

# The RADIO DEALER

Vol. 2 No. 2 NOVEMBER, 1922 One Dollar The Year

Published monthly at 1133 Broadway, New York, N. Y., by The Radio Dealer Company. Entered as Second Class Matter, at the Post Office at New York, N. Y., under the Act of March 3, 1879

Last Minute Orders  
of Nationally Adver-  
tised, STANDARD  
**RADIO MERCHANDISE**



**For the Christmas Harvest**  
**Promptly Shipped from Ample Stocks**

**NOT** too late, even yet, to get in a full line of radio gifts for the holiday buying. You can select your stock from the products of America's best manufacturers and have everything delivered to you in plenty of time. But you should send in your order immediately.

The Holiday season is going to be one of the most profitable so far. Those who take full advantage of it will push their business far ahead of those who neglect this great wave of buying. Let Wholesale Radio Equipment co-operate with you.

*Products of 22 or More of the Best Known Manufacturers*

## Order some of these famous **ALL WAVE COUPLERS**

**Combination  
Flat and Bank Wound Coupler**

*Guaranteed Wave Length 150 to 3000 meters*



Eliminates use of variometers, vario couplers and loading coils because it does the whole tuning job. Bought by amateurs everywhere for building small, compact, simplified receiving sets. They want its advantages of maximum clear reception over a wide range of wave lengths.

Their very low cost keep your stock of All Wave Couplers turning over frequently, so that you make a generous profit without tying up any large capital.

Lots being sold to makers of Holiday Receiving Sets. Just a small order of All Wave Couplers will prove their profitableness .....

LIST  
**\$9<sup>00</sup>**

*Write Us For Attractive Discounts*

### DISTRIBUTORS FOR

Acme  
American Trans-  
former  
All Wave Coup-  
lers  
Baldwin  
Bradleystat  
Brandes  
Chelsea  
De Forest  
Dubilier Electri-  
cal  
Eveready  
Federal  
Homcharger  
Jefferson  
Klosner  
Magnavox  
Murdock  
Paragon  
Radio Service  
Laboratories  
Thordarsen  
Tuska  
Western Electric

**WHOLESALE  
ONLY**

# Wholesale Radio Equipment Co.

24 WILLIAM STREET, NEWARK, N. J.

**\$5.00**

13,000  
Ampere turns



**\$7.50**

16,000  
Ampere turns

**“PIGS IS PIGS”—But All phones  
are not “ROYALFONES”**



*Every “Royalfone” comes packed  
in our new and attractive box.*

**ROYAL ELECTRICAL LABORATORIES**

MANUFACTURERS OF

*Electrical and Radio Equipment*  
NEWARK N-J-

Because we—

are manufacturers of headsets, and  
not mere assemblers.

manufacture every integral part of  
our “Royalfone” at our own plant  
from the best possible materials.

make phones with the purpose of  
making them sensitive and powerful.

wind our coils to get the greatest  
number of ampere turns, and not  
mere resistance.

match each pair of coils in every  
pair of phones to get uniform tone  
quality.

thoroughly inspect every pair of  
phones before they leave our factory  
to see that they function properly on  
various types of sets.

only manufacture the “Royalfone”  
and it is King of All.

guarantee every “Royalfone” and  
our guarantee is printed on the box.

make immediate shipments, and our  
discounts are attractive.



*Royalfone*

*The Leaders Will Be There*

# AMERICAN RADIO EXPOSITION

*The Official Exposition for American Manufacturers.*

This first really comprehensive Radio Show staged in a manner worthy of this Great Industry

*will be held in*

**GRAND CENTRAL PALACE**  
**NEW YORK**

**DECEMBER 21st to 30th**

*(Sunday excepted but Christmas Day included)*

At this remarkable exposition, representative manufacturers will be invited to display and demonstrate their goods to thousands of visitors and potential buyers. More than 40,000 square feet of floor space will be available for a great educational and trade exhibition covering the entire field of radio.

Coming at the holiday season, schools and colleges will be closed, making it convenient for students, parents, teachers and holiday-seekers to attend.

***This Is A Radio Christmas!***

*For further particulars, write or wire*

**AMERICAN RADIO EXPOSITION CO.**  
120 BROADWAY  
NEW YORK

*Telephone John 0009*

**THIS WILL BE A RADIO CHRISTMAS!**

NO. 57  
RADIO RECEIVER



—the most sensitive receiver that has yet been built.

—→ \$98.00

## THE Federal No. 57 RADIO FREQUENCY RECEIVING SET

is not only the most sensitive receiver that has yet been devised, but it gives its extraordinarily high degree of amplification with a pureness of tone and beauty of reproduction beyond comparison. It constitutes one stage of radio frequency, detector and two stages of audio frequency.

### RADIO FREQUENCY AMPLIFICATION

HAS BEEN TALKED ABOUT BUT NEVER FULLY REALIZED UNTIL NOW.

### WRITE FOR BULLETIN No. 119-W

IT IS A TEXT BOOK ON RADIO FREQUENCY AMPLIFICATION.

**Federal Telephone and Telegraph Company**

**BUFFALO, N. Y.**

# Dictograph Radio Loud Speaker Proves Sensational Success!

**A** NOTHER success for Dictograph! Here at last is the Loud Speaker the radio public has been waiting for—the Loud Speaker *for the home*—backed by a name known the world over—and sold at a low price within the reach of all!

Orders have been received in such volume that original production plans have been increased and the price reduced! Instead of \$25, the LIST PRICE IS NOW ONLY \$20—complete with 5 ft. flexible cord.

The world-famous DICTOGRAPH name and the Dictograph reputation for producing sound-transmission and loud-speaking devices of supreme quality GUARANTEE the superiority of the Dictograph Radio Loud Speaker.

For use with any vacuum tube receiving set. No extra batteries required. Reproduces every sound in full, clear tones, free from distortion. The handsome appearance of this quality instrument harmonizes with any home.

Protect your profits now. Wire your jobber or communicate direct for names of authorized distributors.



3000 Ohms

Electrotypes for catalogs, advertising, etc., are available and will be furnished on request.

### DICTOGRAPH Radio HEAD SET

Bigger and bigger sales every month. The best Head Set in the world at any price. 3000 ohms. Standard equipment on leading Receiving Sets. Quick turn-over and sure profits. If not yet stocked, order NOW from your jobber or communicate direct for names of authorized distributors.



List Price

**\$20**

Complete with 5 ft. flexible cord

Another strong selling feature—the handsome appearance of the Dictograph Radio Loud Speaker. Highly burnished French lacquered spun copper bell horn. 11 in. in diameter, attached to die cast black enamel tone arm, nickel trimmings. Cabinet of solid, ebony-finished hardwood, 6 x 5 in. base, 4 in. high, mounted on rubber knobs.

DICTOGRAPH PRODUCTS CORPORATION

Branches in all principal cities

New York City

220 West 42nd Street

THIS WILL BE A RADIO CHRISTMAS!

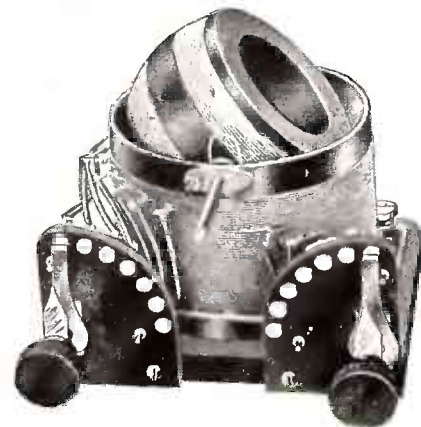
# New York Coil Company's Radio Products

THE LEADING LINE OF THE MOST SUCCESSFUL JOBBERS AND DEALERS IN RADIO

Our products embrace only the most needed and rapidly moving articles. Quality, engineering and workmanship the best obtainable.

Our extensive advertising *and worth-while discounts* cannot be overlooked.

**STANDARD VARIOCOUPLER, - - \$4.00**  
**STANDARD VARIOMETER, - - 4.00**



**COMBINED MOUNTED VARIOCOUPLER**—The only Variocoupler on the market that allows panel or table connection and eliminates the connecting of taps, soldering, drilling, etc. A great advantage in Radio. Nothing like it on the market. Handsomely finished. Price \$8.00.

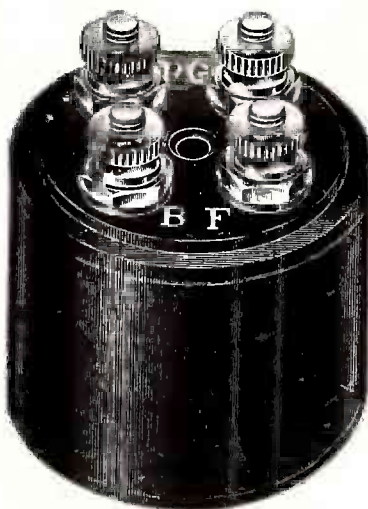
These items are large, full size proven products, the value of which is seen at a glance. Our Unequaled Variable Condensers contain precision, workmanship found in no other similar instruments.

**LIST PRICES:**

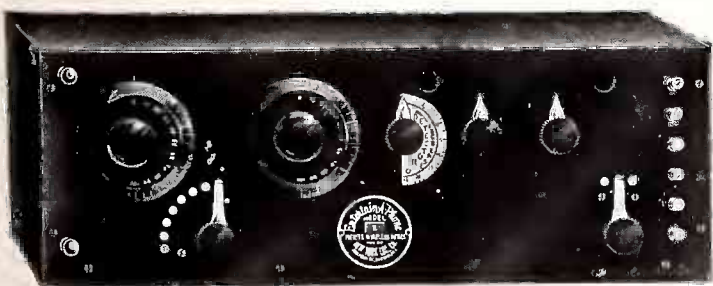
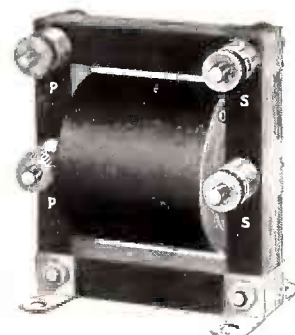
|                 |   |   |   |   |        |
|-----------------|---|---|---|---|--------|
| 3 Plate Vernier | - | - | - | - | \$1.25 |
| 11 "            | - | - | - | - | 1.50   |
| 23 "            | - | - | - | - | 2.00   |
| 43 "            | - | - | - | - | 3.00   |

**REAL RADIO FREQUENCY AT LAST.** Solution—our Condenser tuned Radio Frequency Transformers. An entirely new principle employed. Extraordinary results guaranteed. Price, \$4.00

Special Condensers for same, \$1.50.



**AUDIO FREQUENCY TRANSFORMERS**—Choice of leading manufacturers and radio engineers. Guaranteed to give high magnification, less distortion and better all round efficiency. No howling. Price \$4.00.



**NEW YORK ENTERTAIN-A-PHONE RECEIVING SET No. 2**—Complete with detector and two stages of amplification, all in one cabinet. Contains a non-regenerative two circuit hook-up with two stages audio amplification. Results are simply a revelation. It must be operated and heard to be appreciated. Workmanship and design and material of exceptional character throughout. Of unusual interest to the jobber. Price \$50.00, fully guaranteed.

## NEW YORK COIL COMPANY, Inc.

338 Pearl Street

New York City, N. Y.

THIS WILL BE A RADIO CHRISTMAS!



Type B, Keystone Radio Arrester. Retail Price, \$2.00

# KEYSTONE

## LIGHTNING ARRESTERS

Listed as Standard by Underwriters' Laboratories (No. 362 A-4)

You can sell hundreds of Keystone Arresters for these reasons—Small in size; weatherproof; entirely enclosed and sealed; foolproof; constructed by a Company having 30 years' experience in lightning arrester design; low capacity and high resistance; no vacuum to lose and so reduce the efficiency of the arrester to a point where it is practically valueless.

Get your order in before there is a possible scarcity. Liberal Dealer discounts. Write for complete information.



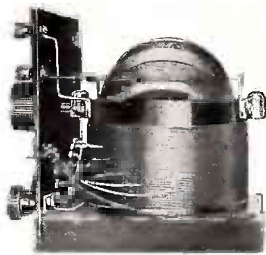
Type A, Keystone Radio Arrester. Retail Price, \$2.00

# Simplex Panel Units

and  
Unmounted  
Variometers  
and  
Vario-Couplers



No. 47488  
Simplex Variometer,  
Showing Side View of  
Panel Mounted Type



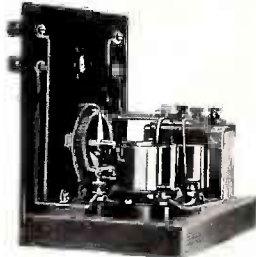
No. 47489  
Simplex Vario-Coupler,  
Showing Side View of  
Panel Mounted Type



No. 47541  
Simplex Condenser  
Panel—Side View



No. 47490  
Simplex Detector Panel  
Side View



No. 47491  
Simplex Amplifier Panel  
Side View



No. 47483  
Simplex Vario-Coupler,  
Unmounted



No. 47482  
Simplex Variometer,  
Unmounted



Manufacturer of  
Lightning Arresters for 30 years  
Distributors for  
SIMPLEX RADIO CO.

There is a big demand for Simplex Panel Units among your customers because they permit trying-out many different hook-ups and thus determining the best for their certain locality without having to disassemble a complete outfit. This is a decided advantage, but of no less interest is the fact that the beginner can first purchase one Vario-Coupler Panel and one Detector Panel and have a fairly good receiving set at minimum cost with the advantage of later adding additional units to obtain greater sensitivity and selectivity. Thus the user can add to his Simplex outfit and when he has purchased it complete it is unquestionably one of the most attractive and efficient receiving sets now offered to the public.

This is a very attractive line for Jobbers and Dealers. Write for new descriptive circular and discounts on Panel Units and Unmounted Variometers and Vario-Couplers. Simplex Material is high grade in every respect.

## ELECTRIC SERVICE SUPPLIES Co.

PHILADELPHIA  
17th and Cambria Streets

NEW YORK  
50 Church Street

CHICAGO  
Monadnock Bldg.

Branch Offices: Boston, Scranton, Pittsburgh  
Canadian Distributors: Lyman Tube & Supply Co., Ltd., Montreal, Toronto, Winnipeg, Vancouver

THIS WILL BE A RADIO CHRISTMAS!



# RADIO MAGNA-TONE PRODUCTS



Lift the switch and this *MAGNA-TONE* Two-stage Amplifier is in operation with filaments under fixed control. Circuit is automatically rearranged for one stage by lifting the first tube—at the left. Size, 13 x 5 x 5½ inches. Ebony finish.

*JOBBER AND DISTRIBUTORS*—There's a big demand for this radio essential. Write at once for our special proposition.

List Price **\$24**

## MAGNA INSTRUMENT COMPANY

340 West 42nd Street  
New York City

*MAGNA-TONE* Vacuum Tube Receiver—a radio set without fussy adjustments. Only two adjustments necessary. Provided with Fahnestock terminals which insure positive connections throughout. Size 13 x 5 x 5½ inches. Ebony finish.

*DEALERS*—Radio fans want simpler apparatus. Here it is. Discounts are generous. Big sales reported. Get in touch with your Jobber.

List Price **\$16**



*Catalog on Request*

*THIS WILL BE A RADIO CHRISTMAS!*

# Broadcasting the Convenience of HOMCHARGING to 10,000,000 Prospects



Dominating HOMCHARGER Advertisements appear regularly in over thirty leading radio and automobile publications—the most comprehensive campaign in the entire radio field.

In addition, HOMCHARGER Dealers are supplied with a variety of attractive window cards, counter displays, circulars and other sales helps, all of which will help make the HOMCHARGER the fastest selling and most profitable accessory you have ever handled.

The new RADIO HOMCHARGER DE LUXE is the sensation of the radio industry, and is the only battery charger on the market, regardless of selling price—combining the following essential HOMCHARGER features:

*ONE—Self-polarizing—*Otherwise battery may be ruined through reverse charging.

*TWO—Five Ampere Charging Rate—*Will fully charge any battery over night. A lower charging rate (2 amperes) necessitates approximately fifty hours for a full charge.

*THREE—Underwriters' Approval—*The various municipal electrical bureaus, and the Insurance Underwriters are daily becoming more strict regarding the use of only approved electrical apparatus. The Homcharger is one of the few battery charging rectifiers on the market that has this approval.

Packed in neat, individual, red and green checked corrugated cartons, which can be conveniently and attractively displayed. Furnished with attachment cord, plug, charging cable, battery clips, etc., at a uniform price of \$18.50 for both direct and alternating current circuits of any frequency or voltage.

Over forty thousand HOMCHARGERS were sold to jobbers and dealers last spring. Over one hundred and fifty thousand will be sold this fall and winter.

Will you get your share of profit from this fast moving, easily sold, and nationally advertised radio and automobile accessory?

Send today for the HOMCHARGER Selling Plan and your copy of "Homcharger Business Builders," which will convince you that the HOMCHARGER presents the liveliest opportunity ever presented to the trade for cashing in on a popular priced, no service, over the counter article, with enormous sales possibilities.

## The Automatic Electrical Devices Co.

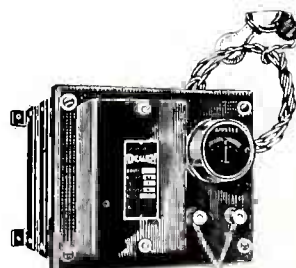
144 West Third Street

Cincinnati, Ohio

Largest Manufacturers

of

Vibrating Rectifiers in the World



### BRANCH OFFICES

New York Chicago Pittsburgh  
Detroit Dallas  
Philadelphia Los Angeles  
Baltimore Minneapolis New Orleans  
St. Louis Atlanta

TYPE "A" FOR WALL MOUNTING

~ OVER 50,000 IN USE ~

THIS WILL BE A RADIO CHRISTMAS!



# Here They Are At Last!

## Two Non-Technical Books Answering Every Question of the Radio Fan

### THE RADIO TELEPHONE HANDBOOK

By H. G. CISIN, M. E.

A Book of Authentic Information About Radio. It explains—

- The Operating Principles of Radio*
- How Crystal Detectors Work*
- How the Vacuum Tube Works*
- The Principles of Regeneration*
- How Amplification May Be Obtained*
- How to Check Up the Condition of the Storage Battery*
- Causes and Remedies for Weak Signals and Local Noises in Connection with Vacuum Tube Sets*
- When an Indoor Aerial Can Be Used*
- What the Loop Aerial Is*
- What Batteries, If Any, Are Necessary*
- When Shielding Is Necessary*

and many other important branches of Radio. It defines in language which the novice can understand.

- |   |  |  |
|---|--|--|
| <ul style="list-style-type: none"> <li>Aerial</li> <li>Alternating Current</li> <li>Alternation</li> <li>Alternator</li> <li>Ampere</li> <li>Amplifier</li> <li>Ammeter</li> <li>Anode</li> <li>Antenna</li> <li>Antenna Coil</li> <li>Atmospheric Disturbance</li> <li>Audibility</li> <li>Audiotone</li> <li>Audiotone Receiver</li> <li>Auto-Transformer</li> <li>"B" Battery</li> </ul> | <ul style="list-style-type: none"> <li>Ball-Type Variometer</li> <li>Bakelite</li> <li>Bellini-Tesi Direction Finder</li> <li>Blacking Condenser</li> <li>Bridging Condenser</li> <li>Broadcasting</li> <li>Buzzing</li> <li>By-Pass Condenser</li> <li>"C" Battery</li> <li>C.W.</li> <li>Capacity</li> <li>Carborundum</li> <li>Cascade Amplification</li> <li>Cathode</li> <li>Cat-Whisker</li> <li>Change-Over Switch</li> <li>Charging Rectifier</li> <li>Choke-Coil</li> </ul> | <ul style="list-style-type: none"> <li>Coil Receiver</li> <li>Compass</li> <li>Condenser</li> <li>Connection Block</li> <li>Counterpoise</li> <li>Coupling</li> <li>Coupling Condenser</li> <li>Coupling Transformer</li> <li>Crystal Detector</li> <li>Cycle</li> <li>Detector</li> <li>Diaphragm</li> <li>Di-Electric</li> <li>Direct Current</li> <li>Discharge</li> <li>Dummy Aerial</li> <li>Dynamotor</li> <li>Dynatron</li> <li>Earth Connection</li> </ul> |
|---|--|--|

**AND NUMEROUS OTHERS**

Mr. Hall of Ludwig Hommel & Co., Pittsburgh, Pa., says "We have given The Radio Telephone Handbook careful study and we believe that it is a very good publication. It should meet with very popular demands among those interested in radio."

### PRACTICAL ELECTRICAL ENGINEERING

By H. G. CISIN, M. E.

The easiest book to understand which has ever been written on electrical engineering. No higher mathematics—no symbols—no Greek letters—no algebra. It tells in simple language the basic principles of direct current electrical engineering.

Among the many well-known concerns that have ordered PRACTICAL ELECTRICAL ENGINEERING are the following:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The American Tobacco Co., Baltimore</li> <li>The Wahl Co., Chicago, Ill.</li> <li>National Blank Book Co., Holyoke, Mass.</li> <li>Coes Wrench Co., Worcester, Mass.</li> <li>Elgin National Watch Co., Elgin, Ill.</li> <li>American Car and Foundry Co., N. Y.</li> <li>Pittsburgh Plate Glass Co., Ford City, Pa.</li> <li>Hammermill Paper Co., Erie, Pa.</li> <li>Hanna Paper Corp., New York</li> <li>National Cloak &amp; Suit Co., New York</li> <li>Morse Dry Dock &amp; Repair Co., Brooklyn</li> <li>Ward Baking Co., Brooklyn, N.Y.</li> <li>Bohn Refrigerator Co., St. Paul, Minn.</li> <li>Ward Baking Co., New York</li> <li>Thos. G. Plant Co., Boston, Mass.</li> <li>Dominion Textile Co., Ltd., Montreal</li> <li>Western Clock Co., La Salle, Ill.</li> <li>Hotel Astor, New York</li> <li>J. M. Horton Ice Cream Co., New York</li> <li>Westinghouse Building, Pittsburgh, Pa.</li> <li>United Piece Dye Works, Lodi, N.J.</li> <li>Jamestown Worsted Mills, Jamestown, N. Y.</li> <li>R. J. Reynolds Tobacco Co., Lexington, Ky.</li> </ul> | <ul style="list-style-type: none"> <li>Maryland Casualty Co., Baltimore, Md.</li> <li>Delaware County Tel. Co., Manchester, Ia.</li> <li>Gates Rubber Co., Denver, Colo.</li> <li>Willard Storage Battery Co., Cleveland</li> <li>Graham Glass Co., Evansville, Ind.</li> <li>Ludwig Baumann &amp; Co., New York</li> <li>Denver &amp; Salt Lake R. R., Denver, Colo.</li> <li>Kentucky Wagon Mfg. Co., Louisville, Ky.</li> <li>W. F. Hall Printing Co., Chicago, Ill.</li> <li>Humble Oil &amp; Refining Co., Houston, Tex.</li> <li>Ashtabula Dock Co., Ashtabula, Ohio</li> <li>Florence Thread Co., Florence, N. J.</li> <li>Cottage Planing Mill Co., Everett, Pa.</li> <li>National Electric Water Heater Co., N. Y.</li> <li>General Realty Co., Philadelphia, Pa.</li> <li>Ohio State University, Columbus, Ohio</li> <li>Loews Theater, New York</li> <li>14th Street Theater, New York</li> <li>Shuberts' Crescent Theater, Brooklyn</li> <li>Keith's Jefferson Theater, New York</li> <li>Grove Park Inn, Asheville, N. C.</li> <li>Elton Hotel, Waterbury, Conn.</li> </ul> |
|--|--|

**AND NUMEROUS OTHERS**

## A WONDERFUL COMBINATION

PRACTICAL ELECTRICAL ENGINEERING, \$2.00

(Bound in cloth—324 pages—71 Illustrations)

THE RADIO TELEPHONE HANDBOOK, \$1.00

(Bound in Flexible Buckeye—90 pages—Illustrated)

### COMBINATION OFFER

# \$2.50 FOR BOTH!

THIS WILL BE A RADIO CHRISTMAS!

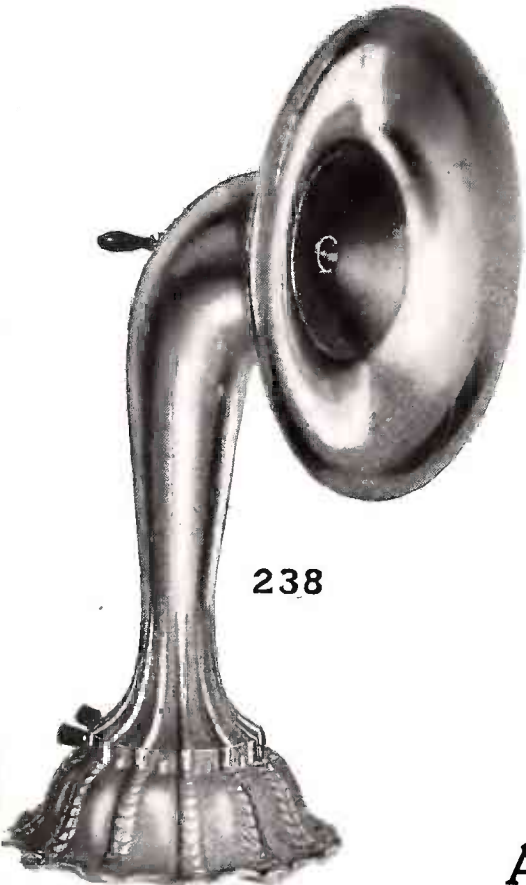
FILL THIS OUT, TEAR OFF AND MAIL

**ALLIED ENGINEERING INSTITUTE**  
1400 Broadway, N. Y. City

Gentlemen:  
Send  
..... Practical Elec. Eng.  
..... The Radio Telephone Handbook  
Find Enclosed \$.....

Name.....  
Address.....  
City.....  
State.....

# MICR-O-PHONE Radio Equipment



238

Micr-O-Phone Reproducer with modifying sounding board. Can be adjusted to any sound desired. Pure cast aluminum 21½ high, 11" wide. Price complete with loud speaker cord and plug, \$15.00.



Micr-O-Phone Listener-In. Six phones in one for crystal or tube sets. One headphone connected to this instrument and the whole family can listen in. Pure cast aluminum highly polished. Complete as illustrated, with six hose connections ready for use. Price, \$5.00.

Send 10 cents in stamps for 40 of the Latest Radio Hookups with full descriptions

## ALDINE RADIO & MFG. COMPANY

Aldine Square

(Dept. B.—10)

Chicago, Ill.

# G-M-PRODUCTS

## TWO PROFITABLE SPECIALS



ACTUAL SIZE

### RADIO FREQUENCY TRANSFORMER

The Best at Any Price—Wave length range 200 to 500 meters with full amplification at both extremes.

Special core, untuned type, giving highest possible amplification for this type of transformer, bringing in distant stations inaudible by any other method.

Particularly adapted for non-regenerative circuits.

Can be used with one, two or three stages of radio frequency amplification.

Can be used with any available vacuum tubes.

RETAIL PRICE, \$2.00

### ROLLER BEARING SWITCH LEVER

HAS SPECIAL FEATURES

Switch Arm can be adjusted to 1⅛" or 1¼" Radius. Roller Bearing prevents cutting of Switch Points. Special Fada Type Knob. Highly Nickered.

RETAIL PRICE, \$0.50



ACTUAL SIZE

Distributors For  
Thordarsen  
Levre Mfg. Co.  
Baldwin  
U. S. Tool Co.  
Rooker & Barron  
Eveready

## GENERAL MERCHANDISE CO.

Manufacturers and Distributors

142 MARKET STREET,

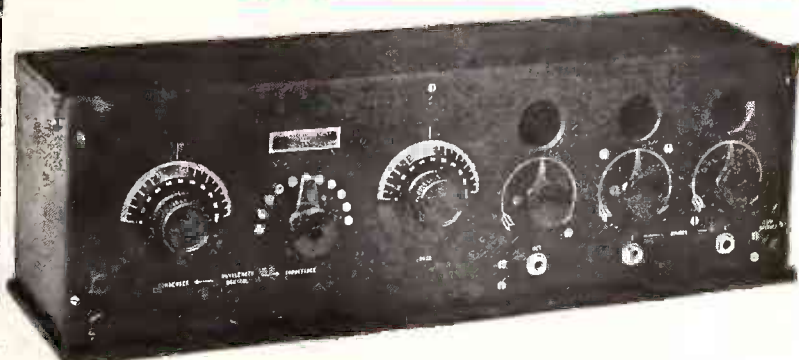
NEWARK, N. J.

Distributors For  
Planet Radio Corp.  
Magnavox  
Western Electric  
Hom charger  
Inso-Lite Products  
Tillman Products

THIS WILL BE A RADIO CHRISTMAS!



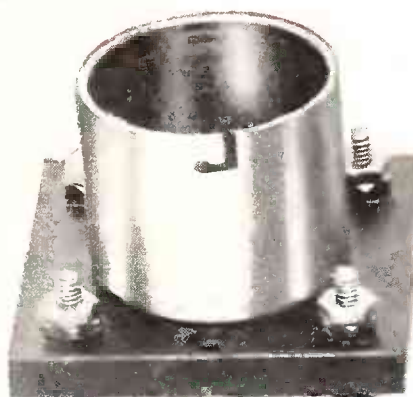
# "VICTOR PRODUCTS"



TUNER, DETECTOR AND TWO-STAGE AMPLIFIER  
—Type 115—

**WE** manufacture a complete line of Radio Sets and Parts, consisting of:

- Receiving Sets,
- Tuners,
- Tuners and Detectors,
- Tuner, Detector and Two Stage Amplifiers,
- Tuner, Detector and Three Stage Amplifiers,
- Two Stage Amplifiers,
- Variometers,
- Variocouplers,
- V. T. Sockets,
- Rheostats,
- Grid Condensers,
- Variable Condensers,
- Knobs,
- Dials,
- Binding Post,
- Etc.



SOCKET  
Type 109

## EVERYTHING —IN RADIO—

**MR. JOBBER AND DEALER:** Does years of experience in manufacturing Radio Transmitting and Receiving Apparatus for the **UNITED STATES GOVERNMENT** mean anything to you?

**VICTOR** engineers and workmen have had this experience and are capable of producing highly satisfactory apparatus.

**JOBBER AND DEALERS** are invited to write us for complete information regarding our attractive proposition.

**CATALOGUE SENT ON REQUEST.**



VICT-RA-PHONE CONSOLE TABLE

# VICTOR RADIO CORPORATION

799 East 135th Street, New York City

*Manufacturers of Complete Radio Sets and Parts*



THIS WILL BE A RADIO CHRISTMAS!

# KING QUALITY

ALL THE NAME IMPLIES

## RADIO APPARATUS

**Q**UALITY counts today in the sale of Radio Products. People everywhere are demanding it—and rejecting inferior articles.

### KING-QUALITY *your* BUY-WORD

Only the Best is good enough to bear the name of KING QUALITY. Our reputation for 15 years has been built around Quality. That is why KING QUALITY Radio Apparatus now offers you a clear channel to increased sales and profits.

KING Quality Radio products are designed by our own Radio engineers; guaranteed to be made of best materials; accurate in design and workmanship, excellent in appearance.

*We Maintain our own Bakelite Plant and use genuine Bakelite exclusively.*

#### JOBBER AND DEALERS:

Write today for the King-Quality proposition; for catalog, prices, discounts, etc.

Some valuable assignments of territory are still available to "live-wires."

Radio Apparatus Division

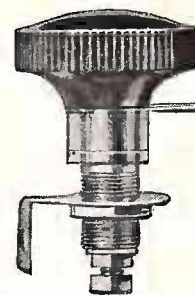
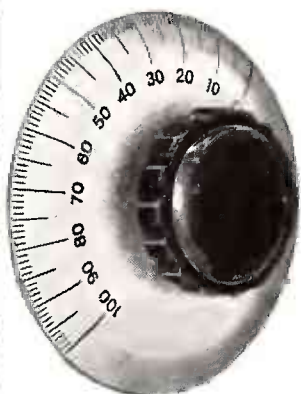
**KING** Sewing Machine Co.  
Buffalo, N. Y.

*Lower in Price — Highest in Quality*



**KING QUALITY DIALS**  
*In black or white*

Neatest, most durable and practical on the market. Moulded Bakelite knob fastened to dial by special brass bushing.



**KING QUALITY SWITCH LEVER**  
With perfect mechanical and electrical features. Mirror finish Bakelite knob with polished knurl that glows like a diamond. 3 sizes: 1 in., 1 1/4 in., 1 1/2 in.

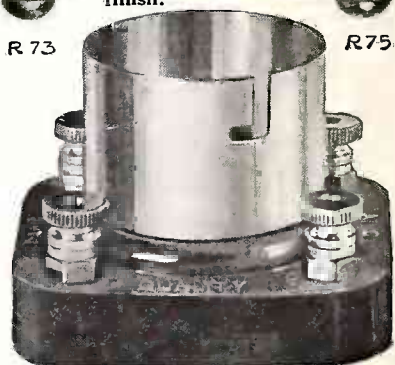


**KING QUALITY BINDING POSTS**  
*of genuine Bakelite*  
An article of unsurpassed beauty and service—the peak of perfection in design. Diamond finished knurl predominates as an exclusive feature. Highly polished finish.



R 73

R 75



**KING QUALITY VACUUM TUBE SOCKET**

Base of genuine moulded Bakelite with mirror finish; tube and terminal binding posts of brass, nickel plated and highly polished. Black or mahogany finished Bakelite Base.

## GREGG SERVICE

For the manufacturer:

Gives an accurate rating and test of your equipment  
Aids in the designing of instruments and parts  
Checks costs and production methods

## GREGG SERVICE

For the jobber and dealer:

Tells you instantly—the quality product  
Assures you of saleable merchandise  
Guarantees performance  
Eliminates guess work

**The GREGG O. K. on radio equipment identifies quality merchandise**

*Executives interested should write for appointment, with officials of our RADIO DEPARTMENT*

## GREGG & COMPANY

St. Louis, Mo.  
Newark, N. J.

**ENGINEERS**  
**Radio Department**

Washington, D. C.  
Los Angeles, Cal.  
Mexico City, Mexico

**165 Broadway**

**New York**

*THIS WILL BE A RADIO CHRISTMAS!*



**Tone  
Tells  
Sound  
Sells**



MODEL XL

PATENTS PENDING

Reg. U. S. Pat. Office

# THE Oranola

PATENTS - PENDING

## NO AERIAL USED

LOOP ANTENNA self-contained in artistic piano-finished cabinet eliminates any wiring by purchaser.

## COMBINATION RADIO and PHONOGRAPH

RADIO ENGINEERS universally agree that radio and audio frequency transformation of energy received is best for receiving broadcasting.

That is why we use the radio and audio frequency amplification.

NO EXPENSE has been spared to make our product the best in every detail. Having passed through the experimental stage, we are prepared to stand behind each instrument with our unqualified guarantee.

OUR TALKING MACHINE (well known as THE PERFECT TALKING MACHINE), combined with our radio instrument, provides a universal means of sound reproduction without equal. Purity of tone in ample volume without distortion makes the ORANOLA almost human.

OUR KEYNOTE is simplicity of operation. No knowledge of electricity or wireless is required.

SEVERAL MODELS with or without talking machine combination, listing from \$150 to \$450. Descriptive circulars and discounts on application. WIRE OR WRITE for exclusive territory proposition. DEMONSTRATIONS at our office during broadcasting periods.

## ORANOLA RADIO CORPORATION

228 SEVENTH AVENUE

NEW YORK CITY



Not like the rest

They are the best

—the very best

The Finch Automatic Code Recorder Brings a New Pleasure to the Radio Fan

Live dealers are now extending sales by stocking this wonderful new device which may be used in connection with any vacuum tube receiver.

FASTEST CODE MESSAGES RECORDED WITH EASE AND READ AT LEISURE

**INSTRUMENTS  
SEPARATE**

- Finch Radio Relay \$75.00
  - Std. Tape Register 60.00
  - Telegraph Relay... 7.00
  - Tape Winder... 10.00
  - Paper Tape, per roll .10
  - Reg. Ink, 2 oz. bot. .50
  - Reg. Ink, pt. bot.. 2.00
- Prices of other auxiliaries on request



**Other Things You Can Do by Radio with the Finch Relay**

- 1.—Automatically Receive and Record.
  - 2.—Operate a Telegraph Sounder.
  - 3.—Ring a Bell.
  - 4.—Ignite Explosives by Radio.
  - 5.—Control a Moving Vehicle.
  - 6.—Visible Indication.
  - 7.—Radio Burglar Alarm.
  - 8.—Simultaneously Record and Re-Transmit Messages.
- Tested by the New York "Evening Mail" Radio Institute, approved and awarded Certificate of Excellence.

FINCH AUTOMATIC RADIO RECORDER AND RELAY MOUNTED AND WIRED READY FOR IMMEDIATE USE—LIST \$200 COMPLETE

When you VISIT NEW YORK, call and see our EXHIBIT at the PERMANENT RADIO FAIR—RED ROOM, HOTEL IMPERIAL, Broadway and Thirty-second Street

"Madame Radora," the Feature Attraction at the RADIO FAIR, is operated through the instrumentality of the Finch Radio Relay

Fully protected by our Patents and Manufactured only by

**FINCH RADIO MFG. CO., 303 Fifth Avenue, New York, N. Y.**

THIS WILL BE A RADIO CHRISTMAS!

# The Tower of Babel will be Sending this Winter

Forty powerful broadcasting stations, all operating on one narrow wave band—that's the situation confronting the radio fan this winter. With the ordinary single circuit it will be like listening in on the Tower of Babel.

The PARAGON three circuit receiver, because of its greatly superior selectivity and sensitivity, can pick and choose between broadcasting stations of about the same signal strength with less than one per cent differential.

PARAGON three circuit receivers are always easier to sell because they are more satisfactory to operate. This winter any other kind of a receiver is obsolete and practically useless. If you want your share of business, you should sell a modern receiver—the PARAGON.

ADAMS-MORGAN COMPANY

12 Alvin Avenue

Upper Montclair, N. J.

Also Manufacturers  
of  
PARAGON

Radio Telephone  
Transmitters  
V. T. Control Units  
Rheostats  
Potentiometers  
V. T. Sockets  
Amplifier Transformers  
Detectors  
Control Dials  
Amplifiers  
Receivers  
Switches  
Variometers



Type RD-5 Regenerative Receiver (including Detector)

Type A-2 Two-Stage Amplifier

(Licensed Under the Armstrong Patents)

# PARAGON

Reg. U. S. Pat. Off.

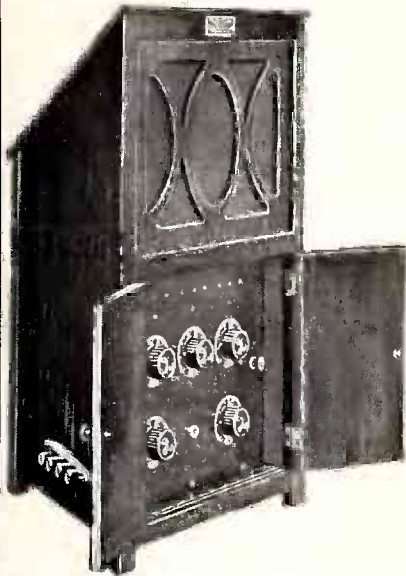
## RADIO PRODUCTS

THIS WILL BE A RADIO CHRISTMAS!

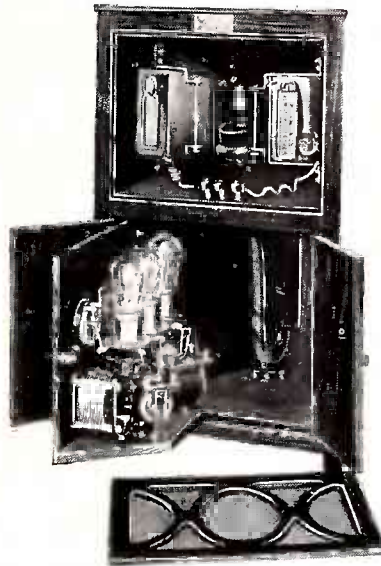




# !!!THE PREMIER RADIOVOICE!!!



Is the first practical and commercial accomplishment of meeting the public's requirements and demand for a *Complete, Simple, Compact, Attractive and Efficient Loud Talking-Detector and 2-Stage Radio Receiver* at a Popular Price, Simple in Control—Wide in Range.

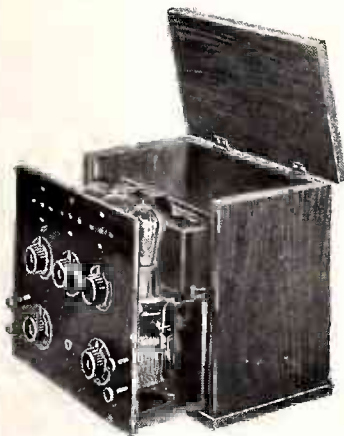


Mounted on a Bakelite Panel are

Premier Built and Tested Radio Condensers, Rheostats, V. T. Sockets, Transformers, Tuning Coils, Jacks, etc.; the panel being hinged within the beautiful 5 ply Mahogany Veneer Loud Talker Cabinet, measuring 21" in height by 12" in width, weighing, completely equipped with "B" Batteries and Loud Talking Phone as shown, only 17 lbs. Can be set in a corner of the living room, on library or end table, or on a piano, blending into the richest of furnishings with equal attractiveness. Price complete, excluding only bulbs and "A" battery—\$95.00.

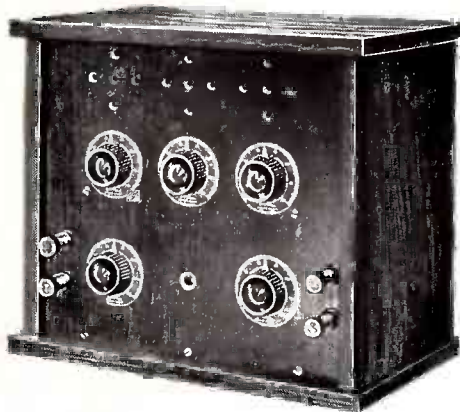
Where an even lower priced equipment is desired, eliminating the phone and loud talker cabinet, our Type P' equipment, including "B" batteries, mounted in cabinet as shown, parts, hookup and panel being identical to that used in the Premier Radiovoice, is priced at \$55.00.

The Premier Radio Corporation is an old electrical manufacturing concern, which has turned its entire resources and equipment to production of high class radio parts and receiving sets. The Premier line is handled and is available to only the highest class of dealer, jobber or distributor, and to such is offered discounts to permit profitable merchandising. Descriptive bulletins sent on request.



**Premier  
Radio  
Corporation**

6800 Bostwick Ave.  
Detroit, Mich.



**SHELSTONE**  
**\$ 5.00**

Patent Applied For

Dealers, here is the profitable and quick selling Loud Speaker. At a price every one can afford.

## SHELSTONE Equipped with one Baldwin Receiver

Don't sell noise—sell real music. Demonstrate in your shop with Shelstone. You will not drive away the Radio prospect.

Most satisfactory of all Loud Speakers for home use

The Shelstone is shaped like a shell. At its base is an open tone chamber over which any two standard receivers fit. This chamber carries the sound to the curved surface of the Shelstone, causing each note to marvelously swell in volume.

No tubing to rob the sound of its fullness; no horn, as on ordinary loud speakers, to destroy or distort the most delicate notes. Every sound is true, sweet, mellow and distinct to everyone in the room.

**RETAIL PRICES**

Shelstone, with Baldwin Receiver...\$12.50  
Shelstone, without Receiver..... 5.00

Big Discounts Allowed.

Made of special light non-metallic sounding metal. Beautiful colors.

**THE SHELSTONE COMPANY**  
20 CLINTON ST., NEWARK, N. J.

## The National Trade Survey Now Being Published in The Radio Dealer Weekly

Should be of interest to  
**EVERY MANUFACTURER**

Subscription to the WEEKLY  
One Dollar the Year, payable in advance

Sample free on request

### THE RADIO DEALER WEEKLY

1133 Broadway

New York, N. Y.

THIS WILL BE A RADIO CHRISTMAS!

*Most Quoted*

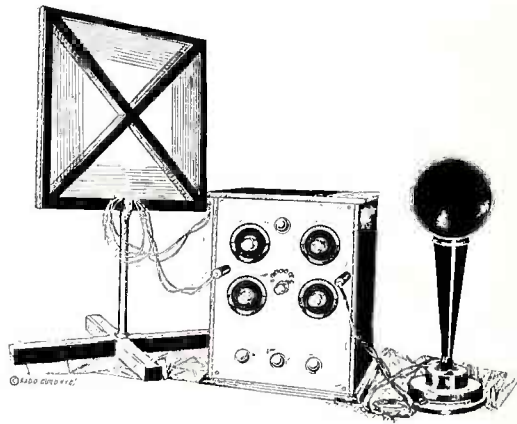
*Most Complete*



THE CONSTRUCTION AND OPERATION  
OF  
SUPER REGENERATIVE RECEIVERS

By Kenneth Harkness

With an introduction by Dr. Henry Smith Williams



The Radio Guild, Inc.  
256 WEST 34th STREET  
NEW YORK, N. Y.

MORE THAN FOUR HUNDRED NEWSPAPERS AND EVERY RADIO MAGAZINE HAVE PUBLISHED ARTICLES ON SUPER-REGENERATION BY KENNETH HARKNESS AND ADVERTISEMENTS OF HIS NEW BOOK. The new edition of "The Construction and Operation of Super-Regenerative Re-

ceivers' by Kenneth Harkness is now off the press. It contains 48 PAGES AND THIRTY MECHANICAL DRAWINGS, WIRING DIAGRAMS AND PHOTOGRAPHS giving complete details of the best sets developed by Mr. Harkness. His explanation of the theory of super-regeneration is a revelation.

LIST PRICE, 50 Cents.

Write for special discounts and catalogue of Radio Guild receivers.

