 Tremont St., Boston.	I	T								
Concert Radiophone Co., 626 Huron Rd., Cleveland, O.	I									
Connecticut Tele. & Elec. Co., Meriden Conn.	I	C	T	R	J	L				
Consolidated Instrument Co. of America, 41 E. 42nd St., New York, N. Y. "Cleo"	I		T	R						
Crescent Mfg. Co., Toledo, O.	I									
Crescent Radio Supply Co., Jamaica, N. Y. (Fixed Resistances)	C									
Culver-Stearns Mfg. Co., Worcester, Mass. "Lloyd C. Greene" Concert Selector (Tuned)										R
Custer Specialty Co., 119 Franklin St., Dayton, O.										D
Danziger-Jones, 25 Waverly Place, New York, N. Y. "Telomonic" (Radio Frequency Kit)										
Davidson Radio Corp., 718 Atlantic Ave., Brooklyn, N. Y.	I	C	T		R	J	L	D		P
De Forest Radio Co., Jersey City, N. J.	I	C	T		R	J	L	D		P
Diagraph Products Corp., 220 W. 42nd St., New York, N. Y.	I									J
Doellittle Co., F. M., 115 Crown St., New Haven, Ct.	I									P
Du Pont de Nemours & Co., E. L., Arlington, N. J.										P
Duranold Mfg. Co., 213 Chestnut St., Newark, N. J.										P
Duray Radio Corp., 31 Clinton St., Newark, N. J. "All Glass"										S
Durham & Co., 1936 Market St., Philadelphia, Pa.	C									P
D X Instrument Co., Harrisburg, Pa. "Filkoostat"										E
Eastern Specialty Co., 8551 N. Fifth St., Philadelphia, Pa.	I	C	T							P
Eldredge Elec. Mfg. Co., Springfield, Mass.	I	C	T							
Electrical Products Mfg. Co., Providence, R. I. "Dymac"	C	T		R	J					
Electrical Research Laboratories, 2500 Cottage Grove Ave., Chicago, Ill. "Erla," "Minloss," "Microdile"	C	T	S	R	J	L	D	P		
Elec Radio Corp., 88 E. Kinney St., Newark, N. J.	C	T								D
Eser Mfg. Co., Mulberry St., Newark, N. J.	I	C								D
Ferl Radio Mfg. Co., 1167 Bedford Ave., Brooklyn, N. Y.	I									
Fett & Kimmel Co., Bluffton, O.	C									
Ford Mica Co., 33 E. 8th St., New York, N. Y.	C	T								
"Supertran"	C	T								
Forman & Co., 366 Greenwich St., New York, N. Y.	C									
Four Way Co., Springfield, Mass.	C									J
Framingham Co., Framingham, Mass.	C									
Freud-Eisemann Radio Corp., 36 Flatbush Ave. Ext., Brooklyn, N. Y. (Neutrodyne Kits)	I	C	T		S	R	J	L	D	P
Frost, Herbert H., 154 W. Lake St., Chicago, Ill.	I	C	T		S	R	J	L	D	P
Gardner & Heppburn, Inc., 2100 Washington Ave., Philadelphia, Pa. "Continental"	C									
Gehman & Wiener, 42 Walnut St., Newark, N. J.										D
General American Radio Mfg. Corp., 212 W. 55th St., New York, N. Y.										S
General Instrument Corp., 423 Broome St., New York, N. Y. "Nolos"	I	C	T							P
General Radio Co., Cambridge, Mass.	I	C	T	S	R	J	L	D	P	A
General Radio Winding Co., 214 Fulton St., New York, N. Y.	I									
Gilbert Co., A. C., New Haven, Conn.	I									
Globe Elec. Co., Keefe St., Milwaukee, Wis.	I	C								
Grebe & Co., A. H., 70 Van Wyck Blvd., Richmond Hill, N. Y.										A
Grevol Mfg. Co., 280 Plane St., Newark, N. J.										D
Haig & Haig Mfg. Co., 25 S. Water St., Rochester, N. Y. "Straitline"	C									
Halcyon Insulator Co., 183 Front St., New York	C									
Hanson Co., 1772 Wilson Ave., Chicago, Ill. "Re-public"	T									
Harkness Radio Corp., Kenneth, Newark, N. J. (Reflex Kits)	C	T								D
Harmony Mfg. Co., 2812 Griffith Ave., Cincinnati, O. "Walter"										
Harris & Birdseye, 26 Corlandt St., New York, N. Y. "Harco"	I									J
Hartman Elec. Mfg. Co., Mansfield, O.	I	C								L
Hartford Instrument Co., 308 Pearl St., Hartford, Conn. "Hico," "Sexton"	I	C								
Hedden Place Machine Co., East Orange, N. J.	C									L
Heterox Mfg. Co., 423 Market St., Philadelphia, Pa. "Warner Heterodyne"	I	T								
Holmes Elec'l Mfg. Co., 7810 Leiland Ave., Chicago, Ill.										S
Horne Elec. & Mfg. Co., 243 Mercer St., Jersey City, N. J. "Verni Tuner"	I	C								
Hyman & Co., Inc., Henry, 478 Broadway, New York, N. Y. "Beaton"	I	C	T	S	R	J	L	D	P	
Ignition Specialties Co., 25 W. 51st St., New York, N. Y. "Geo-Haw"	I	C	T	S	R	J	L	D	P	
Jewett Radio & Phonograph Co., 5680 12th St., Detroit, Mich. "Micro Dial"										D
Jones Radio Co., 1066 W. Adams St., Chicago Ill. ("Rainbow" Multiple)										D
Jones, Howard B., 612 S. Canal St., Chicago, Ill.										J
Kardor Product Co., 161 Varlek St., New York, N. Y. (Standard Units)										
Karas Elec. Co., 4040 N. Rockwell St., Chicago, Ill. "Harmonik"										T
Kennedy Co., Colin B., 6400 Plymouth Ave., St. Louis, Mo.										S
Kilbourne & Clark Mfg. Co., Seattle, Wash.	I	C	T	S	R	J	L	D	P	
Klitzner Radio Mfg. Co., Grand Rapids, Mich.										
Klossner Radio Co., 1022 E. 178th St., New York										S
Knox Corp., Galesburg, Ill. "Cadio"	C									
Kodel Radio Corp., 118 Third St., Cincinnati, O.	C									
Langbein & Kaufman, 664 Grand Ave., New Haven, Conn.	I	T								
Liberty Transformer Co., 557 N. Parkside Ave., Chicago, Ill.	I									A
Lieber Radio Co., 99 Beads St., New York, N. Y. "Famous Masterpieces" Radio Frequency (Kit)	I	T								

**ZENITH**  
**KENNEDY**  
**RADIODYNE**  
**THERMIODYNE**  
**ULTRADYNE**  
**MURDOCK**  
**AZARKA**  
*Pfanstiehl*  
**MICHIGAN**  
**Deresnadyne**  
**MALONE LEMON**  
**MASTER RADIO**  
**ADLER-ROYAL**  
*Howard*  
**Pathé**  
**HARTMAN**  
**AUDIOLA**  
**EAGLE**  
**GLOBE AND**  
**MANY OTHERS**

*The finest sets*  
*have*



**THORDARSON**  
*Super*  
**TRANSFORMERS**

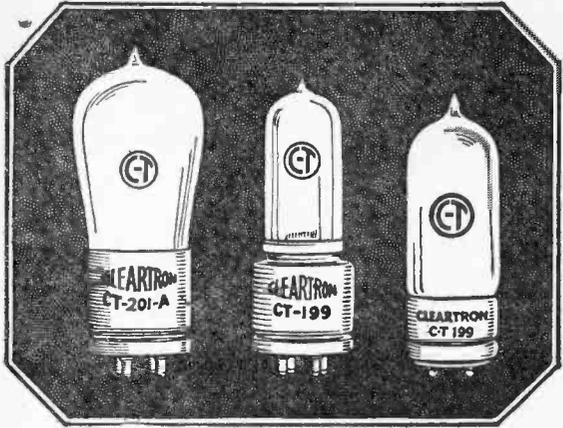
**—and we're "telling the world" they have!**

Thordarson Transformers, and the sets they're used in, are advertised everywhere. Display Thordarsons—get your share of the business. Jobbers in every city. Keep stocked! Advertised Retail Prices. 2:1, \$5; 3½:1, \$4; 6:1, \$4.50. Power, \$13 pair, Interstage, \$8.

**THORDARSON ELECTRIC MANUFACTURING CO.**  
*Transformer specialists since 1895*  
**WORLD'S OLDEST AND LARGEST EXCLUSIVE TRANSFORMER MAKERS**  
**Chicago, U.S.A.**

Australian Representatives: Walnut Electric Mfg. Co., Ltd., Sydney.