**The Radio Guild, Inc.**

256 West 34th Street

New York City

Manufacturer of the VOX-HUMANA and THE DASHBOARD SPECIAL

*THIS WILL BE A RADIO CHRISTMAS!*



**NERCO**  
Matched Tone Head Set  
2200 Ohms



The CLEAR VELVETY MATCHED TONE correctly reproducing the HUMAN VOICE or the most delicate CADENCE of MUSICAL HARMONY is CHARACTERISTIC of NERCO HEADSETS.

Produced with the same exactness in all Electrical and Mechanical Details that is recognized in all THRADIO PRODUCTS.

**CONDENSERS**  
**RHEOSTATS-TRANSFORMERS**  
**V-T SOCKETS**

**THRESHER RADIO CORP.**

476-484 Eighteenth Avenue  
Newark, N. J.



# METRO SOCKETS

for Westinghouse Aeriotron  
1½ Volt Dry Cell Tube

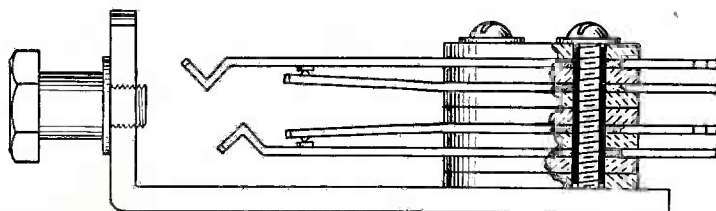
This socket is perfectly finished, using a 2" square highly polished moulded base. This base is supported with insulated legs. Springs are of nickel silver insuring perfect contact. Price.....60c

**MOULDED BASE**

Single V. T. Socket—Brass tube heavy nickel plated and countersunk contacts.....\$1.00

**FIBRE BASE**

Single V. T. Socket.....\$0.75  
Double V. T. Socket..... 1.50  
Triple V. T. Socket..... 2.25



**"METRO JACKS"**

Nickel silver spring, coin silver contact points, all insulation is high grade bakelite. High class finish, made in 5 sizes:

- No. 1—Single Open.....\$0.55
- No. 2—Single Circuit..... .65
- No. 3—Double..... .85
- No. 4—3 Spring Filament Control..... .95
- No. 5—5 Spring Filament Control..... 1.15

*Send for Descriptive Circular*



**ELECTRIC MFG.CO. INC.**

121 PRINCE ST.  
NEW YORK

Attractive Propositions  
to Jobbers and Dealers

THIS WILL BE A RADIO CHRISTMAS!

# AERIAL-A

TRADE MARK

## THE RIGHT SET IN A "SELLING MARKET"

Vacations are over! The public is again taking up Radio—greatest of indoor sports.

They are now radio-wise—they know what they want and at what price. They will buy only machines of highest quality—and STANDARD MERIT.

Be sure the sets you sell will stand the acid test of a "selling market"!

Aerial-A surpasses in selectiveness and strength of tone machines of twice its price. Neat, compact, light in weight and

beautifully finished, Aerial-A sells at sight! A demonstration is a clincher!

Simple and easy to operate. Dealers have no difficulty in selling "Aerial-A."

Our unique sales policy will make biggest profits for you. Write for it—Now!

Manufactured by

# W.E. Supply & Service Corp.

18 Murray Street, New York

## "AEREX" Long Range Radio Receiver Model RA-4

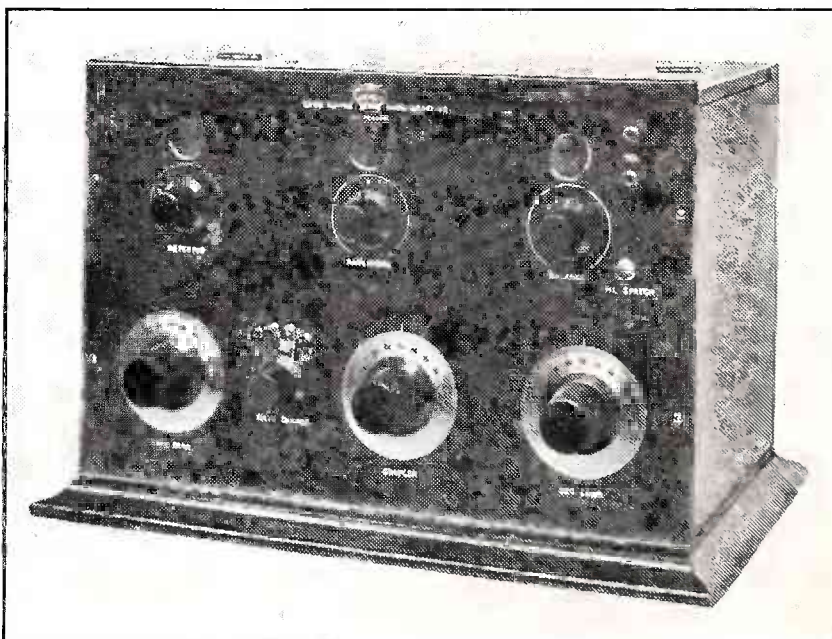
2 Stages Radio Frequency Amplification

2 Stages Audio Frequency Amplification

Using Only Two Amplifier Tubes

### Features

1. Longer mile range
2. Supersensitive
3. Quality workmanship
4. Quality material
5. Saving of batteries
6. Saving of vacuum tubes, only three required to perform the work of five
7. Adapted for use of loop or outside aerials
8. All binding posts on back, no messy wiring
9. Four stages of amplification.
10. Attractive appearance



This set is guaranteed to receive broadcasting within a radius of 400 miles. Provision is made for using a loop aerial.

The marvel set. Equal to super-regeneration.

A long range radio receiving set which is also adapted for use with a loop antenna for local broadcasting.

Long Range sets will be in demand this year. Will you be able to supply such a set in a THREE TUBE UNIT.

Some territories still open for live dealers.

**LIST PRICE, \$125.00** Discounts Upon Request

### SPECIFICATIONS

Cabinet—Solid Mahogany. Rubbed piano finish. 16 x 11 x 7.

Panel—Genuine Bakelite beautifully engraved.

Dials—Three-inch metal engraved.

Knobs—Tapered Bakelite Knobs.

Condensers—Permanent capacity.

Rheostats—Specially designed, positive contact, smooth action.

Transformers—2 Radio Frequency and 2 Audio Frequency.

Sockets—Standard moulded Bakelite.

Binding Posts—Hard rubber composition. All mounted on back panel, plainly marked.

Circuit—Patent pending. 2 stage radio frequency amplifications, 2 stage audio frequency amplifications, one detector using only three vacuum tubes to perform the work of five.

**AEREX RADIOPHONE CORP., 342 Madison Avenue, NEW YORK CITY**

THIS WILL BE A RADIO CHRISTMAS!

# A Real Radio Show at a Real Place at the Right Time

~~~~~

**New York's Second National Radio Show**

*Will Be Held*

**November 20th to 25th**

*At The*

**Madison Square Garden**

~~~~~

This Show will be properly advertised and promoted under the management of E. C. Buchignani

~~~~~

**Dealers Will Meet Manufacturers For Business  
at This Show**

~~~~~

***Radio Fans Will Attend in Big Numbers***

~~~~~

Exhibitors Are Receiving Space Allotment in the Order of the Receipt of Their Signed Contracts

~~~~~

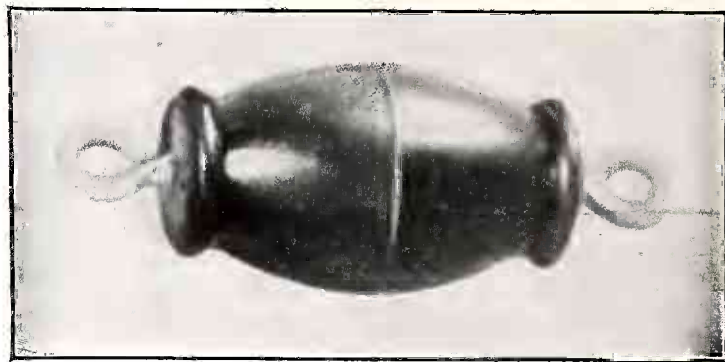
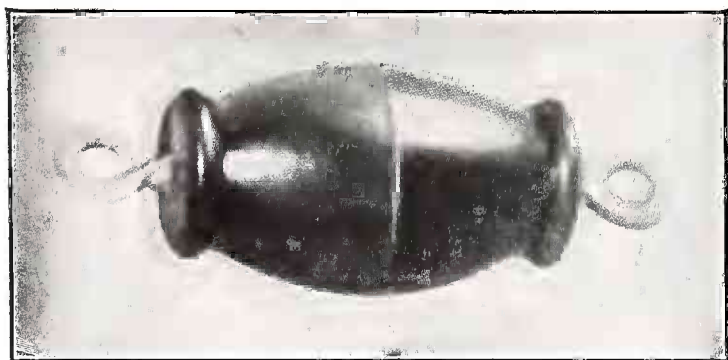
*Get in Touch With*

**E. C. BUCHIGNANI, Manager,  
NATIONAL RADIO SHOW**

Executive Office: HOTEL VANDERBILT, NEW YORK

Phone, Vanderbilt 7100

THIS WILL BE A RADIO CHRISTMAS!



## MORSCAN INSULATORS—

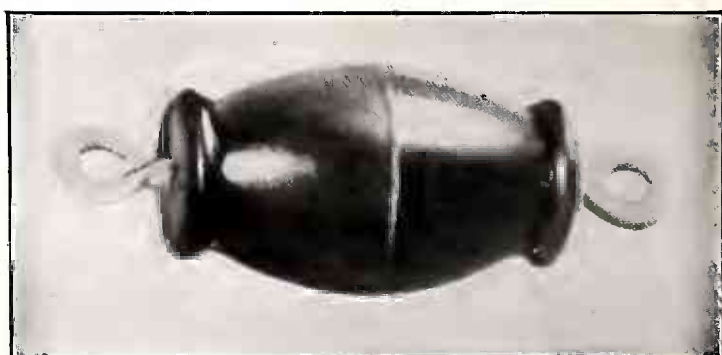
“the standard in the Radio Industry”

Jobbers are Invited to Feature  
These Insulators because they are the  
Very Best Radio Insulators and give  
The Wholesaler and Retailer a Profit

# MORSCAN RADIO CO.

202 MARKET STREET

NEWARK, N. J.



*THIS WILL BE A RADIO CHRISTMAS!*

Your Trade Wants This Set

THE  
**Simple-X**  
Crystal Radio Receiver

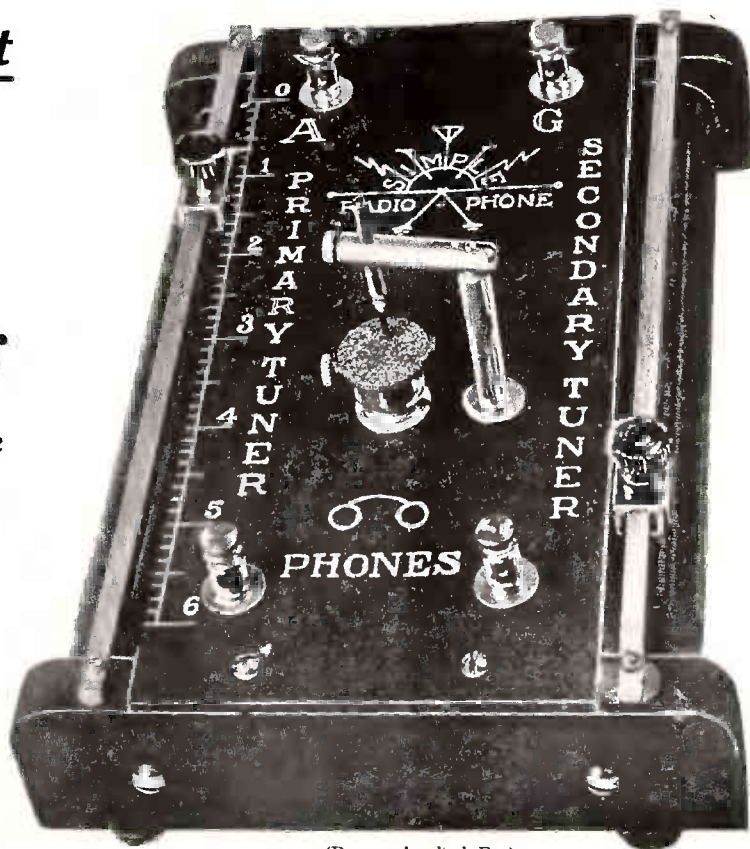
Superior to Sets Costing Five Times the  
Price of This Wonderful Set

PRICE **\$4.75**

READ THE FACTS:—

1. Will receive Broadcast Concerts within a radius of 25 miles.
2. The only set equipped with the Simple-x (fool-proof) Detector.
3. The only set with the Mul-Ti-Tec Crystal—a thousand crystals in one. No fussing to find a sensitive spot. No loss of time or interruption of the programme.
4. Built with Roller Sliders to give a smooth, constant contact.
5. No wearing or short-circuiting of coil wires due to frictional scraping.
6. The only set having a flat Coil and indicating sliders.

Awarded Certificate of Excellence by N. Y. Evening Mail, and approved by Tribune Institute.



(Patent Applied For)

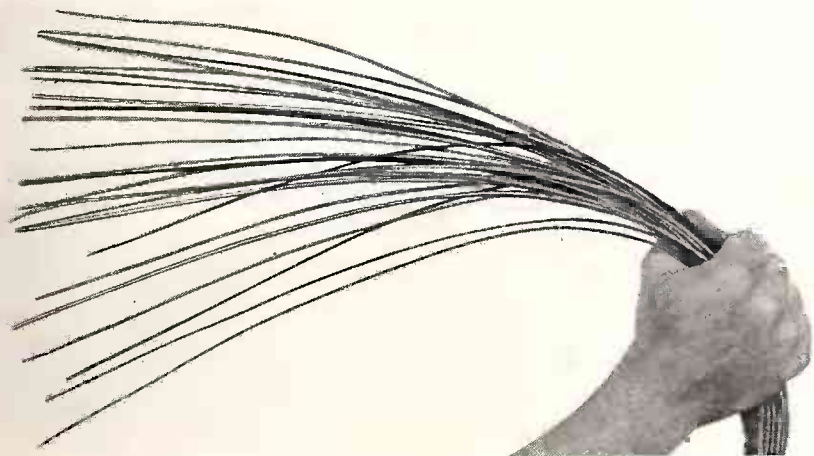
For Discount Schedule, wire, write, or call

**CARAGOL-CLARKE CO., Inc.**

82 Beaver St. (Tel. Bowling Green 1990—1—2) New York City

# EMPIRE OILED TUBING

*sometimes called spaghetti*



Empire Tubing builds solid business for Radio Dealers. It brings both amateur and professional back for more, because the purchaser and his friends like its superior flexibility, durability, smoothness, high dielectric strength and insulating value. Empire Tubing is a standard product among engineers throughout the electrical industry. Made in black and white, yellow and other colors, in all radio sizes, 36 inch lengths.

Send today for Empire Tubing samples and quotations on 500, 1,000, 5,000, 10,000, 20,000 foot lots. Get acquainted with our other time tested radio insulation products

**MICA INSULATOR COMPANY**

68 Church Street, New York. 542 So. Dearborn Street, Chicago. Works: Schenectady, N. Y.  
Agencies—The Monroe Brass & Wire Co., Cincinnati; G. Arthur Morrell, Cleveland; Electrical Specialty Co., San Francisco and Los Angeles

2022-F

THIS WILL BE A RADIO CHRISTMAS!



# Fiber Radio Horns for Loud Speakers

Designed on Recognized Principles of Acoustics

**T**HE fiber horn is the latest advance in the perfection of the loud speaker. After months of unceasing experiment, we have succeeded in bringing out fiber horns with the musical virtues of wood horns and yet which sell at popular prices.

The shape of the horns gives the fullest amplification without blast, countervibration or other distortion. The volume of sound is accordingly larger and far more clear than ordinarily.

## The Products of Experienced Manufacturers

Manufacturers of the leading loud speakers use our horns. They put a loud speaker at its very best. Quality of workmanship and material is evident in every detail.

No glued joints or rivets to loosen—absolutely seamless. Do not dent up as tin horns do. Practically indestructible. Brass base, with rich black rubber finish. Their fine appearance makes sales; their performance keeps them moving.

*Metal ferrule provides for use with Magnavox Loud Speaker*



## You Can Do a Large Business with These Fiber Horns

When a good fiber horn costs so little, few people are contented with the old, unsatisfactory metal or composition horn. All new equipment will use horns. The demand for fiber horns has only begun.

### States Rights to Responsible Jobbers

You've seen what it meant to others to have exclusive territory on a radio leader. You have the same chance to corner a lot of steady, well paying business in horns. Now is the opportunity time. Write for territory.

| TWO SIZES OF HORNS  |                               |
|---|-------------------------------|
| Horn No. 1  | Bell 10" Diameter, 23" High.  |
| Horn No. 2  | Bell 14" Diameter, 29½" High. |
| Horns sold with or without base and ferrule for attachment to Magnavox. Every horn packed in individual corrugated paper cartons. |                               |

### Horns' Stamped with Your Name or Made to Specifications

You can build up a fine reputation with these horns sold under your own name or trade mark. It's the very best advertising you can do. We are equipped to meet the specifications of manufacturers of loud speakers. These horns have made good on the highest grade loud speakers. Upon receipt of blueprints giving dimensions of your horn, we will gladly submit estimates.

Write Today for Price List and Full Particulars

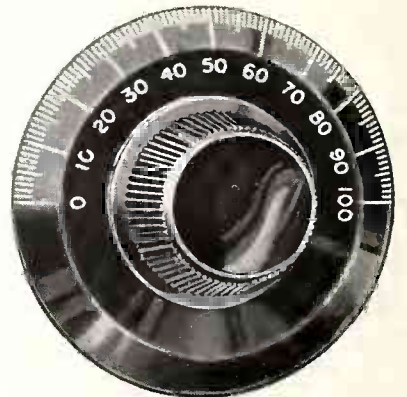
**FIBER PRODUCTS CO.**  
240 North 10th Street, Newark, N. J.

## Spee-Dee "QUALITY" Products

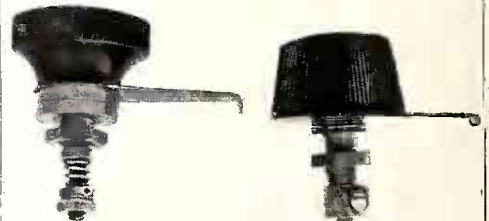
40 to 80% off list according to quantity



Filament rheostat; heatproof moulded unbreakable base; special resistance filament that will withstand unusual hard usage. List Price, \$1.00.



3 inch composition reinforced dial. List Price, \$.75.



1½" radius knob lever, with laminated or single lever. Finely knurled ¼" knob of unbreakable composition. List Price, \$.75.

Tapered knob switch lever to match dial and rheostat, furnished in 1 and 1¼" radius. List Price, \$.50.



A practical Glass Enclosed Dust Proof Detector on a composition unbreakable base. Rigid construction with German silver cat's whiskers. List Price, \$1.50.

Descriptive Catalogue Upon Request

**SPEE-DEE SPECIALTY COMPANY**

271 Canal St., New York, N. Y.

THIS WILL BE A RADIO CHRISTMAS!



# Triple Test Transformers

## What do they mean to you?

In a market glutted with new radio products, some well made, some poorly and cheaply constructed, a few articles stand out prominently from the rest because the manufacturer employs highly competent engineers, the best of material and skilled workmanship. The Radio Service Laboratories goes a step further and submits each individual transformer to its famous triple test before shipping same to the jobber, dealer and ultimate user.

## The Triple Test

### First—Test of Windings.

The bobbins when wound and sealed are tested for continuity of winding and for shorts and leaks.

### Second—Test for Inductance of Windings.

After assembly of the bobbin within the container a careful test is made of the inductance of the primary and secondary windings to insure the consumer against any wrong connections or hasty, careless construction.

### Third—Test for Amplification.

After the iron core is assembled and the transformer sealed, each transformer is given an actual circuit test in a radio amplifier; the gain in signal strength being noted over that of the detector tube alone and required to meet the gain of our standard laboratory model.

## The Result

is a Radio Frequency Transformer that increases the strength of Radio Signals or waves before they are applied to the detector tube where they are made audible—

“Louder Signals with less noise

Greater Range with same equipment”

Radio Service Laboratories Transformers by actual test are superior to any domestic or foreign make in the market. For sale at any electrical shop or store where Radio supplies are sold.



The only completely shielded iron core

RETAIL PRICE

**\$6<sup>00</sup>**

**We absolutely and unconditionally guarantee our transformers.**

*Special circular sent on request by the*

**Rasla Sales Corporation**  
National Distributors  
Dept. E. 10 East 43rd St.  
New York City

## Attention of Dealers

TRIPLE TEST TRANSFORMERS are steadily advertised in the leading radio magazines and readers are urged to purchase from their local dealer. The Rasla Sales Corporation will gladly supply counter, window or wall display cards to dealers on request and urges them to obtain a supply of their transformers from their jobbers. In order to facilitate such orders, we append a list of jobbers handling this product.

BALTIMORE, MD.  
Chesapeake Electric Co.  
Ship Owners Radio Service, Inc.

BOSTON, MASS.  
A. P. Merchant & Co.  
Ship Owners Radio Service, Inc.

CEDAR RAPIDS, IA.  
Western Auto Specialty Co.

CHICAGO, ILL.  
Ship Owners Radio Service, Inc.

CLEVELAND, OHIO  
Elliott Electric Company  
Erner Electric Company

DALLAS, TEXAS  
C. C. White Electric Co.

FORT DODGE, IA.  
Standard Radio Equipment Co.

FORT WAYNE, IND.  
Luxam Electrical Supply Co.

INDEPENDENCE, KANSAS  
Daniels Radio Supply Co.

KANSAS CITY, MO.  
American Radio Mfg. Company

NEWARK, N. J.  
Wholesale Radio Equipment Co.  
American Radio Equipment Co.

NEW YORK CITY  
J. H. Bunnell & Company  
Stanley & Patterson  
Royal-Eastern Electrical Supply Co.  
Ship Owners Radio Service, Inc.  
20th Century Radio Corp.

NEW ORLEANS, LA.  
Electron Engineering Co.  
Ship Owners Radio Service, Inc.

NORFOLK, VA.  
Ship Owners Radio Service, Inc.

PHILADELPHIA, PA.  
Quaker Light & Supply Company  
Schimmel Electric Supply Company  
Frank H. Stewart Electric Company

PITTSBURGH, PA.  
Ludwig Hommel & Company  
Robbins Electric Company  
Union Electric Company

ROCHESTER, N. Y.  
Wheeler-Green Electric Company

SAN ANTONIO, TEXAS  
Alamo Radio Electric Company

SAN FRANCISCO, CAL.  
Ship Owners Radio Service, Inc.

SAVANNAH, GA.  
Ship Owners Radio Service, Inc.

SCRANTON, PA.  
Scranton Electrical Construction Co.

SEATTLE, WASH.  
Ship Owners Radio Service, Inc.

ST. LOUIS, MO.

McGraw Company

TROY, N. Y.  
Hinsdill Electric Co.

*Western Jobbers desiring distributing proposition Communicate with our Western Sales Agents.*

DETSCH & COMPANY  
555 Turk Street, San Francisco, Calif.  
WESTERN RADIO DISTRIBUTING CO.  
1114 L. C. Smith Bldg., Seattle, Wash.

THIS WILL BE A RADIO CHRISTMAS!

# Are You Making Money Out of Radio ?

## THE RADIO TELEPHONE HANDBOOK

By H. G. Cisin, M.E.

### TELLS YOU HOW

It Contains the Following Facts About Radio You Want To Know

- What Radio Apparatus to Stock
- What Class of Radio Sets to Handle
- The Operating Principles of Radio
- The Various Types of Radiophone Receivers—the Best Methods of Adjusting Them
- How Crystal Detectors Work
- What Crystals Work Best
- How the Vacuum Tube Works
- What Is Meant by Cascade Amplification
- The Principles of Regeneration
- How to Select Telephone Head Sets
- Types and Uses of Tuning Devices
- The Meanings of Everyday Radiophone Terms
- How to Select and Install the Demonstration Set
- What Service to Give in Connection with the Sale of Radiophones
- How to Utilize Newspaper and Other Publicity

### With This Book You Can Tell Your Customer

- The Best Way to Erect His Aerial Which Is Preferable, a One or a Four-Wire Aerial
- What Determines the Length of the Aerial
- Underwriters Requirements
- License Requirements
- How Best to Protect Against Lightning
- Why Some Radio Sets Are Simple and Others Are Complicated
- Which Sets to Recommend
- What Batteries, if Any, Are Necessary
- How High to Put the Aerial
- When an Indoor Aerial Can Be Used
- Under What Circumstances Ground Connection May Be Dispensed With
- When a Loud Speaker May Be Used
- What the Loop Aerial Is
- How Amplification May Be Obtained
- Whether a Vacuum Tube May Be Used in Conjunction With a Crystal Detector
- Whether More Than One Radio Receiving Set May Be Connected to the Same Aerial
- The Correct Way to Measure Aerial Length
- When Shielding Is Necessary
- How to Check Up the Condition of the Storage Battery
- How to Eliminate Howling
- Causes and Remedies for Weak Signals and Local Noises in Connection with Vacuum Tube Sets
- How to Locate Faults in Vacuum Tube Radiophone Receiving Sets

**Why the Radio Telephone Handbook is Authentic**  
*Facts about its Author*  
 GRADUATE OF CORNELL UNIVERSITY, ELECTRICAL AND MECHANICAL ENGINEER.  
 GRADUATE OF MARCONI RADIO INSTITUTE, FORMERLY INSTRUCTOR OF ELECTRICAL ENGINEERING AT:  
 CORNELL UNIVERSITY, JOHNS HOPKINS UNIVERSITY, U. S. NAVY ELECTRICAL SCHOOL, STEVENS INSTITUTE OF TECHNOLOGY.  
 LICENSED RADIO OPERATOR.  
 RADIO OPERATING EXPERIENCE AT SEA DURING WAR.  
 ENSIGN, U. S. NAVY DURING WAR.  
 AUTHOR OF PRACTICAL ELECTRICAL ENGINEERING.

Single Copies.....Price \$1.00  
 One Dozen Lots.....33% discount  
 Four Dozen Lots.....40% discount

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 Attractive Exclusive Proposition for Distributors

*Published By*  
**THE ALLIED ENGINEERING INSTITUTE**  
 1400 Broadway, NEW YORK CITY

**FILL THIS OUT, TEAR OFF AND MAIL**

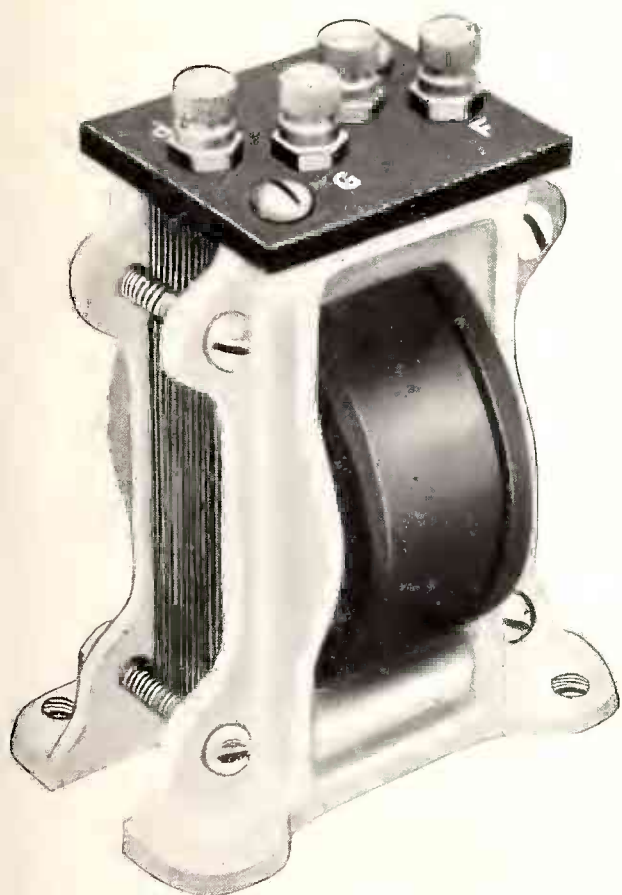
**THE ALLIED ENGINEERING INSTITUTE**  
 NEW YORK, N. Y.

GENTLEMEN:  
 SEND.....COPIES OF THE RADIO TELEPHONE HANDBOOK FOR WHICH FIND ENCLOSED \$.....  
 We will pay postman \$.....

NAME.....  
 ADDRESS.....  
 CITY.....  
 STATE.....

THIS WILL BE A RADIO CHRISTMAS!

# No Speculation In Buying 3 Y Q Transformers



**RETAIL PRICE, \$6.00**

**ORDER FROM YOUR  
JOBBER**

3 Y Q Transformers are for dealers who go in business for a generation—not just for a day.

Made right, priced fairly, sold to the trade on liberal discounts, 3 Y Q Transformers promote growth, build good-will and help to establish your reputation as a dealer who is in business to stay.

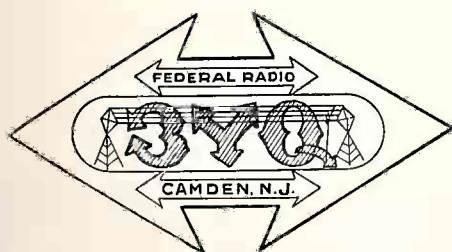
Radio is not helped by the fly-by-night dealer and neither is it helped by the manufacturer who is out to make a "clean-up."

The manufacturers of the 3 Y Q Transformer were in the radio business long before it underwent the startling boom we have all witnessed. They intend to still be in the radio business after it has settled itself to a condition as firm and staple as the automobile industry.

And the fact that serious, progressive retailers of radio equipment are buying—and selling—and re-ordering 3 Y Q Transformers is the best proof that the 3 Y Q Transformer is a good investment, not a speculation.

The frequency of the re-orders we receive proves our claim of exceptionally rapid turnover.

The 3 Y Q retails for \$6.00. Order from your Jobber—his discount to you is just and fair.



## Federal Institute of Radio Telegraphy

Second and Federal Streets

CAMDEN, N. J.

THIS WILL BE A RADIO CHRISTMAS!

*This will be a* **RADIO** *Christmas!*

---

and the wise Retailer and Jobber will

**CASH IN**

on the Christmas Business in every way possible

Close co-operation on the part of everyone in the trade will help to make it a bigger RADIO Christmas than if half of us held back and let the other fellow do the work.

**START NOW!** Begin today! Boost the idea! Spread the News! **THIS WILL BE A RADIO CHRISTMAS!** Use the line in your advertising, repeat it every day. Radio sets and radio parts make the most acceptable gifts for the holiday season. **CASH IN!**

**NATIONAL RADIO WEEK**

has been set for the Christmas week

**December 23 to 30**

The National Radio Week idea is gaining favor and the week will be observed in every city of any importance. Every dealer is urged **NOW** to start planning stunts for this week to push **RADIO** more strongly into the public eye.

**National Radio Week! National Radio Xmas! More Business for All!**

NATIONAL RADIO WEEK COMMITTEE,  
J. ANDREW WHITE, Chairman,  
326 Broadway, New York City.

---

*This will be a* **RADIO** *Christmas!*

*THIS WILL BE A RADIO CHRISTMAS!*

## "I Picked Winners"

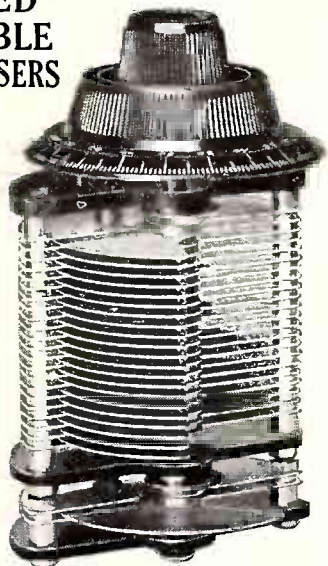
Was the answer of a prominent business man to a question as to the secret of his remarkable success.

## UNITED Variable Condensers and Transformers are WINNERS

Back of them is a half-million-dollar equipment and a staff of real Radio Engineers.

### "UNITED" VARIABLE CONDENSERS

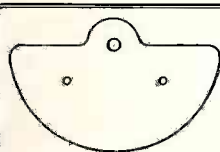
with Vernier,  
Dial and  
Knob  
Like Cut  
46 plate  
\$6.50  
26 plate  
\$5.50  
Only stop  
Vernier  
with stop.



### United Variable Condensers

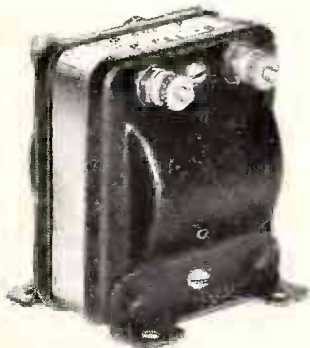
|                     |                     |
|---------------------|---------------------|
| 43 plate.....\$4.50 | 11 plate.....\$3.50 |
| 23 plate..... 4.00  | 5 plate..... 2.75   |
| 3 plate.....\$2.25  |                     |

Without Vernier Dial or Knob.



Mounting made easy by our template for locating panel holes, packed free with each condenser.

UNITED  
Transformer  
Fully mounted  
as shown  
Black Enamel  
or buffed nickel  
plated, \$4.50



Pat. Appd. For

Liberal Discount to Jobbers  
Send for Circular.

## United Mfg. & Distributing Co.

536 Lake Shore Drive Chicago, Ill.



## Even Steel Buildings Bow to This Receiver!

The tremendous amplifying power the Ware AD2 Receiver insures a 100% operation on a small indoor coil aerial in any location, steel buildings included. For local stations this is a guarantee!

1000 Mile Reception  
Practically the Year Around!

Selectivity—In-ter-  
ference Vanished Forever!

It is simple to operate—beautiful—compact—guaranteed by a highly skilled and strongly organized corporation. One demonstration is all that is necessary to convince the amateur as well as the most expert radio enthusiast.

National advertising, liberal discounts and cooperation—plus the genuine merit of this great set, make it the best dealer proposition of the year. Write now for descriptive booklet and full particulars.

On an outdoor antenna this and greater feats are daily accomplishments of this marvelous Receiver.

Nothing but the pure, perfect reception of the broadcasted programs is enjoyed with this Receiver.

## Here are the Facts:

Here are but a few of the reasons for the supremacy of the Ware Type AD2 Receiver:

1. It embodies NEW and exclusive inventions, perfected after five years of rigid tests.
2. It affords higher radio frequency amplification per stage and wider tuning range than ever before obtainable.
3. Easily receives signals which are totally inaudible on the usual regenerative type receivers.
4. Makes genuine loose coupling possible. In congested broadcasting centers easily selects desired program without slightest interference from the others.
5. Is ideal for loud speaker.
6. For faithful long or short distance reception — free from distortion, static, induction and interfering transmitters — it has never been equaled.

LIST PRICE

**\$110<sup>00</sup>**

without tubes

Get one—use it—then you will know what real radio enjoyment is and why it sells in face of all competition.

## WARE RADIO CORP'N

160-162 Duane Street  
New York City

# Ware

## TYPE AD2

### R-F AMPLIFIER-DETECTOR

## RECEIVER

Dealers—Jobbers—Manufacturers—Broadcasters

are all interested in

## NATIONAL RADIO WEEK

which has been set for December 23-30, 1922

Everyone in the trade can help make this week a big success

Full particulars may be obtained of

NATIONAL RADIO WEEK COMMITTEE

J. Andrew White, Chairman

326 Broadway

New York City

THIS WILL BE A RADIO CHRISTMAS!

# THE PATHÉ LOUD SPEAKER



IS NOW READY FOR DELIVERY. SEND ORDERS AT ONCE FOR STOCK FOR THE SEASON'S BUSINESS.

List Price

\$24.00 Nickel Finish

\$22.00 Japan Finish

THE SOUND WAVE CORPORATION  
30 GRAND AVENUE, BROOKLYN, N. Y.

## THE CHANGE FROM A 6-VOLT TO A 1½-VOLT TUBE

CAN NOW BE ACCOMPLISHED IN 30 SECONDS WITH THE

### BURKE SOCKET ADAPTER

FOR WD-11 TUBES

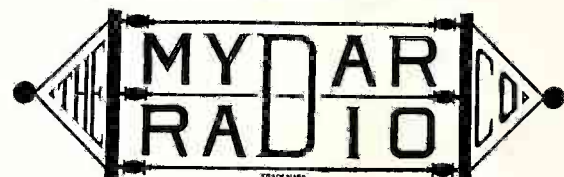
(Patents Pending)



Fits Any Standard Open Base Socket  
As Easy to Insert as a Tube  
No Change of Hook-Up Necessary  
Raises Tube Less Than 1/8th Inch  
Made of Best Materials and Absolutely Guaranteed

DISTRIBUTORS, JOBBERS, DEALERS—The Burke Adapter is in demand everywhere. Act immediately and make some liberal profits. Orders are being filled strictly in rotation as received.

NATIONAL DISTRIBUTORS



845 BROAD STREET

NEWARK, N. J.

WESTERN SALES DEPT., 8905 DETROIT, AVE., CLEVELAND, O.

THIS WILL BE A RADIO CHRISTMAS!

# Dealers

## Farmers Will Buy Sets and Parts

America's 25 million farmers—our largest single buying group—have been remarkably prosperous this year.

They have plenty of money and will spend it for Radio sets and parts, if you will but make an earnest effort for their business.

Tell them about the Aeriola Senior—which was designed particularly to meet the farmers' needs; it requires no storage battery, yet has a range of about 100 miles—tell them also about other sets.

If you are interested in getting the farmers' business, our Dealers' Service Department will tell you how to go about it—write to them for their plan, "How to Sell Radio to the Farmer."

How about your stock? We can take care of your orders for sets and parts at once.

Write for our new illustrated catalog 200-D.

### DISTRIBUTORS FOR

Radio Corp. of America (Westinghouse, General Electric), Frost, Remler, Fada, Murdock, General Radio, Brandes, Baldwin, Burgess, Hipco, Chelsea, Holtzer-Cabot, Kellogg, Acme, Brach, Homcharger, Signal, Pacent, Rhamstine, Connecticut, Arkay, Radio Service, Tuska, Clapp-Eastham and other leading manufacturers.



**LUDWIG HOMMEL & CO**

530-534 FERNANDO ST.



PITTSBURGH, PENN'A

THIS WILL BE A RADIO CHRISTMAS!





# THE DIFFERENCE

## The **DX** RADIO FREQUENCY TRANSFORMER

is *different* from other radio frequency transformer principally in that, it is highly efficient over the *entire wave length range* instead of operating at only *one or two* wave-lengths as is the case with other radio frequency transformers now on the market. *This* is of great importance in view of the fact that broadcasting stations are now transmitting on several different wave-lengths.



(Patents Pending)

| Type                 | Wave-length Range  | Price  |
|----------------------|--------------------|--------|
| DX-1                 | 170-450 meters...  | \$8.00 |
| DX-S                 | 400-1200 meters... | 8.00   |
| DX-2                 | 900-3000 meters... | 8.00   |
| Standard Mounting... |                    | 1.00   |

Some of the foremost amateurs are getting in readiness for record breaking *Trans-Atlantic* reception this winter by using

## **DX** RADIO FREQUENCY TRANSFORMERS

Many manufacturers of highest quality apparatus are now standardizing their sets, using DX R.F. Transformers.

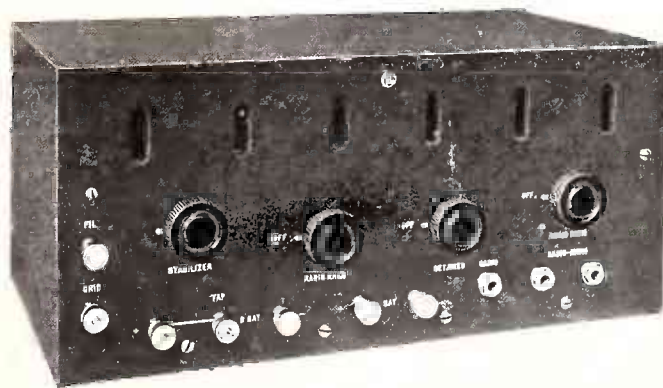
**The FIRST and BEST RADIO FREQUENCY TRANSFORMER on the market**

**The DX Transformer is a Real Radio Frequency Transformer--**

## The **JM-6**

### RADIO-AUDIO DETECTOR AMPLIFIER

Employing the "plug in" D-X Radio Frequency Transformers



(Patent Allowed)

The result of years of *expert* research work in Radio Frequency Amplification. Super-Sensitive, simple in dependable operation.

The Ideal Instrument for Coil Aerial Reception. This Amplifier is now being used by three of the most prominent Consulting Engineers in the U. S.

**"IT PAYS TO HAVE THE BEST"**

**RADIO INSTRUMENT COMPANY, INC.**  
 WASHINGTON, D. C.

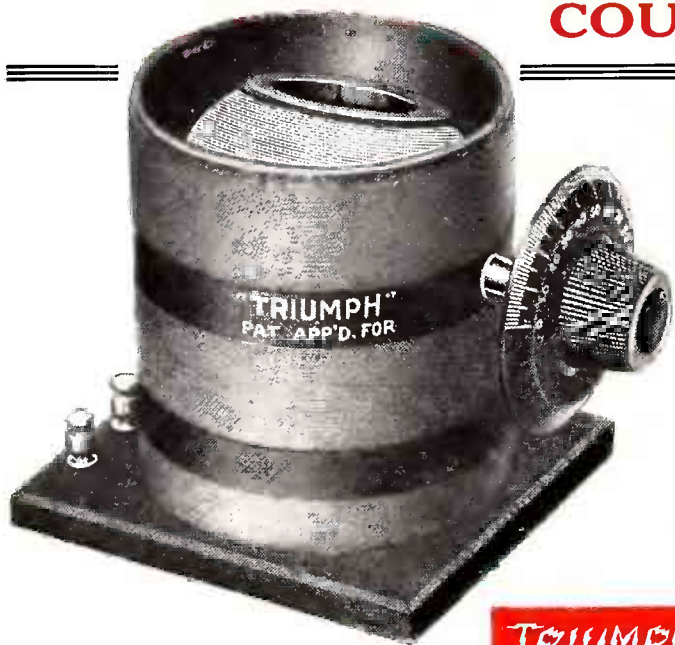
Curves and Data on Coil Aerials 50 Cents

Write for Literature

HUTCHINS BLDG., 10TH AND D STS., N. W.

**THIS WILL BE A RADIO CHRISTMAS!**

# "SIGNAL TRIUMPH" COUPLER - METER



**TRIUMPH**

The "Two-in-One" Instrument

**T**HIS instrument makes a new stride toward the ultimate in Radio perfection. It is a combination of variocoupler and vario-meter; it is simplicity itself, it is efficient to a surprising degree, there are no taps, no solder and no complications.

DEALERS—Stock it now—there is no end to the demand. Retails at \$6.50, including 3-in. dial. Sample will be sent on memo to any rated concern upon request.

We also manufacture complete V. T. Receiving Sets with or without amplification—fixed and variable condensers, dials, V. T. sockets, binding posts, etc. Write for discounts and full details. Do it now.

**SIGNAL RADIO & ELECTRIC CORP. 64 UNIVERSITY PL. NEW YORK CITY**

## NO STORAGE BATTERY REQUIRED OPERATES ON ONE DRY CELL

FOR AT LEAST  
120 HOURS



THE BRU No. 3 Vacuum Receiving Set

Designed to meet the demand for a "tube set," that is a combination of EFFICIENCY, SIMPLICITY, NEATNESS and ECONOMY OF OPERATION.

BRU No. 3 Specifications. Cabinet is of piano finish mahogany, with bakelite panels. Trimmings are of highly polished, nickel plated brass. Normal wave length of 150 to 600 meters. Binding posts are provided to "load" the primary and secondary inductances, so that the reception of almost all wave lengths is possible.

BRU No. 3 Receiving Unit, List Price .....\$30

BRU No. 3C Receiving Unit.....\$49

Complete including WD 11 Detector Bulb, phones, "A" and "B" batteries, aerial, lead in, ground wires, ground clamp, insulators, nails, screws, etc. Absolutely nothing else required.

A GOOD MARGIN OF PROFIT FOR THE DEALER

Complete instructions with each set

Sold under our unconditional guarantee

*Eliminates Storage Battery*

by using the  
BRU No. 4  
SOCKET

You can change your crystal set or your tube set to a Dry Cell tube set. One dry cell will operate it for 120 hours.

SOCKET

**\$1**

list price

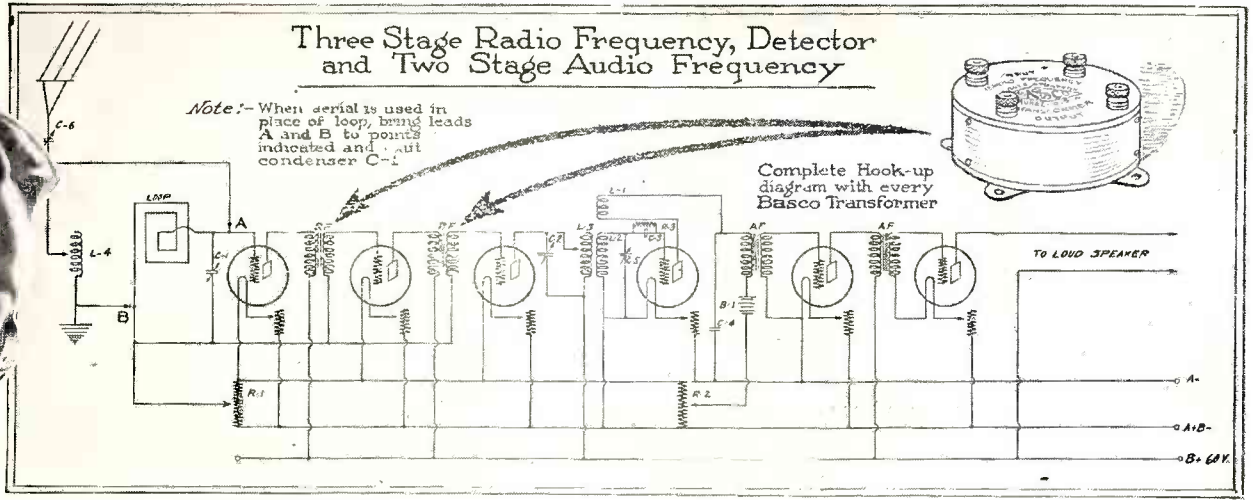


*Dealers, take advantage of the demand for these sockets. A fair margin of profit*

BRUNO RADIO CORPORATION  
152 West NEW YORK 14th Street YORK



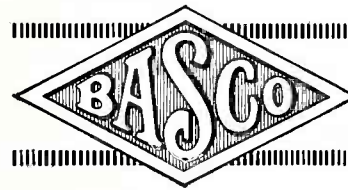
THIS WILL BE A RADIO CHRISTMAS!



# Don't Let That Term— “Radio Frequency,” Scare You Out of Doubling Results

**N**O bugbear about it. Thousands of amateurs are accomplishing wonders with Radio Frequency. The greatest radio development of the day. A loop aerial and three stages of radio frequency hooked right to your regenerative outfit—doubles your signal strength, day or night—greatly increases your range and eliminates most of the static. Two stages are nearly as gratifying. Results will surprise you.

Study the diagram shown above. And here's the ideal transformer for the job—the



## Radio Frequency Transformer “The Element of Certainty”

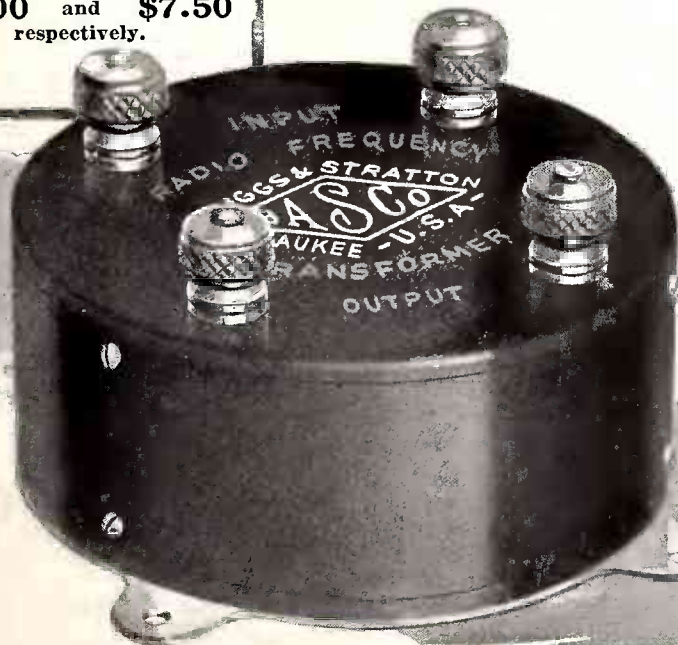
Thoroughly proved—for any well balanced circuit. Efficient. Operates over wave band of 200 to 600 meters. Affords great selectivity. Employs non-capacity winding—*double silk covered wire*—no enamel. Maximum transfer of energy. Clean cut—neat. High-grade workmanship throughout. Encased in bakelite. Binding posts and base-mounting *silver plated*. No higher grade transformer can be built. Basco Radio Frequency Transformers are the first step toward a better outfit. Insist on a Basco. If your dealer can't supply you write us direct and we will see that you are promptly supplied.

*Jobbers and Dealers.* Write for particulars and list of other Basco Radio Equipment. No better, trade building transformer built. Gets results—gets business. We have local factory representatives. Write for name of one nearest you.

**Briggs & Stratton Co.**  
MILWAUKEE, WISCONSIN



Light weight—aluminum case—extra sensitive. Clean cut, rugged design. See them. 2000 and 3000 ohms \$6.00 and \$7.50 respectively.



# \$ 5.00

THIS WILL BE A RADIO CHRISTMAS!

# Where to Buy

## A Handy Guide For the Convenience of Our Readers

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THIS WILL BE A RADIO CHRISTMAS!

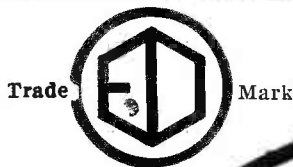
# Where to Buy

## A Handy Guide for the Convenience of Our Readers

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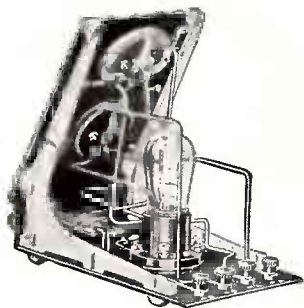
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Panel No. 2



Rear View, with Cover  
Removed. Panel No. 9

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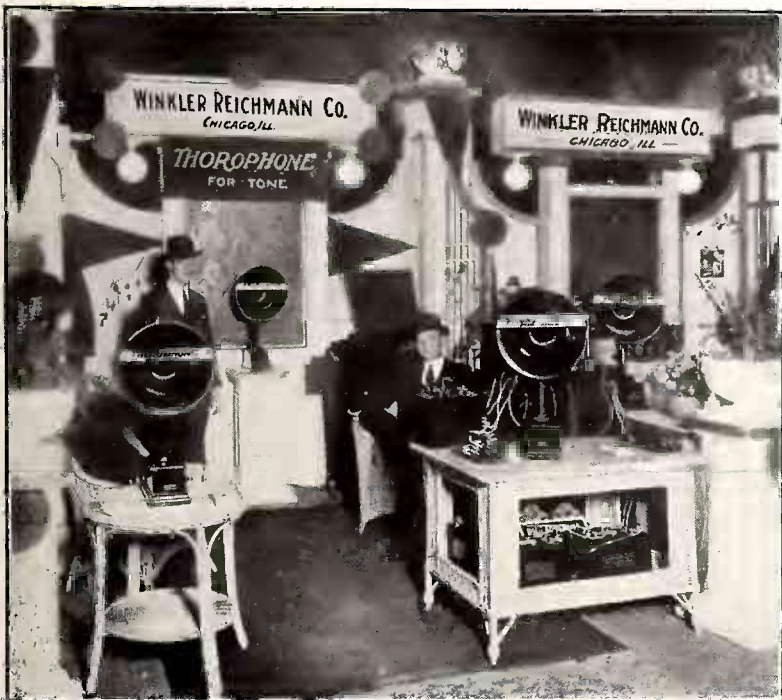


# Radio Displays of the Month



One of the most attractive window displays of the month was that of the Wholesale Radio Equipment Company at 22 William Street, Newark, N. J. As shown in the above photograph, it will be seen that this window contains reliable supplies that interest the radio men. It has been successful in drawing customers into the store, and has produced much favorable comment. Radio merchants would do well to remember that more good windows will make more good sales.

Below is shown the booth of the Winkler-Reichmann Company of Chicago at the recent Chicago Radio Show. It will be noted that the feature of the display is the Thorophone which is made by this company.



One of the most pleasing and popular exhibits at the Newark Radio Show which was held last month was that of the General Merchandise Company, whose office and warehouse are located at 142 Market Street, Newark, N. J. Frederick W. Germer, the president and general manager of the company, is shown in the foreground examining a head set.

## *Gilbert Radio Apparatus*



No. 4023

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Send for catalog No. 54 illustrating and describing this new Radio Frequency Set with all other Gilbert Radio Apparatus.

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*THIS WILL BE A RADIO CHRISTMAS!*

# THE RADIO DEALER

*The Radio Trade Journal*

For The Radio Retailer

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THE RADIO DEALER, THE RADIO TRADE JOURNAL, published monthly on the first, at 1133 Broadway, New York, N. Y., by THE RADIO DEALER COMPANY, in the interest of dealers in Radio Supplies. HARRY M. KONWISER, Publisher; LAURENCE A. NIXON, Managing Editor; HERBERT M. WILLIAMS, C. C. MINIER and J. FARRELL, Editors; A. L. KONWISER, B.S., Technical Editor; N. B. ZIMMERMAN, BERNARD FREEDMAN and EUGENE J. SCANLON, Associates; R. DESREAU, Circulation Manager; M. JAY KLEIN, Research Manager; B. B. STERN, Manager Service Bureau.

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**\$70.00 List**

Shortly after we placed on the market the MELCO Type 400 Tuner and Detector and 2 stage amplifier, we heard from a great number of dealers and distributors of the remarkable results obtained with this set. Atlanta hears Detroit. Chicago hears Birmingham, Ala. St. Louis hears Newark. Precision workmanship, proper design and the New Litz Wire Wound Super-sensitive Vario-coupler tell the story. Perhaps you were one of the dealers who wrote us.

If you were, you will not be surprised at the

official endorsement of the MELCO type 400 set by the Tribune and Evening Mail Radio Institutes. It HAD to come.

Dealers who do not know MELCO Units will find in these certificates concrete proof that the quality which we claim for them is actually there! Quantity production enables us to offer MELCO sets at prices which are so astoundingly low that sales are sure to result. Write us today for our attractive offer which will enable you to secure some of the most satisfying profits in the radio field.

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*Sales Engineers*

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# MELCO

TYPE 400

Tuner and Detector Unit

Two-Stage Amplifier

—with the Litz Wire Wound Super-sensitive Vario Coupler

**THIS WILL BE A RADIO CHRISTMAS!**

# The Radio Dealer

THE RADIO TRADE JOURNAL

*Edited and Published at*

1133 Broadway, New York, N. Y.

FOR THE RADIO RETAILER

VOL. 2. NO. 2

NOVEMBER, 1922

ONE DOLLAR THE YEAR

## National Survey Shows Condition of Radio

Newspaper and Jobber Reports Indicate Soundness of Industry and  
Bright Future

By N. BEESEY

What are conditions today in the radio industry?

As the result of a nation-wide questionnaire, going to newspaper and jobbers throughout the country, the RADIO DEALER is able to give a survey of the facts and problems as they are being faced by every radio dealer in the country, who knows his business and is alive to its possibilities.

A glance through the sheaves of answers to the questionnaires is sufficient to indicate that radio in the United States is moving inland and covering the whole country. Two states, New Jersey and California, where a tremendous development of broadcasting has taken place, are like the positive and negative poles, while from these poles radio has been constantly spreading north, south, east and west. The stage of radio development tapers off as one approaches the centre of the country.

Another broad principle which the reports indicate is that the success of radio depends, not merely on the number of broadcasting stations in a community, but on the quality of the broadcasting programs as well. The Pittsburgh district with its homes averaging thirty per cent. exists from a radio point of view because almost from the inception of public broadcasting it has had excellent programs. Those districts throughout the United States reporting programs "considered poor" also report radio ownership in less than five per cent. of the homes, sometimes less than one per cent. A question to be answered is, Which must come first, radio owners or good broadcasting programs? Figures showing that 75 per cent. of the states have less than five per cent. of their homes equipped with radio sets reveal

the falsity of the rumor that radio has been oversold. In no place has radio been oversold, not even Los Angeles, Detroit or Newark (highly developed centres). A business slump has been mistaken for a saturated market.

There has been a business slump. It began about the fifteenth of June. One reason for it is that radio, as at present constituted, is a seasonal business. It will remain such a one until radio retailers have sufficiently organized their business to make it otherwise. The mere elimination of static by improvements, such as Dr. McCaa, of Ephrata, Pa., has announced, is not sufficient. Business fell off anywhere from 50 to 75 per cent. during the Summer in most radio districts, although certain sections in the South reported a gain over June. With a unanimity that is born of certainty, jobbers in almost every section of the country felt that things would take a turn upward again during October.

Judging from the reports of jobbers all over the country, based on past experience, the demand from now on will be for medium and high-priced tube sets and parts. The day of the radio outfit that was cheap in quality, but not necessarily in price, is gone. Crystal sets will always have a demand in large centres, where the presence of broadcasting stations at short distances allow the crystal sets to give satisfactory performances. But tube sets will predominate in rural communities, which, in the coming Christmas trade, will do most of the radio buying. The most backward states in radio today are those containing a predominant agricultural population. In many places this will be the first radio Christmas.

*(Continued on page 84)*

# Report on Sale of Radio Parts and Supplies

## Survey of Radio Retailing Made Especially For a Boston Department Store Shows Thorough Appreciation of Conditions

By **MILTON B. SLEEPER**  
Of Sleeper Radio Corporation

At the time when the large part of dealers installed radio departments they knew very little about methods for selling the things they bought. In fact, it was not necessary for them to, because the buying public sold itself. Fortunately the Radio Corporation of America realized that this condition could not long exist, and they set out to train their dealers not merely to sell radio apparatus but to make sales.

Because complete receiving sets form the major portion of their output, they have concentrated their efforts along this line, to the exclusion of parts and supplies. Unfortunately dealers looking to the Radio Corporation for guidance have inferred that it is their conviction that profits are to be made only on complete sets. This impression has been given weight by the statements of some editorial writers who, in misguided efforts to infect their personalities into the industry, have offered solutions for the dealers problems when they know as much about their subjects as the average failures who write books on success.

While I have no official authority for the statement, it is my belief that the Radio Corporation does not feel that only complete sets can be sold profitably. So far as my own experience is concerned, and that of dealers with whom I have worked intimately, this is not true, tho' I am forced to admit that the careful attention to the instruction of dealers has not been given in the case of parts and supplies as with complete sets.

Let me point out to you the difference in your attitude toward the two classes of merchandise. When, nine months ago, you sent your buyers out to get hold of every piece of radio equipment they could find, you allotted a space in your store for the display of various sets, instruments and parts. You put behind the counter a radio amateur and an ex-navy operator. You remember that they spent most of their time talking to customers about almost everything except the goods you were paying them to sell, and much of their selling talk was actually directed against the merchandise you wanted them to dispose of.

The preliminary work done by



*Photo by Bachrach*

**MILTON B. SLEEPER**  
Of Sleeper Radio Corporation

manufacturers and jobbers to help train these men to think strictly in terms of sales and dollars was wasted partly because your salesman was too much interested in radio to think of money, and because they had nothing to learn about radio anyway.

Gradually, however, you improved the personnel, getting in men who knew less about radio, perhaps, and were more concerned with sales. Their minds were receptive to suggestions made by outsiders who wanted to help them. They learned how to demonstrate complete receiving sets; how to show a customer the way to operate the controls, that the quality of speech and music was more important than volume. With experience they consciously concentrated their efforts on three or four types of sets which they could sell easily and quickly, and they learned how to sell a customer one of those four sets even tho' he had intended to buy a similar outfit of a different make. As those sets became more plentiful on the market, you concentrated your buying, for you found it more profitable to specialize on those sets and keep them moving.

It wasn't long, you remember, before you had demonstrating spaces

and special signs made up frequently to keep up interest in those outfits. That helped to sell the sets and refreshed, periodically, the ideas of your salesmen.

To-day you are pleased with your accomplishments in the sales of complete receiving sets.

And now, you wonder what to do about separate instruments and parts. I have reviewed the development of your radio department, in so far as it concerns complete sets partly to bring out to you changes which were so gradual that you may not have them clearly in mind, and for the purpose of making comparisons with the efforts put into the sale of parts.

Nine months ago you put in a stock of parts, arranging them neatly in boxes in the show case and distributed the separate instruments attractively on the shelves, on stands, and in the case. If a customer wanted to make something and knew what parts to buy, your salesman made the sale unless he advised the customer against making whatever he had in mind.

One day, when I was in your store, I asked a clerk for the parts to build a regenerative receiver. He showed me a variocoupler of one make and two variometers of another. When I inquired further as to other parts required, he got them out, one by one, tho' he was so impatient about my questions that if I had been a regular experimenter I would have gone somewhere else or quit altogether. If I hadn't known what I needed, I wouldn't have been able to find out from your salesman. Moreover, it took nearly twenty minutes of his selling time. When I was all thru' I had just a slip of paper with some prices scribbled on it to take home and think about. At least ten different manufacturers were represented by the parts he showed me for that set.

After selling instruments and parts for nine months, you haven't learned a single thing about that branch of your radio business. You don't know any more about that class of trade than you did at the beginning, which is nothing. Let me tell you something about the man who builds his own apparatus.

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# Jobbers and Retailers Must Render Service

## Manufacturers Have Their Obligation, the Jobber Must Carry Proper Merchandise and Retailers Must Be Alert

By M. W. KUNKEL

Secretary, Pittsburgh Radio & Appliance Co., Pittsburgh, Pa.

The other day the writer was in receipt of a visit from a representative of one of our prominent manufacturers, and put this to him: "What do you think of the prospects of radio business for the coming fall and winter?" The reply, quick and snappy was: "You will see a bigger and better business in radio this year than ever before." This statement leaves much food for reflection over radio conditions as existing in the Pittsburgh territory.

The so-called summer slump hit this territory the same as it hit all other sections of the country, yet the writer feels that a great deal of the slowing up in business was due to the dealers themselves, as they have apparently lost sight of the fact that they could go to the tourist, the vacationist and the camper and find a ready outlet for radio apparatus during the summer months, just as well as he can to the stay-at-homes during the winter months.

This past summer found a great many of the jobbers overstocked but making few sales to dealers. In some instances these conditions were caused by the manufactures themselves.

Let us for a minute reflect on three types of outlets for radio material; that is the manufacturer, jobber and dealer and study the relationship that exists between themselves. Some concerns have adopted the policy of selling only through their recognized distributors and jobbers, referring all inquiries and orders directly to them, but a great many more attempt to handle both the dealer and jobber business.

The manufacturer who attempts to do business with that policy will sooner or later discover the error in it, for the reason that if he does any business at all, he will find not only a difficult task, but an expensive undertaking to handle the vast number of dealer and jobber accounts all over the country.

This leads up to the question of "The why of a radio jobber?" A jobber's position in any business is

something more than merely buying merchandise from a manufacturer and selling it at a discount to the dealer.

There are a great many so-called jobbers, but a real jobber is one who stocks in quantity sufficient to render real service to the dealer, the material of those manufacturers whom he represents. After all, the jobber is the warehouse representative of the manufacturer and in such capacity it is up to him to render real service in quality merchandise at fair prices, at fair discount and delivery. He should also maintain a corps of trained radio men who can give the dealer those suggestions and advices which are necessary in this business, on account of its newness to the people who are in it.

A great many jobbers try to carry everything that is being manufactured for radio use and in doing so they

do it to the detriment of the dealers whom they are to serve. You do not find an automobile, phonograph or piano agency trying to carry six or seven different makes. They find that one or two of those six are the best for them to carry and concentrate their efforts behind those makes.

In the radio business we find a great many trying to sell a half a dozen different makes of rheostats, sockets, receiving outfits, etc. No doubt this condition will be remedied. It will have to be before the long-heralded rush sets in. The jobber who will concentrate his entire energy on those lines which he feels are the best he can offer will not only be showing true representation to the manufacturers who supply them but will also render a real service to the dealer.

The retailer in turn must also limit the number of makes.

Picture for yourself a retail store and a customer asking for a transformer. The clerk asks him what kind he wants and the customer says "A good one." The clerk immediately displays a half a dozen different makes inviting the customer to take his choice. Due to the fact that he is carrying so many different makes the dealer cannot claim that one is a good one and the other a poor one. The dealer who carries only one or two makes can readily point out the advantages of those lines he carries over those of a competitive line and thereby create confidence in his customer.

Referring to prospective or proposed radio organizations it is my opinion that an organization made up of the representative manufacturers, jobbers and dealers of the radio industry will help greatly in stabilizing this young giant industry—for that is what it is, a giant.

In glancing through various radio magazines one notes that a great many dealers are advertising in them and for a fact that a great many of those advertising who are attempt-

(Continued on page 108)



*M. W. Kunkel is one of Pittsburgh's leading radio wholesalers and as secretary and manager of the Pittsburgh Radio & Appliance Company has acquired a worth-while reputation in the Radio industry. The article, by Mr. Kunkel, on this page, is interesting and instructive.*

# Everybody in the Radio Industry

Firm Credits, Not Merely Optimism, Must Establish Business on Sound Basis For the Future.

By H. S. JOHNSON

General Superintendent, Ship Owners Radio Service, Inc.

It is a common practice for a certain kind of business man to insist that "business is good" when it is actually very bad, and to assume a worried expression and announce that "it could be a whole lot better" when he is enjoying the greatest prosperity of his life.

The habitual optimist believes that if the words "business is good" are repeated often enough, everyone including himself will sooner or later believe them and he cherishes a hope that the confidence so created will loosen up credit, encourage manufacturing, influence advertising and stimulate buying, and thus bring about a revival.

There may be some merit to this argument, but it somehow reminds me of a man who has a very bad cold, meeting his friends daily and repeating over and over "I am feeling fine, I am feeling fine," at the same time exposing them to his affliction. He may in time overcome his cold, by pure stubbornness, but on the other hand he may start an epidemic of colds and develop pneumonia himself. It seems to me that it would be much wiser for him to say "I have a bad cold, but I am going to take the day off and doctor it, and will be back tomorrow feeling fine. I advise you not to stand too close or you may catch my cold."

It seems to me that the wholesaler or retailer who is experiencing a dull business season might better say "business is rather dull, but I am doing what I can to improve the situation. I have stopped buying for the time being in order to reduce my inventory and collect the money due me. At the present rate I expect to be in good liquid condition within six weeks. I cannot pay what I owe you now, but I can pay you fifty dollars each week for six weeks, and if business does not pick up by that time I can reduce expenses and go ahead on a smaller scale or liquidate. If business does improve, as I expect it will, I will be in fine shape to take advantage

of it. I shall be prepared for anything."

A story something like this, if based on the truth, sounds much better to a creditor than an admission of inability to pay, accompanied by glowing optimism concerning the future, and promises of full payment, "when the boom arrives."

Real optimism is a fine and a valuable quality, but not the kind of optimism that blindly insists that black is white. Business optimism should be based on reason and judgment, not on a stubborn refusal to recognize a fact when confronted

with it. If business is poor, a merchant should look for the causes, study them, and make an intelligent estimate of probable future developments. Then he should make a careful inquiry into the state of his own affairs to see whether, without attempting to work miracles, he can pilot his business through. If this systematic investigation shows that it is possible, then he should become an optimist, and should never doubt for a moment that he is going to succeed.

If, however, this same investigation indicates that accounts receivable, plus probable sales, can by no stretch of the imagination be made to equal accounts

payable, plus running expenses, within the length of time that obligations must be satisfied, then he should not continue blindly, trusting to luck for an avalanche of business, and insisting that "business is good" while he dissipates his remaining assets in a hopeless attempt to survive. Instead, he should immediately call a conference of his creditors, explain the situation to them in detail, and abide by any reasonable decision, giving the creditors every opportunity to salvage what they can of the remains of the business.

Let us get both feet on the ground and look a few facts in the face.

Business is not rushing. Neither is it bad. It is just moderately good.

## The Basis for Optimism

*"Business optimism should be based on reason and judgment, not on a stubborn refusal to recognize a fact when confronted with it. If business is poor, a merchant should look for the causes, study them, and make an intelligent estimate of probable future developments. Then he should make a careful inquiry into the state of his own affairs to see whether, without attempting to work miracles, he can pilot his own business through. If this systematic investigation shows that it is possible, then he should become an optimist, and should never doubt that he is going to succeed."*



# Must Help Eliminate Weaklings

## How Stringent Measures Will Do Away With Bankrupt Stocks and Unfair Competition.

Neither is it likely to pick up with a bang on any particular date, as so many seem to think. The public is not at all likely to be stampeded by radio this year. They may, and doubtless will be stampeded by something, but not by homebrew, radio, or toddle-tops. It will have to be something entirely new. Radio will continue strong, of course, but it is past the sensational stage. I believe that what we can reasonably expect will be a good, normal increase as the season advances, with a good share of the holiday buying around Christmas time.

This applies to public buying, but there is another very important factor that will tend to delay revival of normal trading this year, so far as the manufacturers and wholesalers are concerned, and that, of course, is the amount of manufactured goods now in wholesale and retail stocks. A recent but very limited survey indicated that approximately a six weeks' or two months' supply might be on hand, which would mean that it will be a month or six weeks before retailers' sales are fully reflected in their buying. From the manufacturers' viewpoint, the length of time may be even greater, as many wholesalers have at least a month's supply on hand, and it may be well along in December before the manufacturers will feel the full effect of public buying.

The conclusion is that there will probably be no abrupt transition. The wholesalers and retailers will not all run out of stock at the same time, but the change will be a gradual one.

There are at this moment hundreds of radio retailers and wholesalers whose financial statements would reveal insolvency, who are hanging on, operating at a loss, piling up further obligations and dissipating their remaining assets in a childless optimism that on some certain date, not far distant, the public will again go radio mad and fight to buy their wares. Retailers such as these are doomed to failure before another year goes by. They are dropping out now, one by one as their burdens become too heavy or as their

creditors become aware of their actual conditions, and those who succeed in hanging on through the winter are not likely to retrieve their losses and are even less likely to survive another summer.

This is not pessimism. Radio is a real business and is here to stay, but the days of spectacular profits and mushroom growth have gone. Radio is going to support a great many successful manufacturing, distributing and retailing enterprises, but the difference will be that these enterprises will have to be adequately financed and properly managed. This being the case, there will be fewer of them.

I believe that the slipshod method of granting credit, and its frequent misuse by grantees is responsible for the greater portion of our radio business ills.

At the present time it is possible for almost anyone who has a few dollars in the bank, a few friends, and a printed letterhead, to obtain a very fair line of credit from many manufacturers and wholesalers. He starts out by writing a letter to a certain wholesaler or manufacturer, giving the bank and one or two of his friends as references. His friends assure the inquirer that Mr. Blank comes from a good family and is an honest and ambitious young man. The banker acknowledges that he maintains an account at

the bank, and as long as he has never been convicted of forgery, the bank says nothing against him.

Wholesaler Number 1 then opens up a credit of, say, fifty dollars, and ships goods which Mr. Blank receives, sells and pays for. He then orders another fifty dollars' worth from Wholesaler Number 1 and writes Wholesaler Number 2, giving Number 1 as reference. Number 2 finds that Number 1 extended fifty dollars credit, and therefore takes a chance on Mr. Blank for fifty or a hundred dollars. Then wholesalers Numbers 3, 4, 5 and 6 get letters giving Numbers 1 and 2 as references, and each grants fifty to two

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### Merchants and Credit

*"The sound merchant should welcome strict credit requirements. He will be able to pass them, while his unworthy competitor will not. Thus a strict observance of business principles in the granting of credit would aid and not impede the reliable merchant. Proper and intelligent supervision of credit by manufacturers and wholesalers would lessen the likelihood of dealers over-stocking, and thereby lessen their chances of becoming victims of the brokers. This would benefit the sound merchant also, as he would not have to compete with so many bankrupt stocks."*

# What About the Retail Price Cutters?

## Present Orgy of Price Cutting Menace to Every Retailer, Jobber and Manufacturer

By EUGENE J. SCANLON

Morscan Radio Co., Newark, N. J.

Every reliable radio retailer is interested in making a proper percentage of profit, and for that reason every reliable retailer today looks with askance at the price-cutting orgy apparently in evidence in every fair sized city in the United States.

What's to be done about this? Something must be done to prevent it, lest the great mass of buyers acquire the thought that radio can always be bought at cut prices.

The first answer is co-operation between the retailers themselves. Having achieved that, they will soon be enabled to seek the support of the best manufacturers in the radio trade.

It is obvious today that quite a few concerns of magnitude in the radio industry have made reasonable efforts to curtail cut prices. They are advertising "retail prices," expecting their branded wares to sell at the advertised prices.

When they do less they brand themselves as get-it-while-it-lasts manufacturers. Their future in the radio business is obvious. Responsible retailers and jobbers cannot be compelled to feature articles which enjoy universal cut rates.

I am not aiming to place the price-cutting stigma on any manufacturer. I know several of the large manufacturing organizations are fighting this present day evil in every possible manner. I do not urge the organized retailers of any section to boycott branded, standard apparatus just because they are being offered at cut prices.

Some of us know that many of the cut-price stores are retailing apparatus of inferior quality, together with their special prices on products of merit. Some of these retailers, located in the high rental districts of their cities, it is likely, prefer to reckon turnover rather than discount.

It has truly been said that a retailer doing a business of five hundred dollars weekly, on a twenty-five per cent basis, has what appears to be a profit of one hundred and twenty-five dollars per week.

The same students of economics or business study then state that the

same retailer, with no additional clerical expense, can do a business of one thousand each week—provided he cuts his prices, say, ten per cent. And, as it is figured, fifteen per cent on one thousand is one hundred and fifty dollars.

So, as a retailer, you are the best judge of how you care to conduct your business!

But—there is another side to the story.

As a retailer, have you the right to endanger the entire retail field? Have you the right to damage the manufacturer of standard brands?

Possibly—business is business; but there surely is a moral side to business, and if the moral side is to be considered, what is to be said anent the obvious fact that if everyone cuts prices no one will gain—not even the manufacturer.

There are many men in business who maintain that some of the manufacturers of the land, in radio as in other industries, care not what becomes of their wares once they are shipped to jobber or retailer.

This isn't so. Stabilized jobbing and equally pleasant conditions in

retailing make for continued sales for the manufacturer, and make it in the modern business way.

No real manufacturer will produce merchandise for cut price markets, because under such conditions no manufacturer is enabled to foresee his future.

Even though radio merchandising was to become a mere price cutting campaign—some of our present large sized manufacturers would be privileged to produce a great amount of merchandise *and see to it that their wares were sold at cut prices.*

The result: In a short while they would have the market glutted with merchandise and with cut price retailers they would have the entire radio field to themselves, for the small folk and the newer concerns in the radio industry would be just ordinarily busted.

Inasmuch as there is no apparent desire on the part of the larger radio organizations to pre-empt the field to themselves, the price-cutting orgy is one that commends itself to the serious thought of the best minds in the radio fold.

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## Survey Made by Engineer Uncovered Pertinent Facts

By GEORGE F. SHECKLEN

Manager, Pacific Radio Exchange, San Francisco

The Pacific Radio Exchange has recently made a series of field investigations, under the direction of their engineer, P. J. Townsend, and this exhaustive research uncovered some pertinent facts.

These facts should be known by all radio tradesmen. They are, as follows:

*First:* That the novice who contemplates buying equipment is a bit skeptical about spending a large amount of money for something about which he knows little or nothing.

*Second:* He does not care to purchase goods that he will have to junk

or turn in at a great sacrifice when he wants to increase the volume and range of his station.

*Third:* A vast number of potential buyers of radio receiving equipment are not in a position to lay down \$200, \$300, or \$400 at one time for elaborately constructed apparatus.

*Fourth:* That the purchaser of a completely assembled receiving set almost invariably falls back on the dealer with the query, "Can my set be wired to give me better results?" or "Can this or that be added to my

(Continued on page 98)

# Radio Industry Is Stabilizing

## Big Christmas Trade This Season and Far Greater Sales Next Year Are Predicted

By RAYMOND FRANCIS YATES

The year of 1922 will ever be looked upon as the Great Year of Experience in radio. We have made many mistakes this year that we will not make next year. For instance, we know that radio is going to be a more or less seasonal business until the importance of broadcasting reaches a point where it will take a more necessary position in our daily lives. The experience that we have gained over the past year should be worth millions of dollars to us next year. It is an experience that has been dearly bought. Dealers, jobbers and manufacturers alike may profit by it.

What is going to happen during the cold months? That is the question that is uppermost in the minds of those associated with the radio industry. Although the writer does not wish to take the position of an optimist with more imagination than common sense, he is inclined to believe that the radio sales of the coming year will far surpass those of the past year. We live in a very, very large country. True, perhaps, we have a million radio receivers in use, but what is this in a country with a population of 110,000,000 people? It is nothing but an insignificant fraction. The sales possibilities are astounding.

We often hear the question, "Is radio coming back?" Has it ever left? Sales have fallen off to be sure, but there is nothing alarming in that when we consider that radio is a form of entertainment and instruction. The phonograph dealers as well as the correspondence schools do very little business during the summer months. Even in this period the number of our broadcasting stations was increased and millions of capital was invested in the industry.

When business dropped off last spring, many thought that buying would begin in September. Then it was October. Next year we will know that it will take the first few weeks of cold weather to revive public interest and stimulate buying. As this article is written the shelves of the dealers are groaning and the warehouses of the distributors and jobbers are full. Some say we have enough merchandise to last for months. A little sober reflection will reveal the fallacy of this statement. Two weeks of inten-



**RAYMOND FRANCIS YATES**

*Radio Editor, New York Evening Mail; Director, Permanent Radio Fair; Author, "Complete Radio Book," Member I.R.E., A.S.M.E. and A.I.E.E.; Member Executive Committee, Radio Section of Associated Manufacturers of Electrical Supplies.*

sive buying will sweep the shelves of the dealers clean. Following this there will come a period of furious buying on the part of the dealer. This will find the manufacturer more or less unprepared since he is going to work closer to his orders this year after having such bitter experience last year in over-producing.

This is going to be the first "Radio Christmas." Last year radio was not firmly established in the mind of the public. This Christmas there will be more radio sets on the gift list. If some of our dealers wait until the last minute and then besiege our manufacturers with orders for early delivery there is going to be more than a normal shortage of equipment.

The author does not want to be accused of rhapsodizing, but he would also like to say something about the price-cutting situation. It is a situation that was simply brought about

as the result of a glutted market with its attending bankruptcies and business failings not only on the part of manufacturers but dealers and jobbers as well. Bankrupt stocks were sacrificed and quite naturally this merchandise was bought up and offered at ridiculous prices. Although this price cutting did a great deal of harm to the industry as a whole, it was positively inevitable. It will continue just as long as we have excessive merchandise. With the reawakening of public interest this cutting will automatically disappear. Every dealer who can sell a variable condenser for \$4.00 is not going to sell it for \$1.90. In passing over this situation it is interesting to note that it was not only dealers who cut prices, but in many cases manufacturers and distributors as well. The need for ready cash is a serious thing and this was the situation that confronted many legitimate houses that cut prices. It is the old story of "any port in a storm."

There is another angle of the radio situation that the writer would like to comment upon. It is that of the time payment plan. Time payments on the more costly instruments must come. The great buying public of the United States cannot afford to pay from \$75 to \$150 for a vacuum tube receiver in one lump sum. It is this very situation that has stimulated the parts business. Buying parts is one way of buying radio sets on the installment plan. When time payments come, parts will be purchased only by those who have the experimental urge. Then, too, there is a feeling on the part of many individuals that they can buy \$20 worth of parts and assemble a broadcast receiver that will do the work of a \$200 instrument.

Time payments will greatly reduce the sale of parts. The sale of parts has also done a little damage to the cause of a radio in a certain way. Assembling a receiver from a collection of miscellaneous instruments is not as easy a task as many would believe. Many sets have been assembled that did not bring the results anticipated and many novices have become discouraged in their initial effort to "roll their own."

While commenting upon the sub-  
(Continued on page 94)

# Doing Away With a Radio Battery Problem

## Telling Customers of Recharging Simplicity Improves Sales on High Grade Sets

By CLARENCE E. OGDEN

President and General Manager, Automatic Electrical Devices Co.

Many a new radio customer with the desire of owning a two-or three-stage amplification set, balks when he is informed that a battery is a necessary adjunct. He imagines all sorts of difficulties in charging and recharging his "A" battery, and pictures himself tugging it along to the nearest garage or service station every once in a while. Of course, he may finally decide upon a high grade receiving set operating on dry cells, and then again, this fear of batteries may cause him to buy a cheaper set than he had otherwise intended.

The moral behind all this is one that applies in almost every phase of radio merchandising. It is the dealer's duty to dispel many of the fears and illusions to which the uninitiated customer is heir. There is no real reason, for instance, why the customer should not be told how simple it is to recharge a battery, thus doing away with the necessity of having it recharged away from home.

There are many makes of home chargers or rectifiers on the market retailing at a popular price, which enable the radio fan to charge his battery at home at practically no expense, and without removing them from the receiving room.

While many of those devices require some electrical knowledge for their successful operation, the majority of them are extremely simple in the construction, and can be successfully operated by any one. The more efficient of these rectifiers will fully recharge any "A" battery overnight with a current consumption of less than one K.W. hour, which, based on the average cost of electrical current throughout the United States amounts to but five cents.

In the purchase of such a rectifier it is important that the buyer consider the following points:—

First, If the rectifier has a self-polarizing feature the battery may be connected either way and it will always charge. Otherwise, it requires considerable knowledge and skill to determine proper battery and rectifier polarity, and should battery be connected the wrong way, it is likely to be ruined, or, at least, seriously harmed through reverse charging.

Second, With a charging rate of

five amperes or more any battery of eighty ampere hour, or less, capacity may be fully charged overnight. Where a lower charging rate is employed a correspondingly greater time is required. For instance, with a rectifier delivering but two amperes about fifty hours continuous operation is required to fully charge a battery, during which time, of course, it is impossible to use the receiving set.

Third, The National Board of Fire Underwriters are becoming more strict in the enforcement of rules covering the use of only approved electrical apparatus. Any rectifier having the Underwriters' approval has been carefully tested by them and possesses practically no fire hazard. Considerable difficulty may be experienced in effecting an adjustment with the insurance company in case of fire, if the rectifier you are using has not been approved by them.

After a rectifier has been purchased, it is advisable to secure a hydrometer

for telling when the battery needs recharging. This instrument can be purchased for 50c. to \$1.00, and will pay for itself many times over through elimination of unnecessary charging.

A new storage battery should always be given an overnight charge before being used, since it has most likely been several months since recharged at the factory.

Maximum receiving range and strong, clear signals are obtained best when the battery is fully charged. For this reason it is always well to keep the battery in as near full charged condition as possible.

By taking a hydrometer reading after an evening's use of a receiving set, if the specific gravity of battery is below 1200, it is best to connect your rectifier and charge battery overnight. It will then possess maximum power, be ready for a long period of use, and will bring in the signals stronger and increase the receiving range of the set.

## To Study Broadcasting To Eliminate Conflict

"To aid the Government and the American people in peace or war, to eliminate the confusion of rapid development, to work with the Federal departments to devise a rational scheme of broadcasting for the Nation, to promote on a universal scale effective organization of all radio instrumentalities, and in general to undertake at once the solution of the pressing problems of the industry, now leading to conflict," are the declared purposes of the National Radio Chamber of Commerce.

William H. Davis, president of the Chamber, sums up the associations' attitude towards broadcasting, as follows:

"The only scheme of broadcasting which can prevail in any real sense is one in which the end to be attained

reconciles all conflicting elements, even to the submerging of private interests.

"A plan of regional organization has been adopted by the chamber. Broadcasting is receiving probably greater consideration than any other activity in the radio world today.

"The very nature of radio in the present phases suggests broadcasting. Until our wireless is brought to a point nearer to perfection than at present, radio will not be at its best in any form except in broadcasting. This is being internationally recognized. That there should be at this early stage of the art's development a considerable amount of conflict is natural.

"It is recognized, of course, that near the seacoast particularly, navy  
(Continued on page 95)

# Efficient Operation of Detector Tubes

## The First of Three Installments on Vacuum Tubes as Detectors, Voltage Amplifiers and Power Amplifiers

By **STERLING G. SEARS**

Radio Department, Stanley & Patterson

After about a year of general radio broadcasting, the men who have taken up this new sport are more or less familiar with the various types of radio apparatus in use. There is no doubt, however, that it will be some time to come before they know what each device does in operation and why one instrument works better than another. There are now a number of newspapers and periodicals undertaking the problem of educating these men and perhaps women too. Apparently they are progressing quite rapidly with their task. But, there seems to be one device that has escaped treatment quite effectively notwithstanding the fact that it is about the most important component of any good set. This device—popularly known as “lamp,” “bulb” or “tube”—is more accurately termed “vacuum tube.” Like other apparatus used in radio, there are several types and sizes, each for a little different purpose and each with peculiarities all its own.

The purpose of this series of three papers is to help further educate those who buy, sell or use vacuum tubes, along the various lines of their operation in an nearly a non-technical manner as possible. And since, to the radio man, the “detector” tube is the most important, and usually the most difficult to operate at its point of greatest efficiency, this first article will be devoted to detector tubes.

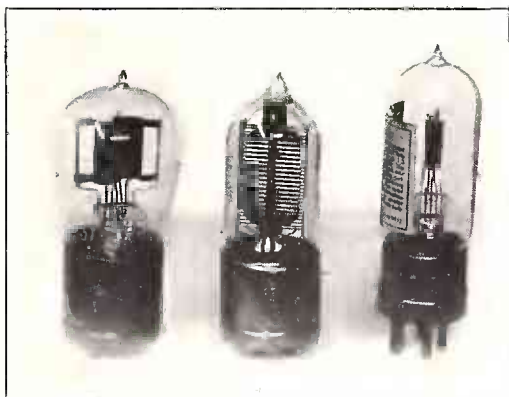
In the accompanying illustration three of the most commonly used detectors are shown, namely, the Radiotron UV-200, the Western Electric VT-1, and the Westinghouse WD-11. Each of these is a perfect detector when properly adjusted and each has quite different characteristics.

Taking them up one at a time, we will consider first the UV-200. This tube is known as a “soft” detector because it is evacuated only a little better than a good electric light bulb. A “hard” tube is one that is pumped out to a very much better vacuum and contains but an exceedingly small amount of gas or air. These are more difficult to make and of course are more expensive, but are not necessarily better as detectors than the cheaper ones. A low degree of evacu-



**STERLING G. SEARS**  
Stanley & Patterson

ation is very desirable for detection when properly used, just as a high degree of evacuation is desirable for amplification. Because of this “softness” a UV-200 makes a very efficient detector for both weak and strong signals, telegraph or telephone. On the other hand, this “softness” makes the tube more critical, and somewhat difficult to adjust to the point of maximum signal intensity and good stability. We find that, as a general rule the men who are receiving from great distances and getting exceptional re-



**GENERALLY USED DETECTORS**

At the Left Is Shown the Radiotron UV-200, in the Center the Western Electric VT-1, at the Right the Westinghouse WD-11

sults are using properly adjusted detectors of the “soft” type.

In the operation of these tubes, the filament current must be quite accurately adjusted, and being a tungsten filament it should be used at about bright yellow incandescence—requiring about nine-tenths (0.9) of an ampere for this condition. Some, however, work better at eight-tenths (0.8) of an ampere, some require a full ampere, and the proper setting can only be found by experimentation. In general, the filament should be slightly lower for distant signals than for local loud signals, and while the best point is dependent to some extent on the “B” battery or plate voltage, it can be determined after a little juggling of both.

The “B” battery should be adjusted to 1½ volts, which can be done with the ordinary tapped “B” battery. If a potentiometer is used still better accuracy will, of course, be obtained. These tubes are designed to operate at about 18 volts, and while the larger percentage of them do, some require 22½ volts, or even 28 volts. Beyond this point they will “blue-haze,” or show blue inside the bulb. This action will be explained later.

When once adjusted no further attention is necessary until either the “A” (filament) or “B” battery runs down. If accurately adjusted, these tubes make very fine detectors for both local and long distance reception, this latter, because they have a small amount of residual gas which makes them more responsive to weak signals than those of the “hard” type.

“Blue-haze,” as it is generally known, is caused by the residual gas in a bulb, and while all vacuum tubes may be made to blue-haze at some value of plate voltage (usually very high) “soft” tubes do so on relatively low voltages. This condition technically known as “ionization” is very harmful to any tube, rendering it valueless if allowed to continue any length of time. For this reason, it is important that the plate voltage be immediately reduced or the filament turned off, whenever a bulb gets a blue hazed appearance around the plate or between the plate and filament. Care should be taken never to

(Continued on page 118)

## Amateurs Must Stay on Own Wave Lengths

Complaint is still being made that the zealous Radio fan is on a rampage, despite the efforts of the great majority to keep this amateur enthusiast in due bounds.

Amateur broadcasting stations are very, very numerous and increasing daily, but too many—it is claimed—disregard the governmental regulations regarding their broadcasting wave lengths.

The many thousands now regularly patrons of the air are very often inconvenienced by the thoughtlessness or mischievousness of the few.

It is agreed that the amateurs have a right to the air—just like the professional broadcasting stations, but it is to be remembered that the big stations make possible the conveying of all sorts of lecturers, sporting events, music, lectures, etc., and the enthusiastic amateurs will have to bear up for the good of the majority.

Isn't it possible for the amateur societies—the radio fan clubs—to take care of this matter? Why should it be necessary to file complaints with air inspectors? Since when has the intelligent American boy become obsessed with any monopolistic air ideas?

We think the situation—to radio amusement—is not fraught with great danger. Most of us believe that when the American boys realize the condition they will remedy the interruptions to regulated programs. They will, themselves, take care of the offenders.

## Speed the Day of the Radio Specialist

There appear to be too many manufacturers of radio parts of all kinds—that is too many factories “make everything.”

Raymond Francis Yates, editor of the *New York Evening Mail Radio Review*, recently spoke on this matter, in this manner:

“The manufacturers of radio parts are in a mad rush these days. After the big storm blows over and things settle down a bit, the day of the spe-

## Co-operation Among Large Radio Manufacturers Will Develop More Broadcasting Stations

Radio broadcasting stations by general agreement are still serving the radio industry, properly and without disagreement among themselves.

A continuation of such arrangement will make for increased confidence in the part of the public for radio.

There is no disguising the fact that thousands of high-priced sets are *not* being bought right now because the potential buyer has no means of knowing absolutely that genuine broadcasting programs will be continued.

Radio dealers must assure the buyer of receiving sets, and the dealer in turn should have some assurances from the broadcasting stations.

That sounds like the proper manner, but it is patent that many of the present broadcasting stations are not being operated by radio apparatus manufacturers and so the dealer cannot exact any promises, nor can he buy apparatus conditional upon continued broadcasting.

Sensible tradesmen have reached the logical conclusion that each wave length will have its broadcasting very soon.

Air programs will become quite common. By this time next year there will be more than one thousand broadcasting stations. Every large city in the land will have at least one broadcasting station.

Where broadcasting is staple; where the programs are attractive—the radio industry is bound to increase.

Because of this fact it would appear as if the folks mainly interested at this time—the leading makers of apparatus, would combine to develop proper broadcasting stations and interesting programs.

It is not unfeasible. The biggest companies could call for a conference of manufacturers and could develop some means of taxing themselves to pay for broadcasting stations and programs for a period of, say, one year—to be renewed under certain conditions.

Most of the big fellows are spending considerable sums of money in divers ways, to put over their apparatus and yet appear to be neglecting their means and ways of popularizing themselves and at the same time helping the entire industry.