**MORE PROFIT FOR YOU  
 ON CLEARTRON**



**Repeat Sales Assured  
 by Guaranteed Tube  
 Performance**

Why are discerning dealers turning to Cleartron Tubes? Why do they consider them more dependable—more consistent in quality—a better buy for the customer?

**Cleartrons Are Truly Guaranteed!**  
 The rigid guarantee that goes with every Cleartron Tube, based on the strictest laboratory test, makes Cleartron Tubes sell, render the fullest performance and sell again. Cleartron Tubes will make pleased loyal customers.

**Cleartron Quality Means Repeat Business!**  
 You can back Cleartron Guaranteed Tubes to the limit. They last longer. They are more economical in current consumption. They oscillate, detect or amplify. Cleartrons come in three regulation sizes shown above. C-T 199 Standard Base is designed to fit 201A sockets without adapters. All retail at \$3 apiece.

**Tie Up With Cleartrons!**  
 Dealers, make your tube business more profitable. Order thru your distributor or jobber or write us for information.

**CLEARTRON VACUUM TUBE CO.**  
 23 West 43rd Street, New York City

**CLEARTRON**  
 GUARANTEED RADIO TUBES

RADIO RECEIVER PARTS—Continued

Marshall Electric Co., 3225 Locust St., St. Louis Mo. Marshall-stad.
Martin-Copeland Co., 101 Sabin St., Providence, R. I. "Marcon"
Masda Radio Mfg. Co., 3405 Perkins Ave., Cleveland, O.
McCorkle Ensign Co., Elmira, N. Y.
Mehun Mfg. Co., 405 Penn Ave., Pittsburgh Pa.
Melrowsky Bros., Jersey City, N. J.
Metro Elec'l Co., 67 Globe St., Newark, N. J. "Gem"
Midland Elec. Mfg. Co., 217 Transportation Bldg., Indianapolis, Ind.
Miller Co. Bertrand F., High & Canal Sts., Trenton N. J.
Miller Radio Co., 1224 20th St., Detroit, Mich.
Millimeter Machine Works, Inc., 542 W. 22nd St., New York, N. Y.
Morrison Laboratories, Inc., 812 Ford Bldg., Detroit, Mich.
Moul, Clyde C., 830 Lockhart St. (N. S.), Pittsburgh, Pa. (Glass)
Mydar Radio Co., Newark, N. J. "Accuratune"
National Co., Cambridge, Mass.
National Radio Co., Marshall, Minn.
National Radio & Elec. Co., 139 W. 19th St., New York, N. Y.
Nazeley & Co., 571 Hudson St., New York, N. Y.
New York Coll. Co., 338 Pearl St., New York N. Y.
Notte Mfg. Co., 61C Gautier Ave., Jersey City, N.J.
Ogden Wireless Laboratories, 1012 Ogden Ave., New York, N. Y. "Owl"
Oscilformer Co., 11 W. Illinois St., Chicago, Ill.
Pavent Elec. Co., 22 Park Pl., New York, N. Y.
Parker Mfg. Co., San Rafael, Calif.
Pathe Phonograph & Radio Corp., 10 Grand Ave., Brooklyn N. Y. "Phusiformer"
Pearl Radio Corp., 1033 Race St., Philadelphia Pa.
Peerless Radio Co., 19 Washington St., Wellesley, Mass. (Condenser Kits) "Twin-aud"
Peerless Radio Products Co., 10844 Ashbury Rd., Cleveland, O.
Pennsylvania Radio Laboratories, 77th & Brandywine Sta., Philadelphia, Pa.
Perry Radio Supply Co., River Forest, Ill.
Peterson & Hoffmann, Millville, N. J. (Glass)
Pfanstiehl Radio Co., 11 S. La Salle St., Chicago, Ill. "Tune-Ra-Former"
Phenix Radio Corp., 5 Beekman St., New York, N. Y. "Ultradyne" Super-heterodyne Kits.
Pioneer Radio Corp., Becker, Minn. "Maxna"
Pioneer Radio Corp., Galesburg, Ill.
Polydyne Corp., 18 W. 46th St., New York, N. Y. (Kits)
Precision Mfg. Corp., 254 Mill St., Rochester, N. Y. "Super Multiformer"
Precision Mach. Co., 404 W. 10th St., Indianapolis, Ind.
Radio Condenser Co., Thorne & Copewood Sts., Camden, N. J. "Certified," "R C"
Radio Development & Mfg. Co., 45 Lispenard St., New York, N. Y. "Valdar"
Radio Engineering Co., 16 Union Ave., New Rochelle, N. Y.
Radio Instrument Co., Washington, D. C., "Vir Bren"
Radio Receptor Co., 59 Bank St., New York, N. Y. "Receptrad" Super-Heterodyne Kits
Radio Sales Co., 249 W. 34th St., New York, N. Y. "Rit-One"
Radio Specialty Co., 25 W. Broadway, New York, N. Y. "Rasco," "Jifty," "Lolois"
Radio Testing Station, Binghamton, N. Y. (Fixed)
Radite Co., 1420 W. Columbia Ave., Philadelphia, Pa.
Rathbun Mfg. Co., Jamestown, N. Y.
Raven Radio, Inc., Albany, N. Y. (Super-Heterodyne Kits)
Remler Radio Mfg. Co., San Francisco, Cal.
Rittenhouse Co., A. E. Homeoye Falls, N. Y.
R. U. F. Products Co., 292 Liberty Ave., Brooklyn, N. Y.
Saal, H. G., 1800 Montrose Ave., Chicago, Ill. Kit "Octoformer"
St. James Laboratories, 345 W. Washington St., Chicago, Ill.
Sanders, D. A., 66 S. Broadway, Nyack, N. Y. "Dance Airline"
Sangamo Elec. Company, Springfield, Ill.
Satum Mfg. & Sales Co., 48 Beekman St., New York, N. Y.
Schleb & Sons, E. J., 6248 Station St., Pittsburgh, Pa.
Sherman Radio Distributing Co., 112 Trinity Pl., New York, N. Y. "Shermastran"
Sickles Co., F. W., Springfield, Mass. (Reflex Kits)
Silver-Marshall, Inc., 105 S. Wabash Ave., Chicago, Ill.
Simplex Radio Co., 1913 Ridge Ave., Philadelphia, Pa.
Sleeper Radio Corp., 6th Ave. & Washington St., Long Island City, N. Y. "Audiflex"
Smith & Co. T. C., 3907 Powelton Ave., Philadelphia, Pa.
Spartan Mfg. & Sales Co., 48 Beekman St., New York, N. Y.
Special Chemicals Co., Highland Park, Ill.
Standard Radio & Elec. Co., 90 Bayley St., Pawtucket, R. I. "Giblin"
Standard Radio & Equip. Co., 477 S. Tenth St., Newark, N. J.
Standard Transformer Co., Warren, O.
Stanwood Elec. Specialties Co., 1834 Broadway, New York N. Y. "Akrazy"
Stay-Of-Mfg. Co., 206 Madison Ave., Elizabeth, N. J.
Stephenson Laboratories, 102 Waynewood Park, Plainfield, N. J.
Summit Radio Mfg. Co., 481 Broad St., Newark, N. J. "Torodial"
Sunbeam Radio Corp., 1834 Broadway, New York, N. Y. "Akrazy" (Super-Heterodyne Kits)
Superior Products Mfg. Co., Irvington, N. J.
Sycor Radio Products Corp., 438 Drexel Bldg., Philadelphia, Pa. "Kelcor"
Teleradio Engrs. Co., 481 Broome St., New York
Terler Electric & Mfg. Co., 443 S. Dearborn St., Chicago, Ill.
Thompson-Levering Co., Westminster Ave. & 57th St., Philadelphia, Pa.
Torrington Mfg. Co., Torrington, Conn.
Tridet Elec. Co., 16 Hudson St., New York, N. Y.
Tristan Sales Corp., 1 Union Sq., New York, N. Y. "Reinartz"
Union Radio Corp., 200 Mt. Pleasant Ave., Newark, N. J.
United Radio Corp., 16 Caledonia Ave., Rochester, N. Y.
United Radio Mfg. Co., 191 Greenwich St., New York, N. Y. "Victory"
United States Rubber Co., 1790 Broadway, New York, N. Y.
U. S. Tool Co., Inc., Ampere, N. J.
Ultradyne Mfg. Co., 224 N. Haled St., Chicago, Ill.
Universal Insulation Co., 215 Emmett St., Newark, N. J.

I C T S R J L D P A

Vertical column of letters and numbers corresponding to the company names in the first column.