There are those who will argue that the larger companies in the radio field are already doing more than their share. Granted, but is that any reason why they shouldn't cooperate with the other fellows in the field and by mutual arrangement reduce their expense, per station, to increase the number of stations.

No danger lies in any of the so-called anti-trust laws, it is supposed, in the co-operation of broadcasting stations for the general public good.

Who will lead the way to more broadcasting stations?

cialists will arrive. Manufacturers, except the larger ones who have the necessary research facilities, will stop being jacks-of-all-trades so to speak. They will not manufacture every radio part that is used. We will have specialists in transformers, specialists in resistances, specialists in telephones, specialists in loud speakers,

specialists in condensers and all of the various devices and instruments. Then each manufacturer will be able to concentrate all efforts in developing and producing one good thing. Doing one thing well is a plenty. The trouble with many manufacturers of today is that they are trying to do too many things.”

## Publicity and Radio

Radio manufacturers all over the country are missing an opportunity that seldom comes to an industry—an opportunity to secure volumes of valuable publicity at practically no expense or without serious difficulty.

Daily newspapers all over the country are conducting radio columns because their readers want them and are hard put to secure reading matter to fill their columns. This is unique in the average newspaper office where several times as much matter as is printed is thrown away for lack of room.

Manufacturers of every other line flood the editorial rooms with publicity matter galore, carefully prepared articles on a wide variety of topics fill the mail of the editor of the automobile section, the pure food page, the household section, even the market and sporting editors get enough "publicity" to fill an issue.

With the radio editor, however, the reverse is true. Outside of half a dozen firms in this industry practically no effort has been made to secure real publicity. Only three firms in the industry are known to have organized publicity departments, while out of the daily grist of trade letters that come to THE RADIO DEALER only one or two are prepared so that they do not have to be rewritten and revised.

Newspapers are interested in knowing news of the industry, in receiving interesting pictures of new and novel items, etc. The average bit of radio publicity is filled with superlatives that cause the newspaper man to smile and throw the matter away because he cannot take the time to re-write it.

The radio manufacturers must take a lesson from the automobile and even the phonograph people and give more attention to the preparation of publicity for the daily press—publicity that will reach the people and give radio a real boost.

## Mistake to Broadcast Advertising

"At its new station atop the Walker Street telephone building, the American Telephone and Telegraph Company has the latest apparatus, and a plan for broadcasting advertising to all radio fans—of selling time to soaps, home builders, razor blades, cocoa, hair tonics, and politicians, at so much an hour."

This quoted paragraph appeared in the *New York Times*, in a radio news story, which it ran in a recent Sunday issue.

It is to be hoped that the *New York Times* is in error, for the time is not quite here for conserving the air for advertising. The one million set owners haven't paid out money for radio for the purpose of listening to reasons why this or that product should be purchased.

Air advertising, meaning the use of the air for advertising purposes will develop, but this is not the time and New York City is not the place for any experiment, and though the *Times* carried this item it is hardly likely that the air advertising plans are really consummated.

It is doubtful whether the Government will allocate any especial time for the use of broadcasting stations established to create a new style of publicity—at this time.

The radio industry itself, the makers of sets as well as parts, and the wholesalers as well as retailers are opposed to the use of the air for advertising purposes.

Possibly when every home has its radio set broadcasting will be handled in other fashion than at present but as most of the present air entertainment

is of the gratis type it hardly is fitting for any commercial proposition to interfere with the pleasure of millions of people.

Radio will suffer a severe set back if direct advertising is broadcasted. There is no need for the sale of air rights and it is a matter of regret, to most of those who realize that the radio art is in its infancy to learn that the commercial minds of the community are already prepared to take advantage of a condition developed for them—not by them.

It is unfair to the industry—to every person in radio today and unfair to the American public, which supports radio, to talk of employing any part of the day for air advertising.

The Government can have no legal or moral right to permit the monopolistic use of the air for direct advertising.

The establishment of air concessions, for the sale of advertising, will—at its start—develop the natural resentment of the listeners—in; then will come opposition from many public sources and the broadcasting stations, themselves can expect interference from the thousands of amateurs who are licensed to send messages.

Trouble is bound to develop, not only for the broadcasting station but for the trade itself.

If the men who entertain the hope of broadcasting general advertising are in any manner justified in their ambition; if their desire is based upon service; if they have logical reasons to advance for desiring to monopolize the air—why don't they tell us about it?

## Sixteen Million Need Radio

Eight million homes in the United States are said to be wired now for electricity.

Six million homes are not now wired.

Keep these figures in mind in thinking of the future of radio as a business.

Everyone of the eight million should have a radio receiving set.

The same fact applies to the other six million homes. Opportunity knocks!

# Conditions in Radio Security Market

## Many Now Are Selling at High Prices and the Outlook Is Described as Bright

By FRANK T. STANTON

The great enthusiasm created by the successful broadcasting of World Series reports leaves no doubt as to the utility and popularity of radio. Prior to this event, the leading radio concerns, such as Radio Corporation of America, De Forest Radio, etc., instituted country-wide advertising campaigns, to stimulate buying of equipment for receiving these reports. I learn that results have more than exceeded the greatest expectations. In addition, the extensive radio exhibitions planned in the principal cities of the country, as witness the recent event at Chicago, are bound to develop increased buying power, which with the Christmas period ahead, should result in a revival of the radio boom. The industry was never in a stronger position nor faced with such promising prospects, as today.

Shares representing companies interested in radio, telephone and telegraph have been in great demand owing to the encouraging outlook ahead for the respective industries. Many stocks have made new high records and a continuation of the advance is confidently expected. Radio common, in reflection of increased buying of equipment and traffic over its international communication circuits, was particularly strong and active, touching  $4\frac{7}{8}$ . The preferred stock held firm around  $3\frac{1}{4}$ . General Electric reached  $188\frac{1}{2}$ , a new high, apparently discounting in part the strong physical and financial condition of the company and the great profits being derived from its electrical and radio activities. Other stocks shared correspondingly in the upward movement.

Latest developments of the leading securities in the radio, telephone and telegraph divisions are outlined below:

**RADIO CORPORATION:** Through negotiations just completed the United States, through the Radio Corporation of America, becomes the clearing house of radio communication—a vast system of international wireless plants which is fast becoming the big and controlling feature of commercial communication.

Through an alliance, the receiving

station of the corporation at 68 Broad street, Manhattan, becomes the central control station of the radio traffic handled by the world's five largest wireless stations, capable of handling thousands of words an hour within a radius which encompasses the principal parts of the world. The big transoceanic station at Rocky Point, L. I.; the Carnarvon (Wales) station of Great Britain, France's powerful station at Ste. Assis, near Paris; the famous German POZ at Nauen and the new Argentine station at Monte Grande, near Buenos Aires, now nearing completion at a cost of \$16,000,000, the largest and most powerful radio station in the world, are the stations now centrally controlled by the American firm.

The combined companies represent an investment of \$170,000,000. In order to effectively operate the combined units, the Radio Corporation purchased a \$1,000,000 building in the New York financial district, which will be known as the "Radio House." The building is in the centre of the financial and commercial district and close to the principal cable and telegraph forwarding offices and particularly near the Postal Telegraph Company's office, with which the Radio Corporation has recently entered into a traffic agreement whereby the Postal company collects and distributes trans-Atlantic radiograms from and to all points in the United States.

Radio has reached a far more advanced stage in public service than is ordinarily supposed. For example, at the present time radio companies are handling 24 per cent. of the trans-Atlantic telegraph business. Under the arrangement outlined above increased efficiency and economy of administration will double this figure within a brief period.

As the representative radio organization, Radio Corporation stock issues look particularly attractive.

**GENERAL ELECTRIC:** As previously mentioned, General Electric sold up to a new high. The company received orders for the three months ended September 30, 1922, of \$58,914,620, as compared with \$41-

608,332 for the same quarter in 1921. This represents an increase of 42 per cent. For the first nine months of the year, orders have totaled \$176,171,194, as compared with \$135,256,462 in 1921, an increase of 30 per cent. General Electric is one of the world's largest manufacturers of electrical machinery and appliances, incandescent lamps and radio equipment. Organized in 1892, the company's history has been one of consistent growth and expansion. Considering its fundamental strength, established earning power, remarkable dividend record and assured future of the industry it represents, the stock meets the requirements of the most discriminating investor or trader. Current dividend rate is \$8 cash and 5 per cent. in 6 per cent. cum. special stock, annually.

**ENGLISH MARCONI:** The company proposes to raise additional funds by creating £3,000,000 short term convertible debenture stock of which £1,500,000 is to be issued at once and remainder when required. Proposals involve extension of borrowing powers and an increase in ordinary capital to provide for conversion rights. A special meeting has been called to pass resolutions, one of which provides for increasing capital to £4,000,000 by creating 1,000,000 ordinary shares at one pound each. Apparently the company does not deem it advisable to wait until final settlement of its large claim against the British Government, but intends to carry out at once its ambitious plans for expansion. The management realizes that the industry is firmly established and possesses extraordinary possibilities and by taking advantage of present opportunities will be able to maintain its dominant position in the industry. In this connection, the company plans the erection of high-powered wireless stations in Australia, Africa and Spain and has under consideration a program, which when completed will double present earning power. Increase in capitalization should very likely result in valuable rights to stockholders as well as create further heavy buying of the shares.

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# Trade Marks for Trade Associations

Every Association Should Have a Distinguishing Insignia Which Should Be Frequently Used

By CHAUNCEY P. CARTER

Trade Mark Specialist

Notwithstanding the activities of the Department of Justice and the Federal Trade Commission against associations of competitive units in the trade field, the number and strength of such associations is steadily increasing under the friendly counsel and patronage of the business man's department in the Government, the Department of Commerce.

One of the latest to enter the field is an association of slate producers who have just announced a contest for a slogan and trade-mark or insignia for their association.

Every association should have a distinctive emblem or insignia that should not only be used in its advertisements, letterhead, booklets, etc., but should also be used by the members on their letterhead, advertisements, etc., and on the articles or packages.

After an emblem has been chosen by an association as a result of a contest or otherwise, the officers of the association usually set out at once to secure protection for the same. How protection may be properly secured cannot be decided, however, until it has been decided how the mark is to be used.

Until a mark has been actually applied to shipments of goods in commerce, i.e., either directly to the goods themselves or to the packages containing the goods, it cannot be held to be a trade-mark, since a trade-mark is a sign which distinguishes the goods of one factory or association of factories or traders from those of another factory or association of factories or traders. If the mark is to be used by members of the association in connection with the goods themselves, i.e., applied to the goods or the packages for the purpose of distinguishing the products of members of the association from similar products of others, it is best to treat the mark at once from that standpoint, make some marked shipments as early as possible and register the mark whenever possible as a trade-mark in the name of the association.

Strange to say, while the United States is probably the foremost nation in the matter of the organization

and maintenance of trade associations, it is one of the most backward in the matter of providing facilities for the registration of trade-marks of such associations. It is now eleven years since the United States adhered to an International Convention under which it is bound to provide registration facilities for collective or association trade-marks of associations domiciled in any of the other nations that have adhered to this convention, and yet not only have such facilities not been provided but we have not even as yet provided for the registration of marks belonging to our own trade associations. Hence, trade associations, the emblems of which are used by members as trade-marks, must rely on the common law for protection of such use until Congress provides facilities for statutory registration of such marks.

Where the mark is only to be used on letterheads, in advertisements, etc.,

and is not to be applied to the goods or the packages, it is usual to invoke the copyright law for protection, but in such cases the mark must of itself have literary or artistic merit or else registration will be refused and protection denied.

Some copyrights are registrable only in the Library of Congress, i.e., those that relate to the finer arts, while other copyrights, namely, those covering subject-matter that is used or to be used in connection with articles of manufacture, are registrable in the Patent Office as "prints" or as "labels," depending upon their use.

Emblems that are neither copyrightable or subject to trade-mark registration may still be registered in the Patent Office as mere "emblems," and such registrations will operate to prevent the registration of the same or devices by others as trade-marks for any articles whatsoever.

## Business Static Slowly But Surely Being Eliminated

By C. E. GODLEY

Business conditions in the radio field today may be likened in a general way to the difference between the rank radio amateur and the professional man.

The new amateur gets a sudden inspiration, that if another man can make a set which will do all that can be expected he can too. With the result that he goes ahead and buys a great many parts makes an effort to duplicate the instrument of the professional, making a complete failure of the whole thing and then blames the failure on the impracticability of radio, static, improper diagrams by the expert, or a thousand other reasons, any one of which is preposterous. He has completely overlooked the fact that by vocation he is perhaps a blacksmith, a bookkeeper or ribbon clerk, and that if he had spent the amount of money and time in the interest of his own vocation, or an instrument made by an

expert he would be 100 per cent. better off, and have been money in pocket.

This sort of man has learned a sore lesson but is not willing to admit it, so he claims radio is not practicable and will sell his parts and equipment for anything he can get.

Finally he does sell them to some one else. This second buyer is a man with some experience in radio. He takes the same instruments and tries to construct them into an efficient set and when he has completed it, he finds they have been so badly mutilated by the inexperienced man that they are useless.

Now man number two has learned a lesson he too is a loser, but unlike the first man he does not "holler" or welch. He knows the results are due only to inferior materials, so he goes right ahead and gets the proper ma-

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# Learn Costs Before Fixing Selling Price

## Importance of First Accurately Determining Factory Costs Is Impressed on Manufacturers

By HENRY L. SEIDMAN  
Certified Public Accountant

I submit the simple proposition that a man cannot fix a selling price unless he first knows his costs. So elementary is this proposition that to dwell much on it is to insult the intelligence of the readers; and yet the principle most ignored is that same, simple one just stated.

In a new industry, such as the radio field is today, when manufacturers and dealers are blindly and hesitatingly groping in the dark, feeling out before them like so many lost souls, to know how to arrive at one's costs, and to know what they consist of and how much, is to tear away the cloud that darkens, to bring a searchlight to bear, so that one can see clearly and distinctly.

How many men really know their costs and how to arrive at them? The majority of those whom I have met did not; and those who did were invariably the successful ones. Each man seems to have his own way of figuring his costs, and yet the operations may be reduced to a few simple rules.

Usually, when I get this far in a discussion my client will invariably raise the objection that "knowing your costs does not avail where the prices of my commodities are fixed by competition; why, if they know their costs do my competitors set so low a selling price, sometimes far below my cost of manufacture?"

There are two replies that I make in answer to such an argument: First, that some of his competitors are able to set a lower price than he because they know from their cost systems just what it costs to manufacture the article, just what elements of cost enter into it, and knowing these, they can, by closely watching the tabulated reports they get, quickly determine which of these elements are too costly, and consequently where the leaks are. Then, stopping these leaks is only a matter of time and energetic watchfulness. Secondly, there are men in every field who care not a rap about costs, and the bankruptcy courts are their inevitable end.

These latter men are being fast weeded out; competition must become more legitimate, and when that time arrives the most welcome competitors



HENRY L. SEIDMAN  
Certified Public Accountant

are those who know the cost of the articles they sell. Of these men no competitor need be afraid; for them the competition is not one of price, but of quality and service of product.

To lay down rules for arriving at

costs for everyone to follow is impossible. No two manufacturers have the same conditions, equipment, purchasing or manufacturing ability, to start with. Secondly, the financial ability to buy in large quantities is of great importance. The writer, therefore, can but make suggestions which seem to him to be of importance to all dealers, and if he can but set them thinking about the matter of costs he feels that some good will have been accomplished.

The cost of an article must of necessity include all of these elements:

Material.  
Labor.  
Manufacturing overhead.  
Commercial expenses, consisting of:

- (a) Receiving and shipping.
- (b) Selling.
- (c) Administrative.
- (d) Cost of financing business.

Our discussion is simple where a manufacturer makes or deals with only one article. But it becomes more complex and involved where he manufactures or deals with a number of articles, all different in shape or materials. The first man can readily follow a discussion involving the latter.

## Asks Injunction

### Omaha Man Sues Radio Corporation, General Electric and Others

A charge that the Radio Corporation of America, the General Electric Company and others have entered a conspiracy to obtain a monopoly of wireless service and prevent individual use of the radio is made in a suit filed in the United States District Court at Omaha, recently by John O. Yeiser, Jr. of Omaha, who asks an injunction to restrain the defendants from interfering with his right to broadcast.

Mr. Yeiser alleges that "there are 25,000 wave lengths that may be used in transmitting distinct non-interfering radio service, and yet the said defendants, by conspiring with unknown underlings in the department of the Government assuming to exercise authority over the radio service, have

crowded all broadcasting stations sending music, lectures and educational matters to waves of 360 meters."

The Radio Corporation, General Electric Company, the American Telephone and Telegraph Company, the Northwestern Bell Telephone Company and the Westinghouse Electric and Manufacturing Company and other persons and corporations unknown to Mr. Yeiser, he avers, "intend to erect distinct sending stations and commercialize the same by charges for broadcasting."

He alleges that the first amendment to the Constitution, which says, "Congress shall make no law abridging the freedom of speech or of the press," is being thereby violated. A jury to determine damages, which he alleges to be \$25,000, is requested, with treble damages under the Sherman anti-trust law and an attorney's fee of \$25,000.

# Possibilities of Work for Association

## Radio Trade Association Has Vast Possibilities for Improving Conditions in the Radio Industry

By L. A. NIXON

The Radio Trade Association has great possibilities for bettering conditions in the industry, according to reports recently made to that body covering some of the work outlined for the association.

At a recent mail vote of the membership of the association it was decided that dues of one dollar be assessed to cover the cost of operation of the association until early in January when the first national meeting will be held. Special membership certificates have been secured for the membership and new members are daily being added to the rolls.

Announcement of the officers of the association recently elected by the body in a mail vote will be made in THE RADIO DEALER WEEKLY, possibly before this article is in print. Early reports on the balloting show that the officers of the association will include some of the representative firms in the industry, jobbers, retailers and manufacturers from every section of the country comprising those now leading in the balloting.

One of the most interesting reports given the association was that covering the possibilities of the establishment of some definite standards for equipment with the possible granting of the association trade mark to the manufacturers whose apparatus passes certain standards. The report follows:

### REPORT ON STANDARDS

The Radio Trade Association, being as it is, the largest organization in the trade, can be of great benefit to the industry at large if it will endeavor to show the buying public where and what to buy.

Radio has acquired considerable of a black eye due to the mass of cheaply made apparatus thrown on the market during the slump last summer and it is felt that some measures are required to restore confidence and remove the stain.

A large percentage of the apparatus on the market today is of superior worth and the makers prove their confidence in their goods by guaranteeing it to give service and to be up to a certain definite standard.

It has been suggested that the committee on standards pass on apparatus made by manufacturers who are members of this association, issue specifications for the apparatus and in cases of merit, permit the use of the association trade mark on the goods in question.

Due to the great mass of the work to be done by this committee were this work undertaken, the proposal has been made

that a testing company of established merit be called upon as aid. The plan today calls for submission of the apparatus to certain testing laboratories that are approved by the committee, the report of the laboratory to be made up in a form to be designed by the committee.

When the manufacturer receives his report if he so desires this report may be submitted to the committee for approval. From the report the committees will make up the specification sheet covering the apparatus which will be furnished every member of the association, and, if the article is considered of merit, a permit to use the association trade mark will be granted.

The manufacturer would be called upon to furnish to the committee a guarantee covering the apparatus reported on, which guarantee will be incorporated on literature accompanying the goods or otherwise displayed so that the buyer may know that the maker stands back of the goods.

Any case of failure on the part of the manufacturer to live up to the guarantee or to maintain the standards for the apparatus as set forth in the specifications, upon due proof, will result in the loss of the license to use the association mark, and expulsion from the association at the discretion of the board of directors.

Positively no publicity shall be given to the refusal to grant any permits by this committee, nor is the manufacturer required to submit any report made by a testing laboratory to the committee, the application being subject to withdrawal at any time.

Several testing laboratories which have been approached in regard to this proposition state their willingness to make special rates for association tests if a sufficient volume of business can be promised them. The specifications for each piece of equipment, if desired by the manufacturers, may be printed on loose leaf sheets, and mailed to the membership of the association at actual cost to the manufacturer.

It is expected that a number of manufacturers will avail themselves of this opportunity and that retailers and jobbers will preserve the specification sheets for daily reference. The printing of the specification sheets will be entirely optional with the manufacturer, though the committee will be required to report to the association membership at regular intervals announcing the parts and sets passed upon favorably by them.

This plan has the merit of adding reliable manufacturers not only with the public through the advertising benefit of the use of the trade mark, but through the trade because of the publication and benefit it will be to have on file complete technical details as to the products of manufacturer-members.

It has been felt that this committee can be of great value to manufacturers, after a time, through furnishing them with reports as to the various size screw parts in general use, etc., with the end in view of establishing definite standards that will help keep production and handling costs at a minimum.—J. R. H.

Another point where the association can be of great value is in the matter of credits. One of the drawbacks to doing business in this industry today is the difficulty with which credit lines are drawn and the inability of many jobbers and manufacturers to secure proper information about firms that they wish to do business with.

As the report, which follows, points out, this is a difficult problem for any association and one that possibly might better be delayed for a time, the association can be of great value to its members in this way, better credits resulting from closer study and better knowledge among the trade, one of another.

The report says:

### REPORT IN REGARD TO CREDITS AND CREDIT RATINGS

The matter of credits and the furnishing of credit ratings has been carefully considered for the Radio Trade Association and the conclusion seems that for the association to undertake the business of furnishing credit reports on members would be little short of folly at this time.

In some of the smaller national associations of manufacturers in other lines it has been advantageous to furnish members with a more or less accurate credit service, but due to the necessity for members of the trade being on the committee that would have access to credit records it has been thought unfair for one member to be asked to give out intimate facts about his business for fellow members who might be competitors.—R. C. H.

It has been suggested that while there is no national organization of broadcasters there are already several well established associations of firms conducting broadcasting stations covering various sections of the country. There is no doubt that a common meeting place for these associations will result in closer co-operation and better results for the industry as a whole. It seems the opinion of a number of members that broadcasting stations be invited to membership in the association. The importance of the broadcasting station cannot be overestimated at this time, as only as long as the stations maintain a high standard of excellence does public interest grow and continue. A series of poor programmes will do more to injure radio interest in one section than static or continued electric storms or

(Continued on page 116)

# Aggressive Publicity Aids Dealer in Selling

## Window Displays and Co-operation of Manufacturer Are Ways to Help Radio Sales

By JOHN R. HALL

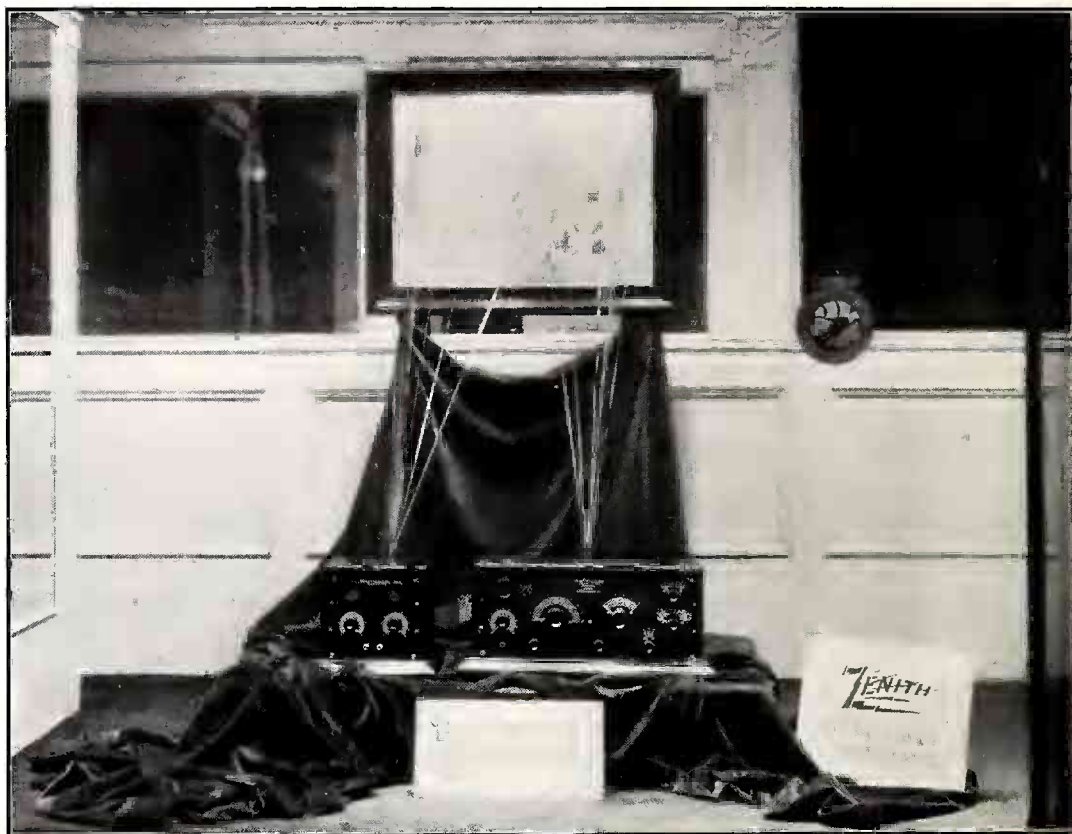
Radio dealers are learning fast that the business of handling radio sets requires salesmanship just as in any other business. The day when radio was expected to sell itself is past. In spite of all the publicity radio is getting, in spite of the peculiar advantages that free broadcasting offer to the dealer, in spite of the attraction of radio itself, the ultimate question which one asks to find out whether or not a radio dealer is a success is, "Does he know how to sell? Does he take advantage of the advertising possibilities of radio?"

It is true that radio dealers the country over are now awake to the need of setting forth the merits of the wares they sell. In radio this amounts to an explanation of the uses of each piece of equipment as well as the setting forth of the reasons why one brand of equipment is superior to others.

In this manufacturers are also beginning to help. The Connecticut Instrument Co., Inc., of Stamford, for instance, has grasped the principle of publicity helping to clinch sales. How better can you clinch a sale than by putting arguments in verbal form on the very goods themselves? The accompanying illustration shows the

Should the diaphragm of a headset be metallic or non-metallic? This is admittedly an important question in

diaphragm is preferable because:  
"1. It suppresses the free periods which cause the sudden blasts



Zenith Window Display made by the Cable Company at Chicago



Connecticut Instrument Company Box Cover use to which the Connecticut Instrument Co. is putting the boxes enclosing their headsets. Artistically printed, the cover lists the strongest selling points of the C. I. C. headset.

the purchase of a headset. The cover of the Connecticut headset box proceeds to answer that a non-metallic

and overloading on certain notes.  
"2. It counteracts the transmits or  
(Continued on page 125)

# King Symbol Used by King Sewing Machine Company

By B. J. FARRELL

The radio apparatus division of the King Sewing Machine Company of Buffalo, N. Y., was established in May of this year, under the direct supervision of Edward H. Striegel, who is recognized as a real radio engineer, with sixteen years of commercial radio experience as a guide and guarantee.

King Quality is the symbol of their radio product. The symbol of King Quality for years, has been the standard of their manufacture in small and accurate parts for sewing machines and other products. This standard

of quality together with large production facilities, underlies the King Quality radio apparatus, which really means that only the best is good enough to bear the King Quality symbol.

King radio apparatus is designed by King radio engineers, who are thoroughly skilled in the design of radio apparatus of highest merit. The important factors of accuracy, ruggedness, exclusive design, efficiency, quality and appearance, all blend in construction to bring about the basis  
(Continued on page 84)

# The DeLuxe U. S. Navy Type Radio Receiver

List \$595.00

FOR IMMEDIATE DELIVERY



Best of its type—must not be confused with instruments selling for from \$200 to \$300. Highly selective. Will pick up messages, music, lectures, etc., that lower priced instruments will not hear. This receiver is equipped with binding posts which are normally short circuited for 300 to 6800 meters by which wave lengths up to 23,000 meters may be received by the attachment of loading coils. Capacities of proper loading coils for above are: Primary 50; Secondary 50; Tickler 30 millihenries. While the receiver is provided with a "standby" or untuned circuit, it also has an unusual degree of selectivity. Although primarily designed for the more advanced fields of Radio work, or the laboratory, the simplicity of arrangement and beauty of finish make it unusually desirable for the radio club or for the individual who desires the finest equipment obtainable for his home or office. In the receiver, Bakelite tubes, threaded, provide the forms on which inductance coils of high frequency cable are bank-wound. After assembling, the coils are impregnated with an insulating compound, in vacuum, and thoroughly baked. The inductance switch controls a mechanism whereby the different sections may be connected, completely disconnected and opened, or completely disconnected and individually short circuited. This arrangement is important for, by it, each coil has a natural period when connected which is less than the shortest wave length in the receiver's range. The reception of parasitic signals is overcome, the absorption of desired signals by the coils is minimized, more energy is forced to the detector and on all wave lengths the interference is reduced.

**CHARLES R. ABLETT CO.**

199 Fulton St., NEW YORK CITY

## We present to the Radio public a new Triple Coil Calibrated Mounting

There is nothing more fascinating than the reception of Radio messages from high power stations located thousands of miles away. These stations use wave lengths between 1,000 and 25,000 meters. This is far above the receiving range of the average receiver designed for amateur broadcast reception.



This "Crown" Mounting has the following special features:

1. Made of Thermoplas, a high grade insulating material; it possesses the advantage over rubber of resisting heat to a far greater degree. It has high dielectric and mechanical strengths, is non-hygroscopic, is unaffected by atmospheric agents and will not deteriorate with age.

2. Special Locking Device to keep the coil in place, thus preventing it from being thrown out of adjustment.

3. Special Adjustable Bearing feature.

4. Special constructed Bushing, preventing wear on top and bottom plates.



Licensed under DeForest U. S. Patent, No. 1,365,170

5. Special constructed Calibrated Dial, showing the stations tuned.

6. Positive Connections on rear of blocks.

7. Complete with Flexible Leads.

8. All Metal Parts of brass and highly nickel plated. Its high polish and fine finish give it a very attractive appearance.

9. The simplest Mounting to install on your set.

List Price

- Triple Coil Mounting . . . \$5.00
- Double Coil Mounting . . . 3.50
- Single Coil Mounting . . . .50
- Telephone Plugs . . . . . 1.00
- Telephone Jacks . . 65c, 80c, 95c
- Dials 2", 3", 3 1/2" . . . 35c, 50c, 75c

DISTRIBUTORS WANTED WRITE FOR OUR PROPOSITION AT ONCE

**CROWN RADIO MFG. CORPORATION**

78 FIFTH AVENUE

NEW YORK

THIS WILL BE A RADIO CHRISTMAS!

WE ARE NOW IN A POSITION TO SHIP YOUR

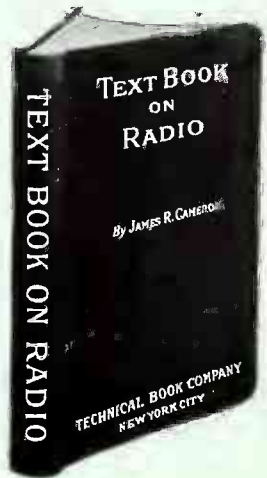
# Text Book on Radio

By JAMES R. CAMERON

A book that covers the subject of Radio from A to Z. Written in such a manner that it is easily understood.

350 Pages, over 200 Illustrations. Cloth, \$2.50, Flexo Leatho, \$3.00. Sold on a Money Back Basis.

HERE ARE A FEW OF THE PUBLICATIONS THAT WE ARE USING IN OUR EFFORT TO HELP YOU RE-SELL



## TECHNICAL BOOK COMPANY, 130 W.

N. B.—Just as THE RADIO DEALER goes to press we learn that within the York City (name on request) six copies of THE TEXT BOOK ON RADIO the original order was

THIS WILL BE A RADIO CHRISTMAS!

# ORDER THE SAME DAY WE RECEIVE IT



Behind the rapid selling of this remarkable text-book stands our program of continuous advertising. We not only sell to you, but help you re-sell.

*The Discounts we now offer Jobbers and Dealers warrant immediate purchase. They could not be larger.*

We will be glad to offer any merchandising ideas and suggestions that you request. With aggressive methods, you can put the "TEXT BOOK ON RADIO" over big in a comparatively short time.

WRITE US FOR SAMPLE COPY WITH OUR DEALERS DISCOUNT SHEET. BOTH WILL GREATLY INTEREST YOU.

## 42nd Street, New York City, Dept. F.

first hour of its being on sale in one of the most exclusive shops in New Flexo-Leatho Edition) were sold, and a repeat order more than doubling received from this concern.

THIS WILL BE A RADIO CHRISTMAS!

Temporarily Inconvenienced By

**FIRE!**

Lest  
You  
Forget :--  
**ACE**  
**WIRELESS**  
**BATTERIES**  
ARE  
COMING BACK

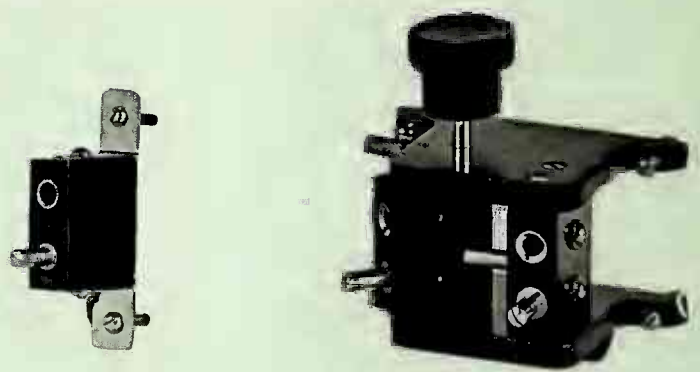
Factory destroyed by fire on Sept. 24th but CPC prestige, spirit, and battery-manufacturing knowledge remains imperished. We regret that this unavoidable incident should react to your own inconvenience but remember we will soon be back on the job with a still better line of batteries and carbon products.

Our new factory is now being equipped with greater facilities and improved machinery.

WE EARNESTLY INVITE ORDERS FOR FUTURE DELIVERY AT THE EARLIEST POSSIBLE MOMENT.

**THE CARBON PRODUCTS CO., LANCASTER OHIO**

**Adjustable Coil Mountings for Armstrong's Super-Regenerative Circuit**



Single and Double Coil mountings adapted for use with the new Armstrong super-regenerative circuits. These mountings are adjustable. Made of genuine Formica, with high polish and fine finish. All metal parts heavily nickel plated. Not a moulded affair.

The Unbreakable Dial

- Triple Coil Mounting, List Price.....\$5.00
- Two Coil Mounting, List Price..... 3.50
- Single Coil Mounting, List Price..... .55
- 3" UNBREAKABLE Dial, List Price..... .70
- 3½" UNBREAKABLE Dial, List Price.... .90
- Amco Radio Plug, List Price..... 1.00

Our production is large and your orders will receive immediate attention.

Jobbers write for special discount



The New Triple Coil Mounting with the following features:

- 1—A patented feature; locks the coil in place. This prevents the coil from being thrown out of adjustment once the station is tuned in.
  - 2—The simplest mounting to install on your set. No rear mounting. Mounts on front of panel.
  - 3—The tension on specially constructed bearings is adjustable.
  - 4—Constructed of the highest grade of insulation material.
- Its high polish and fine finish give it a very attractive appearance. All metal parts heavily nickel plated. Not a moulded affair.

**ASTORLOID MFG. CO., INC.**

**416 Marcy Ave., Brooklyn**

THIS WILL BE A RADIO CHRISTMAS!



# Exposing Frauds and Fakirs in Radio Industry

## Some of the Schemers in Radio Industry Have Been Exposed and Ejected and Some of the Other Smug Sure-thing Folks Are On the Way Out

By HARRY M. KONWISER

Investigation into the recent mercantile failures in and about New York in the radio industry, clearly indicates that the business which found their way into the bankruptcy courts—their total is not very large—failed to score financial success because of certain conditions, none of which in the slightest degree, can be attributed to radio itself or to the industry.

The major cause of failures were caused by insufficient capital, together with impracticable business operations. There appeared to be a lack of managerial ability together with the mistake of starting in business improperly financed.

A few of the recent failures developed from the lack of interest displayed by the public in the buying of neatly printed radio stock certificates. Not every "promoter" made enough to pay for any of his labors. One outstanding failure, in the radio promotion field, a million-dollar capitalization, hasn't sold enough stock to pay the president's salary, nor the rental and other necessary incidental expenses that are required in every business.

Another stock company, after six months of strenuous effort, in and about Greater New York, has sold just eighteen hundred dollars' worth of shares in their half-million dollar stock corporation.

Proving, merely that the way of the radio stock promoter is not one of roses—at this time, thanks to the timely warnings sent out by a number of public-spirited folks.

Incidentally, not every newspaper in the country, so-called trade papers included, have been over careful in not soliciting advertising from companies apparently organized to make and sell radio apparatus—but really organized to sell stock certificates at prices that are ridiculous. THE RADIO DEALER points with pride to its clean advertising columns. Stock promotions, no matter how large, are barred from the advertising portions of this paper.

Referring to stock promotions, it may interest our readers to learn that of the recent promotions developed in this manner:

A concern, with small capital, was operating in a small manner. Mr. Promoter came along and offered the small concern ten thousand dollars in cash and forty thousand dollars in certificates in a new corporation to be started. Agreed.

The small concern had accounts payable to the total of almost ten thousand and the partners paid their bills and turned over their lease to the newer company.

Mr. Promoter now came along to the new company—capitalized at a million—and proposed to sell some of their stock, to the total of not more than \$500,000, agreeing to give the company 20 per cent. of the amount received from the sale of such stock.

This promoter sold stock to the total of about \$150,000 and turned over \$30,000 to the new million-dollar company.

Something happened right about this time. Unfortunately THE RADIO DEALER cannot go into further details, but it might be stated that the company itself is behind in its rental, does not meet past due bills of small size, has only an office boy in sight and really is close to bankruptcy.

Creditors who have recently made an effort to collect their accounts do not deem it worth the while to place the concern in bankruptcy, first because their assets are nil and their closing up but a matter of days.

There have been in the radio industry, as in other lines, dishonest newcomers who have opened stores or offices, posed as retailers or jobbers, bought goods for which they have paid; then, having purchased merchandise in greater proportion, have skipped.

There have appeared in the radio industry, men who have posed as manufacturers of radio parts and apparatus generally who are no more manufacturers than is Hearst president of these United States. They have taken orders at extremely low prices and in some cases, and having taken cash deposits or five or ten per cent., have forgotten their customers! THE RADIO DEALER has reports on some of these gippy gentlemen.

One or two smart frauds, posing as manufacturers, have sold wares "as per sample." Then they have offered the customer a special five per cent. off for cash *upon delivery*. The customer, agreeing, he, in a little while, receives a C. O. D. shipment. When he opens the package the gentlemen who acquired a special five per cent. learns he has been stung—for the wares are of inferior quality, and hardly up to sample.

"Try to get your money back; the postal laws don't permit this sort of stealing." That's the advice a New York City lawyer tendered his client, who had been stung in the manner above narrated, by a New England "factory."

The legal gentlemen are familiar with the story about the man in jail, assured by his attorney that the laws do not permit a man to be jailed for the act alleged to have been committed by the man in jail. "But I'm in jail," cries the man in jail. So it is with the victim in the poor shipment case.

Of the legitimate mercantile failures a few are traceable in this manner:

Retailers have failed because they have acquired poor stocks and have made purchases out of line with their requirements.

One retailer in the suburbs of a manufacturing city, in a section inhabited by workers in a tannery and dye works, made a mistake by buying fifty tube sets. He could have sold one hundred crystal sets.

Several New York retailer-jobbers failed because their purchases of poor apparatus lost them the patronage of fan as well as retailer who, having made one purchase, never returned.

In the manufacturing field the failures have developed almost entirely from a lack of knowledge of radio.

There are today men in the manufacturing line who know very, very little about the industry. Their engineers are not capable. Their factories are not properly equipped. These men must learn and the first lesson they will learn and the real men in the trade will not buy hastily prepared, indifferently gotten

(Continued on page 107)

# New De Forest Set

## Two-Circuit Tuner, Three-Stage Radio, Frequency Amplification and Other Features Announced

After many weeks of silence regarding their much-rumored new receiving set, the De Forest Radio Tel. & Tel. Co. has at last released photographs and the details regarding this new apparatus.

In a cabinet measuring 10" x 10" x 8" the De Forest engineers have embodied a two-circuit tuner, three stages of radio frequency amplification, detector and two stages of audio frequency amplification. Due to a recently patented circuit to which De Forest has sole rights for manufacture, only three tubes are necessary to give the results usually necessitating six tubes.

Provision is made for the use either of a loop aerial or of an outside aerial and ground. The base of the loop is a phone plug which is inserted, through a hole in the cover of the set, into a two-circuit jack beneath. When the loop is withdrawn and the outside aerial is in use, the condenser is connected across the secondary of the vario-coupler; when the loop is inserted, the condenser is across the loop and vario-coupler is automatically disconnected.

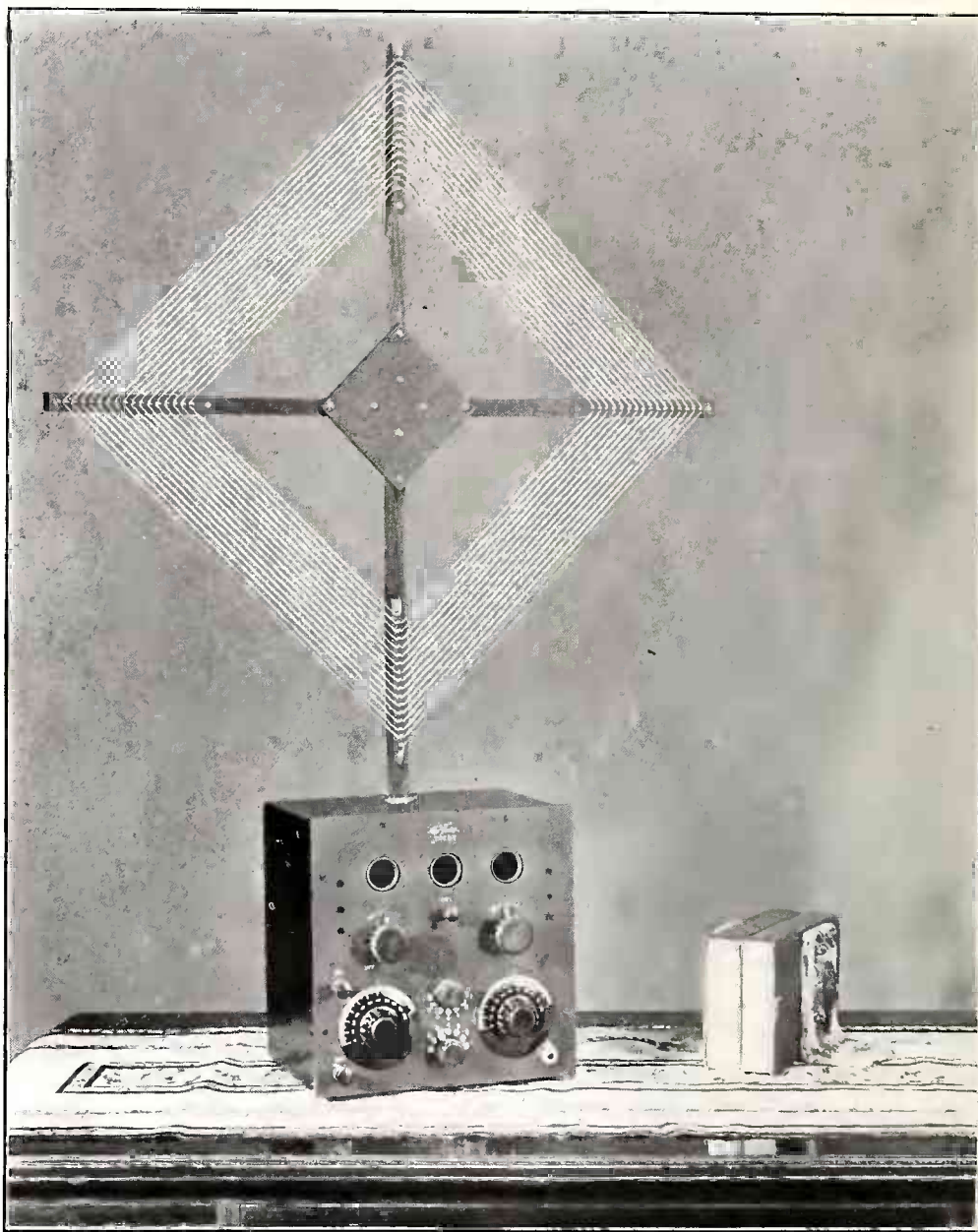
Another innovation is the long-sought-for jar-proof crystal detector. Tests proved conclusively that, with the circuit in use, a galena detector was vastly superior, but the type in general use up until now was too easily knocked out of adjustment. The detector incorporated in D-7, which is the name of this set, can be dropped and jarred almost without limit yet it is adjustable.

Connection, with the exception of aerial and ground, are made to binding posts mounted on a shelf about midway of the panel vertically, and inside, the wires to batteries being brought out through eyeletted holes in the rear of the cabinet. The set is extremely simply to operate as there are no ticklers or variometers to adjust. With the loop in use, all tuning is done with the condenser. Filaments are all controlled with but a single rheostat and once this and the potentiometer are adjusted, the ultimate in tuning is available—a single knob.

The results of tests with several sets may be summed up as follows: In the heart of New York City's power lines and steel buildings, using a two-foot loop, nearby stations, such as WBAY, WJZ, WEAJ and WOR

may be put directly into any type loud speaker; Springfield and Schenectady

dom from tube noises and distortion is wonderful," said Mr. Gilbert. "There is none of the hissing, howling or complexity of operation of a regenerative set. All I have to do is point the loop, set the condenser at 50 and turn on filaments. This set brings radio reception down to an absolute certainty." The whole De Forest organization is justly enthusiastic



De Forest Three-Tube Reflex Set

can also be put on the loud-speaker but not in the tremendous volume of the others; Atlanta, Louisville and Chicago are heard clearly in the head receivers. With outside aerial all results are increased 30%. The D-7 is designed to use six volts on the filaments and sixty seven volts on the plates. Phones or loud-speaker are, as usual, plugged into a jack. Appearance was not overlooked in designing this set. The panel is of engraved bakelite-dilecto and cabinet is of mahogany with hinged cover.

Charles Gilbert, president of the De Forest Company, is enthusiastic on the subject of the new set. "The free-

over this new baby and is satisfied that D-7 is what the American public wants. The price is \$100.

### THINGS TO REALLY NOTE

When you have to tell a customer, "I'm out of this; will have another shipment in tomorrow," what does the customer say? Does he come back?

When you say to a customer, "I'm sorry, but we don't carry the Soandso Part, but we have Bestleys', what does the customer say?"

Note these things and profit accordingly.

# Advertising by the Local Radio Dealer

## Plain, Human Interest, Non-technical Publicity Appeals to Residents of Smaller Places

By PAUL S. WEIL  
Of Frank Kiernan & Co.

What type of advertising by the dealer in radio apparatus will be the most productive? How can public interest in radio be best aroused to its pleasures and benefits? Without a doubt these two questions are most prevalent in the minds of radio dealers all over the country today.

The radio industry is still in its infancy and is gradually establishing itself on a firm business foundation. Price wars have been rampant, markets flooded with merchandise far exceeding public demand—much of it hastily manufactured and of inferior quality. In spite of these handicaps which were created through the tremendously rapid growth radio interests are nevertheless in a healthy condition today and require among other things absolute dealer co-operation.

In this article we are considering only the radio dealer. How can he arouse interest in radio in his individual locality?

As stated before radio is still very new and only a small percentage of the population of the country know the least thing about it. The great mass know merely what the word radio means and nothing more. It is up to the dealer to assist the manufacturer in educating this mass to the advantages of radio. Public interest is the basis of all business, and radio certainly is not an exception to the rule. How can this interest be aroused? Only by advertising in a common sense, intelligent manner.

Human interest must predominate in consumer advertising, and not technical matter that the average man or woman knows nothing about, and cares less. You cannot sow the seed of radio interest in a man's mind by stating the type of a condenser, or rheostat, or variometer the set you have for sale is equipped with. What he wants to know most of all is what pleasures and benefits he will derive by installing your set. Tell him about the wonderful concerts, the sporting dope, the lectures, and general information that are broadcasted every day. Explain to him how broadcasting stations are controlled and operated, how they are financed, the artists that are engaged to entertain. Show conclusively that



PAUL S. WEIL  
Of Frank Kiernan & Co.

he cannot afford to miss the wonderful daily programs. Impress upon him that the long winter evenings can be made enjoyable and pleasurable for the whole family by means of radio.

Show him in everyday language just what radio is—but above all eliminate all technical and mechanical matter in your advertisements, as they only tend to confuse the mind of the uninitiated.

The writer had occasion to see an advertisement in a small Pennsylvania newspaper, the day after the Leonard-Britton fight some time back, which impressed him as being full of human interest. The advertisement measured 6 inches, single column and read as follows:

"Were you 'listening-in' last night? You certainly missed something good, if you were not. We received all the dope on the Leonard-Britton fight, right from the ringside. Just exactly as it happened. Heard the crowd yell, the gong ring, and even thought we heard the thud of leather on human flesh. The announcing was so clear that it was just about as good as a ringside seat—without having to dig down for the exorbitant prices charged.

"Something just as good every day now—you certainly cannot afford to miss anything more.

"Drop around and look over our  
(Continued on page 96)

## Radio Instruction by Experts

By ROBERT E. AUTREY  
Of National Radio Engineering Co.

Announcement is made by the National Radio Engineering Company, of Atlanta, Ga., one of the South's oldest radio concerns, that they are offering absolutely free of charge, a complete course in radio and radio operating. This course is given by one of the oldest radio instructors in America, who has trained operators for several years to U. S. Shipping Board service. The course which may be completed within a few weeks will qualify the student for Government commercial license if desired. Code instruction will be transmitted daily from various broadcasting stations throughout the country.

The offer is made after consideration of present-day radio, and upon the request of many novices. There are but few dealers and radio salesmen, to say nothing of the owners of radio

receiving sets, that understand the operation of radio apparatus. Many people think all you have to do with a single tube receiving set is light the filament, turn a couple of dials and hear KDKA, KSD, WWJ, and others anywhere in the United States, and after they have tried this, finding the set not receiving such stations, they begin kicking to the dealer from whom the set was bought, who in many cases knows as much about the set as they.

Again, with all the broadcasting stations in operation the novice hears one of them, and when they get to coming through every QSA, some spark station starts more music. The novice wonders what pleasure an amateur gets out of breaking up concerts in this manner. Sometimes the busy

(Continued on page 84)

# Old Established Electrical Manufacturers

## Briggs & Stratton, Long Known by the Basco Trade-Mark are Building Equipment

By L. N. ALLEN

Realizing the kinship between the radio and automotive industries in organization, in business methods and in the function of both fields to provide both pleasure and profit for the American public, many manufacturers of automobile parts are entering the



radio field. It is a tribute to essential soundness of radio that it should attract the shrewd business men of a sister industry, as well as a compliment to the motor parts men that they are capable of realizing the great possibilities of radio.

On the list of automotive firms in radio field must be added Briggs & Stratton Company, of Milwaukee, Wisconsin. For eleven years this firm has built automotive electrical units for some 75 well-recognized makes of automobiles and trucks. What is more important is that they have entered the field in earnest.



Their line is being marketed under the Basco trade-mark, which did yeoman service in the automotive field.

A visit through this modern equipped plant and the radio enthusiast quickly becomes imbued with the Briggs & Stratton thorough methods of manufacture and the spirit of precision which expresses itself in the keen attention given to details—details which, to the laymen, seem almost of minor importance. Adequate machinery, light, airy rooms, systematic handling of raw material and products—every process shows the mark of up-to-the-minute facilities in the hands of skilled workmen—the highest type of plant efficiency.

The first process takes place in one of the main sections of the punch press department where radio parts are stamped out of raw material. Next comes the drill press room



where these stampings are drilled and made ready for the assembly room.

Another interesting department is where a big battery of automatic screw machines eat up raw material at one end and turn out thousands of little knurled and threaded finished parts at the other.

When finally all of the various parts arrive in the assembly room, skilled workmen fit them together, mount them on panels, connect up wiring, and soon we have before us complete Basco radio products.

But before we forget, somewhere these intricate units had to be conceived, designed, drafted and tried-out. In a neatly equipped modern experimental laboratory up on the roof, the germ of each unit is born, developed, tested and thoroughly proved out under expert radio direction, then given to the draftsmen for refinements and in turn to the manager of production.

One year of intensive preparation and designing has already resulted in the placing on the market of a highly commendable pair of sensitive receivers, a radio frequency transformer which has proved exceptionally efficient, a vernier rheostat and plain



rheostat that have aroused no little comment for excellence in workmanship, and a number of other units—variable air condensers, fixed condensers, tube sockets, a complete crystal outfit, tuning coils, switch levers, crystal set cabinets, crystal detectors, binding posts, etc.

The old deeply imbedded policy of a fixed standard of quality in all Briggs & Stratton products has not been overlooked in the making of their radio equipment. Quality is sharply pronounced in every article from the outer finish to the inner construction. It appears evident that this company is looking ahead with the idea of establishing their radio products as a standard in price as well as quality—a policy which promises a surer future in this great new field than the popular policy of getting rich while the game is



new and "getting out" when true quality and price become the buying factors.

## Radio Saves City

### Firemen, in Homes, Told of Fire by Broadcaster

"Radio saved Atlanta from destruction," declares Fire Chief William B. Cody, commenting on the latest accomplishment of the radio in rising to the emergency.

Fire broke out in a block of retail stores in the city's chief shopping district, a few hundred yards from the *Atlanta Journal* building one evening recently. It gained great headway before it was discovered and threatened the entire business section of the city.

Lambdin Kay, radio director for the *Journal*, was conducting the paper's regular late evening program. He sent out a bulletin on the fire and followed with other announcements of its progress.

From all parts of the city firemen who were off duty for the night rushed to join their companies battling the blaze. They had heard Kay's broadcasted announcement of the seriousness of the fire and rushed to aid their comrades.

The extra firemen enabled the department to check the fire.

"Radio saved Atlanta," says Chief Cody. "If I had not secured the services of all my men the flames might not have been checked, and Atlanta's business district would have suffered one of the worst fires in its history. As it was, the flames were confined to the block in which they originated."

"I'm going to have every fireman in Atlanta install a radio set in his home so that in future I can notify them all at once."

### REPORT GOOD SALES

The Ritter Wood Work Co., of 232 Canal street, New York, reports wonderful sales of their \$3.00 retail crystal receiving set. They report they are now shipping on an average of four hundred sets weekly, the majority of which are repeat orders.

Mr. Ritter states that out of 32 requests for samples in the past four weeks, 29 concerns sent in orders for 12 or more sets, and one jobber telegraphed an order for one hundred sets one-half hour after he received their sample crystal set. Mr. Ritter also reports favorable results with their knockdown variometer and variocoupler. The Ritter Wood Work Company are old-timers in the manufacture of wood variometer and variocoupler parts, having made thousands of them for A. H. Grebe back in 1917.



After the  
**THANKSGIVING  
DINNER** *hear the voice  
of the Outer World*

THE above illustration appearing in Magnavox National Advertising in November (a total of more than seven millions of circulation) carries a strong selling thought which you can profitably use with your trade.

Magnavox Radio, the Reproducer Supreme, is not manufactured to help sell any one make of receiving set, but to complete the service rendered by every set of good quality.

**R-2 Magnavox Radio with 18-inch horn:** this instrument is intended for those who wish the utmost in amplifying power; for large audiences, dance halls, etc. . . \$85.00

**R-3 Magnavox Radio with 14-inch horn:** the ideal instru-

ment for use in homes, offices, amateur stations, etc. \$45.00

**Model C Magnavox Power Amplifier** insures getting the largest possible power input for your Magnavox Radio.

2 stage AC-2-C . . \$80.00  
3 stage AC-3-C . . 110.00

Our publication, THE MAGNAVOX, tells you clearly and definitely how we help you build a bigger Radio business. If you have not received your copy, write for it today

The Magnavox Co., Oakland, California  
New York: 370 Seventh Avenue

**MAGNAVOX**  
Radio  
*The Reproducer Supreme*

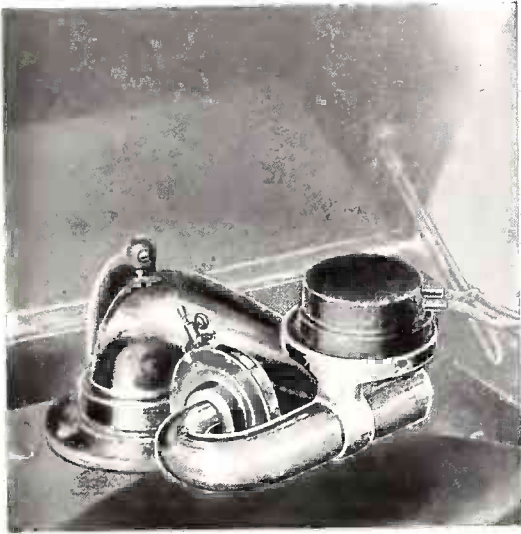
THIS WILL BE A RADIO CHRISTMAS!

# What the Manufacturers Are Doing

## Duo-Coupler

Can Be Used on Victrola or Wireless Receiver

The radio Duo-Coupler when attached can be used for victrola or wireless, automatically utilizing the



Radio-Receiving Position

tone arm and violin box of the victrola for the radio receiving set without interfering in the slightest with its intended operations.

This Duo-Coupler is made of cast aluminum, beautifully polished. The receiver cup is lined with soft live rubber, which effectively seals the cup



Record-Playing Position

against sound leaks without deadening or dampening the sound.

Made and sold by the Beaver Machine & Tool Co., 50 Church Street, New York, retailing at \$3.75.

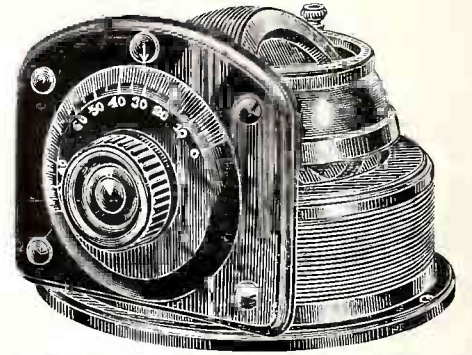
When in position for radio receiving the sound box or reproducer is

turned back in its normal rest position and the receiver cup presents itself for the car phone. The passageway back to the sound box is automatically sealed, preventing even the possibility of the radio signals reverberating on the diaphragm of the sound box. The sound as it passes from the cup to the victrola box is gradually broadened and rounded out. In designing the sound passage the structure of the human ear was constantly kept in mind.

When the sound box or reproducer is turned down in position to play a record the passageway from the sound box to the tone arm is automatically opened and that to the receiver cup is automatically closed so that no sound can leave or leak through the radio receiver cup. The music reproduced is exactly the same with the "Duo-Coupler" so attached. The receiver cup turns under entirely out of the way, the lid can be closed if desired. The Victrola remains the perfect musical instrument that it is.

## NEW CIRCUIT TUNER

The Atwater Kent Manufacturing Company of Philadelphia, have developed a new coupled circuit tuner with the idea of simplifying operation and still retain maximum performance.

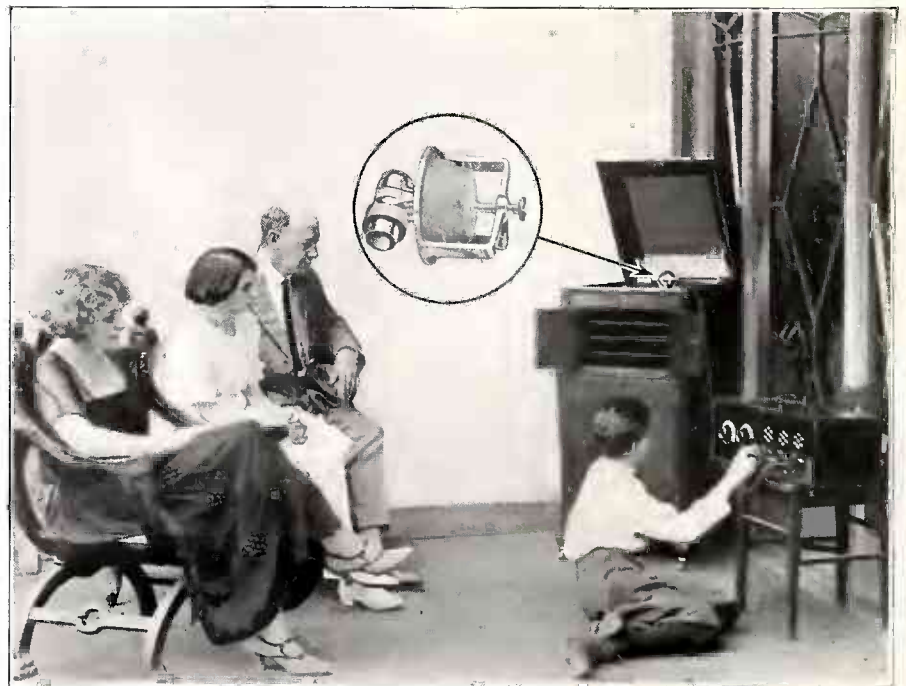


It is designed to take the place of a variometer and variocoupler in a coupled-circuit receiver, accomplishing the results with but one adjustment.

Tuning of antenna circuit is unnecessary, the makers say. Three  
(Continued on page 115)

## Westphal Adapter Beautifies and Enlarges Radio Tone

The Westphal Manufacturing Laboratory, 80 East Jackson Boulevard, known as the "Westphal Adapter." One of the outstanding features is



Westphal Adapter Fits Phonographs and Radio Phones

Chicago, Illinois, have recently perfected a radio phonograph attachment

that it is constructed in one unit and  
(Continued on page 115)

## New Potentiometer

### Allen-Bradley's Latest Addition in Radio Field

Another application of the compression resistance principle has been made by the Allen-Bradley Company, Milwaukee, in the Bradleyometer, a new potentiometer embodying graphite discs operating under pressure. In



Bradleyometer

placing the Bradleyostat filament control on the market, the Allen-Bradley Company had applied a principle that they have used for twenty years in the manufacture of rheostats and motor starters for industrial purposes. The smooth current control obtainable in this type of resistor was especially desirable for radio circuits, where the sensitive

units require the finest of adjustment.

In the Bradleyometer this same idea has been utilized. Two columns of discs are assembled in the porcelain container, each column with a separate and independent pressure plug extending through the top cover plate. The pressure knob rotates through 180 degrees, and through a special shaped cam applies pressure to one column in one direction of rotation and to the other column in the other direction. As pressure is applied to one of the columns the pressure is released on the other.

The resistance of a column of the discs varies with pressure, so that the action of the Bradleyometer is to decrease the resistance in one column and simultaneously increase the resistance in the other column. The total resistance of the two columns remains constant, as in any wire wound potentiometer while a connection between the two columns serves the same purpose as the slider of a wire potentiometer.

The Bradleyometer controls the resistance gradually as the pressure is increased or decreased on the discs. This provides for an absolutely even balancing of the potential in the plate or grid circuits, wherever the potentiometer may be connected. No foreign noises are introduced into the circuit. The Bradleyometer accomplishes the full range in control with 180 degrees rotation of the knob. It is made in 200 and 400 ohm capacity.

## CROWN RADIO PRODUCTS

The Crown Radio Manufacturing Corp., 78 Fifth Avenue, New York, is manufacturing a complete line of radio apparatus under the trade name of "Crown."

Some idea of the excellency of the design of the "Crown" products may be had from the accompanying illustrations of the Crown triple coil calibrated mounting and the telephone plug. This mounting, which is made of Thermoplax, a high grade insulating material which resists heat far better than rubber and has high dielectric and

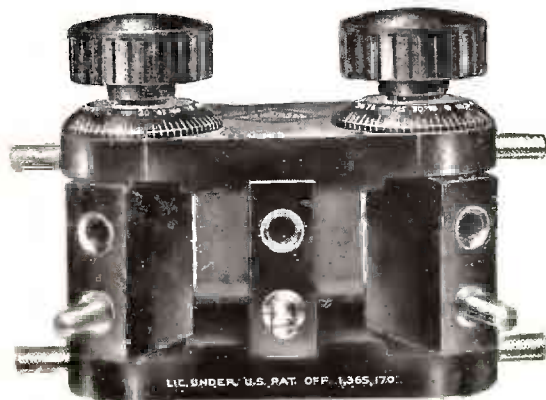


Crown Plug Closed and Open

mechanical strengths, is non-hydroscopic, is not affected by atmospheric agents and will not deteriorate with age. It will be noted that a special locking device is provided to hold the coil in position, thus preventing it from being thrown out of adjustment. Other features to which attention have been called are the special adjustable bearing, bushings preventing wear on the top and bottom plates, special calibrated dial showing stations tuned in and positive connections on rear of blocks. All parts are of brass, nickel plated. The entire apparatus is highly polished and its fine finish produces an attractive appearance.

The Crown telephone plug is designed to fit all standard jacks and has arrangement for making positive electrical connections using either cord tip, wire, lug or any type of terminal without soldering. The handles are made of Thermoplax and the grips are matched and held together with a substantial screw arrangement which does not interfere with the electrical connections. A hole in the end of the plug is pro-

vided for the cord tie to relieve the electrical connections of all strain. The surface of the grips is matted to prevent the fingers from slipping. Another point that is claimed is that the conductor may be removed without changing the adjustment of the



Crown Triple Coil Calibrated Mounting

plug, and as there is practically no wear, this adjustment remains constant.

## NEW GLOBE HEAD PHONE

The Globe Phone Manufacturing Company, Reading, Mass., has developed a new radio headset which it is reported is meeting with ready favor.

These phones are claimed to be highly sensitive and will stand ampli-



Globe Head Phone

fication without distortion. They are strictly high grade appliances and are backed by the experience of 15 years in manufacturing highly sensitive sound producing and receiving instruments. The highest grade of materials are used throughout. Magnets are of tungsten steel and every part is treated to prevent rusting. These head phones are not only highly efficient but are very attractive in appearance, the manufacturer having given thought to style as well as technical art in their design.



## Manufacturers Attention

Zeller Lacquers constitute the most economical finishes on the market today for radio equipment of all kinds. They are easily applied either by dipping, brushing or spraying and completely dry in normal room temperatures within 15 minutes.

Zellac is made in all colors and can be applied to all materials. Beside the standard natural wood finishes, our Hard Rubber Black has become popular among manufacturers for finishing instrument bases as well as cabinets while our White is used exclusively by many organizations for the graduations on dials and knobs, as well as for panel work. A thin coat of our material, which has a high dielectric strength, applied to coil windings, holds them permanently in place without causing the usual undesirable effects.

Distortion and metallic ring largely removed from loud speaking horns and phone diaphragms where our special material is applied. Write today for more information.

**ZELLER LACQUER  
MFG. CO., Inc.**

342 Madison Ave., New York

## Concerning the Radio Retailer

# Why Cannot Radio Retailers Cooperate for Self Benefit?

By M., a New York City Retailer

(Mr. M. is modest and asks that his name shall not appear in connection with his brief article.—Editor, RADIO DEALER.)

Can the Radio retailer join in the movement to buy Radio apparatus in a co-operative way.

If not, why not? If yes, why doesn't it happen?

Economists generally and many business men have been watching the recently developed group selling.

Co-operation has been successful in the marketing of many farming products and this despite the fact that these farming organizations are handicapped in the fact that membership is maintained under difficulties and benefits, to the individual, are considered slight, in proportion to the benefits that might develop to the individuals in other lines of endeavor.

Co-operation for buying retailers in Radio has not been accomplished. A group of department store managers,

it is said, have agreed to buy jointly in order to acquire some of the so-called standard brands at factory prices, omitting the jobber, but whether this idea will prevail remains to be seen.

Department stores, in this case, buy at from fifteen to twenty-five per cent lower than the average retailer.

The Radio retailer and jobber naturally resents this. Time alone can tell whether the manufacturers who, by this plan, apparently favors department stores—with cut price tendencies—as against legitimate Radio dealers and jobbers are to succeed.

That's not the present subject, however. It's a pointer. If department stores can get together why cannot retailers generally? If group selling by farmers has proven practical, why not group selling by Radio manufacturers?

And beyond all, why not group buying on the part of retailers?

### General Publicity

#### Every School Can Have a Real Big Radio Night

Every storekeeper can devise ways and means of acquiring local interest or sectional interest in not only radio but his own business.

For instance: There's a school nearby. Has that school many radio enthusiasts? Of course. Why not offer the principal to operate a "Radio Night?"

On this occasion procure a couple of experts—from your manufacturing friends—and these men will demonstrate to the scholars and to others, just how and why a radio set operates.

Manufacturers in the radio field will supply the experts, if you will do the rest.

The obvious answer is publicity for your store.

In advertising, in daily newspapers, as well as circulars, it does not pay to tie up your radio apparatus advertising with other lines.

### On Advertising

#### Can a Radio Retailer Use the Daily Newspapers?

Every retailer, as well as jobber, should have some well defined policy about advertising.

Of course the first advertising any retailer does is when he opens his store, when he prints his store and announces that his name is So and So.

What then?

Shall the retailer use space in daily newspapers? Is his store in the centre of the town? Is it near to other advertisers? Is the suburban trade worth going after?

Advertising—in newspapers—is, as a rule, a problem that can be solved by the salesmen who represent the newspapers. They ought to be able to convince certain radio dealers that advertising, of certain kinds, can be made to pay.

Mr. Retailer: Put the query flat up to the solicitor. Make him prove his claims.

THIS WILL BE A RADIO CHRISTMAS!



### RETAIL ADVERTISING

Under this heading the *Radio Dealer* will discuss copy of advertisements which appear in daily newspapers, submitted by readers. Retailers who desire copy criticized are invited to tender us same, for which there will be no charge to subscribers.

### WORLD SERIES DOPE

The W. E. Supply Co. put over some interesting as well as profitable advertising just prior to the recent World Series by advertising their \$25 Aerial-A vacuum tube receiving set in nicely worded display advertising, clinching its selling talk with these words:

"The local ball clubs have set the price for unreserved World Series seats at \$3.30 each, or \$22.10 for seven games. Aerial-A is \$25. Hook it up. Pick out your favorite chair and you will miss nothing but the crowd."

### PLAUSIBLE ADVERTISING

Frederick Loeser & Co., Brooklyn Department Store, employs intelligent advertising in the sale of radio. A recent ten-inch advertisement of two columns of five inches depth, illustrated a boy with a head set and the caption "R-A-D-I-O, the best there is and at bottom prices." Then followed the following:

"Money won't buy better than Loeser's has for you. And Loeser's low prices will not buy as good in most places. You can 'bank' on any equipment you buy here. Everything is the *best*, but don't ask 'everything'."

The copy concluded:

"WITHOUT CHARGE—A complete Radio Receiving Crystal Outfit, including two crystals, with every purchase of a pair of A. C. Gilbert 2000 Ohm Sensitive Phones. The Receiving Set is small, but works well if directions are followed."

### SOUND SALES TALK

Herbert & Huesgen Co. recently advertised a special on the N. K. 6000 ohms, an imported head set, offering these head sets, together with a 45-volt \$5.00 Ever-Ready radio B battery or a \$5.00 N. & K. Precision variometer, all for \$14.50.

The H. & H. folks then told of the super-sensitive tone quality of their imported phones and announced the special offer was made to introduce the new phone.

A coupon was used for out-of-town orders and a money back condition appeared in the interesting copy.



## Increase Christmas Sales with BESTONE RADIO SETS

*Everyone will want a Radio Set for Christmas —everyone will give a Radio Set. Translated into terms of demand and profit this will create an unusual opportunity for those Jobbers and Dealers who distribute quality Wireless Apparatus.*



BESTONE No. 707 Combination Crystal and Vacuum Tube Set

With tube connection this set has receiving capacity of 300 miles. Crystal Detector mounted on Bakelite panel eliminates use of "A" or "B" Batteries. All apparatus enclosed in beautiful mahogany finished cabinet. Wave length—600 metres. Dimensions: 7 $\frac{1}{8}$ " x 5 $\frac{3}{8}$ " x 5 $\frac{1}{4}$ ". List price (including BESTONE 2200 Ohm Headset), \$25.00.

We manufacture a comprehensive line of Crystal and Vacuum Tube Receiving Sets at popular list prices.

Send for Illustrated Catalogue "R"

**HENRY HYMAN & CO., Inc.**

Manufacturers

EXECUTIVE OFFICES  
476 Broadway, New York

BRANCH OFFICE  
212-216 W. Austin Ave., Chicago, Ill.

THIS WILL BE A RADIO CHRISTMAS!

# Davenports and Dashboard Special Touring U. S.

## Special Receiving Set Equipment for Automobiles to "Listen In" on Mountain Peaks and Deserts

By J. McKerchar

"Taking radio to the people" in a literal sense is what is being done by Mr. and Mrs. J. C. Davenport and their "Dashboard Special," who recently left New York for an automobile trip into every state in the Union. According to a letter received by the RADIO DEALER they are now in Washington, D. C.

During this trip of some forty thousand miles, thousands of people will be confronted with the marvels of radio through the medium of both Davenports and the "Dashboard Special, which, it may be explained, is an automobile receiving set with a loop aerial in front of the windshield and the receiving apparatus on the dashboard. The primary purpose of the trip is to arouse the good citizens of the United States to the miracle in their midst.

As a merchandising stunt, it has originality and the taste of imagination. Here are two travellers, who are going to cover the forty thousand miles they had once before crossed, equipped to keep in touch with civilization whether they are in the Mohave desert or on the highest peak of the Sierra Nevadas.

"Forty thousand miles by automobile haven't cured us of gypsying," said Mrs. Davenport, in the letter received by this office.

"We left New York City to follow the old trail again, the trail we first took October 1, 1920. We will travel first through the South, visiting Miami and other Florida towns, and from there we will sail to Cuba and the West Indies. I wonder if they have broadcasting stations there. After this visit we will take the Argonauts' trail to the West. We'll speed along the wonderful Lincoln Highway to Denver and Salt Lake City to the jubilant strains of our Dashboard Special. There we'll hope for a more pensive tune as we take

the Oregon Old Trails to Portland and Seattle. The Puget Sound country will be our next sight and after that south through Washington and Oregon to California. The San Francisco Bay section is a veritable nest of broadcasting stations, I have heard, and we'll be able to 'pick and choose' our music for the journey toward Los Angeles and Old Mexico. On our last trip we attended a bull fight in Mexico and this time we'll repeat the visit and incidentally we may take away the bull's audience by giving a concert if there is any Mexican music about on American wave lengths.

"I am curious to hear music when we cross the Salten Sea, which is 267 feet below sea level. And the Mohave Desert, we'll put up our portable aerial there and surely we will feel that we are in tune with the infinite. Then we'll go up to the mountains till, at the Great Divide, we attain our greatest altitude, 14,500 feet above sea level. Then back again through the fruitful Middle West and up to the New England states. After that—well Mr. Davenport and I waited over thirty years for this honeymoon trip and I don't think that

either of us will be in a hurry to terminate it. We've been in forty-three states and have been under four flags in the last twenty-three months. We've been out on the Mohave Desert one day with the temperature 132 and the next day we've been snowbound at Flagstaff, Arizona, in 7 feet of snow. And in the month of May, too!

"But now with our 'Dashboard Special,' we shall always be in touch with the world and with its pleasures. And that'll help some.

"Again thanking the RADIO DEALER and Mr. Wallenstein of the Radio Guild for their assistance."

The Radio Guild, of New York, installed the "Dashboard Special," which is a type of the set known as the Vox Humana, for use by the Davenports. This new product of their laboratories is designed to find instant favor with those who desire an efficient receiver for the automobile. The "Dashboard Special" is designed in such a manner that it will fit on the dashboard of automobiles. For this reason it is only six inches deep and nine inches high. Provision is made for reception either with a loop or an outside aerial. The aerial

may be strung over the top of the car or a loop may be erected in front of the wind shield. The set requires six vacuum tubes, two as radio frequency amplifiers, one as a detector and three as audio frequency amplifiers. The telephone jack may be plugged in to cut out the last stage of amplification, if desired. A battery switch is provided to switch off the filament current. The binding-posts for the batteries are conveniently arranged at the right side of the front panel. At the left side of the front panel are the binding-posts for antenna and ground while the connections from a loop may be plugged in a jack. The entire set is built very solidly to withstand the wear and tear of travel and is assembled on



© General Photographic Service, N. Y.

Mr. J. C. Davenport, Owner of the Radio Car, Equipped with the "Dashboard Special," with Which a Tour Over the United States Is Being Made Under the Auspices of the Radio Guild and the RADIO DEALER

panels of  $\frac{1}{4}$ " bakelite. The operation is exceedingly simple as the tuning is entirely accomplished with a single control. Another control is provided to increase or decrease the amplification.

Such a merchandising stunt as this might be copied in spirit by other manufacturers and dealers. The Radio Guild, at least, seems to have grasped the truth that the function of all concerned in the radio business is not merely to make or distribute radio sets but also to create a demand for them. And the fascination of radio makes it about the easiest thing to create a demand for, if only the radio business would use its imagination.

### THE RADIPHONO ADAPTER

This newly designed phonograph adapter, manufactured by the Industrial Sales Engineering Company, of Newark, New Jersey, and placed on the market by them within the last thirty days, is one of the most universal adapters on the market as it is adaptable to various types of phonographs such as the Edison, Victrola, Brunswick, etc., and will also hold almost any type of receiver from the largest Baldwin Type "C" to the small Western Electric Watchcase type.

The most important feature, in connection with this adapter, is in its musical qualities. It is in true name, a musical instrument of moulded composition similar to bakelite or hard rubber, so designed that it will carry the sound waves from the vibrating diaphragm of the receiver to the phonograph horn, doing away with all metallic, distorted and unpleasant sounds and when used in connection with the phonograph, clear musical tones of volume are obtainable, eliminating the necessity of an expensive loud speaker.

The manufacturer of the Radiophone adapter has received many compliments on the excellent quality of the product and every indication points to a ready market for this adapter during the ensuing radio season.

### ATLANTA SHOW

The Southeastern Radio Exposition is to be staged at the Auditorium Armory, Atlanta, Georgia, December 4th to 9th, and as this is the first radio exposition staged in the South the interest aroused should be of good proportion.

This show has the support of the Chamber of Commerce, the *Atlanta Journal*, the *Atlanta Constitution* and the *Atlanta Georgian*.

ESTABLISHED 1888



## SENSORY CABINET UNITS



The most flexible method of adding to, or obtaining a variety of hook-ups, and giving an appearance equal to any single cabinet set. Each cabinet contains a "Sensory" element.

THE FULL LINE OF "SENSORY" ACCESSORIES  
IS SHOWN IN OUR NEW BULLETIN NO. 12  
WRITE FOR IT TODAY



**HEINEMANN ELECTRIC COMPANY**

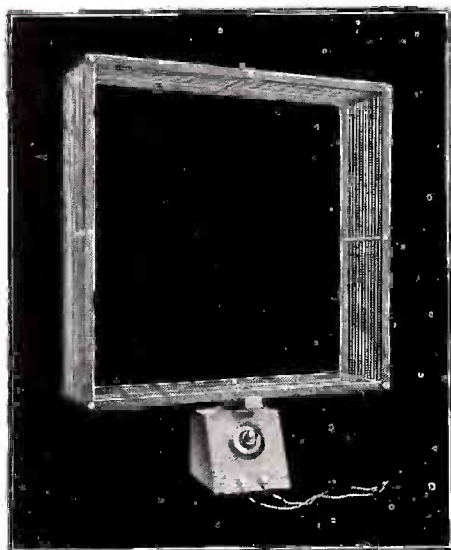
*Manufacturers*

Radio Division

Philadelphia, Pa.

THIS WILL BE A RADIO CHRISTMAS!

## The Portabloop TUNER



*Ready For  
Shipment*

**THE  
PORTABLOOP  
PORTABLOOP TUNER  
PORTABLOOP RECEIVER**

**Write Us For Our  
Special Agency  
Proposition  
To Dealers**



210 Central Avenue

## "Homcharger" Note

**Have Three Plants to Take Care  
of Trade Requirements**

E. C. Ogden is President of the Automatic Electrical Devices Co., Cincinnati manufacturers of the "Homcharger," which has proven so popular in the radio field. They have recently been compelled to add a third plant to take care of the unprecedented demand for this device, and Mr. Ogden tells us that these three factories, all located in Cincinnati, have a capacity of over 1,000 Homchargers per day, which, it is expected, will enable dealers and jobbers to obtain prompt shipments on their orders for this necessary radio device.

The Homcharger is unquestionably popular in the radio field and has attained this by proper performance, construction and aggressiveness of the company's Sales and Advertising Departments.

## NEW SWITCH LEVER

A switch lever called the Rotary Dial Switch, in which great care has been paid to detail, is manufactured by the Virginia Radio Corporation, Charlottesville, Virginia.

The main feature of this switch is the construction of the stud. The washer which holds the switch blade to the knob is made integral with the stud, thereby eliminating all possibility of the washer ever working loose and binding the switch. The bearing surface is highly polished and nickel plated throughout. The switch is secured to the panel bushing by a hexagon locknut which is run up to a shoulder against the tension spring thereby making adjustment unnecessary. It will work successfully on panels from 3-32 inches to 5-16 inches thickness. The switch blade is double, brass, nickel plated. The knob has been specially designed for appearance and ease of operation.

The Virginia Radio Corporation are also jobbers for many of the leading standard makers of radio apparatus.

## HENRY L. WALKER CO. ISSUES CATALOGUE

The Henry L. Walker Company, 27 East Jefferson avenue, Detroit, Mich., who have been in the electrical trade for over twenty-eight years and who, for the last ten years have been in the retail radio business, have issued a catalogue. Although the catalogue does not include all items carried in stock it is quite comprehensive.



*Above the Ordinary*

## B & P INSULATOR

True, there are a great many makes of aerial insulators. But that is all the more reason for careful choice of the one make which will give your customers the greatest satisfaction.

It's worth taking this trouble. Your customers judge your store as severely by the low priced staple as the most expensive set you sell.

The B & P Insulator has proven by its splendid sale everywhere the value of selling only the B & P make of insulator.

Dealers make a very satisfactory profit on our price. Why not send us a trial order?

*Wholesale Only*

**Banister & Pollard**  
206 Market Street  
NEWARK, N. J.

THIS WILL BE A RADIO CHRISTMAS!

## Exposition in December

### American Radio Exposition Co. to Stage Show at Grand Central

Scientists and engineers of national repute will speak on radio subjects at the American Radio Exposition to be held in Grand Central Palace, Dec. 21 to 30, under the direction of the American Radio Exposition Co. This company of which Frank Hitchcock, former postmaster-general is president, has the backing of the National Radio Chamber of Commerce and the Associated Manufacturers of Electrical Supplies in the venture.

Coming as it does during the holiday season, when schools and colleges are closed, the exposition will offer an excellent opportunity to students, teachers and parents to learn of the rapid progress made in wireless in the past few years. The educational features of the show will be many as the entire radio field will be covered, the exhibits comprising radio apparatus and equipment of all kinds as well as material and accessories of every description. Demonstrations for the instruction of radio users will be given and equipment for broadcasting musical numbers by widely known singers will feature the entertainment side of the show.

### SIMPLEX PANEL UNITS MAKE FINE RECEIVER SETS

Assembling a radio receiving set with Simplex panel units, made by the Electric Service Supplies Co., with offices at New York, Philadelphia, and Chicago, makes it possible to try out many hook-ups in order to determine the best for a certain district without disassembling the panels. The beginner can also have a fairly good receiving set at minimum cost by first purchasing a vario-coupler panel and a detector panel, later adding other units to obtain greater sensitiveness and selectivity.

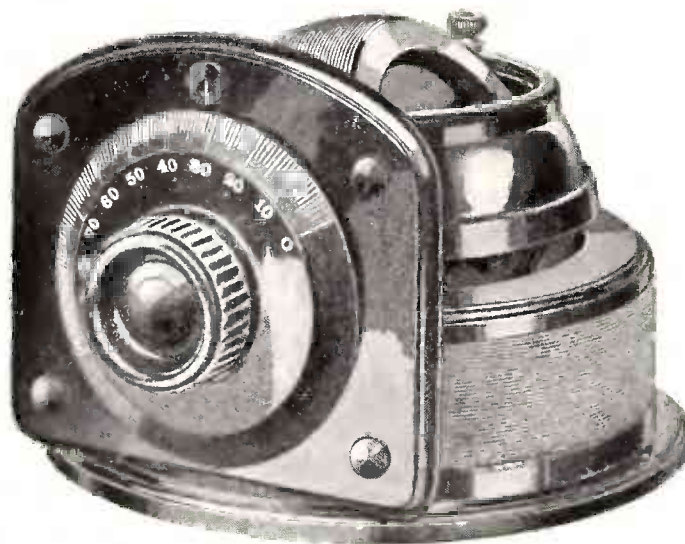
The Simplex line of panels includes variometers, vario-couplers, condensers, detectors and amplifiers. The panels are black, polished formica or bakelite and are  $5\frac{7}{8}$  inches square; the lettering is engraved and filled with permanent enamel.

### ELMCO SETS GUARANTEED

Elmco shielded apparatus is said to be the development of engineers after years of study to secure the highest receiving efficiency. Every Elmco tuner is guaranteed to be perfect in material and workmanship. Made by the Electric Machine Corporation, Indianapolis, Ind.

# ATWATER KENT

## COUPLED CIRCUIT TUNER



Price \$14<sup>00</sup>

- ¶ Simplest operation—maximum performance.
- ¶ Takes the place of variometer and coupler.
- ¶ Accomplishes the results with but one adjustment.
- ¶ It is absolutely unaffected by body capacity at dial knob.

ALL INSULATING PARTS ARE STURDILY MADE OF MOULDED CONDENSITE AND THE WORKMANSHIP THROUGHOUT IS OF THE HIGHEST QUALITY.

*An Excellent Merchandising Proposition*

ATWATER KENT MANUFACTURING COMPANY

4937 STENTON AVE. Radio Department PHILADELPHIA, PA.

THIS WILL BE A RADIO CHRISTMAS!

*New Model*  
**The Globe  
 Superior Head Set**

Globe Products are known the world over. The Globe name on any Radio product is your guarantee of high quality.



2200 ohms—Price \$8.00

The new model Globe Head Phones are highly sensitive, natural and clear in tone, and will not distort under high amplification.

Each set tested by radio and receivers matched perfectly.

The new Globe Phones are polished nickel finish inside and out and are fitted with hard rubber caps. We also use the new Globe Broad Adjustable Headband made of flat stock, webbing covered and so spread and shaped to give the greatest comfort in use. The new Globe Head Set complete is the best value to be had at any price.

Fifteen years experience in making highly sensitive sound producing and receiving instruments is behind all Globe products, which include the *Vac-tuphone*, the only hearing instrument for the deaf using the vacuum tube amplifier, the Globe Geophone and the Globe Secret Phone.

Globe Jr. Head Set (aluminum cases), 2200 ohms, price \$6.50.

**Globe Antenna Attachment Plug, Price \$2.50**

We also manufacture microphone transmitters for broadcasting and experimental use.

**Globe Phone  
 Manufacturing Company**  
 Reading, Mass., U. S. A.

## Trade Associations to Enter Mennen Case

Application to File Brief as Amicus Curiae Has Been Made  
 By Attorney of Associations

Felix H. Levy, as attorney for the National Wholesale Dry Goods, Hardware, Supply and Machinery Dealers, Wholesale Jewelers', Floor Covering and American Brush Manufacturers' Associations, has filed a petition in the United States Circuit Court of Appeals, Second Circuit, requesting permission to file a brief in that court as amicus curiae in the case of the Mennen Company vs. the Federal Trade Commission.

This action resulted because of a ruling by the Federal Trade Commission that the Mennen Company must give the same price to all customers who purchase the same quality and quantity of merchandise.

If applied widely, the petitioning associations hold, this ruling would pre-

vent manufacturers from giving consideration to the value of the service which the jobber renders in the distribution of merchandise. It is further contended by the petitioners that the ruling, if allowed to stand, would force distribution costs and selling prices upward, as well as have the effect of discriminating against independent retailers in favor of chain stores.

This action will be watched closely by the radio industry. Some of the largest companies now favor a quantity price and many wholesalers, in the radio field, believe this policy is not a business-building policy. On the other hand some radio retailers espouse this one-price system.

## N. Y. Police Want Dealers to Co-operate With Them

In the very near future radio dealers and everyone having a radio receiving set within the radius of one hundred miles of New York City, will be surprised to hear something like this: "Station WLAW calling—Code Number 8—Peter Jones Number 64-8-15, WLAW signing off." This is a message coming from the New York City Police Department broadcasting station, and is in code and addressed to all police authorities within the radius of police headquarters.

Most messages that will be broadcast from this station will be in plain language, but strictly confidential police matters will be sent in code. The code messages will be sent in the case of general orders, etc., while reports of missing persons, stolen property, the apprehension of criminals will be broadcast in plain English.

M. R. Brennan, the official in charge of this station, who bears the title of superintendent of telegraph of the New York Police Department, is very enthusiastic over his new acquisition, and is certain that radio will play a very prominent part in the routine of police matters from now on.

At the recent convention of police officials that gathered in New York at the invitation of Richard Enright, the police commissioner of New York, the subject of radio was very earnestly discussed. The police commissioner urged the heads of police departments of cities and towns within the range of station WLAW to install radio in their cities or towns. If they could not get complete stations to at least install good receiving sets, in order to co-operate with New York City's department.

Mr. Brennan, in an interview with a representative of THE RADIO DEALER, asked that a little publicity be given to the fact that Station WLAW wants co-operation with dealers of radio equipment within the radius of the station, in making public all police alarms, etc. He recognizes the fact that most dealers are constantly at their "stations," and the fact that they are on the main streets and avenues, alarms posted by them will receive a very wide distribution among the general public.

THIS WILL BE A RADIO CHRISTMAS!

## The Radio Jobber

By SIDNEY R. HAYDEN  
Radio Dept., Disbecker & Co.

With the advent of interest in broadcasting and the purchasing of receiving sets by the public, the radio dealers and jobbers of radio apparatus naturally came into existence. Many of the established electrical houses entered the field together with many exclusive radio wholesalers, and in a way the difficulties of the distribution problem were solved for the manufacturers, or at least smoothed over.

It is generally recognized that at the present time there are too many jobbers for a profitable business for all concerned. Too many houses have made the mistake of loading up with the products of manufacturers who sprang up over night, as it were, many of whom were not acquainted with the manufacturing problems, let alone the design and construction of radio apparatus. The effect of the period of reckless buying that followed created a condition that is still being felt with the attendant price-cutting, due in no small way to the dissatisfaction of buyers.

It should be remembered that the best apparatus that can be procured cannot be too good to give satisfaction and make pleased customers. Wholesalers and retailers, too, would do well to take on only such lines as are made by old established manufacturers or new ones whose apparatus is of merit and is advertised.

From experience it is known that unadvertised goods are apt to remain on the shelves for a long time, tying up capital and taking valuable space. One mistake that is often made is to carry too many lines of material selling for about the same price. As to how large a stock it is profitable to carry is a question that the buyer must settle in consultation with the sales department.

It is good policy for a jobber to limit his territory to that which can be covered by a salesman at least once a month, or oftener if possible. It should be remembered that freight and express rates also play a part in restraining distant sales. The writer has found to his sorrow through experience that the man on the job once in two weeks gets more lines filled in the order book than the salesman who calls once a month. Of course, in sparsely settled districts, it is impossible to make as many calls as where there are more radio stores near at hand.

As to the situation of the combination manufacturer - jobber - retailer, particularly in the larger cities, it appears that they may sooner or later become involved in difficulties because of the different interests that they are bound to cater to. The old proverb that says "No man can serve two masters" is full of truth. If he tried it he is pretty apt to lose one job and lucky if not both.