RADIO RECEIVER PARTS—Continued

Victoreen Radio Inc., 6529 Carnegie Ave., Cleveland, O. "Veeke" (Super Heterodyne Kit), "Victory Heteroformers"
Walbert Mfg. Co., 925 Wrightwood Ave., Chicago, Ill. "Univermier"
Westvire Co., Westfield, Mass.
Willis Switch & Instrument Co., 8 Kingsbury, Jamestown, N. Y.
Wireless Mfg. Co., 619 Fourth St., Canton, O.
Wireless Products Corp., 136 Prince St., New York, N. Y. "Gem," "Royalty"
Workrite Mfg. Co., 1812 E. 30th St., Cleveland, O. (Neutrodyne Kits)

I C T S R J L D P A

Vertical column of letters and numbers corresponding to the company names in the second column.

RADIO RECEIVING SETS

See Encyclopedia of Radio Receiving Sets, Page 25.

RADIO RECTIFIERS

For operating Radio Receiving Sets without use of battery.

DUBLIER CONDENSER & RADIO CORP., 39 W. 4th St., New York, N. Y. "Super-Ducon."
FANSTEEL PRODUCTS CO., North Chicago, Ill. "Balkite B."
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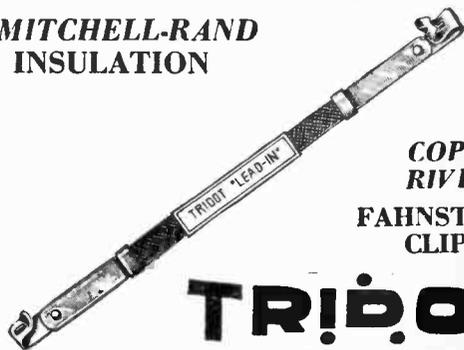
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- Reade Mfg. Co., Jersey City, N. J. "Incomparable," "Redins." . . . .
- Roxa Mfg. Co., 339 E. 133rd St., New York, N. Y. (Paste, Salts) . . . . .
- Ruby Chemical Co., Columbus, O. "Red Letter," "Rubyfluid." . . . .
- Schneider, Inc., Emile, Newark, N. J. . . . .
- Siefert Elec. Co., Evansville, Ind. "Sterling" Paste . . . . .
- Solderrall Co., 129 Sussex Ave., Newark, N. J. . . . .
- Special Chemicals Co., Highland Park, Ill. "Specs." . . . .
- Weaver Specialty Co., Pittsburgh, Pa. "Oakwood" Paste . . . . .

SOLDERING IRONS AND OUTFITS. See Tools, Radio.

SOLDER, Self-Fluxing

- AMERICAN SOLDER & FLUX CO., Philadelphia, Pa. "Tinel" . . . . .
- BELDEN MFG. CO., 2310 S. Western Ave., Chicago, Ill. . . . .
- CHICAGO SOLDER CO., 4212 Wrightwood Ave., Chicago, Ill. "Kester." (Rosin and Acid) . . . . .
- DIELECTRIC MFG. CO., Vandewater & Duncan Aves., St. Louis, Mo. "Soidux." . . . .
- Cambridge Smelting Co., Cambridge, Mass. . . . .
- National Lead Co., 111 Broadway, New York, N. Y. . . . .
- Solderrall Co., 129 Sussex Ave., Newark, N. J. . . . .
- SPAGHETTI. See Tubing, Varnished Fabric.

STAMPINGS, Small

- Small Stamped Metal Parts for Electrical Devices.
- This heading contains Advertisers only.
- AMERICAN METAL WKS., Stenton Ave. & Rockland St., Philadelphia, Pa. . . . .
- BEAVER MACHINE & TOOL CO., INC., 625 N. Third St., Newark, N. J. . . . .
- BENJAMIN ELEC. MFG. CO., 120 S. Sangamon St., Chicago, Ill. . . . .
- CHELTEN ELEC. CO., 4865 Stenton Ave., Philadelphia, Pa. . . . .
- EBY MFG. CO., H. H., Dept. E., 40 S. 7th St., Philadelphia, Pa. . . . .
- HUBBARD SPRING CO., M. O., Pontiac, Mich. . . . .
- HUBBELL, INC., HARVEY, Bridgeport, Conn. . . . .
- MASSACHUSETTS MACHINE SHOP, INC., 817 Albany St., Boston, Mass. . . . .
- MUTUAL ELEC. & MACHINE CO., Detroit, Mich. "Bull Dog." . . . .
- PATTON-MACQUYER CO., Baker St. and Virginia Ave., Providence, R. I. . . . .
- PLUME & ATWOOD MFG. CO., Waterbury, Conn. . . . .
- RISDON MFG. CO., Naugatuck, Conn. . . . .
- SCOVILL MFG. CO., Waterbury, Conn. . . . .
- SHERMAN MFG. CO., H. B., Battle Creek, Mich. . . . .
- STEINEN & CO., 293 Washington St., Newark, N. J. . . . .
- WYNER BROS. CO., Bridgeport, Conn. . . . .
- WATERBURY BUTTON CO., Waterbury, Conn. . . . .
- STOP POINTS. See Posts, Binding.
- STORAGE BATTERIES. See Batteries, Storage.
- TERMINALS. See Lugs and Terminals.
- TEST CLAMPS. See Clamps, Test.

SUPPLIES, Radio

- ALPHA ELECTRIC COMPANY, INC., 151 W. 30th St., New York, N. Y. . . . .
- DETROIT ELECTRIC COMPANY, 113 Jefferson Ave., Detroit, Mich. . . . .
- ELECTRICAL SUPPLY & RADIO CORP., 17 Warren St., New York, N. Y. . . . .
- GOETZ COMPANY, EDV. J., 2407 Harris Ave. (Norwood Sta.), Cincinnati, Ohio. . . . .
- HUDSON-ROSS, 123 W. Madison St., Chicago, Ill. . . . .
- PARAMOUNT ELECTRICAL SUPPLY CO., 160 B. W. Lake St., Chicago, Ill. . . . .
- WAKEM & McLAUGHLIN, 225 E. Illinois St., Chicago, Ill. . . . .
- WESTERN RADIO MFG. CO., 133 W. Lake St., Dept. K3, Chicago, Ill. . . . .

TOOLS, Radio

- Soldering Irons and Outfits Jack Wrenches, Wire Insulation Strippers, Dstils, Panel Engraving Machines, Combination Radio Tool
- This heading contains Advertisers only.
- ALCO ELECTRIC CO., 92 Washington St., New York, N. Y. (Soldering Irons) . . . . .
- BARD-PARKER CO., 150 Lafayette St., New York, N. Y. (Wire Insulation Stripper) . . . . .
- BURNLEY BATTERY & MFG. CO., North East, Pa. (Radio Soldering Outfits) . . . . .
- CHAPMAN MACHINE CO., Terryville, Conn. (Soldering Irons) . . . . .
- CUTLER-HAMMER MFG. CO., Milwaukee, Wis. (Soldering Irons) . . . . .
- DRAKE ELECTRIC WORKS, 3943 Lincoln Ave., Chicago, Ill. (Soldering Irons) . . . . .
- DUNTON CO., M. W., Providence, R. I. ("Nokorode Radio Kit" Soldering Outfits) . . . . .
- ELECTRICAL PRODUCTS MFG. CO., Providence, R. I. (Soldering Irons) . . . . .
- HARTFORD INSTRUMENT CO., Hartford, Conn. "Live Heat" Soldering Irons . . . . .
- METRO ELEC'L CO., Newark, N. J. (Soldering Irons) . . . . .
- MORSE TWIST DRILL & MACH. CO., New Bedford, Mass. (Drills) . . . . .
- NORTHERN ELEC. CO., 2833 N. Western Ave., Chicago, Ill. (Soldering Irons) . . . . .
- PREIS & CO., H. P., 13 Campbell St., Newark, N. J. (Panel Engraving Mach.) . . . . .
- RADIO SPECIALTY CO., 27 W. Broadway, New York, N. Y. (Combination Radio Tool) . . . . .
- ROHNE ELEC. CO., 2434 25th Ave., Minneapolis. ("Sta-Warm" Soldering Irons) . . . . .
- SECURITY ELEC. MFG. CO., 2635 Canton St., Chicago, Ill. (Soldering Irons) . . . . .
- SIMPLEX ELEC. HTG. CO., 85 Sidney St., Cambridge, Mass. (Soldering Irons) . . . . .
- STERLING ELEC'L CORP., Church Ave. and W. 28th St., Cleveland, O. (Soldering Irons) . . . . .
- SWARTZBAUGH MFG. O., Dept. 12, Toledo, O. (Soldering Irons) . . . . .
- WAAGE ELEC. CO., 5100 N. W. Ravenswood Ave., Chicago, Ill. (Soldering Irons) . . . . .
- WARD MFG. CO., 937 Wellington Ave., Chicago, Ill. (Soldering Irons, Straight & Swivel Points) . . . . .
- TRANSFORMERS. See Radio Receiver Parts.
- TRANSFORMER COILS. See Radio Receiver Parts.
- TUBES, VACUUM. See Radio Vacuum Tubes.

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Hard rubber in rods, sheets and tubing.

Molded and turned parts for every electrical purpose.

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are standard equipment on over 150 manufacturers' sets and are stocked by over 400 jobbers. Generous discounts and twenty-four hour service on a superior product which is nationally advertised and attractively packaged built up a tremendous volume for us. This volume has enabled us to reduce the price to fifteen cents.

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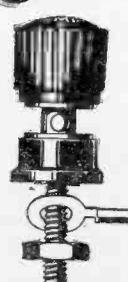
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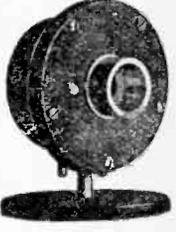
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**VARIOMETERS.** See Radio Receiver Parts.  
**WAVE SELECTORS.** See Radio Receiver Parts.  
**WIRE INSULATION STRIPPERS.** See Tools, Radios.

**WIRE, Antenna**

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AMERICAN FABRIC CO., INC., 46 Baker St., Providence, R. I.  
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BI-METALLIC RADIO PARTS CO., 484 18th Ave., Newark, N. J.  
CHICAGO INSULATED WIRE & MFG. CO., Chicago, Ill. "1885."  
CONKLIN BRASS & COPPER CO., T. E., 54 Lafayette St., New York, N. Y.  
COOK PLATE CO., EDW. N., 70 Ship St., Providence, R. I.  
DRIVER-HARRIS WIRE CO., Harrison, N. J. "Nichrome," "Unimax," "Advance," "Therilo."  
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STANDARD ALLOY WIRE CO., Elizabeth, N. J. "Novar."  
STANDARD UNDERGROUND CABLE CO., Pittsburgh, Pa.  
WILKENS ELECTRIC MFG. CORP., 52 Orawaupum St., White Plains, N. Y.  
WILSON & CO., H. A., 97 Chestnut St., Newark, N. J. "Wilco."  
Acme Wire Co., New Haven, Conn. "Celastite."  
American Copper Products Corp., 233 Broadway, New York, N. Y. "Ferenite," "Cupronic."

Ayres Electric Co., Piqua, O.  
Bradford, Kyle & Co., Plymouth, Mass.  
Branford Elec. Co., 39 Cortlandt St., New York, N. Y.  
Bridgeport Brass Co., Bridgeport, Conn.  
Cleveland Wire & Cable Co., Collamer Ave. & Nickel Plate R. R., Cleveland, O.  
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Copperwell Steel Co., Bankin, Pa. "Copperwell."  
Crescent Ins. Wire & Cable Co., Trenton, N. J.  
Detroit Copper & B. R. Mills, Clark Ave. & Wabash R. R., Detroit, Mich.  
Gliby Wire Co., 108 Adams St., Newark, N. J. (Phosphor Bronze.)  
Hoskins Mfg. Co., Detroit, Mich. "Chromel," "Copel."  
Indiana Rubber & Insulated Wire Co., Jonesboro, Ind.  
Ironium Products Co., 720 Frankfort St., Cleveland, O.  
Monarch Elec. & Wire Co., 322 W. Adams St., Chicago, Ill.  
Nehring Electrical Works, De Kalb, Ill. Copperwell.  
Spargo Wire Co., J. A., Rome, N. Y.  
Super-Insulated Wire Co., Plymouth, Mass.  
Universal Wire Co., 533 Canal St., New York, N. Y.



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We have on hand always thousands upon thousands of dollars worth of radio essentials—everything the best—ready to ship on a moment's notice. What are your needs?

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Distributors for Grebe, Freed-Eisemann, Crosley, Cardwell, Hammarlund, American Brand, General Radio, Burgess, Magnavox, Cunningham, Frost, Brandes, and 50 other lines. Grand Rapids Branch, 234 Ottawa Ave., N. W.

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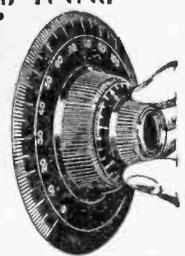
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(EASY TUNE)  
RADIO DIALS

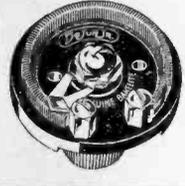
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Dealers! If your stock is low, order from your jobber today. Attractive two color (Persian orange and blue) metal demonstration panel for mounting a 3" vernier dial, a 4" vernier dial and a 2" non-Vernier dial sent free! Prepaid. Write us for full particulars.

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You will find our local address in the Telephone Directory.



3" or 4" dials—Black or Mahogany—\$2.00 to \$2.45. Furnished with Zero mark on right or left side. 2" non-Vernier dials to match Black. 40c; Mahogany, 45c.



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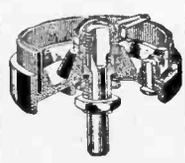
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GENUINE BAKELITE

Fifteen exclusive features make the De Jur the most efficient Rheostat on the market. Comparison proves its superiority and performance demonstrates its efficiency. The De Jur Jr. is made especially for set manufacturers demanding the most efficient parts at the right prices.

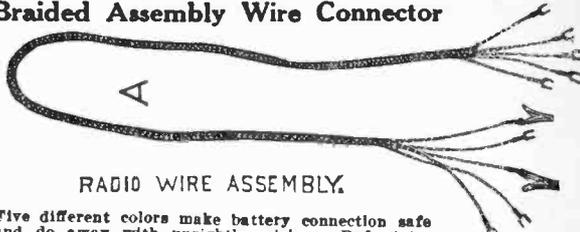
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## A and B-BATTERY

### Braided Assembly Wire Connector



RADIO WIRE ASSEMBLY.

Five different colors make battery connection safe and do away with unsightly wiring. Red, A+; Black, A-; Blue with yellow tracer, B+; Green, B-; Black with Red tracer, B+.

Equipped with two battery clips and copper terminals on both ends of the wires.

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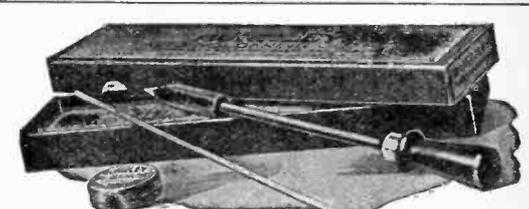
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SUPERIOR QUALITY and PERFORMANCE assures ever increasing volume repeat business. Write for illustrated bulletin.



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### BURNLEY RADIO SOLDERING OUTFIT

Designed especially for radio builders. Everything necessary for first-class soldering work contained in neat, compact box with full instructions.

A fine proposition for dealers. Write for it.

**THE BURNLEY BATTERY & MFG. CO.**  
NORTH EAST, PA.



## Radio Fans

Did you ever try this? **YAGER'S SOLDERING SALTS**, 1 part; water, 10 parts. Apply with a match the least drop of solution to joint and solder. **RADIO PERFECT JOB.**

*Samples upon request anywhere.*

**ALEX. R. BENSON COMPANY, Inc.**  
HUDSON, N. Y.

*For list of distributors see McRae's 1924 Blue-Book*

# NOKORODE

## FOR EASY SOLDERING



- 1st—Clean with file or emery cloth all four pointed sides of soldering iron.
- 2nd—Heat soldering iron. Avoid pointed end of iron coming in contact with flame as illustrated.
- 3rd—Apply some NOKORODE and some solder to sloping points of iron.
- 4th—While iron is still hot rub with cloth quickly on all four sides until iron is bright like new tin.
- 5th—Apply a little NOKORODE with stick, brush, or rod of solder to both parts to be soldered.
- 6th—Whenever possible hold hot soldering iron on underside of parts to be soldered, applying solder above parts.

When the solder is running freely take away soldering iron and let soldered parts get cold. Do not waste your NOKORODE. NOKORODE is so thoroughly efficient that only a little is required for perfect results.

**M. W. DUNTON CO.**  
Providence, R. I.  
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Perfectly soldered joints in the building of radio sets is a prime essential for best results. Perfect soldering the easy way has been achieved by amateur builders everywhere who have used NOKORODE, the Soldering Flux which is recommended by leading electricians and radioicians throughout the world. Insist that your dealer sell you NOKORODE. The man who takes a pride in building his set cannot afford substitution.

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We subjected one of these irons to 246 hours of continuous running and then hammered vigorously with it on a 2-in. maple bench—nothing broke. That speaks well for the CHAPMAN heating element. Order a sample iron and test it out—you'll be convinced. Packed 1 in a sturdy box with 3 removable points, 6 ft. cord and separable plug. List price, \$2.50.