### VAC-SHIELD INTRODUCED

One of the newest radio devices that has come out on the market is a non-magnetic shield for detector and amplifying tubes invented by E. H. Lerchen. The purpose of the shield is to prevent capacity effects between tubes to cut out howling and to also serve as a protection for the tube against breakage, provision is made on the tube shield for connection to ground circuit of set. This is probably one of the most unique and practical devices that has been put out since radio became popular and should find popular favor with the trade as same is being extensively advertised to the consumer. This shield is known and sold under the name of Vac-Shield. It is manufactured by the Orange Research Laboratories, East Orange, N. J.

## SUPERIOR PRODUCTS

*"The Rolls Royce of Radio"*

DEALERS! Stock Our Christmas Special in a Christmas Box

### OUR GOLD PLATED HEAD PHONE

is ready for immediate delivery

*Wire for your allotment*



**COMFORT**—Our headphones automatically adjust themselves to fit any shaped head. No protruding horn-like bars. One piece headband, triple nickel plated, without thumbscrew or corners to catch the hair. Ear pieces fit snugly yet without fatiguing pressure.

**SANITARY**—No cloth or fabric to accumulate germs, dandruff and grease. Absolutely sanitary. Complies with the health laws of all states.

**TONE QUALITY**—Diaphragm of special material eliminating resonant frequency. Voice, violin and piano reproduced in full richness and mellowness. Any comparison test proves the superior tone quality of this headphone.

**VOLUME**—An excellent phone for loud speaker use. The special diaphragm handles large outputs without freezing or jamming on pole pieces. The best phone for use with Super-Regenerative sets and high voltage three stage amplifiers. Clear undistorted music under conditions in which other phones fail.

**SENSITIVENESS**—Constructed with painstaking accuracy and care. Close spacing of diaphragm results in utmost sensitiveness. The most adaptable phone on the market for both sensitiveness and capacity to handle large volume.

**LIGHT WEIGHT**—Suitable for use with both crystal and vacuum tube sets. Ear-pieces can be removed from headband in an instant so that two may listen without removing thumbscrews or using tools.

Our Superior variocouplers, variometers, variable condensers, dials and other products are characterized by the same mechanical and electrical excellence.

DEALERS Write for our prices and discounts. All Superior Products are sold on a money-back guarantee.

**SUPERIOR PRODUCTS MFG. CORP.,**

1080 SPRINGFIELD AVENUE  
IRVINGTON, N. J.

THIS WILL BE A RADIO CHRISTMAS!

## ADVERTISING RATES

# THE RADIO DEALER WEEKLY

Listings in "Where to Buy Radio Equipment" Guide, \$25 per listing, per year, payable in advance.

## DISPLAY ADVERTISING

### TRIAL ORDER

|                        |                 |
|------------------------|-----------------|
| 10 to 14 inches.....   | \$1.80 per inch |
| 15 to 19 inches.....   | 1.70 per inch   |
| 20 to 29 inches.....   | 1.60 per inch   |
| 30 or more inches..... | 1.50 per inch   |

### Four Consecutive Insertions

|                        |                 |
|------------------------|-----------------|
| 5 to 9 inches.....     | \$1.80 per inch |
| 10 to 14 inches.....   | 1.70 per inch   |
| 15 to 19 inches.....   | 1.60 per inch   |
| 20 to 29 inches.....   | 1.50 per inch   |
| 30 or more inches..... | 1.40 per inch   |

### Thirteen Consecutive Insertions

|                        |                 |
|------------------------|-----------------|
| 1 to 4 inches.....     | \$1.70 per inch |
| 5 to 9 inches.....     | 1.60 per inch   |
| 10 to 14 inches.....   | 1.50 per inch   |
| 15 to 19 inches.....   | 1.40 per inch   |
| 20 to 29 inches.....   | 1.30 per inch   |
| 30 or more inches..... | 1.20 per inch   |

### Twenty-six Consecutive Insertions

|                        |                 |
|------------------------|-----------------|
| 1 to 4 inches.....     | \$1.60 per inch |
| 5 to 9 inches.....     | 1.50 per inch   |
| 10 to 14 inches.....   | 1.40 per inch   |
| 15 to 19 inches.....   | 1.30 per inch   |
| 20 to 29 inches.....   | 1.20 per inch   |
| 30 or more inches..... | 1.10 per inch   |

### Fifty-two Consecutive Insertions

|                        |                 |
|------------------------|-----------------|
| 1 to 4 inches.....     | \$1.50 per inch |
| 5 to 9 inches.....     | 1.40 per inch   |
| 10 to 14 inches.....   | 1.30 per inch   |
| 15 to 19 inches.....   | 1.20 per inch   |
| 20 to 29 inches.....   | 1.10 per inch   |
| 30 or more inches..... | 1.00 per inch   |

CLASSIFIED—Ten cents per word per insertion.

Note—Time contracts not subject to cancellation.

All bills payable weekly, subject to sight draft after thirty days.

Cuts and art work at cost.

Forms close Saturday prior to date of issue. Proofs on copy received up to Tuesday before closing date.

Special position 25% extra.

Pages 10 inches deep, three columns wide.

## Radio Wins

### Utah Broadcasting Permitted in Spite of Phone Company

Permission to operate a radio telephone system was granted by the Utah Commission over the objection of a telephone company that the enterprise could not be made a success and that the existence of such a system would greatly hamper the telephone company in raising money to build a line which had been authorized.

The Commission held that the only objection that could be consistent, and one upon which the Commission would feel called upon to act, was the question as to whether such a service was necessary and would add to the convenience and necessity of the people in getting in communication with those parts of the state at the present time having no such convenience.

Commissioner Stoutnour, dissenting from the majority opinion, called attention to the fact that the applicant's financial ability to carry forward the enterprise had not been demonstrated and that the applicant had no real conception of the cost of installing the necessary broadcasting station. He pointed out further that it would be necessary for the applicant to secure a license from the Federal Government. Re Dalton, Case No. 541, September 7th.

—Public Utility Reports.

### KNOCK-DOWN LOUD SPEAKER

The Thorophone complete, made by the Winkler-Reichmann Company of Chicago, Illinois, is in every respect a knock-down loud speaker, for when not in use, it may be taken apart, put into compact space, and concealed from view.

The Thorophone has a controlled mica diaphragm and carefully designed sound box, nickel plated throughout.

### SUPERIOR PRODUCTS

"Superior Products" is the title of an attractive little folder that has been issued by the Superior Products Manufacturing Co., 1078-80 Springfield Avenue, Irvington, N. J., which calls attention to the variometers and the vario-couplers that they manufacture. These, they state are "built with the accuracy of a watch." The instruments, it is stated, are wound for proper inductance and are balanced on wave lengths of 150 to 550 meters.



# NATIONAL SEAMLESS TUBING

### In Large Diameters

For Vario-couplers, Vario-meters, Tuning Coils and wherever you use large diameter fibre tubing, National Seamless Tubing is less expensive and infinitely superior.

National Seamless Tubing is a specially developed, laminated tubing that retains its form and will not warp, swell or shrink. Exact in both diameters and easily worked.

Can be furnished in dark gray fibre or black fibre. Any quantities, diameters from 3" to 4½" I. D. Any wall from 3/32 up.

Give us your specifications. We'll send samples and prices.

### National Fibre for Panels

Hard Black Panel Stock of good dielectric strength. Gives satisfaction for condenser tops and bottoms, rheostat bases, washers bushings, etc. Let us quote on the stock itself, or on completed parts machined to order.

### Peerless Insulation

The standard thin weight fibre insulation or "fish paper."

### National Fibre & Insulation Co.

Box 454 Wilmington, Delaware  
New York, Chicago, Philadelphia, Detroit,  
San Francisco, Cleveland, Omaha, Pitts-  
burgh, Boston, Rochester, Birmingham,  
St. Louis, Baltimore, London, England  
In Canada, National Fibre Co. of Canada,  
Ltd., Toronto

THIS WILL BE A RADIO CHRISTMAS!



## Stops Static

### New Device Functions on Any Wave Length

Prevention of static interference in reception of radio signals has been solved by an invention of Dr. B. Galen McCaa of Ephrata, Penna., according to statement made by Dr. McCaa, last week.

Dr. McCaa has been working on static problems for four and a half years at his home, in New York and in California.

"Two different systems have been developed that function on an antenna at any wave length," he said. "Either one, when combined with a tone selective device that has been developed, operates to eliminate static.

"In California this Summer the static of 6,000 audibility was reduced to five, at which time commercial signals were received 250 times the strength of the static."

The second system, developed in his laboratory since his return East, has produced results superior to those obtained in California, he declared, adding:

"Tests have been made on the latest development at 360 meters, on which a broadcasting telephone system is operated, and it is known that the device will operate on all radio systems at any wave length. The latest device is free from critical adjustments and is absolutely stable in operation, requiring no attention.

"The fact that it operates on an antenna makes it applicable for use on ships at sea, and it becomes another important factor in life saving by assuring absolute communication between vessels under conditions at which they cannot now operate.

### INDUSTRY NEEDS A FORD

The mass methods of Henry Ford, if applied to every part of the manufacturer - distributor - dealer chain, would result in great savings to the public, according to O. D. Street, general manager of distribution for the Western Electric Company.

"We need more men like Henry Ford," said Mr. Street.

Mr. Street made this statement at the recent meeting of the Associated Business Papers.

### BRITISH INTERESTED

British interest in broadcasting is increasing according to reports that are received here. It is said that the Prince of Wales is the first member of the royal family to take up radio. He is having a receiving set installed in St. James's Palace.

TRADE MARK  
**METRO**



*Your Leader  
for Holiday Business*

# The LITTLE GIANT

(TRADE MARK)

## Radio Holiday Outfit

**E**VERY single thing needed to enjoy the radio programs, neatly packed in a substantial and attractive Holiday Box at a popular price.

The *Little Giant* Set itself is a wonderful seller. Its appearance, compactness, delightful efficiency and sheer simplicity of operation is just what they all want. Anyone can use it and everyone appreciates so timely a gift.

Place your order now. Our production requirements are rapidly reaching full capacity. You need the profits this big leader will win. Send immediately for sample outfit and our proposition.

### Little Giant Outfit Complete

With Metro Head-phones, Aerial, Insulators, Ground Wire, Ground Clamp and all Accessories.

In Holly  
Box \$ **15**  
List

*Little Giant Receiving Outfit also put up in Plain Black Box*

## METROPOLITAN RADIO CORPORATION

70-74 Goble St., -:- Newark, N. J.

THIS WILL BE A RADIO CHRISTMAS!

**QUALITY RADIO PRODUCTS**

Dictograph Headsets and Loudspeakers

Universal 3 plate Vernier, 23 and 43 plate Condensers

Keystone Variometers  
Radio Storage Batteries  
Ajax Socket Rheostats

Saturn Telephone Plugs, and Jacks. Sockets, Rheostats, Variocouplers (180°)

Everything That Goes to Make a Set

Jobbers and Dealers—Write or Wire for Prices—NOW!

We are authorized distributors for recognized standard products

**FREDERICK H. PRUDEN**  
Incorporated

Lerner Building

991 Bergen Avenue, Jersey City, N. J.

**CRYSTAL DETECTOR STAND** Crystal Detector Stand, No. 1200

Nickel plated brass finish  
No. 1201—\$1.50  
Tested Galena in Wood's metal 20c.  
Get prices for other instruments and parts  
5c. ea. 100—\$3.50  
35c. ea. 100—\$17.00

Dust-proof. No vibration. Flexible adjustment. Can be set rigidly.  
\$1.75 each—100—\$73.00  
3 in. Bakelite Dials right and left rotation  
45c. each—100—\$23.00

Lower 1 1/2" radius Guaranteed not to work loose here either. Note the curve.  
1 in. radios—100—\$13.00

Rheostat No. 1176 constructed like No. 1175 with 2 in. Dial \$1.25 ea. 100—\$60.00

Very good seller.  
60c. ea. 100—\$21.00

Audion Bulb Socket, No. 1150 latest in absolute reliable contacts. Study construction shown in diagram. "ON TOP" OR "ALL" quality, and sells for \$1.00 only. Highly nickel polished & polished black compo base.

Rheostat, No. 1175 is constructed with metal housing for heat, therefore more durable than others. Designed for use on panel or table. Resistance 5 ohms. \$1.00 postpaid.

Nickel or Brass  
No. 7180 \$1.80 C., \$7.20 M. No. 7188 \$1.30 C., \$5.20 M.

All styles of Binding Posts and Radio Parts manufactured and carried in stock. Get illustrated folder.  
No. 7512—\$5.50 M.

**CONTINENTAL ELECTRIC COMPANY**  
119 East 129th Street New York, N. Y.

**TRIUMPH'S ADVANTAGES**

The Triumph combination variocoupler and variometer was designed to fill the need of an efficient and simple instrument, to enable the operator to work the two instruments in one operation. The turning of one dial performs the manipulation, which usually necessitates the use of several dials and complicated tuning regulations.

In the ordinary receiving sets having a radio-coupler and a radio-meter, four distinct manipulations are necessary while with the Triumph, it is claimed that only two manipulations are needed. Thus two operations are dispensed with. This instrument is made for wave lengths from 150 to 800 meters, using a variable condenser. It is said that the entire instrument is made of the best materials and embodies all that science, skill and experience can produce. The Triumph, equipped with a 3-inch dial, retails for \$6.50. It is manufactured by the Signal Radio & Electrical Corp., 64 University Place, New York.

**FIBRE HORNS**

The Fibre Products Co., 240 North 10th St., Newark, N. J., have brought out two sizes of horns. The No. 1 horn has a bell 10 inches in diameter and 23 inches high, while in the No. 2, the bell is 14 inches in diameter and 29 1/2 inches high. These horns are made of a high quality fibre material which has the resonant qualities of wood and yet costs very much less. There are no joints or rivets to loosen. The horns are finished with a rich black enamel.

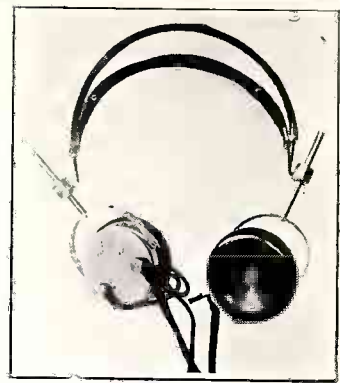
The Fibre Products Co. are selling these horns stamped with their own trademark or with the trademark of any distributor.

**THE PITTSBURGH SHOW**

The Pittsburgh Radio and Electrical Show will be held November 4 to 11 in the Motor Square Garden at Pittsburgh, Pa. It is announced that the many large exhibits will be of exceptional interest

**WARNING TO SWINDLERS**

**THE RADIO DEALER** endeavors to guard its advertisers against the unscrupulous who may attempt to swindle by replying to announcements. Post Office regulations are stringent against use of the mails for improper purposes.

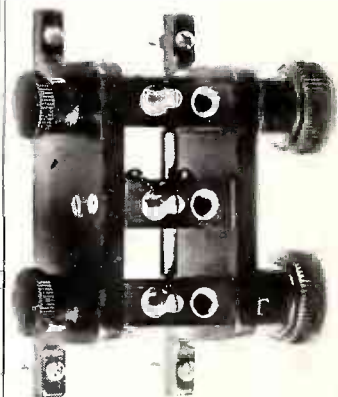


**T-B-H PHONES**

**SPEAK FOR THEMSELVES**  
Pure Natural Tones, Light Weight  
Ornamental Appearance

A Sturdy Reliable Head Set That Will Sell and Stay Sold  
Let us send a sample set for your inspection  
List \$7.00

Substantial Discounts to Jobbers and Dealers  
T. B. H. CORPORATION, Dansville, N. Y., U. S. A.



**TRIPLE DOUBLE and SINGLE COIL MOUNTS**

not moulded, fully dielectric, special lock knob, preventing any moving of

coils after being set, assures closest tuning.

List Price  
TRIPLE COIL MOUNTS.....\$5.50  
DOUBLE COIL MOUNTS..... 3.75  
SINGLE COIL MOUNTS..... .50

Trade Discounts Allowed

OSLAND, INC.

122 Fifth Ave. New York City

**RECEIVERS REWOUND AND REPAIRED**

Any make, copper wire, any resistance  
Work guaranteed  
Commissions to Dealers

**MONTCLAIR RADIO CO.**

272 Bloomfield Avenue Montclair, N. J.

**American Radio & Electric Co.**

1133 Broadway New York City

WRITE FOR OUR CATALOG  
JUST OFF THE PRESS



"Essex" 150-600 meter 180° variocoupler with 3" molded dial.  
Price \$1.25 each  
Essex square turned bus wire 2 foot lengths \$1.00 hundred feet  
ESSEX MANUFACTURING CO.  
117 Mulberry St., Newark, N. J.

Rheostats—Sockets  
Potentiometers  
Crystal Detectors

**ROYHELE MFG. CO.**

Mfrs. of Quality Products  
167 Mercer Street New York, N. Y.  
Write for Prices. Representatives Wanted.

THIS WILL BE A RADIO CHRISTMAS!

# Jersey Dealers and Wholesalers Confer

## Evils of the Distribution System and Wisdom of Forming a State Association Were Discussed

Nobody attempts to deny that the distributing agencies of the radio industry need a thorough overhauling to conform with the best business standards. The summer slump has given the dealers much food for thought along these lines. In a recent interview, Mortimer J. Salzman, manager of the Wholesale Radio Equipment Company, 24 William Street, Newark, N. J., gave hope that this house cleaning has started or will start before very long.

A short time ago he invited the dealers of Newark and adjoining towns, as well as several other wholesale concerns, to attend a dinner at Achtel-Stettens, for the purpose of discussing a dealer's organization in New Jersey. At that dinner, more was accomplished from the frank recognition of the evils in the distributing system and devising of ways of overcoming them, than had been, from months of futile talk by various individuals.

Mr. Salzman, commenting on this conference, very carefully called attention to the fact that this one meeting could not accomplish the complete purpose for which it was held. "There will have to many more such meetings," he said, "before we will have formed a workable association, but we realize that the foundation must be firmly laid. This association is too important to be formed overnight. We have the dealers and other members of the industry interested in the association. That is about all you can ask at the present time."

This conference and succeeding conferences, it is believed, will have a very beneficial indirect influence upon the dealers of New Jersey. They are now thinking about these problems and doing their best to find a solution. Out of all this thought and getting together, there are bound to come more wholesome and more satisfactory relations which will benefit everybody in the industry.

He emphasized that one of the first benefits to be expected from such an association would be its effect upon the various manufacturers. When a body of dealers expresses their desire for a certain standard of goods, manufacturers

will understand more clearly what they must make and how they must make it in order to secure the co-operation of the distributor.

Quality will be raised and dealers will recognize that the manufacturer is very largely limited in his efforts to produce quality goods by the methods of various retailers. When dealers exert a united voice, radio merchandise will become standardized. These are just a few of the very evident benefits to manufacturer, wholesaler and retailer, and finally and most important of all, to the public—of this movement to improve retail conditions.

Mr. Salzman is not taking any narrow standpoint in this work. He has issued a broad minded call to all wholesale radio houses in New Jersey to join hands with him in making New Jersey a better radio market, and he is doing everything he can through his own organization to

promote the welfare of the dealers. Wherever possible, he gives the dealer a helping hand, counsels him wisely and tries to steer him in the paths that he knows will ultimately profit him the most.

Dealers always have a hearty welcome at the beautiful large showrooms of the Wholesale Radio Equipment Company, on William Street, Newark, N. J. Apparatus for testing are always available and every facility for careful buying is offered them. Mr. Salzman takes the view that his position in distributing is that of an expert buyer for a great number of dealers. He must know the radio industry from A to Z, be able to look ahead and provide for future developments, be guided by the past and know every phase of the present. This is no small job but every dealer who buys from the Wholesale Radio Equipment Company realizes that Mr. Salzman fills the bill to a "T."

## Attractive De Forest Booth at Chicago's Big Radio Show

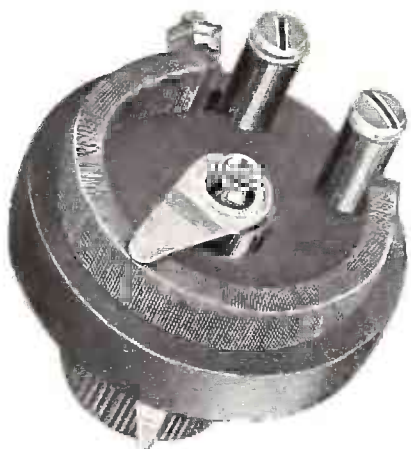


Displaying the complete line of radio parts manufactured by the De Forest Radio Telephone and Telegraph Company, the booth shown above at the Chicago Radio Show attracted much attention because it was the exhibit of one of the pioneer firms in radio development. During the week of show, October 14 to 21, many visitors stopped at the exhibit as if to pay homage to Dr. Lee De Forest.

In the exhibit the new De Forest sets were displayed to advantage, especially D-4, D-5, D-6 and D-7.



HALL-MARK OF QUALITY



MODEL—A205

**POTENTIOMETER**

230 OHMS 0-2 AMPS

SPECIFICATIONS

Condensite Base

Ideal Resistance Unit

Phosphor Bronze Contact

Brass Posts

Highly Nickerled

SEND FOR OUR BOOKLET  
"WHY WE USE CONDENSITE"



MODEL—A101

**RHEOSTAT**

**ADVANCE METAL STAMPING CO.**

MANUFACTURERS

Department RE

19 THOMPSON ST., NEW YORK

**MACHEN AT RADIO SHOW**

Machen Radio Manufacturing Co., Inc., of 4639 East Thompson Street, Philadelphia, recently circularized all Radio dealers in that city, calling their attention to the fact that the Machen people were exhibiting at the Radio Show, which was held at Lu Lu Temple, Broad and Spring Garden Streets, from October 2nd to 7th.

The Machen "Clearad" radio parts were featured by the company in their display, number five. To demonstrate the truth of the assertion that "it is a pleasure to listen in with the Machen 'Clearad' receiving sets," the Machen people connected several sets in circuit, so that radio buyers could judge for themselves on hearing the clear tones and the pick up free from static.

Each "Clearad" receiving set is mounted in a mahogany cabinet and materials and workmanship are of a high quality. The company also makes a line of variometers and variocouplers, mounted and unmounted, amplifying and detector panels, rheostats, telephone plugs and jacks. The company has had twenty years' experience in the manufacture of electrical goods.

**ORANGE SEAL ARRESTER**

Built in strict accordance with the Underwriters' requirements, and selling at a price that allows the dealer a good profit are among the claims for popularity that are made for the Orange Seal lightning arresters by its manufacturers, the Brighton Radio Co., Beaver Falls, Pa. To install this arrester, it is suggested that the arrester be suspended from the lead-in wire just below the insulator. A wire connects the lower end of the receiver to a pipe driven into the ground. As the natural tendency of lightning is to reach the earth by the shortest available route, it will jump the arrester air-gap in a direct line to the ground rather than travel through the devious turns and coils of the radio outfit.

**NA-ALD COGSWELL CONDENSER**

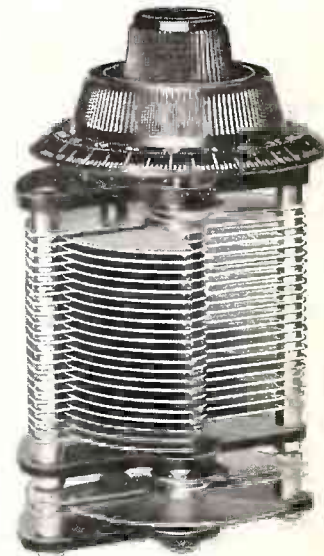
The Na-Ald Cogswell variable condenser, manufactured by the Alden-Napier Company, 52 Willow street, Springfield, Ill., is said to have the smooth, easy movement of perfect bearings with a uniform increase in capacity as it is rotated, due to the special shaped plates—a Bureau of Standards design. In addition to several other features it has a pig tail connection which eliminates faulty contacts.

**"I PICKED WINNERS"**

Was the answer of a prominent business man to a question as to the secret of his remarkable success.

**UNITED Variable Condensers and Transformers are WINNERS**

Back of them is a half-million-dollar equipment and a staff of real Radio Engineers.



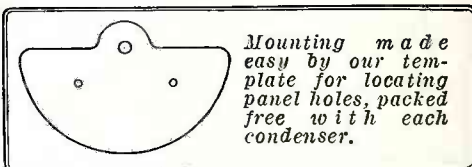
**United Variable Condensers**

WITH VERNIER ATTACHMENT DIAL AND KNOB

**United Variable Condensers**

|               |        |
|---------------|--------|
| 46 plate..... | \$6.50 |
| 26 plate..... | 5.50   |
| 43 plate..... | 4.50   |
| 23 plate..... | 4.00   |
| 11 plate..... | 3.50   |
| 5 plate.....  | 2.75   |
| 3 plate.....  | 2.25   |

As shown without dial or knob.



Mounting made easy by our template for locating panel holes, packed free with each condenser.



Pat. Appd. For

United Transformer

Fully Mounted as Shown

Black enamel or buffed nickel plated .....\$4.50

Liberal Discount to Jobbers

Send for Circular.

**United Mfg. & Distributing Co.**

536 Lake Shore Drive Chicago, Ill.

## Business Static Slowly Being Eliminated.

(Continued from page 57)

terials, and makes sure they are standard makes this time, with the result that his product is very gratifying and he is a booster of radio.

The foregoing reference conveys a good idea of business static. Man Number One is the so-called manufacturer who made so-called radio parts in the cellar, garret, shoe factory, lace mill, etc.

Man Number Two is the radio public who have suffered a loss, but realize that their disappointment is due to the experiment of man Number One and shun both him and his products

If one takes the time to look around a bit, a very short survey will prove that the standard articles are moving and have been moving and are selling at their list prices, while the just as good kind are selling for any thing they will bring, *when they sell.*

The public is becoming educated and now demands the best and are paying the price for the best.

So, let the man who understands radio and is making a good product take heart for the morning of his day is here and by the afternoon the horizon will be cleared both of inferior radio manufacturers and their products. These we refer to as business static and just so sure as science is removing electrical static, just so sure will clean business and perfect products remove business static.

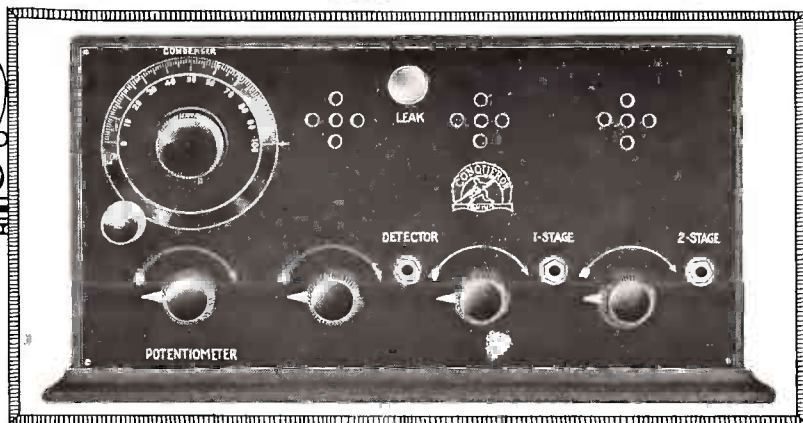
### "BEST" VARIABLE CONDENSERS

A. C. Towne, Inc., Buffalo, N. Y., have placed a new line of variable condensers on the market to which they have given the name "Best." It is emphasized that these condensers require but one hole for panel mounting. The manufacturers also say that the rotating member is perfectly bushed, washer construction and counterbalance have been eliminated and the condensers are electrically and mechanically perfect.

### WESCO APPARATUS

The Wilmington Electrical Specialty Company, 912 Orange Street, Wilmington, Delaware, offer the trade Wesco detector and amplifier panels, type HR regenerative receivers, Dragon radio storage batteries, amplifying transformer, antenna wire, magnet wire and other apparatus of special merit.

# CONQUEROR



DO YOU BELIEVE  
IN SANTA CLAUS?

*Are you placing orders now in anticipation of the inevitable Christmas and winter boom in Radio Sales, or will you be obliged to say, "This is all we have?"*

BUY NOW

## CONQUEROR

Custom-Built, One-Knob Control

### RECEIVING SETS

#### BECAUSE---

—They're the finest tuner, detector and 2 step amplifier sets made at any price—bar none.

—They're capable of an unprecedented degree of super-sharp tuning and render an undistorted tone as clear and voluminous as the finest talking machine made.

—They're so simple to operate and built of the finest units known to the science.

—They're the most beautiful looking sets you've ever seen—housed in a solid mahogany, piano finish case, sufficiently attractive to grace the most tastefully appointed home.

—There's an unconditional, bona-fide ONE YEAR GUARANTEE with every Conqueror Set we sell.

#### DEALERS AND JOBBERS

*Write right now, for specifications, price and discounts—  
or demonstration.*

## LEWIS & DE ROY RADIO CORP.

560 SEVENTH AVE  
NEW YORK CITY

DESIGNERS AND  
BUILDERS OF



CONQUEROR  
RADIO SETS

THIS WILL BE A RADIO CHRISTMAS!

## National Survey Shows Condition of Radio

(Continued from page 45)

As to the stocks on hand, jobbers reported amounts invested at a range of from \$5,000 to \$150,000. Goods ordered for future deliveries ranged from \$5,000 to \$200,000. With the slump some jobbers resorted to a C. O. D. basis of business which retarded the outlet of goods. As a general rule, however, most jobbers worked on a ten days two per cent. off, thirty days net basis. Indications are that this will continue as the general basis for jobber-to-retailer business. Ninety per cent. of the jobbers stated in the reports that they believed that fifty per cent. off was the proper discount to jobbers.

From newspaper and jobbers' reports there are at least four thousand exclusive radio dealers in the country. But the actual number of firms engaged in handling radio is at least five times that number.

The figures as to the growth of broadcasting stations is one of the most startling, as well as reassuring, signs in the industry. At present, from reports compiled, there are 542 public broadcasting stations in the United States, providing programs daily or on schedules less regular. Every state has at least one station. Any town of any size has at least one within a range of twenty miles, and on an average of two more within seventy-five miles.

Radio stocks, then, will be adequate for the Christmas trade, broadcasting will be in sufficient quantity to inspire buying, the public has had a year to learn "what it's all about," newspapers have been instructing them right along in daily and weekly radio pages, dealers have profited by experience and are learning how to sell radio rather than handle it, and altogether it looks as if this is going to be a radio Christmas!

## Free Instruction

(Continued from page 65)

man who has just spent a few hundred dollars for a receiving set discards it, and tells all his friends that radio is absolutely unbearable. We want to show such people that radio telegraph is as interesting or more so than concerts. Let the amateur, the broadcaster, and the novice get together and have a good understanding about the matter, and business will be fine. Otherwise radio is bound to lose its attractiveness from the financial standpoint. Are we right?

## JEWELL VARIO COUPLER



\$1.25 List

400 meters, 3" rotor, tested stator, 21 s. c. wire, 1/4" aluminum shaft, 14 taps, pigtails.

Sell More  
Popular Price  
Couplers

Positive Connections  
Positive Results

ROTORS SET LOW IN STATORS

WE MAKE OTHER STYLES  
TO 3000 METERS

DEALERS—JOBBER—AGENTS  
PLEASE WRITE FOR DISCOUNTS

MANUFACTURED BY



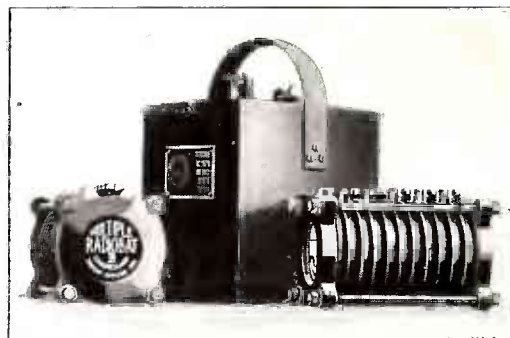
\$2.50 List

600 meters, 3 1/4" rotor, composition stator, 24 s. c. wire, 1/4" brass shaft, pigtails, 14 taps, brass uprights.

**JEWELL RADIO SALES CO. 90 West St., New York**

## Radiobat Grid Has Double Reinforced Construction

A group of "A" and "B" storage Radiobats which incorporate a number of new features of interest to radio fans are shown in the accompanying illustration. Both the "A" and "B" types of these new principle batteries contain a solid electrolyte which makes them absolutely nonspillable. This feature



Radiobats

will be appreciated by every radioist who has ever spilled acid from his battery on his mother's or wife's best carpet.

According to a statement made by the manufacturers, one of the interesting features in design is the absence of separators which reduces internal resistance to a minimum. The Radiobat grid (the metal mesh into which is pressed the "active material," forming the "plate") has a double reinforced construction. This construction adds 25 to 30 per cent. more actual metal per square inch. The plate is, consequently, just that much more rugged and does not buckle. This reinforced strength plus the solid electrolyte renders the use of separators unnecessary. Due to the fact, however, that the secondary reinforc-

ing mesh in the grid does not come to the surface of the plate, there is actually more active surface per square inch of plate area. In the case of the Radiobat "A," this results in a battery 25 to 30 per cent smaller and, consequently, easier to handle than any other "A" battery of equal rating.

The Radiobat storage "B" is even more unusual and interesting. It is compact—only four inches square by seven inches long—scarcely larger than a large size dry cell "B." It has no glass jars to break, no liquid to leak. The most notable feature is its utter noiselessness of operation. It substitutes the steady, sustained voltage characteristic of a storage battery in place of the irregular constantly dropping voltage of a dry cell, thus eliminating all hissing and crackling noises with which all radio operators are familiar. Changing voltage in the plate circuit is the direct cause of most tube noises and most of what is blamed on static. Sustained voltage does away with this and results in a clear true-tone reproduction of each word and note.

The Radiobat storage "B" is economical as well. It is easily rechargeable at home from either AC or DC currents and outlasts its value in dry cell "B's" on each home charge.

The combination of "A" and "B" Radiobats forms a new principle in radio power supply which deserves the attention of radio enthusiasts. Additional information regarding the Radiobats will be supplied by the manufacturers, the Multiple Storage Battery Co., 350 Madison Ave., New York.

**THIS WILL BE A RADIO CHRISTMAS!**

## Everybody Must Help Eliminate Weaklings

(Continued from page 49)

hundred dollars credit, and in a short time our young merchant has seven or eight thousand dollars worth of merchandise on his shelves for which he owes the wholesalers six or seven thousand dollars. Everything is lovely until the rush is over, then he finds himself with about a thousand dollars in cash with which to pay for seven thousand dollars' worth of merchandise that he cannot sell. He had not figured on that. He expected to sell it all, and stop buying before the slump arrived, or maybe he thought there wouldn't be any slump. Anyway he fails; the auction sale brings about two thousand dollars and the wholesalers lose four thousand dollars among them. The bankruptcy brokers who purchase the seven thousand dollars' worth of merchandise for two thousand dollars proceed to throw it on the market at less than its manufacturing cost. As long as it is on the market the retailers' business is damaged, and the wholesalers and manufacturers suffer.

The wholesalers' and manufacturers' losses are therefore two-fold. They lose the money that is due them from the bankrupt dealer, and they lose further sales while the broker is capitalizing their misfortune by selling the merchandise at half price, but still at a generous profit to himself.

It is not always necessary for a dealer to actually fail for the brokers to get in their work. The dealer may find himself with accounts payable amounting to say two thousand dollars while his principal asset consists of five thousand dollars' worth of merchandise that he cannot sell. The brokers seek him out, and waving two thousand dollars in bills in his face, they purchase the greater part of his stock at a ridiculously low price and throw it on the market at a fraction of its worth. In this case, the dealer loses his year's profits, and becomes a weakling, while the manufacturers, wholesalers and other dealers suffer loss of further sales as long as the brokers are in the market.

Within the past few days there has been formed in New York a well financed company, for the specific purpose of capitalizing the misfortunes of overstocked and embarrassed manufacturers, wholesalers and retailers, and while they will prey mostly upon weak wholesalers and retailers, it is understood that they have already bought from a manufacturer

(Continued on page 88)



# TWO and ONE HALF MILLION CUSTOMERS

ARE WAITING FOR

## MICAPHONE

ADJUSTABLE A REAL SENSATION **MICA** MADE FOR EVERY MAKE OF PHONE

## DIAPHRAGMS

### CHRISTMAS BUSINESS

MICAPHONES are the ideal Christmas present. Thousands will be bought. Every fan has a head-set—every head-set needs MICAPHONES GET YOUR SHARE OF THIS BUSINESS-

### SMALL INVESTMENT

Trial Assortment (12 pair)  
Costs only \$13.75, cash with order or C. O. D.  
Sells for \$24  
You make \$10.25  
A Nice Big Profit

### QUICK SALES

Average of our sales shows three reorders per month per dealer.

Send \$13.75 today for Trial Assortment.  
Satisfaction Guaranteed.

Just Slip Out the Metal Disc and Slip in the MICAPHONE

Soften Static Eliminate Noises Give Wonderful Tone Natural Clear Speech Sharp Signals No Distortion

PUT THIS SILENT SALESMAN IN YOUR WINDOW

It links your store with our advertising in all the leading radio magazines.

IMMEDIATE DELIVERIES



Radio Mica Products Co., 156 East 43rd St., New York City  
SOLE MANUFACTURERS

THIS WILL BE A RADIO CHRISTMAS!



## Mercury Radio Sets

A PROFITABLE line to handle, from the dealers' standpoint. A reasonably priced line to buy from the consumers' standpoint.

The low price is made possible by quantity manufacture in our large factory where every part is made, not merely assembled.

Write for details  
and trade prices.

**MERCURY RADIO  
PRODUCTS CO.**

LITTLE FALLS NEW JERSEY



Radio  
Supplies  
of  
Exceptional  
Character  
at  
Correct Price  
and  
Liberal Discount

Write for Descriptive  
Catalogue

**Harold M. Schwab, Inc.**  
419 West 42nd Street  
New York City

## Report on Sale of Radio Parts and Supplies

(Continued from page 46)

John Jones is naturally clever with his hands, he has that sort of mind that responds to the idea of making things, and that kind of imagination that is intrigued by the fascinations of radio. He may be a boy just big enough to get his chin above the counter or an elderly man. He knows something of the technical side of radio, but his circumstances prevent him from putting sufficient time on it to make him able to grasp all the details which enter into the design of really first class equipment.

Every time he gets a new idea he wants to try it out. If he is successful, he is encouraged to take up the next one. If he fails, he does not blame his own lack of knowledge. He blames you and the parts you sold him. He brings in his failures to discuss with your salesman, but they have no time to give him. He is filled with resentment and never goes to your store again. If he is successful, he may come back to buy more things when and if he finds something else to tackle.

We, at the Sleeper Radio Corporation, have adopted a slogan "Sell him ideas and you sell him supplies." In our service station, which we use as a selling laboratory, we carry both nationally advertised complete sets and our regular Sleeper standardized parts.

One thing we have definitely established, from our customers in the selling laboratory, is that the permanent trade that we built up last spring has not been with people with whom we sold complete receiving sets but with experimenters to whom we sold ideas and in consequence parts for constructing apparatus. Let me point out right here that a department of your radio business selling instruments and parts is of tremendous value in making good times better and stabilizing sales during the dull period.

Now for the ideas. I pointed out we found it necessary to supply experimenters with ideas for building instruments of parts which you sell for, left to their own resources, they have not sufficient knowledge to go ahead with the design of instruments of their own accord.

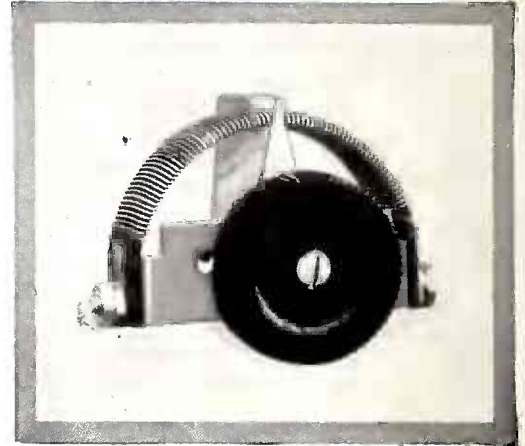
To summarize my answer to your question as to what methods must be pursued to handle profitably and with rapid turnover separate instruments and parts, you must apply real selling methods to parts just as you have

# Radak

Reg. U. S. Pat. Off.

**RELIABLE RADIO EQUIPMENT**  
made by America's oldest and largest manufacturers of radio equipment exclusively. Sold by the best electrical and radio dealers.

**CLAPP - EASTHAM CO.**  
133 Main Street Cambridge, Mass.



### A BETTER RHEOSTAT

A nicer looking, smoother working and better made rheostat than you have ever seen before.

Furnished with or without vernier this instrument will improve the operation of any radio equipment.

The many valuable features coupled with national advertising make this an instrument every dealer and jobber should stock—liberal discounts give ample margin of profit and low list means quick turnover. Order now.

123A Plain..... 80c  
Type 123B Vernier..... \$1.40

**THE WILCOX LABORATORIES**  
LANSING MICHIGAN



### VIKING VARIO-COUPLER

This Vario-coupler was originally designed for use in the Consolidated Radio Call Book Co.'s Pattern No. 1 for a Short Wave Regenerative Receiver. It may also be used in any other hook-up requiring a vario-coupler. This coupler, whose wave length range is 150 to 800 meters is filling a real demand, and its popularity is assured.

Price \$5.00

We are also the sole authorized distributors for the Consolidated Radio Call Book Co. and can offer at their regular discounts the following:

Radio Constructor Pattern No. 1  
Radio Constructor Pattern No. 2  
Radio Constructor Pattern No. 3  
20 Radio Phone Diagrams and Hook-ups

14 Radio Formulae and Diagrams and the Consolidated Radio Call Book

Discounts to Dealers and Jobbers

**VIKING RADIO CO.**  
26-D Cortlandt Street  
New York City

THIS WILL BE A RADIO CHRISTMAS!



learned to supply selling methods to complete sets. It is not profitable to merely have on hand parts to meet the various requirements of experimenters but it is profitable to go right into the sale of parts with the same sort of psychology that you applied to complete sets if you will bear in mind the slogan, "sell him an idea and you will sell him supplies" and make your salesman work with that in mind and, as you have done with complete sets specialize on the fewest possible and yet the most complete lines of parts and separate instruments. You will find the profits from parts certainly equal and possibly exceeding in percentage, very likely two in volume the sale of complete instruments.

**SIMPLE-X CRYSTAL RECEIVER**

The Caragol-Clarke Co., Inc., 82 Beaver Street, New York, states it is obtaining gratifying results in the distribution of the Simple-X Crystal receiving set. The Simple-X is said to be all that its name implies—as simple as writing "X," and it is one of the smallest, most efficient and compact crystal sets on the market. There is nothing in its construction that requires mechanical knowledge to any degree, and it is, in fact, so simple that even a child can operate it. This receiver takes up but few square inches on window sill or table and will bring its broadcasting loudly and clearly within a radius of 25 miles.

A few points of interest as to the construction of the "Simple-X" follow:

- (1) The only set equipped with the Simple-X fool-proof detector.
- (2) The only set with the Multi-tec crystal—a thousand crystals in one. This crystal does away with the usual annoyance and delay of trying to find a sensitive spot on the crystal.
- (3) Roller sliders give a smooth constant contact.
- (4) No wearing or short circuits of coil wires due to frictional scraping.
- (5) The Simple-X is the only crystal set having a flat coil and indicating rollers.

This set has been awarded the "Certificate of Excellence" by the laboratory of the *New York Evening Mail* and has been approved by the *Tribune Institute*. The Simple-X claimed to be specially adapted for the home or office and appeals to "young America."

Distribution is progressing rapidly all over the country and within another month or so should be in full swing.



**IMMEDIATE SHIPMENT**  
*Also*  
**All Other Radio Needs**  
*WRITE FOR PRICE LIST*

**RADIO ACCESSORIES CO.**

**220 West 42nd Street****New York**



**Turnovers not Leftovers**

Ideal radio weather is here. Broadcasting from distant states is once again heard nightly by the listener-in. With each day bringing nearer cold evenings it behooves every dealer to stock well but *carefully*, for it is to be a good radio season.

**RADION**

Mahogany Panel is equipment which every fan will be pleased to own because of the beautiful mahogany grain finish, delightful satin like smoothness and supreme insulating properties. Hence RADION panels will turn over rather than be left over.

Also our line of RADION dials, knobs, sockets and other similar parts is complete. These, too, will sell because their properties are such that when the hand touches the RADION dial, for example, it does not cause those noises which are always present when parts made from inferior compositions are used. In short, RADION is superior for wireless application. It is a quality product needing no apology from radio dealers who sell it. Write today for all information.



**American Hard Rubber Co.**  
**11 Mercer St., New York**

*THIS WILL BE A RADIO CHRISTMAS!*



## A Sales Room in New York for a Dollar a Day

at the

# Permanent Radio Fair

(Located in the "Buying Hub" of the United States)

Under the personal direction of  
**Raymond Francis Yates**

Radio Editor, New York Evening Mail

**GEORGE T. KEEN,**  
*Business Manager*

**MORTON STERNS, I.R.E.,**  
*Technical Director*

At the present time the radio industry is badly in need of a centralized exhibition of reliable merchandise, where buyers may come and make their purchases with a feeling of security. The Permanent Radio Fair is such a place; it is the official radio buying center of the United States. Buyers from every part of the country are visiting the Fair, because it saves them time and worry in selecting their merchandise. Only apparatus of recognized standing is being displayed and nothing will be accepted that does not meet with the approval of Mr. Yates, Director of the Fair. The Fair is open only to buyers during the morning. General public admitted during afternoon and evening.

The Permanent Radio Fair is being held in the famous Red Room of the Hotel Imperial, where 165 glass-covered compartments ranging in size from 24 x 24 x 36 inches to 36 x 36 x 36 inches have been provided. These spaces rent at a charge of from \$1 to \$3 a day.