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NON-ACID—FOR SOLDERING

at it  
since  
'93

## END SODER BOTHER!

## USE ALLEN FLUXES

They work on every metal  
"Yes, one for aluminum, too"

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## ABBREVIATIONS

### (Rec.) . . . . . RECEIVER SETS

A-C Dayton Polydyne (Rec.): A-C Elec'l Mfg. Co., Dayton, Ohio.  
 Aeromaster (Rec.): Stewart-Warner Speedometer Corp., 1826 Diversey Blvd., Chicago.  
 Acme (Rec.): Sears Mfg. Co., 1226 E. 152nd St., Cleveland, O.  
 Adler-Royal (Rec.): Adler Mfg. Co., 881 Broadway, New York, N. Y.  
 Air Master (Rec.): Workrite Mfg. Co., 1812 E. 30th St., Cleveland, O.  
 Air-Way (Rec.): Air-Way Electric Appliance Corp., Toledo, O.  
 Ajax (Rec.): Ajax Electric Specialty Co., 1926 Chestnut St., St. Louis, Mo.  
 Ajax Marveltone (L.S.): Ajax Electric Specialty Co., St. Louis, Mo.  
 American Crest (Rec.): Hansen Storage Co., 120 Jefferson St., Milwaukee, Wis.  
 Amrad (Rec.): American Radio & Research Corp., Medford Hillside, Mass., Dept. E.  
 Atlas (L.S.): Atlas-Colonial Corp., East Ave. & 10th St., Long Island City, N. Y.  
 Aristocrat (Rec.): Workrite Mfg. Co., 1812 E. 30th St., Cleveland, O.  
 Armstrong (L.S.): McKinley Phonograph Co., 1501 E. 56th St., Chicago, Ill.  
 Amplifex (Rec.): Amplifex Radio Corp., 35 Massachusetts Ave., Arlington, Mass.  
 Amplion (L.S.): Amplion Corp. of America, 280 Madison Ave., New York, N. Y.  
 Ampli-Tone (L.S.): Union Fabric Co., Derby, Conn.  
 Aeromaster (Rec.): Stewart-Warner Speedometer Corp., 1836 Diversey Blvd., Chicago.  
 Atlas (L.S.): Atlas-Colonial Corp., East Ave. & 10th St., Long Island City, N. Y.  
 Arlington (Rec.): Wells Mfg. Co., Fond du Lac, Wis.  
 Atwater Kent (Rec. & L.S.): Atwater Kent Mfg. Co., 4722 Wissahickon Ave., Philadelphia, Pa.  
 Audio (L.S.): Audio Laboratories, 203 Sixth Ave., New York, N. Y.  
 Audiolia (Rec.): Audiolia Radio Co., 430 S. Greene St., Chicago, Ill.  
 Audiphone (L.S.): O'Neil Mfg. Co., West New York, N. J.  
 Auditorium (L.S.): I. A. Bennett & Co., 112 W. Adams St., Chicago, Ill.  
 Baby Grand (Rec.): Beavert Mach. & Tool Co., Inc., 625 North Third St., Newark, N. J.  
 Baby-Grand (L.S.): Mozart-Grand Co., Newark, N. J.  
 Bailey (Rec.): Milo Bailey Radio Co., 3461 E. Jefferson St., Detroit, Mich.  
 Berwick (L.S.): Triangle Electro Trading Co., 682 Broadway, New York, N. Y.  
 Bestone (Rec.): Henry Hyman & Co., Inc., 476 Broadway, New York, N. Y.  
 Biltmore Master (Rec.): Biltmore Radio Co., Boston 30, Mass.  
 Bird Crystal (Rec.): Bird Radio Corp., 312 Main, Cincinnati, O.  
 Black Beauty (L.S.): Bird Radio Corp., Newark, N. J.  
 Bliss (L.S.): R. W. Bliss Co., 139 Hillia Ave., Atlantic, Mass.  
 Blue Bird (Rec.): Hansen Storage Co., 120 Jefferson St., Milwaukee, Wis.  
 Boudette (L.S.): Boudette Mfg. Co., 77 Beach St., Revere, Mass.  
 Brandola (Rec.): J. F. Brandola Corp., 35 1/2 Oxford St., Newark, N. J.  
 Burns (L.S.): American Electric Co., State & 64th St., Chicago, Ill.  
 California Nightingale (L.S.): Stentorone Co., 784 Geres Ave., Los Angeles, Cal.  
 Cameo (L.S.): Cannon & Miller Co., Springfield, N. Y.  
 Charmtone Loud Singer (L.S.): Dual Loud Speaker Co., 210 W. 54th St., New York, N. Y.  
 Chum (Rec.): Workrite Mfg. Co., 1812 E. 30th St., Cleveland, O.  
 C.I.C. (L.S.): Connecticut Instrument Co., 219 South St., Stamford, Conn.  
 Claratone (Rec.): Equitable Radio Corp., Hughesville, Pa.  
 Classic (L.S.): Roberts-Cohen Co., Huntington Park, Los Angeles, Cal.  
 Clinodyne (Rec.): Kenyon Mfg. Co., 2360 Amsterdam Ave., New York, N. Y.  
 Clearodyne (Rec.): Cleveland Radio Co., Cincinnati, O.  
 Cleveland (Rec.): Cleveland Radio Co., 714 Huron Rd., Cleveland, O.  
 Colonial (Rec.): Colonial Radio Corp., East Ave. and 10th St., Long Island City, N. Y.  
 Combidyne (Rec.): Wolverine Radio Co., 103 W. Atwater St., Detroit, Mich.  
 Concert (Rec.): Concert Radiophone Co., 626 Huron Road, Cleveland, O.  
 Conso (L.S.): Consolidated Elec. Co., 147 W. 23rd St., New York, N. Y.  
 Consomoloid Grand (Rec.): Mazda Radio Mfg. Co., 3405 Perkins Ave., Cleveland, O.  
 Coryphoe (L.S.): Chas. Corz & Son, 183 Varick St., New York, N. Y.  
 Cosmopolitan (Rec.): Cosmopolitan Corp., 15 West 18th St., New York, N. Y.  
 Coto Symphonic (Rec.): Coto-Coll Co., 87 Willard Ave., Providence, R. I.  
 Crosley (Rec.): Crosley Radio Corp., 128 Sassafras St., Cincinnati, O.  
 Cuznet (L.S.): Standard Metal Mfg. Co., 237 Chestnut St., Newark, N. J.  
 Dayercraft (Rec.): Dayton Fan & Motor Co., Dayton, O.  
 Day-Fan Duo-Plex (Rec.): Dayton Fan & Motor Co., Dayton, O.  
 Dayrola (Rec.): Dayton Fan & Motor Co., Dayton, O.  
 Dayradio (Rec.): Dayton Fan & Motor Co., Dayton, O.  
 Daytonia (Rec.): Dayton Fan & Motor Co., Dayton, O.  
 De Luxe (Rec.): Klitzten Radio Mfg. Co., Federal Square Bldg., Grand Rapids, Mich.  
 Dereandryne (Rec.): Andrews Radio Co., 327 S. LaSalle St., Chicago, Ill.  
 Dictogrand (L.S.): Dictogrand Products Corp., 220 W. 42nd St., New York, N. Y.  
 Doolittle (L.S.): F. M. Doolittle, 115 Crown St., New Haven, Connecticut.  
 Duck (Rec.): William B. Duck Co., 711 Adams St., Toledo, O.  
 Duodyne (Rec.): Glendale Electric Co., 14 Keefe Ave., Milwaukee, Wis.  
 Dymac (L.S.): Electrical Products Mfg. Co., Providence, R. I.  
 Eagle Balanced (Rec.): Eagle Radio Co., 16 Boyden Place, Newark, N. J.  
 Echophone (Rec.): Echophone Radio, Inc., 1120 N. Ashland Ave., Chicago, Ill.  
 Echo-Tone (L.S.): Williams Radio Co., 1438 Washington Blvd., Detroit, Mich.  
 Ecodyne (Rec.): Ecodyne Radio Co., Irwin, Pa.  
 Edan (L.S.): Mohawk Elec. Corp., 2250 Diversey Parkway, Chicago, Ill.  
 Ed-U-Cator (L.S.): Adams & Co., Ottawa, O.  
 Eisenman (Rec.): Eisenman Magnets Corp., 165 Broadway, New York, N. Y.  
 Electradnyne (Rec.): Foreign & Domestic Elec'l Commodities, Inc., 629 W. 23rd St., New York, N. Y.  
 Electrola (Rec.): American Specialty Co., Bridgeport, Conn.  
 Elgin (Rec.): Elgin Radio Supply Co., 207 E. Chicago St., Elgin, Ill.  
 Echantier (L.S.): Jodra Mfg. Co., Seattle, Wash.  
 Equidyne (Rec.): Joran Bros. Elec'l Co., Hamilton, O.  
 Etherphone (Rec.): American Etherphone Corp., 39 West Milwaukee Ave., Detroit.  
 Fada (Rec.): F. A. D. Andrea, Inc., 1581 Jerome Ave., New York, N. Y.  
 Farrand-Godley Speaker (L.S.): Farrand Mfg. Co., S. Sixth St., Newark, N. J.  
 Federal (Rec.): Federal Telephone Mfg. Corp., Buffalo, N. Y.  
 Freed-Eisemann (Rec. & L.S.): Freed-Eisemann Radio Corp., 41 Flatbush Ave. Ext. Brooklyn, N. Y.  
 Fulstone (L.S.): Hall & Wells, 128 N. Wells St., Chicago, Ill.  
 Garod (Rec.): Garod Corp., 120 Pacific St., Newark, N. J.  
 Gem (L.S.): Standard Metal Mfg. Co., 237 Chestnut St., Newark, N. J.  
 G-O-H (L.S.): Grigsby-Grunow-Hinds Co., 4540 Armitage Ave., Chicago, Ill.  
 Gibbin (Rec.): Standard Radio & Electric Co., 90 Bayley St., Pawtucket, R. I.  
 Gillilan (Rec.): Gillilan Bros., 1815 West 16th St., Los Angeles, Cal.  
 Goldcrest (Rec.): Clearatone Radio Co., Cincinnati, O.  
 Gold Finch (Rec.): Hansen Storage Co., 120 Jefferson St., Milwaukee, Wis.  
 Gold Star (L.S.): Star Radio Co., 1637 Westlake Ave., Seattle, Wash.  
 Grandette (Rec.): R. E. Thompson Mfg. Co., 31 E. Fifth St., Newark, N. Y.  
 Grebe (Rec.): A. H. Grebe & Co., 70 Van Wyck Blvd., Richmond Hill, N. Y.  
 Grimes (Rec.): David Grimes, Inc., 1571 Broadway, New York, N. Y.  
 Hallidorsen (Rec.): Hallidorsen Co., 1771 Wilson Ave., Chicago, Ill.  
 Halliwell (Rec. & L.S.): Halliwell Elec. Co., Inc., 4th Ave. and 12th St., New York, N. Y.  
 Hartman (Rec.): Harmony Mfg. Co., 2842 Griffith Ave., Cincinnati, O.  
 Heer Kleer (L.S.): R. C. Mills Radio Corp., 483 303 4th Ave., New York, N. Y.  
 Herald (L.S.): Herald Electric Co., 113 Fourth Ave., New York, N. Y.  
 Hewlett (L.S.): General Electric Co., Schenectady, N. Y.  
 Holtzer-Cabot (L.S.): Holtzer-Cabot Electric Co., 125 Amory St., Boston, Mass.  
 Home Speaker (L.S.): Trimm Radio Mfg. Co., 245 Clinton St., Chicago, Ill.  
 Howard (Rec.): Howard Mfg. Co., Inc., 469 E. Ohio, Chicago, Ill.  
 Howe (Rec.): Howe A. Products Co., 120 N. Green St., Chicago, Ill.  
 Hubco (Rec.): Baltimore Hub-Wind Mfg. Co., 221 N. Gay St., Baltimore, Md.  
 Invisible Speaker (L.S.): Curtis-Leger Fixture Co., 235 W. Jackson Blvd., Chicago.  
 Jewett (L.S.): Jewett Mfg. Corp., 226 Sherman Ave., Newark, N. J.  
 Jolley (L.S.): Jolley Radio Co., 23 Washington St., New York, N. Y.  
 Karryadio (Rec.): Armlay Radio Corp., 27 East 21st St., New York, N. Y.  
 Kellogg (L.S.): Kellogg Switchboard & Supply Co., 1066 West Adams St., Chicago, Ill.  
 Kennedy (Rec. & L.S.): Colin B. Kennedy Co., 6400 Plymouth Ave., St. Louis, Mo.  
 K-E (L.S.): Kirkman Engineering Corp., 483 303 4th Ave., New York, N. Y.  
 King Quality (Rec.): King Quality Products Co., 90 Welland St., Buffalo, N. Y.  
 Kleertone (L.S.): National Radio Outlet Co., 54 Lispenard St., New York, N. Y.  
 Kodel (Rec.): Kodel Mfg. Co., 118 W. Third St., Cincinnati, O.  
 Lark (Rec.): International Radio Co., 152 W. 42nd St., New York, N. Y.  
 Lasher Capacidyne (Rec.): Fairview Electric Shop, 35 Fairview Ave., Binghamton, N. Y.  
 L. D. R. (Rec.): United Metal Stamping & Radio Co., 410 E. Pearl St., Cincinnati, O.  
 Liberty Sealed Fire (Rec.): Liberty Transformer Co., 555 N. Parkside Ave., Chicago.  
 Little Gem (Rec.): Metro Electrical Co., 67 Goble St., Newark, N. J.  
 Madera Clear Speaker (L.S.): Compressed Wood Corp., 345 West Austin Ave., Chicago.  
 Magnatrol (Rec.): Magnus Elec. Co., 787 E. 138th St., New York, N. Y.  
 Magnavox (Rec. & L.S.): Magnavox Co., Oakland, Cal.  
 Majestic Home Concert (L.S.): Grigsby-Grunow-Hinds Co., 4512 Armitage Ave., Chicago, Ill.  
 Malone-Lemmon (Rec.): Carloyd Elec. & Radio Co., 342 Madison Ave., New York, N. Y.  
 Manhattan (Rec.): Manhattan Elec'l Supply Co., Inc., 17 Park Place, New York, N. Y.  
 Mars (L.S.): National Airphone Corp., 16 Hudson St., New York, N. Y.  
 Martiniola (Rec.): Vibrox Corp., Inc., 825 Broadway, New York, N. Y.

### (L.S.) . . . . . LOUD SPEAKERS

Marcel Five (Rec.): Radio Syndicate of New York, 240 Broadway, New York, N. Y.  
 Marr-o-Dyne (Rec.): Amber Sales, Inc., 112 Chambers St., New York, N. Y.  
 Marwol (Rec.): Marwol Radio Corp., 85 Mercer St., New York, N. Y.  
 Masterola (Rec.): R. C. Mills Radio Corp., 303 4th Ave., New York, N. Y.  
 Masterpiece (Rec.): Charles Freshman Co., Inc., 240 W. 40th St., New York, N. Y.  
 Melatone (L.S.): Star Radio & Mfg. Co., 1637 Westlake Ave., Seattle, Wash.  
 Melco Supreme (Rec.): Ameco Products, Inc., 416 Broome St., New York, N. Y.  
 Melodyne (Rec.): Melodyne Radio Co., 1457 Broadway, New York, N. Y.  
 Metatone (L.S.): Radio Industries Corp., 131 Duane St., New York, N. Y.  
 Mercury (L.S.): Mercury Radio Corp., 87 Duane St., New York, N. Y.  
 Metro (Rec.): Metro Elec'l Co., 67 Goble St., Newark, N. J.  
 Michigan (Rec.): Michigan Radio Mfg. Co., Federal Square Bldg., Grand Rapids, Mich.  
 Midget (Rec.): Kitten Radio Mfg. Co., Federal Square Bldg., Grand Rapids, Mich.  
 Miles Supreme (L.S.): Great American Radio Co., 30 Church St., New York, N. Y.  
 Minute Man (Rec.): Pathe Phonograph & Radio Corp., 20 Grand Ave., Brooklyn, N. Y.  
 Mirador (Rec.): Radio Corp. of America, 815 Main St., Cincinnati, O.  
 Mocking Bird (L.S.): Morrison Laboratories, Inc., 812 Ford Bldg., Detroit, Mich.  
 Mohawk (Rec.): Mohawk Electric Co., 2250 Diversey Parkway, Chicago, Ill.  
 Monotrol (Rec.): Sleeper Radio Corp., 6th Ave. and Washington St., Long Island City, N. Y.  
 Montrose (Rec.): Montrose Radio Laboratories, 1333 Fulton St., Brooklyn, N. Y.  
 Moon (L.S.): Wilson Utensil Co., 815 E. Fifth St., Dayton, O.  
 Moonson (L.S.): Morrison Laboratories, Inc., 223 Jefferson Ave., Detroit, Mich.  
 Multi-Point (Rec.): Multi-Point H. P. Co., West Philadelphia, Pa.  
 Mu-Rad (Rec.): Mu-Rad Laboratories, Inc., 807 Fifth Ave., Astbury Park, N. J.  
 Murdock (Rec.): Wm. J. Murdock Co., Washington Ave., Chelsea, Mass., Dept. 12.  
 Musette (L.S.): Herbert H. Frost, 154 W. Lake St., Chicago, Ill.  
 Music Master (L.S.): Music Master Corp., 10th & Cherry Sts., Philadelphia, Pa.  
 Naturalone (L.S.): Moon Radio Corp., 501 Steiway Ave., Long Island City, N. Y.  
 Newport (Rec.): Newport Radio Corp., 250 N. 54th St., New York, N. Y.  
 Nightingale (L.S.): Hansen Storage Co., 120 Jefferson St., Milwaukee, Wis.  
 Operadio (Rec.): Operadio Corp., 8 S. Dearborn St., Chicago, Ill.  
 Operatone (L.S.): Piroxoid Products Co., 200 Fifth Ave., New York, N. Y.  
 Orlole (Rec.): W. K. Electric Co., Kenosha, Wis.  
 Orlole Five (Rec.): Roberts Radio Co., Henry C., 112 Trinity Place, New York, N. Y.  
 O-Se-Ez (Rec.): United Industries Co., 1525 N. Faun St., Philadelphia, Pa.  
 Pandora (Rec.): Brooklyn Metal Stamping Corp., 1718 Atlantic Ave., Brooklyn, N. Y.  
 Paradyne (Rec.): Adams Morgan Co., Upper Montclair, N. J.  
 Paragon (Rec.): Adams Morgan Co., Upper Montclair, N. J.  
 Parlor Grand (Rec.): R. E. Thompson Mfg. Co., 30 Church St., New York, N. Y.  
 Pathe (L.S.): Pathe Phonograph & Radio Corp., 10 Grand Ave., Brooklyn, N. Y.  
 Penn C (Rec.): Pennsylvania Wireless Mfg. Co., 507 Florence Ave., New Castle, Pa.  
 Penberthy (Rec.): Penberthy Injector Co., 1242 Holden Ave., Detroit, Mich.  
 Perfecitone (L.S.): Perfecitone Radio Corp., 490 Broome St., New York, N. Y.  
 Pfanstiel (Rec.): Pfanstiel Radio Co., 11 S. La Salle St., Chicago, Ill.  
 Phodyne-6 (Rec.): National Airphone Corp., 16 Hudson St., New York, N. Y.  
 Pocket Radio (Rec.): Auto Indicator Co., 210 N. Ottawa St., Grand Rapids, Mich.  
 Popular (Rec.): C. D. Tuska, 83 Homestead Ave., Hartford, Conn.  
 Portola (Rec.): Portola Radio Co., 508 Market St., Philadelphia, Pa.  
 Radak (Rec.): Clapp-Eastham Co., 139 Main St., Cambridge, Mass.  
 Radialamp (L.S.): Radiolamp Co., 334 Fifth Ave., New York, N. Y.  
 Radio Blinker (Rec.): Frank B. Perry & Sons, 513 Hospital Trust Bldg., Providence, R. I.  
 Radinyne (Rec.): Western Coll. & Elec'l Co., 313 Fifth St., Racine, Wis.  
 Radiogrand (Rec.): M. B. Austin Co., 108 S. Desplaines St., Chicago, Ill.  
 Radio King (Rec.): Workrite Mfg. Co., 1812 E. 30th St., Cleveland, O.  
 Radiola (Rec. & L.S.): Radio Corp. of America, 233 Broadway, New York, N. Y.  
 Radiophone (Rec.): De Forest Radio Co., Jersey City, N. J.  
 Ranger Five (Rec.): Ainsworth-Gates Radio Co., 416 Main St., Cincinnati, O.  
 Rectetone (L.S.): Rice & Heister, 130 W. Washington Place, New York, N. Y.  
 Regentone (Rec.): Adams Morgan Co., 150 E. 43rd St., New York, N. Y.  
 Reinartz (Rec.): Elgin Radio Supply Co., 207 E. Chicago St., Elgin, Ill.  
 Remo Trumpet (L.S.): Remo Corporation, Radio Division, Meriden, Conn.  
 Remodyne (Rec.): Remo Corp., Radio Division, Meriden, Conn.  
 Repeater (L.S.): Moss, Schury Mfg. Co., Radio Div., 2011 Franklin St., Detroit, Mich.  
 Ritter (Rec.): Ritter Radio Corp., 232 Canal St., New York, N. Y.  
 Roia In-Creator (L.S.): Roia Co., 2 W. Connecticut St., Seattle, Wash.  
 Roia Talker (Rec.): Roia Radio Mfg. Co., 422 E. 53rd St., New York, N. Y.  
 RPM Odynne (Rec.): Radio Products Mfg. Co., 501 S. Jefferson St., Chicago, Ill.  