### Send for Literature

A partial list of the exhibitors follows:

|                                    |                                   |
|------------------------------------|-----------------------------------|
| DeForest Telephone & Telegraph Co. | Marshfield Radio Corp.            |
| A. H. Grebe & Co.                  | Norman W. Henley Pub. Co.         |
| C. Brandes, Inc.                   | Westinghouse Elec. and Mfg. Co.   |
| Multiple Storage Battery Co.       | Finch Radio Co.                   |
| Pacent Electric Co.                | Radio Winding Co.                 |
| Signal Electric Co.                | Wilson Utensil Co.                |
| Federal Telephone & Telegraph Co.  | Victor Radio Co.                  |
| Dubilier Condenser & Radio Corp.   | Mercury Radio Co.                 |
| Cutting & Washington               | Post Electric Co.                 |
| Horne Manufacturing Co.            | Metropolitan Radio Corp.          |
| Radio Corporation of America.      | Wireless Press.                   |
| Hopewell Insulation & Mfg. Co.     | Electrad Corp.                    |
| Jewett Manufacturing Co.           | Globe Radio Co.                   |
| Man-Day Radio Corp.                | Bruno Radio Corp.                 |
| Acme Apparatus Co.                 | Radio Laboratories of New Jersey. |
| Arrow Radio Co.                    | National Airphone Co.             |
| Callophone Radio Products.         | Hartford Instrument Co.           |
| Chicago Radio Laboratory.          | Cairns Radio Corp.                |
| F. A. D. Andrea.                   | Lefax.                            |
| W. E. Supply & Service Corp.       | And many others.                  |

Fair Opened Sept. 30th—Closes May 30th

**PERMANENT RADIO FAIR, Inc.**

Hotel Imperial

32nd Street and Broadway

New York City

## Everybody Must Help Eliminate Weaklings

(Continued from page 85)

who approached them to remonstrate. The extent to which an organization of this sort might demoralize the market is apparent.

The manufacturers and wholesalers have it within their power to stop this, by exercising both preventive and combative measures, if they will recognize facts which confront them. The dealers, by force of numbers, can help as much, and their aid should be enlisted. It is important.

When a water pipe breaks, we first shut off the water, to prevent further leakage, and then repair the break.

The manufacturers and wholesalers should first stop extending credit on practically worthless interchange of experience, which permits a merchant with a thousand dollar rating to obtain a thousand dollars' worth of merchandise from as many different sources as he can find time to write to.

Financial statements and proper business references bearing upon the character and *ability* of the merchant, and the condition of his business should be insisted upon. It is amazing that business men, who would hesitate to lend five dollars to a man whom they have never seen nor heard of before, will ship him a hundred or a thousand dollars' worth of merchandise without even obtaining his verbal promise to pay. It is simply taken for granted. That a man is honest is not enough. Besides being honest, he should have a business, and be capable of running it successfully.

Reliable merchants should take no offense at being asked for tangible information bearing upon their desirability as credit risks. They should be proud to give it. If the merchant who objects to giving credit information concerning himself should apply for a life insurance policy, he would expect to submit to an examination, and would be proud to give information bearing upon his desirability as an insurance risk.

The sound merchant should welcome strict credit requirements. He will be able to pass them, while his unworthy competitor will not. Thus a strict observance of business principles in the granting of credit would aid and not impede the reliable merchant. Proper and intelligent supervision of credit by manufacturers and wholesalers would lessen the likelihood of dealers over-stocking, and thereby lessen their chances of becoming victims of the brokers. This would benefit the sound merchant

THIS WILL BE A RADIO CHRISTMAS!

also, as he would not have to compete with so many bankrupt stocks.

So much for shutting off the water. Now to repair the break.

There are, as has been said, hundreds of radio wholesalers and retailers doomed to fail during the next few months. Each failure will represent money losses by the creditors, i. e., the manufacturers and wholesalers, and by the failures themselves. The question of prime importance is this:

What will happen to the bankrupt stocks?

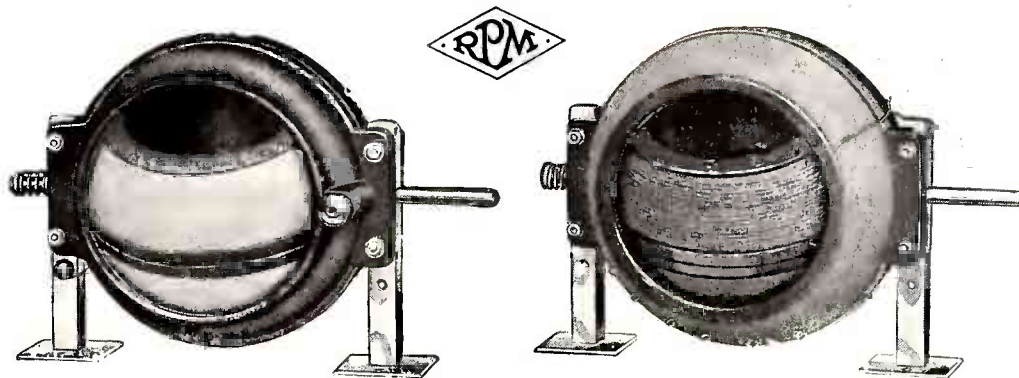
Will the manufacturers and wholesalers allow brokers to profit by their losses? It is the actual money losses taken by the creditors and by the failures themselves that make it possible for brokers to sell merchandise for less than it costs to make it. It is not superior marketing methods, or anything of the sort.

One possible solution of this problem might be the formation of a commercial or a cooperative credit association, with a membership composed of the credit-granting radio manufacturers and wholesalers of the country, for the purpose of collecting reliable credit information, and to whom wholesalers and retailers could appeal for assistance or relief when embarrassed by excessive inventories.

It should be the first duty of the credit association to make an investigation of the financial status and merchandising facilities of as many credit seekers as possible, and to keep this information up-to-date. This data would of course be strictly confidential, but all credit-granting members would have the privilege of requesting advice concerning any applicant. Monthly reports of amounts overdue from all customers would be forwarded to the association by members, and it would be possible to effectively check credit expansion and overstocking. Credit inquiries would state the amounts involved in each case, and an excessive number of inquiries concerning any one applicant would indicate that inflation was being attempted, and credit grantors would be so advised, unless of course, an investigation should indicate that the expansion was justified.

Up to this point, the association would function similarly to the credit associations of other industries, but the second and possibly the most important function of the proposed association would be to render assistance or service to embarrassed wholesalers or retailers. As mentioned previously, any wholesaler or retailer, whether member or non-member, would have the privilege of appealing

(Continued on page 92)



Variometer  
Price, \$6.50

Variocoupler  
Price, \$6.50

## High Grade RADIO APPARATUS

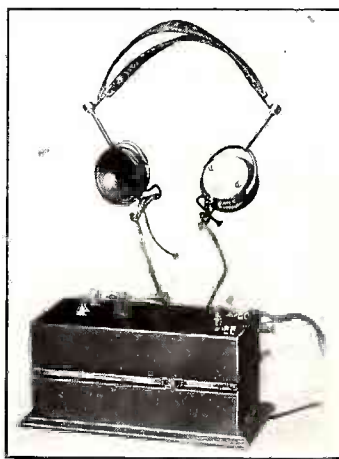
Twenty years in the electrical manufacturing field gives us the experience, organization and equipment to produce the highest grade of radio apparatus on the market.

Each unit is made complete in our own plant—from the moulding to the winding, assembling and final testing of the completed instrument.

The apparatus shown above is moulded from Redmanol, which is unaffected by water, oils, acids or other elements. It is a material which increases in resistance and strength with age. All joints and terminals are soldered, insuring perfect contact in all positions. These instruments are built to give unqualified service and satisfaction.

Write us for full information

**Radio Products Mfg. Co.**  
667 W. Fourteenth St.  
Chicago, Ill.



In lots of 100,  
\$3.50 each. In  
smaller lots,  
\$4.00 each.

Retail prices  
optional, so that  
special sales  
may be held.

A superior receiving set with a vocal and musical range  
of from 38 to 45 miles—code range, 150 to 200 miles

MAHOGANY CASE, BAKELITE PANELS, NICKEL FIXTURES  
8½" COIL AND TWO-SLIDE TUNER

**STANDARD PRODUCTS CO.**  
93 WILSEY STREET NEWARK, N. J.

THIS WILL BE A RADIO CHRISTMAS!

MANUFACTURERS OF  
Receiving Sets Complete  
Unites Mounted and Unmounted  
Send for Description and Prices  
**RADIO OUTFITTING CORP.**  
Mfg. High Grade Radio Apparatus  
410-412 East 34th St. New York, N. Y.

**THE PARAMOUNT  
ENGRAVING MACHINE**  
for Radio Panels  
Greatest Production—Lowest in Price  
**PARAMOUNT MACHINE CO.**  
207 Market Street Newark, N. J.

**Whirco Square  
Tinned Bus Wire**  
In 2 Feet Lengths or in Hun-  
dred to Thousand Pound Lots  
Quoted.  
Shipments F. O. B. Mill  
**WHITE RADIO CO.**  
123 East 23rd Street  
New York City

**Maclite Vario-Coupler**  
Price \$5.00  
Is, in the opinion of experts, the most  
efficient on the market.  
All Other Maclite Parts are equally effi-  
cient, including the Maclite Variometer,  
Double Slide Tuner, Variable Condensers  
and Crystal Detectors. The Maclite Sin-  
gle Tube set at \$25.00 is the best buy we  
have ever seen. Let us tell you more  
about this set, also all other Maclite  
parts.  
Dealers and Jobbers Write for Discounts  
**MACLITE RADIO CO.**  
701 Maclite Bldg., Claredon St.  
Boston, Mass.

**GANAERITE  
Detector Crystals**  
Twenty years of practical min-  
eralogy gave us the material to  
produce the highest quality  
crystal.  
We are now undertaking the  
largest single order for mounted  
crystals in the market.  
We individually test and guar-  
antee to replace or refund on  
any unsatisfactory Ganaerite  
crystal.  
**The Harris Laboratory**  
26 Cortlandt St., New York City

**VERNIER VARIABLE  
CONDENSER**  
The Duntley Company, of Chicago,  
Ill., are manufacturers of a vernier  
variable condenser which permits  
finer adjustment of the capacity and  
operates very much on the order of  
the vernier on a micrometer. Its last  
plate rotates independently of the re-  
mainder and is adjusted by a small  
knob placed in front of the large knob  
which controls the movement of the  
other plates. The vernier makes pos-  
sible selective tuning and little energy  
is lost in this type of condenser by  
brush discharges.

Without removing the fingers from  
the knob it is possible to tune to the  
proper wave length. When the spin-  
dle is turned to the proper position  
for clear reception it is only necessary  
to adjust the vernier knob (the  
smaller of the two) to eliminate for-  
eign noises. It thus combines two  
instruments in one, which is an im-  
provement over the plain variable  
condenser. Besides this it gives a  
clear and loud connection easily and  
quickly. The vernier attachment gives  
an adjustment many times as fine as  
is possible with a plain condenser.  
The back panel mounting and non-  
conducting operating shafts make  
shielding unnecessary and reduces  
fixed capacities to a minimum.

**PRECEL AUDION CONTROL  
UNIT**  
The Precel audion control unit  
manufactured by the Precel Radio  
Mfg. Co., Toledo, Ohio is said to be a  
very practical piece of apparatus  
which can be used by the enthusiast  
in the construction of any type of  
vacuum tube detector or amplifier.  
The unit can be easily mounted on the  
back of the panel as holes are provided  
for this purpose.

**THE AUTOVOIX**  
The Autovoix, a loud speaker, man-  
ufactured by the Autovoix Co., Balti-  
more, Md., is built on a new lever  
principle and carries a very large mag-  
netic field in which the armature is  
suspended. It neither requires a stor-  
age battery in its operation nor atten-  
tion or adjustment after being in-  
stalled.

**ERLA PRODUCTS**  
Sturdy, dependable staple radio  
equipment at standard prices is the  
policy which guides the Electrical Re-  
search Laboratories, 2515 Michigan  
Ave., Chicago, makers of the "Erla"  
line. "Erla" products are profitable  
to handle.

**RADIO CONCERTS  
CORACO**  
America's Greatest Radio Receiver  
No Inside or Outside Connections  
**GOTHAM THEATRE BUILDING**  
Broadway at 138th Street

**JOY-KELSEY CORPORATION**  
Manufacturers  
**RADIO EQUIPMENT**  
4021 West Kinzie St. Chicago Ill.

**EVEREADY**  
**RADIO "A" BATTERY**  
Immediate Delivery from Stock  
Manhattan  
**Storage Battery Co., Inc.**  
204 West 76th Street  
New York City

**IMMEDIATE DELIVERY**  
**CABINETS—**                      **PANELS—**  
Imitation Mahog-      Genuine Formica,  
any or Flemish                      3/16" thick  
Oak Finish                      6 x 10 1/2  
6 x 7 x 0                      6 x 14  
6 x 7 x 13 1/2                      6 x 21  
6 x 7 x 20 1/2  
Other Sizes to Order  
**COMPLETE RECEIVING SETS**  
Jobbers and Dealers  
Get Our Discounts  
**THE MIHO COMPANY**  
8 East Third St. Cincinnati, Ohio

**MORADIO**  
Every Wire Contact  
**COUPLER**



List \$7.00  
Its adaptability to any panel set or  
hookup makes it popular.  
Write for descriptive circular and  
dealers prices.  
**MORELAND SALES CORP.**  
30 Ogden St., Newark, N. J.

## What About the Retail Price Cutters

(Continued from page 50)

Something must be done, and one of the best plans, naturally, is for the organization and maintenance of retailers' associations, where the leaders in the local fields can foregather in a spirit of friendliness to show each other how futile it is to cut prices on everything all the while.

Many retailers are condemning department store activities in the radio field, and many of us realize that other retailers in other fields of commercial endeavor are up against this same proposition and have been for, lo—these many years. Department stores, by their co-operative buying arrangements, enjoy discounts not available to most retailers. This is a problem, too, for the radio trade to solve. THE RADIO DEALER staff holds some decided views on this subject and I understand they will be aired in proper manner for the benefit of the trade.

Price-cutting, as I've already stated, is not local to any city; it appears everywhere. New York, it is generally believed, sets the low price mark for radio retailers, and for the benefit of readers not in metropolitan section.

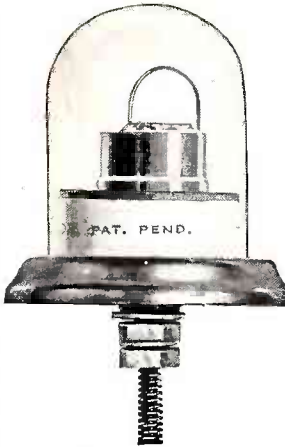
(NOTE: Mr. Scanlon followed the above with a list of cut prices prevalent on many so-called standard brands. Some of the prices indicate a reduction of forty per cent on the list price, showing consumers can buy good sets as low as retailers. On parts the reductions appear to be from between twenty-five to forty-five per cent.—Editor RADIO DEALER.)

### G. E. BONDS

The General Electric Company announced that it expected to call its 6 per cent. debentures due in 1940 on the next interest date, Feb. 1, 1923, at 105. No new financing, it was stated, is contemplated. All of which is testimony to the great strength of the General Electric in particular and to the prosperity of the electrical manufacturing companies in general.

### KENT MASTER ADAPTER

The F. C. Kent Co., Irvington, N. J., manufacturer of the Kentone radio amplifying horn has introduced the Kent Master adapter, an ingenious device which when applied to an Edison disc phonograph will enable it to play any disc record, whether it is one of the hill-and-dale type or of the lateral-cut style.



## GREWOL DETECTOR

**Nothing Like It  
Nothing as Good** List **\$2.00**

The Grewol Detector has taken its place among the standard, nationally advertised parts. In a class by itself because it does what no detector has yet been developed to do and still sells at a popular price.

*Asked for by name, sold by reputation.  
Write for Interesting Proposition*

### RANDEL WIRELESS CO.

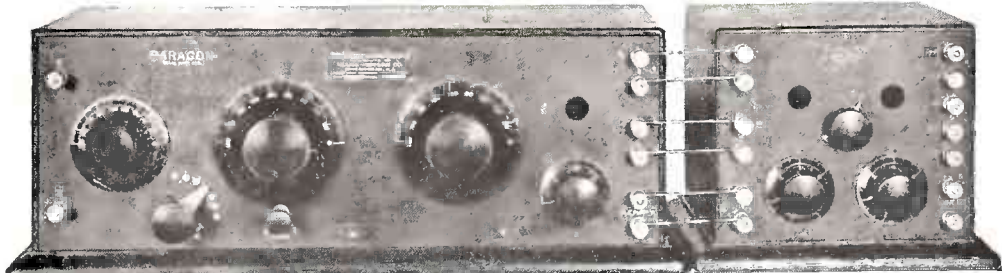
Sole United States Distributors  
9 CENTRAL AVE. NEWARK, N. J.

Permanent Adjustment

Always Set and Ready

Glass Enclosed

(Actual Size)



R-D-5 Tuner \$75    PARAGON A-2 Two-step Amplifier \$50

Wave length 510 meters. Same circuit as in R-A-10—1000 meters with the same finish and workmanship. Very selective.  
Get your order in now. Best service and discounts.

E. M. WILSON & CO., 11 Lafayette St., NEWARK, N. J.

# THOROPHONE FOR TONE

TRADE MARK REG. U.S. PAT. OFFICE

TYPE "S"  
HIGH POWER MODEL



S-5—\$60.00

Shipping weight 30 lbs.

The Thorophone is the Only Electro Magnetic Solenoid Loud Speaker with a Controlled Mica Diaphragm. It is Superior in TONE VOLUME APPEARANCE

JOBBER DEALER SET MANUFACTURER

Send for full details of this newest and greatest of all radio loud speakers.

In volume it is several times louder than any other mica diaphragm loud speaker. It gives great volume on the ordinary two step amplifier. It does not require a power amplifier.

In tone quality the Thorophone "S" type is the final word. You can pick out each separate instrument in an orchestra selection.

The electrical element of the Thorophone "S" type uses an electro magnet and requires one ampere from a 6 volt storage battery in operation. It has a powerful solenoid action.

The S-5 consists of the Thorophone "S" type complete with concert horn. You will find in it the ideal radio loud speaker. The tone quality and volume are unrivaled. The height is 28". The base and pedestal tone arm are of wood, elaborately rubbed and finished in a very dark walnut.

The S-6 consists of the Thorophone "S" type mounted on its side in a low, flat, beautifully finished wooden container. It is arranged to operate on all the standard makes of phonographs. We furnish full instructions showing how to attach it to the different makes.



S-6—\$40.00

Shipping weight 15 lbs.

IF YOU DESIRE THE BEST RESULTS IN RADIO USE THE THOROPHONE "S"

WINKLER-REICHMAN COMPANY

To responsible firms we will be glad to send sample instruments on ten days' trial. Our production this winter will be limited. Prompt action is necessary.

MANUFACTURERS  
4801 South Morgan St., CHICAGO, ILL.

The Oldest Manufacturers of Loud Speaking Telephones in America

THIS WILL BE A RADIO CHRISTMAS!

# "BECO"

RADIO FREQUENCY SETS

145 TO 600 METERS  
\$160.00

"BROADCASTER"  
MODEL VARIO METER

Lightest and Most Compact on the Market

"RIEHL"

AUDIO FREQUENCY TRANSFORMERS

\$4.50

HIGH GRADE CONDENSER PLATES

DUO-LATERAL COILS

BISSELL ENGINEERING CO.

161-67 WEST 64th ST.  
NEW YORK

## Everybody Must Help Eliminate Weaklings

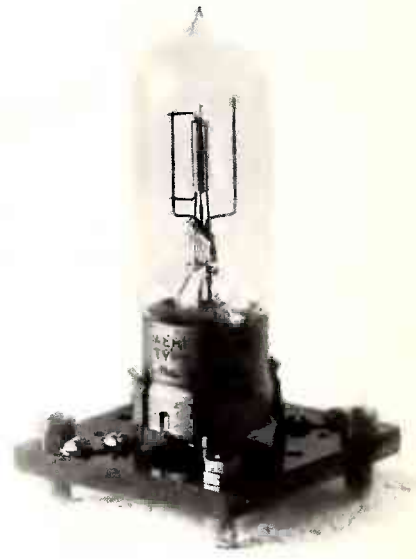
(Continued from page 89)

to the association, submitting a financial statement and inventory. If it was apparent that an extension of terms by the creditors would be reasonably safe, and would be likely to save the business, the association could recommend it. If, however, it was apparent that liquidation was inevitable, the association would be in a position to communicate with the manufacturers who made the merchandise, or the wholesalers who sold it, to determine whether they were willing or able to buy it back, if paid for, or to accept its return if unpaid for, provided of course, that such return would not constitute an act of bankruptcy. If the manufacturers and wholesalers directly concerned in the case could not conveniently lend assistance, then the association could bulletin its entire membership, and even a large list of cooperating retailers, stating the material on hand. One merchant might be carrying a killing burden of a thousand condensers, for instance, while condensers might be badly needed by a hundred other merchants in quantities of six or a dozen each. Certainly it would be to the advantage of all legitimate members of the trade to have them kept within the regular channels, even if it involved a little trouble in doing so, rather than have them find their way into a brokerage pool. It might even be possible to accomplish this without revealing the name of the overstocked merchant, excepting possibly to those who actually purchase a part of his stock.

If sufficiently alert, the association might even be able to keep bankrupt stocks within the regular channels of trade, by advising members and interested merchants of impending sales, the materials to be offered, their actual worth, etc., so that brokers would have some competition at the sales. The brokers would lose interest, of course, as the merchandise was bid up to or near its actual worth. It might be possible for the association to bid at sales, acting as agent for interested members or merchants who, by reason of distance, were unable to attend.

The association might also render a valuable service in investigating certain failures, as it is common knowledge that there are one or more associations operating in New York for the specific purpose of establishing retailers, who, as soon as they have established credit and accumulated

## SOCKETS FOR THE New Dry Cell Tubes



BAKELITE BASE--  
PHOSPHOR BRONZE CONTACTS AND FLANGES  
ALL BRASS PARTS--  
LIST - - - - - \$ .75  
LIBERAL DISCOUNTS TO THE TRADE

Write or Wire for Particulars

Radio Electric Service Station  
151 Main St. Tottenville, Staten Island



Dealers All Over the Country Handle Our  
**STANDARD RADIO GOODS**

OUR TRADE PRICES AFFORD GOOD MARGIN

Write for catalogue and price list

**WIENER WIRELESS SPECIALTY COMPANY**

21 ACADEMY ST.  
NEWARK NEW JERSEY

## The Gelman Plug



The GELMAN UNIVERSAL RADIO PLUG fills a long felt want for a simple substantial plug which can be used with telephone cords having pin tips, spade tips or plain wire ends. ALL METAL PARTS heavily nickel plated. NO SOLDERING NECESSARY. List price, \$1.00.

AGENTS WANTED THRUOUT THE U. S.  
Sample Sent C.O.D. Upon Request  
Jobbers and Distributors  
Write for Our Proposition  
**S. S. NOVELTY CO.**  
255 Bowery New York, N. Y.

THIS WILL BE A RADIO CHRISTMAS!

a stock of merchandise, arrange for bankruptcy proceedings and a sale, with the net result that the retailer makes a thousand or so, the association pockets a commission, and the brokers get the stock.

Manufacturers and some wholesalers may raise the objection to such a plan that the association, in promoting the sale of surplus stocks to legitimate retailers, would in a sense be competing with the members.

It is unavoidable that merchandise in the hands of the trade or of brokers compete with like merchandise until it is actually in the hands of the users or consumers. Even then, it satisfies a portion of the original demand.

The only way to overcome this objection would be to destroy the merchandise, and that would hardly be practicable, either in localizing or distributing the losses. The manufacturer cannot expect to sell more goods than the consumer market will absorb, in the long run.

Another objection might be raised by retailers that the association would become a guardian angel over incompetent merchants. If mismanaged, the association might become just that, but it must be assumed that the membership would elect and instruct the management in such a way as to ensure the association's functioning to serve the best interests of the industry as a whole, and not as a fountain-head of relief for incompetents.

It is, of course, an open question whether or not an organization such as that suggested could successfully combine the functions of a credit agency and a merchants' association, but there is at least room for serious thought. No attempt has been made in this article to work out the details of organization, administration or operation of such an association, nor to investigate the legal phases of the question, but if the plan is practical, details will be readily adaptable to it. The association would contemplate no unlawful practice, and therefore the details of operation would be worked out in such a way as not to be in violation of any State or Federal laws. That is a matter for an organization committee to handle, in collaboration with competent legal advisers, and after consultation with a representative delegation of interested parties.

### CONFIRM ORDERS

When giving salesmen order ask him to give you a duplicate, or insist that the house send you a confirmation of your order. These things save a lot of time, trouble and expense.

### PARAGON RD-5 RECEIVER

Unless a receiver possesses a high degree of selectivity a listener is apt to be forced to contend with interference between the many stations that have gone into operation on one very narrow band of wave-lengths, and those who are located in outlying sections or who wish to receive from various distant stations will find themselves greatly handicapped.

According to a recent bulletin recently issued by the Adams-Morgan Co., Upper Montclair, N. J., Paragon receivers are famed for their selectivity and sensitivity. The Paragon type RD-5 receiver and its companion 2-stage amplifier have been designed with the idea that the development of broadcasting demands not only ex-

treme sensitivity, but the greatest possible selectivity. This apparatus possesses the characteristics of the type RA-10 receiver, a professional type. The wave-length has, however, been reduced to between 160 and 510 meters, but includes within it the detector tube controls. While the RD-5 is a complete unit, most listeners find it desirable to add the companion amplifier known as Paragon type A-2.

The qualities of selectivity and sensitivity of the new receiver are the result of the low resistance of the circuits and the careful distribution and proportioning of the units. The proper proportioning and distribution of inductance and capacity of the circuits are said to provide a total freedom from body capacity effects.



**Completely Assembled  
or Ready-To-Build.**

**Send for Circular of  
Capacities and Prices.**

**MARSHALL VARIABLE  
CONDENSERS**

**Order Now For Christmas Business**

**NEW HAVEN RADIO CO., Mfrs., Chapel & Hamilton Sts., New Haven, Conn.**

# NULOID

**Scientific Chemical Compound  
Especially Adaptable For  
Radio Parts and Panels**

Nuloid's light weight and smooth polished surface combined with its high resistance powers make it particularly adaptable for radio requirements.

**Approved and Tested**

Tested by leading radio and electrical engineers and by the Columbia University laboratory, Nuloid was found to resist warping, water, oil, heat and cold, and to resist a 23,300 high frequency voltage on a 3/16th inch thickness.

**All Colors**

Nuloid is manufactured in mahogany, and all colors, plain and mottled, and its attractiveness adds materially to the appearance of receiving sets and all exposed parts.

**Retains High Polish**

Regardless of climatic conditions, Nuloid retains its high polish, and under all conditions it can be easily worked, as it does not chip, crack or break, and can be engraved, cut, drilled, threaded and polished.

Let us estimate on your specifications  
and send you some samples of Nuloid.

**NULOID CORPORATION**

**119 Chambers Street      Phone: Worth 0156      New York, N. Y.**  
**LABORATORIES AND FACTORY, KENILWORTH, N. J.**

*THIS WILL BE A RADIO CHRISTMAS!*

## "ETHEROLA"

AERIAL  
EQUALIZER TUBES  
AND  
GROUND  
SEPARATOR TUBES

Replaces Long Wire Aerials and  
Water Pipe or Other Grounds.

USED INDOOR OR OUTDOOR  
TO DEALERS  
JOBBER

Demonstrate a Set and Get the  
Biz. Selling Rapidly Wherever  
Shown.

Assist you greatly in sale of high  
grade Receiving Sets

GET YOUR TERRITORY  
QUICK

Write us now. Results guaranteed

### THE ETHEROLA CORPORATION

6216 Broad Street  
PITTSBURGH, PENNA.

# S & S

VARIOMETERS  
VARIO-COUPPLERS

\$3 each

Unsurpassed for Efficiency  
Workmanship and Design

Liberal Discounts to  
Dealers and Jobbers

Write for Descriptive Folder

### Sunday & Scholtz Co.

2638 West Cabot Street  
Philadelphia, Pa.

## Radio Industry is Stabilizing.

(Continued from page 51)

ject of merchandising the writer will briefly outline the purpose of the Radio Merchandise Fair which is now being held at the Hotel Imperial, New York City. With the large number of unreliable devices that have found their way upon the market, it is evident that there is a need for a centralized and permanent exhibit of reliable products where buyers and dealers may come to make choices and to examine new products. A buyer coming to New York at the present time arrives in town with a long list of calls to make. If he could come directly to a centralized display of reliable merchandise it would enable him to do in a few hours what would otherwise take him several days. At the Permanent Radio Fair he can examine the products of the various manufacturers and if he so desires a capable radio engineer will demonstrate any instrument to him. By carefully choosing the merchandise for exhibit a plan of this nature is bound to stabilize the industry by allowing dealers to become more familiar with the real reliable merchandise. The plan itself is not a new one. We have the Builders' Exchange in Philadelphia and the Furniture Exchange in New York. Both of these institutions serve a similar purpose in their respective fields.

The management of the Permanent Radio Fair is now conducting a campaign in South America. It is a known fact that South American buyers who come to this country do all of their buying in New York City, and if they know of the Permanent Radio Fair, this institution will do a great deal toward helping the American manufacturer in the South American field.

### SENSITIVE ALL OVER

Sensitive over its entire surface is one of the claims made for Rusonite, a synthetic, multipoint radio crystal rectifier which it is said eliminates detector troubles and buzzer tests and increases sensitiveness, clearness and volume very materially. The manufacturers, the Rusonite Products Corp., 15 Park Row, New York, announce that through extensive scientific research they have been able to surpass the natural crystals and to produce Rusonite, a synthetic crystal rectifier that is reliable, efficient and durable. Signals detected with a Rusonite multipoint crystal rectifier may be amplified by means of an audio frequency transformer and tube.



Our line of recognized Radio apparatus comprises only standard merchandise of the following manufacture:

Regal  
Dubilier  
Radio Corp. of America  
Turney  
Weston Instrument  
De Forest  
Western Electric  
Fada  
Magnavox  
American Hard Rubber Co.

and others of like reputation.

Complete stock on hand at all times  
—24 hour delivery guaranteed.

Write for our price booklet

### Radio & Mechanical Trading Corporation

23 Warren Street, New York City

## "SAMCO" RADIO PRODUCTS of QUALITY

### VARIABLE CONDENSERS

|          |        |                | List Price |
|----------|--------|----------------|------------|
| 11 Plate | .00025 | M. F. Capacity | ..\$2.25   |
| 23 "     | .0005  | "              | .. 2.85    |
| 43 "     | .001   | "              | .. 3.60    |
| 63 "     | .0015  | "              | .. 5.50    |



|                            | List   |
|----------------------------|--------|
| RHEOSTATS 6 Ohms - - -     | \$1.00 |
| POTENTIOMETERS, 300 Ohms - | 1.75   |
| INDUCTANCE SWITCHES - -    | .50    |
| VERNIER DIAL ATTACHMENTS   | .50    |

We Have a Special Proposition to  
**DEALERS and  
DISTRIBUTORS**

Samples sent Postpaid upon receipt of price.

### STANDARD APPLIANCE MFG. CORP

428 East 71st St., New York City

THIS WILL BE A RADIO CHRISTMAS!



## To Study Broadcasting to Eliminate Conflict

(Continued from page 52)

communication, easily the most important, must not be interfered with. Some excellent constructive work has been accomplished by the so-called Hoover conference in Washington. Considerable improvement in the New York district has centered around the office of inspector. The Broadcasting Committee of the Chamber asks the aid of corporations, clubs, individuals and all others interested. This is a task in which every one can help."

"Conditions in the radio industry now are such as to suggest that much information must be gathered and the views of many interests learned before even the immediately pressing problem can be solved," he said. "Meantime, we aim to do what we can in the direction of discussion and agreement, particularly in pushing those matters in which the departments of the Government have asked our assistance."

The trade generally must agree with the activities of Mr. Davis and his associates and their support should be extended, personally and through the present radio associations—amateur and professional.

The vice president of the Chamber is Harold J. Power, the secretary, George Lewis, and the treasurer Lloyd Marshall. The board of governors consists of A. H. Grebe, Richmond Hill, N. Y.; C. B. Cooper, New York; A. P. Morgan, New York; B. L. Moore, Buffalo; J. R. Crawford, Long Island City, N. Y.; E. R. Harding, Boston; Boden Washington, New York, and Gordon Sleeper, New York.

A plan of regional organization has been adopted with the following district vice presidents:

First district (Boston), O. K. Luscomb, Cambridge, Mass.; 2d district (New York and Northern New Jersey), to be elected; 3d district (Philadelphia, Baltimore, Washington), Atwater Kent, Philadelphia; 4th district (Atlanta, Savannah, Jacksonville), to be elected; 5th district (New Orleans, Memphis, San Antonio), to be elected; 6th district (San Francisco, Los Angeles, San Diego), Collin B. Kennedy, San Francisco; 7th district (Seattle, Portland, Tacoma), Robert H. Mariott, Seattle; 8th district (Pittsburgh, Cleveland, Toledo, Detroit, Cincinnati, Columbus), Powell Crosley, Jr., Cincinnati; 9th district (St. Paul, Milwaukee, Chicago, Indianapolis, St. Louis, Kansas City, Minneapolis, Denver), Harry Bradley, Milwaukee, and Dr. C. F. Burgess, Madison, Wis.

Quick, Profitable  
Turn-Over

### TRUE-TONE PHONES



Embody every factor of scientific Design. Perfection in Performance and Appearance.

**\$ 5.00**  
LIST  
**3000**  
Ohms

Worth More, Yet, Cost Less. Backed By a Real Guarantee of Quality.

Maximum Wire Turns. Super-strength Tungsten Magnets. Noiseless Tinsel Cords. Mercerized finish. Web covered Comfort Head Band. Cups and Caps of lustrous Black Composition.

Clear and Loud

"True Tone"  
National Advertising  
is behind You

**JOBBERS** [ Write or wire—NOW—for  
"True-Tone" Discounts ] **DEALERS**  
They are liberal

**TRUE TONE RADIO MFG. CO.**  
186 North La Salle Ave., CHICAGO, ILL.



Approved by  
Santa Claus



### KNOCK-DOWN RADIO RECEIVING SET

Contains all high grade parts of WINCO manufacture.

Neatly packed in an attractive hinged cover box. Makes a wonderful display. All parts firmly attached to box and will not loosen in shipping. Complete blue printed diagram for assembly included.

Retail Price—\$4.50

of high grade Radio equipment and supplies, also metal stampings, tools and screw machine products.

Can make immediate delivery on double slide tuning coils which retail at \$3.00 each and complete receiving sets which retail at \$8.00 each.

Liberal Discounts to Distributors and Jobbers

(Established 1871)

**CHARLES WINKLER, INC., 178-182 Emmett St., Newark, N.J.**

THIS WILL BE A RADIO CHRISTMAS!

# NOTICE!

We have an extremely profitable and timely proposition for live Jobbers, Distributors, and Buyers. Immediate action is necessary

WRITE AT ONCE

**ARROW RADIO CO.**

Hackensack    ∴    New Jersey

## KNOCKDOWN APPARATUS

Variometer with brass fittings, boxed.  
Variocoupler with brass fittings, boxed.  
Crystal set with complete instructions for hook up and assembly. Rotors, stators, and coil ends always on hand.

Write for circular and discounts

**RITTER WOOD WORK CO.**  
118 Walker St., New York City

### DEALERS:—

WE are Jobbers for  
*Grebe Receiving Sets*  
*Murdock Products*  
*Baldwin Phones*  
*Federal, Fada and*  
*Radio Shop Products*

Write for Our Special Proposition A

**The Radio Shop**  
**OF NEWARK**

41 South Orange Ave., Newark, N. J.

## Prompt Deliveries

Jet black high finish panels, .01 per inch, 3" nonbreakable, flexible dial with knob .....\$ .70

3½" Vario-Coupler.. 2.00

Complete Receiving Set, \$25.00

**Beau Ivorie Novelty Co., Inc.**

127-129 Van Buren Street  
Newark, N. J.

## Advertising by Dealer

(Continued from page 65)

line of radio sets, Demonstration gladly given. We have one to fit your purse. Installed in your homes without additional charge."

At the top of this advertisement was a drawing showing two boxers in fighting pose. While at the bottom, naturally the name of the advertiser, his address and phone number were given.

That is a good example of the kind of advertising on the part of the local dealer that gets consumer business. It is loaded with human interest and very timely.

In small cities and towns where there are only a few radio dealers, the opportunity for co-operative advertising exists. Each dealer could be assessed an equal amount and the common fund used for local advertising campaign. The advertisements could be run once or twice a week in local papers, or as often as deemed necessary. The cost individually would be comparatively small, and by group advertising larger space can be afforded and more attention assured. At the bottom of each advertisement should be listed the name and address of each subscriber. By use of this method all the dealers involved would be benefited materially. Petty dissensions among competitors would be, no doubt, eliminated, and a good clean substantial business would result in the community.

Above all things be absolutely truthful in all your advertisements. Don't claim accomplishments for the apparatus you handle that are impossible. It is only bound to hurt your business in the future. People failing to obtain the results you promise or guarantee will naturally become disgruntled, and not only stop doing business with you but in many instances will lose their interest in radio altogether, thereby hurting the entire industry.

Direct by mail advertising is also very essential to the success of your business. It is the connecting link between your newspaper campaign and your store. A good mailing list is easily obtained. Your local directory or telephone book can be used to advantage. Sales letters that you send out should be written in simple everyday language, and easily readable. Here again all technical matter should be avoided. Base your letters on the same type of human interest ideas as suggested for the newspaper campaign. Include in your direct by mail campaign, also, the women folk in your locality occasionally. Impress upon them how radio would en-

**DIAMANT**  
**VARIABLE CONDENSERS**  
**AND CRYSTAL DETECTORS**  
Electrically and Mechanically Guaranteed  
**Diamant Tool & Mfg. Co., Inc.**  
93 Runyon Street Newark, N. J.

### ADBRIN LABORATORIES

Manufacturing all kinds of Crystals in Wood's Metal. Guaranteed Tested.

469 Broad St., Newark, N. J.

Recommended for Reliability

**RADIO STORES CORP.**  
VARIABLE CONDENSERS—  
PLUGS—RESISTANCE UNITS, ETC.  
222 West 34th Street, New York

## A WONDERFUL XMAS PRESENT



The Little Gem  
(cut half size)

The dealer will at once appreciate the potential sales possibilities of this wonderfully efficient and beautiful little crystal receiving set. Has a large receiving radius. Test it yourself. You can then recommend it with the same confidence that we do. Stand and all other metal parts of solid brass and nickel plated.

PRICE, \$6.50 LIST

Manufactured by

**United Specialties Co., Inc.**  
57-59 Spring St., Newark, N. J.

THIS WILL BE A RADIO CHRISTMAS!

ertain and amuse them during the day while the children are at school and father at business. Tell them about the fashion and style talks by experts in that line of business which are broadcasted daily. "The Bed Time Stories" for the kiddies, will also be of interest to mother. Letters should be sent out regularly—under a two-cent stamp to assure attention,—and give them the personal touch that would not be obtained otherwise.

Among other things keep your demonstration set in an A1 condition. Nothing is as discouraging to the prospective buyer of a radio receiving set than to hear weird and nerve-wracking sounds pouring forth from your loud-speaker. Look at the psychological angle of it. Your prospect's trend of thought figures that if you, being an acknowledged expert in radio, cannot get away from this distortion, the chance for him as a mere novice to get good results would be mighty slim, and naturally his enthusiasm is suddenly chilled.

Another good method of creating local interest is to get well-known, distinguished and important personages in your town to attend a demonstration. Then ask them to send you a note or letter giving their opinion of radio, with permission to use the letter, or at least quote from it under their names. If you can arrange this, and incorporate the letter or quotation in your newspaper advertisements and circular letters, do so. This mode of advertising is usually very productive, especially in smaller communities.

In concluding, let us remember that radio is with us to stay. The field is tremendously broad, and as yet only sparsely developed. Real honest-to-goodness, common-sense merchandising is required to assure success for each individual dealer, and national consumer interest (procurable only through the cooperation of each and every local dealer) must be aroused to serve as the back-bone of the radio industry.

### ELABORATE SETS

Several types of single circuit non-regenerative receiving sets are being placed on the market by the Lee Radio Corporation of Haddonfield, New Jersey. The list prices range complete with antenna wire, phones, bulbs and "B" batteries, \$30 to \$105.

Type L-2 of the series made by the Lee people is mounted on a Formica panel and enclosed in a solid mahogany set. Two aerial binding posts are provided, one for long and the other for short wave lengths. Type E-4 is a more elaborate outfit with two Thordarsen transformers. The company also makes crystal sets.

# Reputation IS BUILT ON QUALITY



## BERWICK

SUPREME

## HEAD-SETS

Show Sound Mechanical and Electrical Construction, Good Materials and Painsstaking Craftsmanship

**Guaranteed 100%  
For Efficiency  
and Quality**

Aluminum Cups—2200 Ohms  
Lightweight—Comfortable

WRITE FOR VERY  
ATTRACTIVE PROPOSITION

## TRIANGLE ELECTRO TRADING CO.

Incorporated

632-634 BROADWAY

NEW YORK CITY

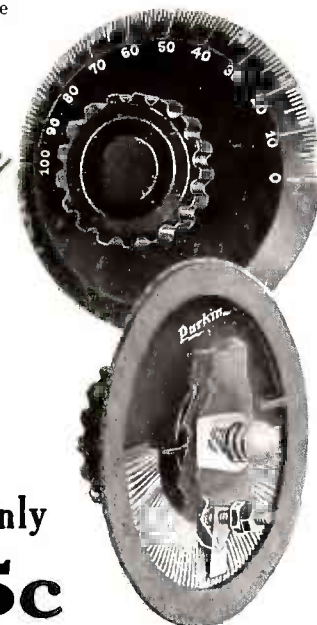
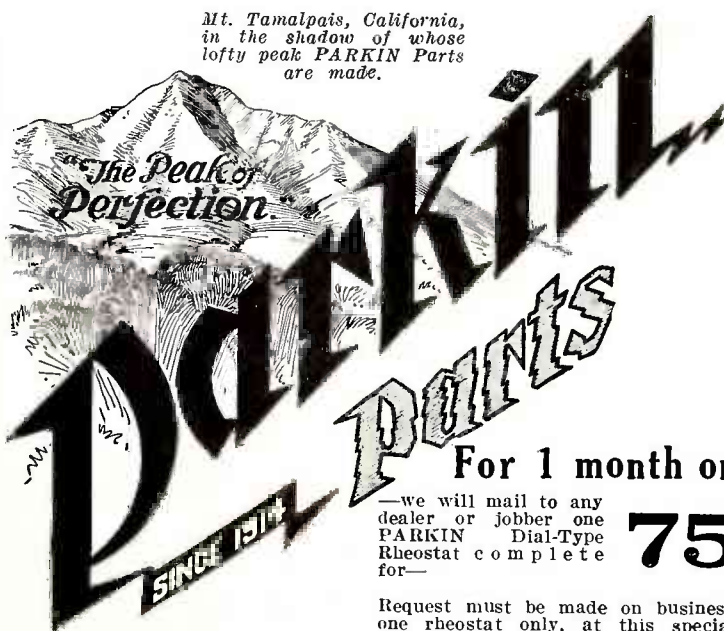
**DON'T  
stock up  
with out-  
of-date  
RHEOSTATS**

Radio is advancing. Keep your stock up-to-date. The *PARKIN Dial-Type Rheostat* (Patd. Aug. 1, 1922) marks important improvements in rheostat development. Patented mechanical features enable the operator to maintain constant signal strength without the annoyance of constant adjustment. The resistance element is recessed in the back of a moulded Bakelite dial, *outside the cabinet*. It cannot overheat. The temperature remains constant. Thus, the tubes receive uniform flow of current and the signal strength does not vary. Resistance 5 ohms, carrying capacity 1½ amperes. Retail price, \$1.50. See special trade offer below:

**PARKIN  
Dial-Type  
RHEOSTAT**

(Patd. Aug. 1, 1922)

*Mt. Tamalpais, California,  
in the shadow of whose  
lofty peak PARKIN Parts  
are made.*



For 1 month only

—we will mail to any  
dealer or jobber one  
PARKIN Dial-Type  
Rheostat complete  
for—

**75c**

Request must be made on business stationery, and for one rheostat only, at this special introductory price. Complete PARKIN catalog also sent on request.

**PARKIN MFG. CO., San Rafael, California**

THIS WILL BE A RADIO CHRISTMAS!

# KEYSTONE

FILAMENT RHEOSTAT



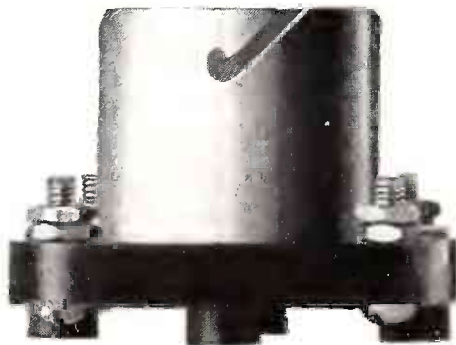
Resistance, 6 Ohms.  
Carrying Capacity, 1½ Amps.  
Base, made of black moulded Bakelite.  
All parts made of brass and nickel plated.  
Large Knob, and polished pointer.  
List Price, \$1.00

Dealers and Jobbers, wire or write for discounts—Immediate Delivery  
MANUFACTURED BY

**KEYSTONE RADIO COMPANY**  
GREENVILLE, PENN.

Dept. D.

V. T. SOCKET



BASE and feet of moulded natural color Bakelite.

Contact Springs, Heavy Phosphor Bronze.

Heavy binding post.

Tube of heavy, polished Aluminum.

All brass parts nickel plated.

List Price, 90 Cents

## Survey Made by Engineer

(Continued from page 50)

equipment?" and the answer is invariably, "Yes, but alterations will have to be made to your set to enable you to use the additional apparatus." The customer learns that additional apparatus is not so expensive, but added to the cost of the alterations he finds the total too great and lets the matter drop.

Summarizing the above facts we find a demand for the following:

*First:* Efficient apparatus of low initial cost so constructed that additional apparatus may be added without alteration or reconstruction.

*Second:* Additional apparatus, so constructed that it can be added to, and will harmonize with the initial set.

*Third:* Additional apparatus so constructed that it may be added stage by stage at a small investment.