 Saterlee (Rec.): Moon Radio Corp., 501 Steiway Ave., Long Island City, N. Y.  
 Seco (Rec.): Spielman Electric Co., 311 W. 59th St., New York, N. Y.  
 Shelbourne Standish (Rec.): National Airphone Corp., 16 Hudson St., New York, N. Y.  
 Shelton (L.S.): Shelton Radio Sales Co., 20 Clinton St., Newark, N. J.  
 Shevon All Purpose (Rec.): Thermodyne Radio Corp., Plattsburgh, N. Y.  
 Silverdyne (L.S.): Radio Corp. of America, 53rd St., Brooklyn, N. Y.  
 Simplex (Rec.): Simplex Radio Co., 1013 Ridge Ave., Philadelphia, Pa.  
 Simpiflor (Rec.): Radio-Master Corp. of America, Bay City, Mich.  
 Somerset (Rec.): National Airphone Corp., 16 Hudson St., New York, N. Y.  
 Sonera (L.S.): Sonora Phonograph Co., 279 Broadway, New York, N. Y.  
 Sonoradio (Rec.): Sonora Phonograph Co., 279 Broadway, New York, N. Y.  
 Spartan Speaker (L.S.): Spartan Electric Corp., 89 Chambers St., New York, N. Y.  
 Spliffidor (Rec.): Spliffidor Elec'l Co., 892 1/2 11th St., Newark, N. J.  
 Spliffidorone (L.S.): Spliffidor Elec'l Co., 892 1/2 11th St., Newark, N. J.  
 Spifford (Rec.): National Airphone Corp., 16 Hudson St., New York, N. Y.  
 Standard (L.S.): Utah Radio Products Co., 1427 S. Michigan Ave., Chicago, Ill.  
 Standardyne (Rec.): Standard Radio Corp., 533 Canal St., New York, N. Y.  
 Star-O-Tone (L.S.): Star Radio Co., 1637 Westlake Ave., Seattle, Wash.  
 Starr-Harmoney (Rec.): Starr Equipment Corp., 366 Hamilton Ave., Brooklyn, N. Y.  
 Star-O-Vox (L.S.): Sterling Cabinet Co., 150 1/2 11th St., Newark, N. J.  
 Stromberg-Carlson (Rec. & L.S.): Stromberg-Carlson Tele. Mfg. Co., Rochester, N. Y.  
 Super (Rec.): Super Antenna Co., Quincy, Ill.  
 Super Clear-O-Dyne (Rec.): Clearatone Radio Co., Cincinnati, O.  
 Superdyne (Rec.): C. D. Tuska Co., 83 Homestead Ave., Hartford, Conn.  
 Super-Equidyne (Rec.): Doron Bros. Electric Co., Hamilton, O.  
 Super-Fine (Rec.): Apex Elec. Mfg. Co., 141 W. 59th St., Chicago, Ill.  
 Super-Grand (Rec.): Erie Radio Co., 227 Erie St., Toledo, O.  
 Super-Four (Rec.): World Wireless Corp., 362 Broadway, New York, N. Y.  
 Superior (L.S.): Superior Products Co., 1078 Springfield Ave., Irvington, N. J.  
 Super-Radak (Rec.): Clapp-Eastham Co., 139 Main St., Cambridge, Mass.  
 Super-Reflex (Rec.): Sypher Mfg. Co., 1524 Fernwood Ave., Toledo, O.  
 Superspeaker (L.S.): Jewett Radio & Phonograph Co., 5680 12th St., Detroit, Mich.  
 Super-Zenith (Rec.): Zenith Radio Corp., McCormick Bldg., Chicago, Ill.  
 Symphony (Rec.): Jones Radio Co., 1068 W. Adams St., Chicago, Ill.  
 Synchrophase (Rec.): Sypher Mfg. Co., 79 Van Wyck Blvd., Richmond Hill, N. Y.  
 Sypher (Rec.): Sypher Mfg. Co., 524 Fernwood Ave., Toledo, O.  
 Table-Talker (L.S.): C. Brandes, Inc., 237 Lafayette St., New York, N. Y.  
 Telephone (Rec.): Telephone Co. of America, 449 W. 42nd St., New York, N. Y.  
 Telmao (Rec.): Telephone Maintenance Co., 20 S. Wells St., Chicago, Ill.  
 Terafone (Rec.): Moon Radio Corp., 501 Steiway Ave., Long Island City, N. Y.  
 Thermodyne (Rec.): Thermodyne Radio Corp., Plattsburgh, N. Y.  
 Thor (L.S.): Golden Gate Brass Mfg. Co., 516 E. Pike St., Seattle, Wash.  
 Thorola (L.S.): Reichmann Co., 1725 West 74th St., Chicago, Ill.  
 Throphone (L.S.): Reichmann Co., 1725 West 74th St., Chicago, Ill.  
 Timbre-tone (L.S.): Timbre-tone Mfg. Co., Hoosick Falls, N. Y.  
 Timmons Talker (L.S.): Timmons Radio Products Corp., Germantown, Philadelphia.  
 Tone-A-Dyne (Rec.): Reana, Inc., 118 Chambers St., New York, N. Y.  
 Trans-Continental (Rec.): Beta & Beta Corp., 643 W. 43rd St., New York, N. Y.  
 TRF (Rec.): J. B. Ferguson, 30 Beaver St., New York, N. Y.  
 Trimm (L.S.): Trimm Radio Mfg. Co., 24 So. Clinton St., Chicago, Ill.  
 Trinity (L.S.): Trinity Radio Corp., 446 Tremont St., Boston, Mass.  
 Trinyrn (Rec.): Crosley Radio Corp., 28 Sassafras St., Cincinnati, O.  
 Trinyrn Newport (Rec.): Crosley Radio Corp., 28 Sassafras St., Cincinnati, O.  
 Tru (Rec.): Wolverine Radio Co., 103 W. Atwater St., Detroit, Mich.  
 Tuska (Rec.): C. D. Tuska Co., 83 Homestead Ave., Hartford, Conn.  
 Utaltone (L.S.): Audio Laboratories, 203 Sixth Ave., New York, N. Y.  
 Vocelate (Rec.): General American Radio Mfg. Corp., 345 Madison Ave., New York, N. Y.  
 Ware (Rec.): Ware Radio Corp., 529 West 42nd St., New York, N. Y.  
 Warren (L.S.): Warren Radiophone Mfg. Co., Warren, R. I.  
 Washburn (Rec.): Washburn Burner Corp., Kokomo, Ind.  
 Wells (Rec.): Wells Mfg. Co., Fond du Lac, Wis.  
 Westbury-6 (Rec.): Westbury Inc., 25 West 54th St., New York, N. Y.  
 Western Electric (L.S.): Western Elec. Co., 100 E. 42nd St., New York, N. Y.  
 Windsor (L.S.): Windsor Furniture Co., 1420 Carroll Ave., Chicago, Ill.  
 Woodchorn (L.S.): Inter-Ocean Radio Corp., 205 10th St., Jersey City, N. J.  
 World's Voice (L.S.): World Wireless Corp., 362 Broadway, New York, N. Y.  
 Worner Heteroplex (Rec.): Heteroplex Mfg. Co., 423 Market St., Philadelphia, Pa.  
 Wright (Rec.): Wright Radio Mfg. Co., 1466 Selby Ave., St. Paul, Minn.  
 Yankee (L.S.): Albin Radio Co., 16 Hudson St., New York, N. Y.  
 Zenith (Rec.): Zenith Radio Corp., McCormick Bldg., Chicago, Ill.

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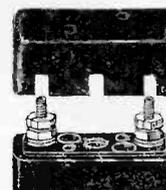
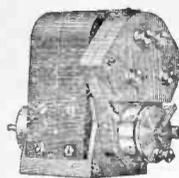
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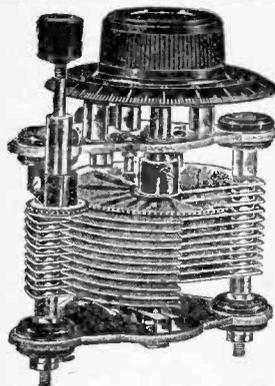
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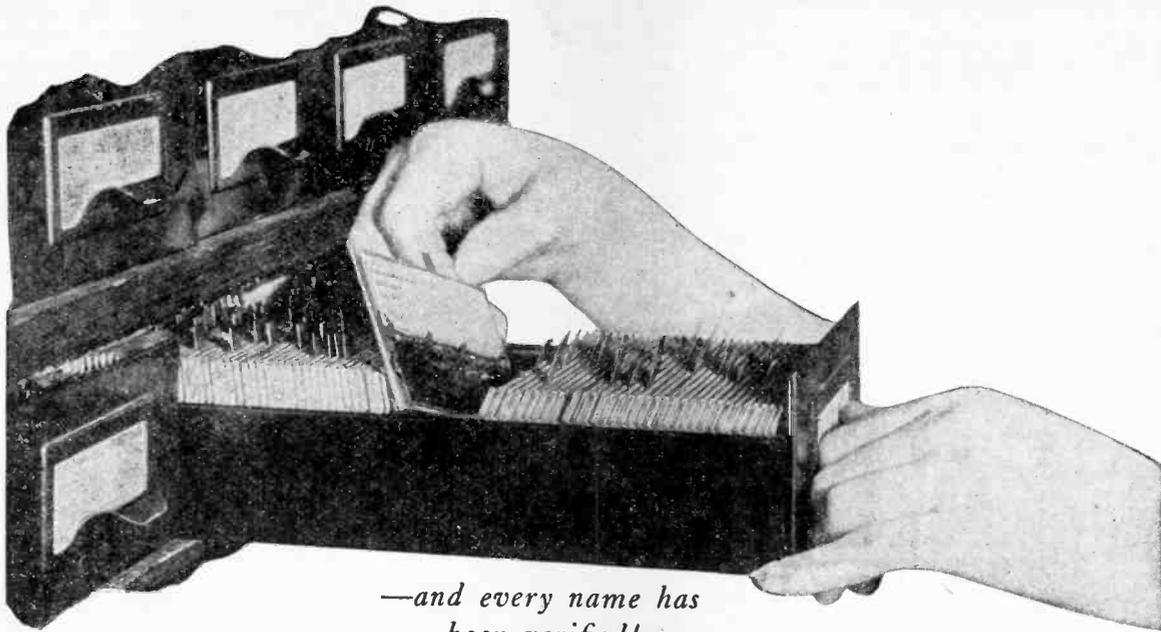
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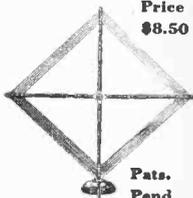
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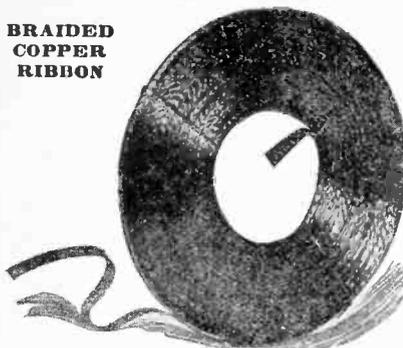
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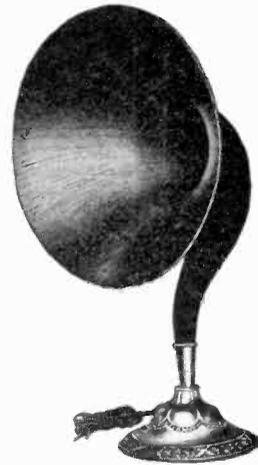
Manufacturers Established 1888 Philadelphia, Pa.

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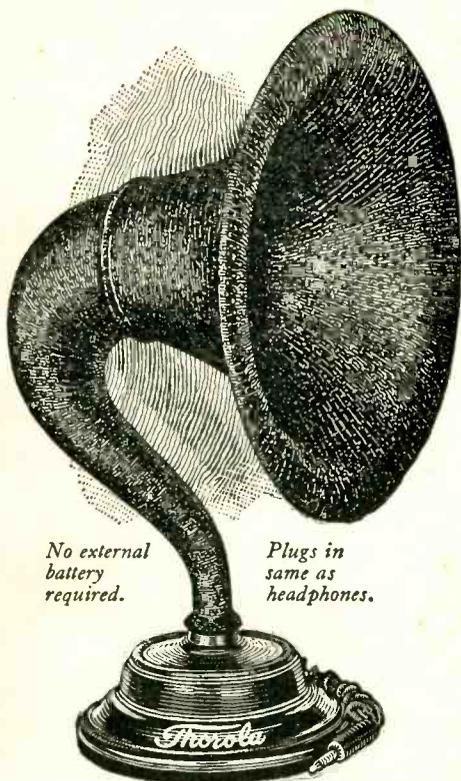
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