*Fourth:* Apparatus so constructed as to enable the operator to hook his equipment up in any manner that he may desire to determine what circuit fills his requirements.

With the above knowledge in our possession the Pacific Radio Exchange set out to solve the problem, finally developing the Paradex Unit System.

The main difficulty encountered was to construct a tuner unit containing the proper amount of capacity and inductance with no dead ends, that could be incorporated in the same size cabinet as the other units. We also realized the necessity of developing a tuner unit containing capacity and inductance of such values as would permit the use of the tuner in various parts of the receiving circuit where an inductance or capacity and inductance might be utilized. This accomplished, the next step was the development of the different units, maintaining the Paradex standard of construction and at the same time concentrating on economy from the consumer's viewpoint.

### "WOR" ACKNOWLEDGMENT

To those who have sent letters complimenting L. Bamberger & Co., Newark, N. J., on the service rendered by its broadcasting Station, WOR, an attractive acknowledgment is sent in the form of a post card, on the front of which is a picture of the Bamberger Store with the antenna on the roof. On the reverse side is a picture of the transmitting station, below which is a gracefully worded acknowledgment of the letter that has been received.

## Ask Our Service Bureau

page 32

# MODERN

RADIO EQUIPMENT COMPANY  
TRADE MARK

ESTABLISHED 1911

The Original and Genuine Mica Diaphragm Amplifying Loud Speaker

**NEW LIST PRICE \$25.00**

CHEAPER THAN THE WORTHLESS IMITATIONS

#### SPECIFICATIONS

**HORN:** Seamless brass, triple lacquer, scientifically correct. Gives a rich, clear tone, not a metallic rasp.

**AMPLIFYING CHAMBER:** Exclusive "Modern" amplifying chamber of machined aluminum, polished and lacquered.

**RECEIVER:** Highest grade mica diaphragm amplifying receiver, built like a phonograph reproducer.

**BASE:** Oak wood base finished in early English, green felt bottom.

**POST:** Eby patented binding post.

**NO BATTERIES ARE NEEDED TO OPERATE THIS LOUD SPEAKER—JUST CONNECT IT TO YOUR SET—PRESTO—HEAR 'EM ALL OVER THE HOUSE.**

This is the original and genuine loud speaker—designed to do the work of a loud speaker—and is not an empty horn or shell that "any" receiver fits.

The Makers of the "FIRST" are Makers of the "BEST"

**HORNING EXPERIMENTAL LABORATORIES**

Sole Distributors of "Modern Apparatus"

Elizabeth Trust Company Bldg.

ELIZABETH, N. J.



THIS WILL BE A RADIO CHRISTMAS!

## New York Radio Show November 20 to 25

### Madison Square Garden National Radio Exposition

"New York's second big National Radio Show will be held in Madison Square Garden the week of November 20th to the 25th.

"Answering the popular demand of the many leading manufacturers who were a part of the last successful Radio Show held at the Seventy-First Regiment Armory, the same management, assured of their hearty co-operation, has secured Madison Square Garden, New York's largest and most popular amphitheatre, with a view to staging an exhibition—the largest and most complete ever held in the Radio world, far surpassing anything of its kind ever arranged.

"Exhibitors will have the choice of location according to space required and receipt of signed contracts.

"The co-operation already assured the National Radio Show makes us feel certain of its tremendous success. We cannot too firmly advise your early decision should you desire to join us. Floor plan and contracts will be forwarded upon inquiry.

"The National Radio Show will be heralded by an avalanche of advertising and publicity many times greater than that which created such favorable comment during our last Radio Show."

Mr. Buchignani, is the managing Director of the National Radio Show and invites the co-operation of everyone in the industry.

### USE CONDENSITE

The Shaw Insulator Company of Newark, New Jersey, are prepared to manufacture moulded parts for Radio equipment concerns. The material used by this company in the construction of mouldings is Condensite. A substance known as Shawlac is also used where the requirements are not of such rigidity involving heat resistance, high mechanical strength and inertness to acids and solvents.

Condensite, prepared by the Condensite Company of America, is well known to Radio manufacturers and Radio dealers. The Shaw company manufactures moulds and indeed furnishes everything connected with the construction of moulded parts once drawings have been submitted. All work is inspected before it leaves the factory.

# CONDENSITE CELORON

## Sets a New Standard in Radio Panels and Parts

Cut your panels from Condensite Celoron. This strong, handsome, jet-black, insulating material will give your customers a surface and volume resistivity greater than they will ever need. It is the ideal panel material because it machines readily, engraves with clean, cut characters and takes a high, natural polish or a rich, dull mat finish.

**Give your customers Quality  
and they will give you orders**

Condensite Celoron—approved by the Navy Department, Bureau of Engineering—offers a sales opportunity unequalled to the live wire dealer who is keen on building his business on a quality basis. Write us today for our Special Dealer's Proposition and let us give you all the facts.

### Diamond State Fibre Company

Bridgeport (near Philadelphia), Pa.

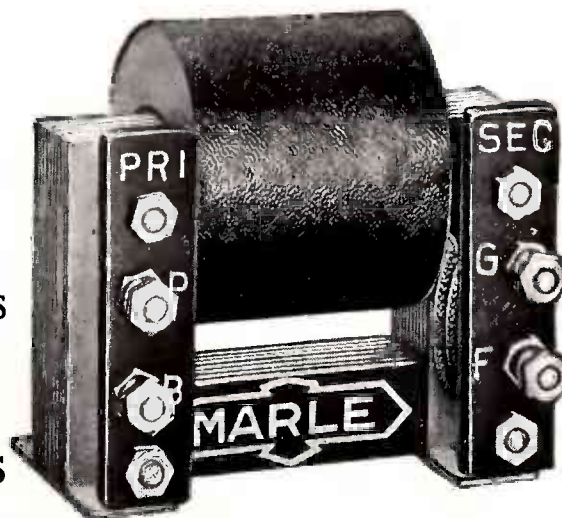
Branch Factory and Warehouse, Chicago

Offices in Principal Cities

In Canada: Diamond State Fibre Co., of Canada, Ltd., Toronto

## A SUPERIOR AUDIO FREQUENCY TRANSFORMER

USED AND  
RECOMMENDED  
by  
LEADING  
REPUTABLE  
MANUFACTURERS  
of  
RADIO  
APPARATUS



LIST  
3.75  
MOUNTED

Write for  
Information  
and Discounts

Jobbing  
Concessions  
Restricted

Manufactured by

**MARLE ENGINEERING CO., ORANGE, N. J.**

Special Prices Quoted On Unmounted Type To Manufacturers

**THIS WILL BE A RADIO CHRISTMAS!**



35c. each. 3 for \$1.00

## Na-ald

GENUINE  
CONDENSITE DIAL

The Dial that Runs True

Numerals engraved on bevel and knob so shaped that fingers do not hide them. Thin edge with clear graduation to make accurate reading easy. Concealed set screw in metal insert. Will not warp or chip. Finish and enamel permanent. Low price with this quality possible only through quantity production.

Special dealer and jobber proposition. An opportunity.

ALDEN-NAPIER CO.

52 Willow St. Dept. J Springfield, Mass.

### RADIO MAILING LISTS

9270 Radio dealers by states.....per M. \$7.50  
1164 Radio mfrs.....per list 10.00  
1330 Radio supply jobbers.....per list 12.50  
260 Radio stations.....per list 4.00  
267 Mfrs. appliances, who make and assemble complete sets.....per list 4.00  
14000 Radio amateurs and managers of Radio stations.....per M. 7.50

All Typewritten and Ready To Send on Receipt of Remittance  
**TRADE CIRCULAR ADDRESSING CO.**  
166 W. Adams Street Chicago, Ill.

## PATENTS

on radio inventions apply to  
**OTTO K. ZWINGENBERGER**  
38 Park Row, New York  
Cortlandt 3207

### ESSEX BUS WIRE NO. 14

Square Tinned—Specially Prepared and Will Give Entire Satisfaction.  
\$1.00 Per Hundred Feet.

ESSEX LIGHTNING ARRESTERS  
\$1.00 Each. List Price, \$1.50.  
Send for Dealers' Quantity Prices

ESSEX MANUFACTURING CO.  
117 Mulberry Street, Newark, N. J.



### We manufacture 7 different styles of VARIO COUPLERS

To Sell from \$1.25 up  
All Guaranteed Perfect (JEWELL'S)  
JOBBER—DEALER—AGENTS  
Write for Discounts  
**JEWELL RADIO SALES CO.**  
90 West St., New York City  
Phone Rector 1035

## PATENTS

### PROTECT YOUR INVENTION TODAY

Write for 1922 illustrated book free Radio-Electrical, chemical and mechanical experts; over 20 years' experience.

A. M. WILSON, Inc. (Radio 3 ARH)  
309-20 Victor Building, Washington, D. C.  
(Successors to business established 1891 by A. M. Wilson)

## Wang

That's STATIC,  
Take it Out with our

### VERNIER CONDENSERS

## Bang

That's another Station  
coming in. DITO

### ELECTRIC PRODUCTS CO.

11 Pemberton Sq. Boston, Mass.

### Jerome Radio Corporation

Manufacturers

### RADIO APPARATUS

Factory: 3136-8 W. Chicago Ave.  
General Sales Office: 608 So. Dearborn  
Chicago

## Klosner Rheostat

New Amplitrol Simple Control  
Without Jack or Switch

By THOS. J. McELROY, Jr.

The Klosner Improved Apparatus Company has recently announced to the radio world the introduction of its two new pieces of apparatus, Klosner vernier rheostat model 200 and the Klosner Amplitrol.

The new rheostat is far ahead of many other instruments for controlling detector tubes. It has a vernier micrometer adjustment which makes it several times more sensitive than any ordinary rheostat. It permits getting exactly on the correct spot for loudest reception of speech and code.

It is made of genuine condensite with phosphor bronze contacts. It is equipped with a dial on which graduations are shown in white. Both coarse and fine adjustments are operated by one single knob.

The Klosner Amplitrol fills that long felt radio want—of controlling the vacuum tube circuit without the use of jacks, plugs or additional switches. With the Amplitrol in use, it is no longer necessary to plug in from one stage to the next. The phones or loud speaker are simply attached to binding posts and any stage is turned on at will.

The Amplitrol not only adjusts the filament to its maximum efficiency, but it also automatically switches on and off the plate circuit. Unlike automatic filament control, the Amplitrol does not put a sudden strain on the filament. It provides a gradual current increase for the filament, prolonging the life of the vacuum at least one third.

It is made of moulded condensite with phosphor bronze contacts. Its exposed metal parts are highly nickel plated. It has a new style knob and dial with graduations in white lettering.

### HIGH-GRADE SET

The Continental Radiophone Co., with offices at 45th Street and Wells, Chicago, have high-grade sets. Their De Luxe Type ABC 110 is a set built on the radio frequency plan, consisting of six vacuum tubes, five transformers, A, B and C batteries, Magnavox and automatic self-charger. Retail at \$600. They also make other sets at from \$45 to \$55.

Ask Our  
Service Bureau

### Buy Apparatus

From a Reliable Manufacturer

**FREED-EISEMANN RADIO CORP.**  
255 Fourth Ave., New York City

## CABINETS

Write for quotations

**MARVIN B. FALLGATTER**  
Waupaca, Wisconsin

## P. D. JACKSON

Direct Factory Representative

Radio Equipment Manufacturers  
HEAD SETS A SPECIALTY  
1441 So. State Street Chicago, Ill.

M-R FLEXIBLE VARNISHED TUBING  
THE GENUINE

“SPAGHETTI”  
TWO STYLES—BEST GRADES MADE—ALL  
SIZES—ALL COLORS

Varnishes, Waxes, Compounds, Papers, etc.

MITCHELL-RAND MFG. CO.  
14 VESEY STREET NEW YORK, N. Y.

### KRAMER RADIO COMPANY

4713 Sheridan Road, CHICAGO, ILL.  
MIDWEST DISTRIBUTORS  
Of Quality Radio Products

Write Us for Catalog and Discounts

### PATENT

your ideas. Protect your rights by U. S. and Foreign Patents and Trade-Marks. Moderate rates. CALL, WRITE or send us your invention.

May one of our representatives call on you? **ASK**

FREE  
CONSULTATION

Phone: Vanderbilt 7212.

**MANUFACTURERS  
PATENT CO.**  
FOR  
520 FIFTH AVE  
NEW YORK

# DEPEND ON CRAMER RADIO



### SPECIAL

FOR LIMITED TIME

This \$80 Receiver at 50% Discount

The CH5 receiver needs no introduction. Judged by any standard it is without equal anywhere. Simple in control; handsome in appearance; super-efficient in operation. Includes in its 150 to 3000 meter range, amateur, commercial and Navy waves, special land stations, ship stations and Arlington "time." Employees latest inventions. Especially efficient for radiophone concert reception. Guaranteed in writing for one year. Regular price \$80 with 25% discount—and worth it. **SPECIAL DISCOUNT—50%.**

EVERY DEALER SHOULD HAVE AT LEAST ONE!  
Send cash only—no CODs or charges. Not more than 6 sold to one dealer.

W. R. CRAMER, DEPT. 3, OMAHA, NEB.  
"Pioneer Radio Manufacturers"

THIS WILL BE A RADIO CHRISTMAS!

## They Cut Panels

**Pittsburgh Radio & Appliance Co.**  
Offer Real Panel Service

The Pittsburgh Radio and Appliance Company, 112 Diamond Street, Pittsburgh, besides selling a standard line of radio equipment, in a wholesale way, specialize in the cutting of bakelite panels.

Few Radio jobbers render a service such as this real panel service to the trade. They especially cut panels to order and do not carry in stock sizes.

Genuine Formica and Condensite are used.

Retailers and jobbers can make money by getting in touch with this concern.

## ASCO TUBE SOCKET RETAILS AT ONE DOLLAR

The Moock Electrical Supply Co. of Canton, Ohio, are justly pleased at the Asco Tube Socket, retailing at one dollar, made exclusively for them by the Akron Specialty Co.

This socket consists of two square blocks of paneling, the lower block  $\frac{3}{8}$ -inch thick, the upper  $\frac{1}{8}$ -inch. A square of an inch separates the two blocks.

Connected up to each brass corner post is a strip of spring bronze extending down into the socket holes of the lower block.

This socket unlocks the full utility of the Westinghouse Dry Battery Tubes. WD-11 Detector and WR-21 A Amplifier.

## AN OFFER TO DISTRIBUTORS AND DEALERS

An assembly tube set having a double tuning circuit and Litz wound rotor in the variocoupler, giving very excellent results, is now being offered to dealers and distributors by Radio Courses, Inc., of 552 Seventh avenue, New York. An idea of the imposing size of the set is given by the size of the panel which is 7" x 18". The set lists in its complete assembly form at \$27.50 so it is a good proposition for the radio fan. The merits of the set and the discounts given make it an attractive proposition to the dealer in point of turnover and profit. Exclusive rights in various sections of the country will be given to distributors who can give the set good distribution.

Radio Courses, Inc., also put out The Radio Reading Course, a set of five instruction books listing at \$2.25, which offers an opportunity to dealers and distributors for profitable sales.

## PARADEX UNITS



Write for Dealers' and Jobbers' Proposition  
 TUNER (Pat. Applied for).....\$20.00      AUDIO FREQ. AMP.....\$18.00  
 DETECTOR ..... 10.00                      RADIO FREQ. AMP..... 20.00

Manufactured by

## PACIFIC RADIO EXCHANGE

439 CALL BUILDING

SAN FRANCISCO, CAL.

## INTERESTED IN RADIO PATENTS?

Radio Business men and Manufacturers who are interested in the patents issued by the U. S. Patent office may find this information each week in

### THE RADIO DEALER WEEKLY

One dollar the year. Sample free on request

Address

THE RADIO DEALER WEEKLY, 1133 Broadway, New York, N. Y.

## LATEST and MOST POPULAR

# Radio Books

- Radio Hook-Ups, by M. B. Sleeper.....\$ .75  
An indispensable book to the radio amateur who designs or builds his own receiving apparatus.
- Radio Design Data, by M. B. Sleeper..... .75  
A book giving tables and data for designing receiving and transmitting apparatus.
- Construction of New Type Trans-Atlantic Receiving Set, by M. B. Sleeper .75  
Tells how to listen to the high-power telegraph stations of foreign countries.
- Construction of Radiophone and Telegraph Receivers for Beginners, by M. B. Sleeper..... .75  
Tells in detail the building of radio apparatus.
- How to Make Commercial Type Radio Apparatus, by M. B. Sleeper.. .75  
Describes in detail many commercial types of transmitting spark and vacuum tube sets, both telephone and telegraph and receiving equipment of all kinds.
- Wireless Telegraphy and Telephony Simply Explained, by A. P. Morgan..... 1.50  
A book the Radio experimenter cannot afford to be without.
- Experimental Wireless Stations, by P. E. Edelman..... 3.00  
A book describing all modern improvements.
- A B C of Vacuum Tubes Used in Radio Reception, by E. H. Lewis... 1.00  
A book explaining in detail all about vacuum tubes.

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

## The Norman W. Henley Publishing Co.

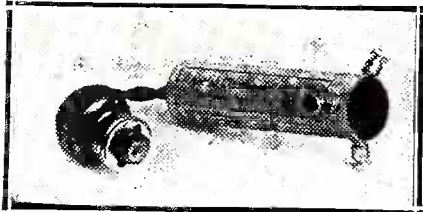
2 West 45th Street, New York

Liberal Discount to Supply Houses. Write for full particulars and dealer's proposition.

THIS WILL BE A RADIO CHRISTMAS!

### THE WIRELESS WONDER

A Complete Aerial for \$1.50



Simply screw in any lamp socket and turn key on. Better than an outdoor aerial. Nothing to get out of order. Eliminates lightning danger. Money back guarantee.

Radio Catalog free at your Dealers. or  
**STEINMETZ WIRELESS MFG. CO.**  
 5706 Penn Ave. Pittsburgh, Pa.  
 Electrical Engineers and Manufacturers

### THORNTON

AUDIO FREQUENCY  
 AMPLIFYING TRANSFORMERS

*Supreme Test Transformer*

These transformers are supplied in either mounted or unmounted types. Special attention paid to the manufacturer of receiving sets.

**THORNTON**  
 TRANSFORMER CO., Inc.  
 30 Church Street, New York City

### The Comet Battery Co.

*Manufacturers*

### Radio "B" Batteries

Cleveland, Ohio

### COMPOSITION

LIST PRICE

DIALS **50<sup>c</sup>** DIALS

Adjustable Switchlevers  
 Knobs

**NEW YORK-RADIO-DIAL CO.**  
 316 Holden Bldg., Detroit, Mich.

*We Specialize in*

Brass Rod and Tubing  
Sheet Copper, Aerial Wire  
and Binding Posts

**McKenna Brass and Mfg. Co.**

First Ave. and Ross St., Pittsburgh, Pa.

'Phone, Court 637

## Radio Photos

### English Radio Engineers Devise Ways of Sending Radio Pictures

At no distant date photographs will be sent by wireless from all parts of the world direct into the newspaper offices, according to the General Radio Company of London, England.

In the research laboratory at the company's works at Twyford Abbey photographs already have been received by radio and though the invention has not yet gone beyond the experimental stage, remarkable results are stated to have been obtained.

Those who have seen the radiograph pictures say they are quite good and generally recognizable. Though the main criticism is that the clarity of the pictures leaves room for improvement, this it is said will be remedied in time.

The pictures which have been received by the General Radio Company were wireless direct on to a specially made sensitive celluloid film which afterwards was developed.

### BENSONIA CONSOLE SET IN MAHOGANY, RETAILS \$250

The Benson Co., 2429 South Michigan Avenue, Chicago, feature the Bensonia, a beautiful mahogany finished Queen Anne console model, measuring 36 x 37 x 23 inches. Contains loud speaking chamber with grill front covered with grill cloth netting. Bakelite tuning panel, 12 x 14 inches neatly arranged in second chamber which is removable and provides room for "A" and "B" batteries.

This set includes all features of the Benson Tuner and Detector Unit and Three-Stage Amplifier with loud speaking arrangement; also includes heat set. Wave length 150 to 1250 metres. Normal range 1000 to 1500 miles. List price, \$250.

### SOCKETS FOR NEW TUBES

A new socket for dry cell tubes is being introduced by the Radio Electric Service Station, of Tottenville, Staten Island, New York, sole distributors in the United States for this innovation.

The socket has a bakelite base and it is made of phosphor bronze. All the wearing parts are of brass. The chief feature of the new socket is that it requires no cup. The result is that it has a very neat appearance.

The socket lists at \$1. The address of the Radio Electric Service Station is 151 Main Street, Tottenville, Staten Island, New York.

# SEABOARD

ANNOUNCING  
**COMPLETE SETS**  
*Made To Order*

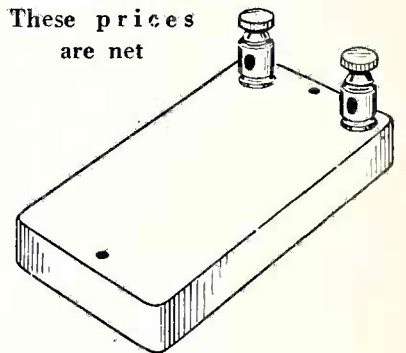
*Write for our list suggesting  
 styles and prices*

**SEABOARD RADIO CORPORATION**  
 266 GRAND STREET, NEW YORK CITY

## Attention Radio Mfg's and Jobbers

### Serco Radio Products

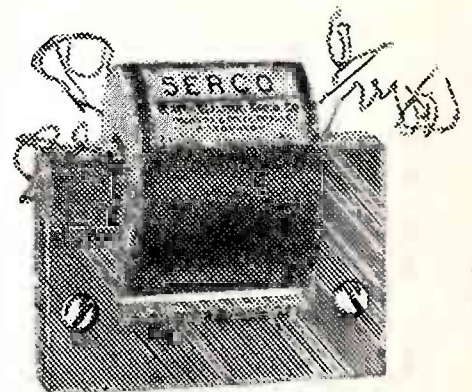
These prices  
 are net



Serco Fixed Condensers,  
 moulded, 42 cents

Serco Fixed Condensers,  
 moulded, 54 cents

Serco Crystal Detector, 75 cents



Serco Amplifying Trans-  
 former, 10 to 1 ratio, \$1.75

We are Manufacturers  
 of  
 Serco Radio Products

Write for Trade Discounts

**Scheib Elec. Radio Co.**  
 6243 Station Street  
 Pittsburgh, Pa.

THIS WILL BE A RADIO CHRISTMAS!



## Extols Air Music

### Chicago Musical Man Approves of Radio Performances

Marquette A. Healy, of Lyons & Healy, the big Chicago music house, is quoted on radio, as follows:

"The most extraordinary thing in connection with wireless telephoning is the fact that the air can be filled with harmony.

"When we hear Galli-Curci at the opera at Chicago and a few minutes later a piano recital in Pittsburgh, we are only in the beginning of the art.

"It is like the time when we first began selling talking machines. They were such crude affairs that we were criticized for considering them musical instruments. But now that we know music may be had free of cost in much the same way as we obtain our daylight, the possibilities are fairly bewildering.

"Every development accentuates the importance of music to the human race.

"With the opportunity to hear great compositions will come a better knowledge of what is worthy in music."

### LIGHT HEAD SET

With a total weight of 11½ ounces, the Rexo radio head set, made by the General Phonograph Mfg. Co., of Elyria, Ohio, is one of the lightest sets on the market. But lightness has not been sacrificed to sensitive pick-ups or strength.

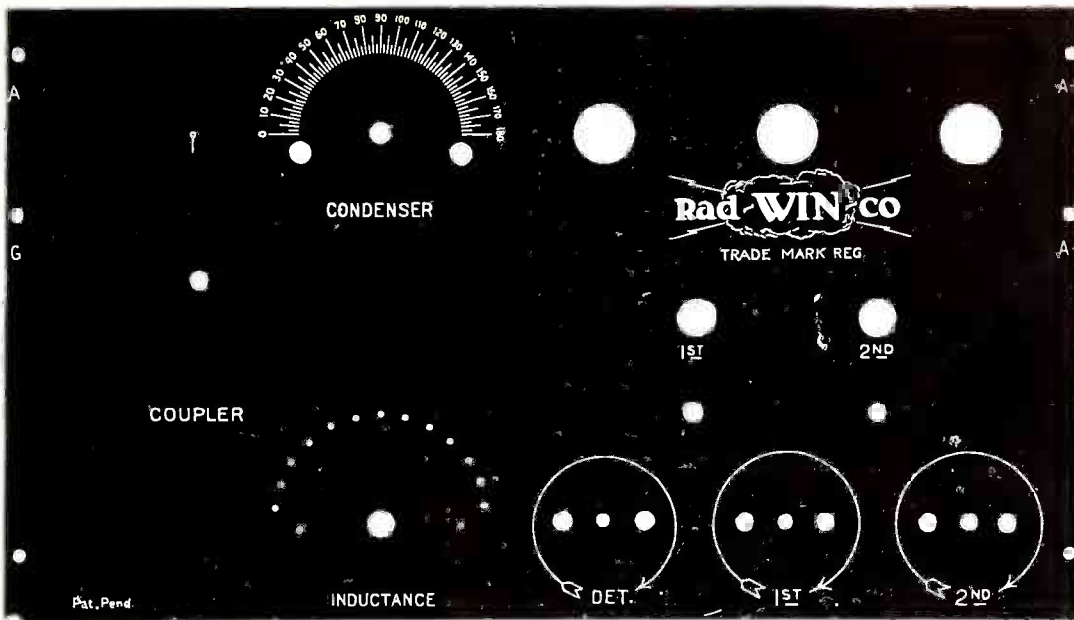
The Rexo receiver cups are made of aluminum sheet, the magnets of tungsten steel, the coil cores of Norwegian iron. Each coil is wound with seven thousand turns of No. 40 enamelled copper wire.

The ear caps are of tough rubber finished in polished ebony. The caps are pierced with a number of small holes instead of one large hole, designed to prevent any possible damage to the diaphragm adjustment. A thin lacquer covers the entire interior of the receiver to prevent rusting from perspiration. The diaphragm itself is treated to prevent rust.

Each receiver coil is wound carefully and all four coils are balanced for resistance and tone so that both receivers talk exactly alike. The headset complete with cords is made to sell for \$10.

### DEALERS' CONVENTION

The annual convention of the National Association of Electrical Contractors and Dealers, was held at Cleveland, Oct. 12th.



## Panel Engraving

—on Bakelite, Rubber, Fibre or any other composition. Sharp white lettering—clean work—quick deliveries.

Our price in quantities, for engraving panels as above, size 7½x15", including condenser dial, trade mark and arrows, is.....

**75c**  
each

Send us your specifications and note our surprisingly low prices

**POSTER & CO.**  
552 SEVENTH AVE., NEW YORK  
PHONE BRYANT 2572

## Milliken Radio Towers

These towers are in service at principal radio stations in all parts of the country. Constructed of galvanized steel, self-supporting, standard types and heights.

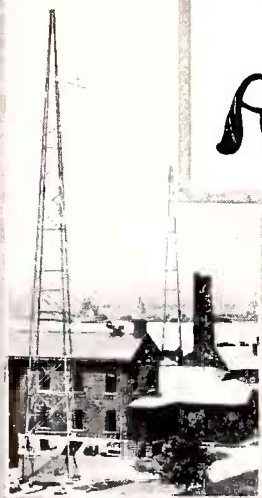
### AGENTS WANTED

Agencies are now being established in different localities. We have an attractive proposition—let us explain it to you.

Send for Catalog No. 16

**MILLIKEN BROTHERS  
MFG. CO., INC.**

Woolworth Building  
New York, N. Y.



STATION WVP



STATION WEZ



STATION 2XJ

THIS WILL BE A RADIO CHRISTMAS!

**PATENTS**  
ELECTRICAL MECHANICAL  
RADIO

SEND SKETCH AND DESCRIPTION  
FOR OPINION

EMIL ALEXANDER KERN  
328 SOUTH SEVENTH STREET  
NEWARK, N. J.

Fine Cuts for Illustrating  
**CENTRAL ELECTROTYPE  
FOUNDRY COMPANY**

Electrotyping and Engravings  
9 Campbell Street Newark, N. J.  
Telephone: Mulberry 1698

**GROWING**  
AND  
**GROWING**  
**GREATER**

You are a member of a great industry and here is an opportunity to advertise in the only publication of its kind in the RADIO Field.

**A Trade Directory  
and  
Buyers' Guide**

Purely a business proposition—Referred to at all times by buyers.

Reaches every dealer, manufacturer and jobber including hardware, phonograph, department store and electrical dealers.

A Wealth of interest for the buyer  
National in scope  
Circulation 10,000  
WRITE FOR RATES

Mailing list service to our advertisers

**The Radio  
Red Book Pub. Co.**

406 West 31st Street, New York, N. Y.  
"The Radio Trade Directory"  
Watkins 5987-88

**Proudfoot, \$55.00**

**Super-Sensitive Detector and Two-Stage Amplifier**

Proudfoot Super-Sensitive Detector and Two-Stage Amplifier, made by the Cruver Mfg. Co., 2456 West Jackson Blvd., Chicago, retails at \$55.00.

The Proudfoot specifications are:  
Panel— $\frac{1}{4}$  inch, hand rubber Bakelite. Size  $7\frac{5}{16}$  by  $8\frac{1}{4}$ .

Lettering—Engraved and white filled.

Cabinet—5 inch deep, of quarter-sawed oak with wax finish.

Rheostats—Built into panel.

Metal Finish—All Metal face parts of nickel finish, except binding posts which are finished in black.

Fixed Condensers—Built on the V.T. socket piece.

Grid Leak—Tested in laboratory for two megohms resistance, and short circuits the condenser in the Detector circuit.

Jacks—Copper with phosphor bronze prongs. Special design.

Automatic Filament Control—Designed with automatic filament control circuits.

Everything else that might be required is furnished in this set.

**SIMPLE CHARGERS**

Operating by attaching to light socket, the Fore battery chargers for Radio and automobile batteries are designed for home use to keep batteries at their full capacity at all times.

The chargers manufactured by the Fore Electrical Company of St. Louis are self-supporting. A battery may be charged during the night for the ampere charging rate reduces as the voltage of the battery rises so that there is no possibility of an over-charge.

The cost of current to charge the average Radio battery is less than five cents, and to charge the ordinary automobile battery from five to ten cents.

The combination of radio and battery charger is ideal for usually the home enjoying an automobile also has a radio set. The purchase of such a battery charger has thus a two-fold purpose.

The Fore company makes its chargers in two types, one with a capacity of charging a six-volt, six-ampere battery and another which will charge both six- and twelve-volt batteries. There are four styles of cycles for each of the two types.

**DRY CELL ADAPTER**

The Practical Appliance Company of New York City, is making a socket adapter for dry cells.

**DEALERS:** Get our Price List before placing your orders

We are distributors of Federal, Patent, National, Miraco, Uradiola, etc., lines of Quality Radio Apparatus.

**THE EDW. J. GOETZ CO.**  
604 Race Street Cincinnati, Ohio

**Best by Test!**



Hundreds of manufacturers, dealers and owners of receiving sets everywhere have tested and found our crystals the most sensitive and efficient obtainable.

Double your pleasure and increase the efficiency of your set by using our

**ALL-SENSITIVE GALENA CRYSTALS**

Galena Crystal, Mounted - - 35c  
Galena Crystal, Unmounted - 25c

IMMEDIATE DELIVERY

Every Crystal  
**GUARANTEED PERFECT**

Manufacturers, Jobbers, Dealers write for quantity prices

**GALENA CRYSTAL MFG. CO.**  
463 Bushwick Ave. Brooklyn, N. Y.

**Do You Know**

We are the recognized authorities on wireless securities. Our Information and Analytical Departments are unexcelled. Let us know what company you are interested in and we will furnish without obligation, detailed information and opinion respecting its merits

**FRANK T. STANTON & CO.**

Specialists in Wireless Securities  
Since 1915

35 Broad St. New York  
Phone: Broad 1670-3641-5819

**FRANKLIN  
SOCKET**



**FOR W-D-11  
DRY CELL TUBE**

Holds tube firmly  
Makes perfect contact  
Price \$50

We also make an adaptor that fits standard sockets, Price, \$1.00.

Dealers write for discounts

**FRANKLIN RADIO MFG. CO.**  
711 Penn Ave. Wilkinsburg, Pa.

## The Amrad Station

### American Radio and Research Corp. Doing Good Work

WGI, the high powered Amrad Broadcasting Station of the American Radio and Research Corporation at Medford Hills, Mass.—the world's pioneer broadcaster—sends out readable publicity to the daily press.

H. M. Taylor, advertising manager for WGI, is to be congratulated upon his good work for Radio.

The Taylor news stories are not of the hackneyed type.

The Amrad station broadcasting programmes are high-class, as might be expected from these folks.

More stations like WGI will make more Radio enthusiasts.

### THREE "A" BATTERIES

A Minnesota firm, the American Accumulator Company of Owatonna, Minn., is in the Radio battery field with a new line of three batteries. They are standard sizes recommended for Radio use.

All three styles are put up in convenient and sanitary containers and are equipped with handles to make carrying easier. A cover supplied with each battery makes it more suitable in appearance for the home.

Style D-7, has a capacity of 60 ampere hours, D-9, 80 ampere, and D-10 has 120 ampere hour capacity.

The American Accumulator Company also makes a forty-eight volt compartment "B" battery.

### A GOOD CRYSTAL SET

The Standard Products Co., 93 Wilsey St., Newark, N. J., offer a complete set, at \$10. This set includes earphones and Light socket aeriels, is enclosed in a mahogany finished case, with 8½ inch two-slide tuning coil, bakelite panel and nickel-plated fixtures. It is said to have a range of music and voice of from 35 to 40 miles. No outside aerial is needed.

### THE AEROVOX LINE

The Brady Electric Mfg. Co., Union Arcade, Pittsburgh, feature the "Aerovox" line.

Among the features are the Aerovox Amplifier, \$45; the Aerovox Audion Amplifier, \$14.50; Aerovox Receiver and Detector, \$35; Aerovox Loop, \$8.50 and \$10.50; Aerovox Air Condenser, \$3.25; Aerovox Dials, \$0.75; and Aerovox Pocket Companion; a unique pocket set, with phones and wire, \$17.

## For CORRECT RADIO MAILING LISTS Use THE POCKET LIST

Of Radio Manufacturers, Jobbers and Dealers in the United States and Canada. Issued quarterly—January, April, July and October. October, 1922, issue corrected to September 15th, 1922. Classified under three different headings—Manufacturers, Jobbers and Dealers—and alphabetically arranged by states, cities, towns and names of firms. Containing over 15,000 names and addresses.

We have been exceptionally careful to see to it that every manufacturer, jobber and dealer is listed and, under the PROPER CLASSIFICATION. Most mailing list concerns charge more than \$100 for a list of this kind, and, as a rule, those supplied are far from being correct. Compare this list with any other and you will find it to be the very best obtainable anywhere at any price.

October number ready for distribution September 25th. Price \$5.00 per copy or \$10.00 per year (four issues, including monthly supplements which keep the list absolutely correct and up to date at all times). October edition limited, send in your order with remittance today.

1021 Carrington Street F. D. PICKENS JANESVILLE, WISCONSIN

## SPECIALTY SERVICE COMPANY

Manufacturers of

**RITE RADIO PRODUCTS**

Distributors for

**LAWSAM LINE**

**OF QUALITY RADIO PRODUCTS**

and Other Standard Equipment

Write for Prices and Discounts

Cor. 4th Ave. and Pacific St.

Brooklyn, N. Y.



BLACK POINTER

## EMELOID

KNOB and POINTER COMBINATION

3/16 and 1/4 Bushings

20c List

Liberal Discounts for Manufacturer—Jobber—Dealer

ALSO 2"—3"—4" DIALS

EMELOID CO., INC.

536 Junius St.

Brooklyn

N. Y.



WHITE POINTER

## NOVO "B" Batteries



for Radio Outfits

NOISELESS—DEPENDABLE—GUARANTEED

All Sizes—Plain and Variable

22½, 45 and 105 Volts

Send for Catalogue and Discounts

**NOVO MANUFACTURING CO.**

424 W. 33rd St.  
NEW YORK

531 So. Dearborn St.  
CHICAGO

THIS WILL BE A RADIO CHRISTMAS!

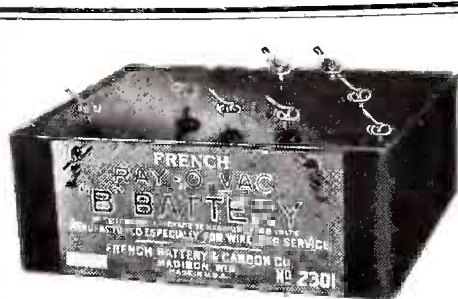
### 3000 OHM SETS, \$3.98

Plus 20c Postage and Packing  
Satisfaction Guaranteed or Money Back



We mail phones the day your order arrives. Every pair tested, matched and guaranteed as sensitive as \$8 to \$10 Sets. Circular Free.

TOWER MFG. CO.  
103 Station St. Brookline, Mass.



### Solid Construction of Ray-O-Vac "B" Batteries Gives Long Life

The individual cells of Ray-O-Vac "B" Batteries are sealed hard and fast into a strong, perfectly insulated unit. They cannot develop "battery noises." No jarring or moving can break the hand-soldered connections. The patent wire-spring clip holds the smallest wire tight without shearing.

Ray-O-Vacs have unusual recuperative powers, too, and radio fans are rapidly learning to demand the kind of service they get from Ray-O-Vacs always. 22½, 45, and 100 volts. Dealers who are in business to stay will find our Bulletin 225 interesting and profitable. Write for it.

### French Battery & Carbon Co.

Madison, Wisconsin

Chicago Dallas Atlanta New York  
Denver Minneapolis Kansas City



French RAY-O-VAC "B" Batteries

### G. E. Camp

#### General Electric Recreation Camp in Jersey

The General Electric Company has purchased a 175-acre plot of land at Parsippany, N. J. The move of the General Electric Company toward the purchase of this property has been considered for several years.

The Recreation Camp, as it is generally referred to, now operated and owned by the General Electric Company on Lake George, is too great a distance from its New York headquarters and it has thought it advisable to purchase a plot for such a purpose near its main headquarters.

There is a large house on the premises. A large bungalow type of building will be erected, which will be used for dancing and club-room purposes. It is expected that part of the property will be developed into a golf course.

#### SPEER CRYSTAL RECEIVER RETAILS AT LOW PRICE

The Speer crystal receiver, manufactured by the Radio Apparatus Company, Pittsburgh, Pa., is designed especially to supply the demand for an efficient and handsome instrument at a moderate price. With an adjustment so simple that any tyro without the slightest knowledge of radio can operate it with the utmost ease to receive programs broadcasted on a wave length of approximately 360 meters within a radius of 25 miles or more, depending on the power of the transmitting station.

The Radio Apparatus Company also features the Speer crystal detector which is made with a moulded, polished base, a dust proof glass encasing tube which permits the easy removal of the crystal and a double spring action which makes for ease and rapidity of adjustment.

#### ATLAS PRODUCTS

Atlas variable condensers, the manufacturers say, are made in three sizes with and without metal balance suitable for all classes of radio, telegraph and telephone work. The plates are of heavy aluminum and only mica is used for insulation. The Atlas Amplitone loud speaking unit consists of a heavy duty phone, necessary cord and plug and a 14" bell horn and stand. Although it functions perfectly on any stage of amplification no extra batteries, tubes or other equipment is necessary as with some loud speakers. Atlas is the trade name for the radio products of the Multiple Electric Products Company, Inc.

## PATENTS

### To the Man with an Idea

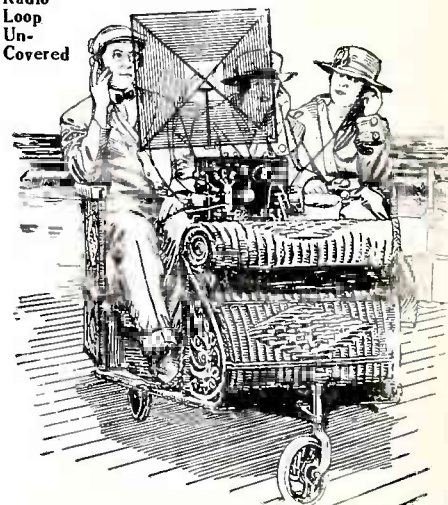
I offer a comprehensive, experienced, efficient service for his prompt, legal protection, and the development of his proposition.

Send sketch or model and description, for advice as to cost, search through prior United States patents, etc. Preliminary advice gladly furnished without charge. My experience and familiarity with various arts frequently enable me to accurately advise clients as to probable patentability before they go to any expense. Booklet of valuable information, and form for properly disclosing your idea, free on request. Write today.

**RICHARD B. OWEN**  
Patent Lawyer

82 Owen Building, Washington, D. C.  
2276-10 Woolworth Building, New York City

Warren Radio Loop Un-Covered



The Loop is the Thing Today  
And The

### WARREN RADIO LOOP

Is the Big Seller

It's the most highly developed loop that meets the exacting requirements of the Armstrong receiver, powerful tube sets, portable sets and sets on moving vehicles—the most popular apparatus.

All enclosed. Wonderfully well made. Directional. Very powerful.

Every day the demand for the Warren Radio Loop grows. You need this profitable trade. Send today for Bulletin P-102, discounts and price list.

- Type A-737 (300-700 meters) 6 inches square—non-directional.....\$10.00
- Type A-7236 (175-1000 meters) 6 inches square—non-directional..... 12.00
- Type B-2537 (300-700 meters) 18 inches square—directional..... 20.00
- Type BL-2520 (200-18,000 meters) with honeycomb coil, 18 inches square—directional..... 25.00

### V-DE-CO RADIO MFG. CO.

ASBURY PARK, N. J.  
Dept. D

THIS WILL BE A RADIO CHRISTMAS!

## Exposing Frauds

(Continued from page 63)

up radio apparatus. This is no junk line.

Of fraudulent folks there are many—in all commercial lines. The radio industry has acquired its share of get-it-in-any-manner folks. Some are sitting in the high spots posing in splendor as legitimate business men and as radio experts, but their records are known and early elimination is assured.

THE RADIO DEALER, like all people, detests the man who sets himself up as knowing everything, as being an authority upon every branch of the radio industry. This type of man grates upon the public's nerves.

The radio industry, already, has its great know-it-alls. These men are having their day in the sunlight; their press agents are taking their money, of course, and some of them are even operating honest-to-goodness factories.

This class, too, are to be included in the class known as the frauds and fakirs of the radio industry.

THE RADIO DEALER has made every effort to support every movement to expose the frauds and fakirs in our industry. Every legitimate organization has our support and we have personally expended our time and some of our money to aid in the extermination of the mercantile frauds in our trade.

This work is still going forward and this paper welcomes tips from its friends as well as the support of the honest tradesmen.

The gentlemen who are mere puppets for stock promotion schemes—those posing now as big men—cannot be readily reached, but public opinion can be exerted, it is hoped, and when the time is ripe the radio industry will arise and smash these fakirs as it has the out-and-out frauds and fakirs of the radio industry.

### 10 DAYS' FREE TRIAL

"Order a Hulbert Battery charger. Try it 10 days. Give it the hardest test. Convince your self that it is everything claimed for it. If you are not entirely satisfied, send it back and your money will be returned to you. This guarantee is positively unconditional."

That's the way the Hulbert Electric Mfg. Co., 7010 N. Ashland Ave., Chicago, advertise their \$20 battery charger.

# STOP-LOOK-WRITE

DEALERS, JOBBERS AND MANUFACTURERS

Before placing orders, write us first and get samples and our big discount sheet.

|                          |             |                       |             |
|--------------------------|-------------|-----------------------|-------------|
| Condensers 43-Plate..... | List \$3.50 | Turney Head Sets..... | List \$6.50 |
| " 23- " .....            | 2.75        | Dials 3" .....        | .75         |
| " 11- " .....            | 2.25        | Variometers .....     | 3.50        |
| " 7- " .....             | 2.00        | Variocouplers .....   | 3.50        |
| " 3- " .....             | 1.50        |                       |             |

SPIRO BROTHERS, Manufacturers and Distributors  
519 Real Estate Trust Building Philadelphia, Pa.

## ELECTRICAL TESTING

Of all materials entering into Radio Construction. Meters and apparatus calibrated and repaired.

CHEMICAL ANALYSES  
STRENGTH TESTS

Investigation or Development of New Apparatus and Materials. Routine Tests at Special Rates.

NEW YORK TESTING LABORATORIES  
80 Washington Street

Bowling Green 7016

## "TUNING IN"

To the right tune is very simple when your connections are soldered with the  
**NEW "POST SOLDERING IRON"**  
(The iron with the platinum heating unit)  
Removable Soldering Tip

Designed especially to cover every requirement for delicate work.  
The smallest practical-efficient instrument on the market.  
Attaches to any socket, Universal Current. Fully Guaranteed.  
From your jobber or write

(1/2 actual size)  
List \$6.00



POST ELECTRIC COMPANY

30 EAST 42nd STREET

Office 509

NEW YORK

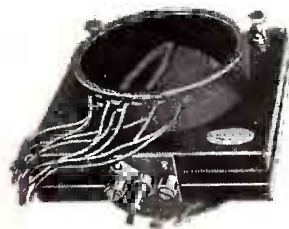
ESTABLISHED 1909

DEPENDABLE  LINE



NO. 41 VARIOMETER

INSTRUMENTS  
WITH  
100% RADIO  
EFFICIENCY



NO. 42 VARICOUPLER

THE EASTERN SPECIALTY CO.

3551 N. FIFTH STREET

PHILADELPHIA

THIS WILL BE A RADIO CHRISTMAS!

## Why Pay

# 100 to 300

When you can get a book that Covers the subject

# For 50c

**DEALERS YOUR CUSTOMERS WILL WANT THIS BOOK FOR A**

## Xmas Gift

It includes the New Armstrong Super Regenerative Hookup  
You make 66 2/3% on investment

**ARCHWAY BOOKSTORE**  
224 Pike St. Seattle, Wash.

## Jobbers and Retailers

### Manufacturers Have Obligations Like Jobbers

(Continued from page 47)

ing to advertise in a national way, are neglecting to advertise in their local papers.

How all these dealers expect to get the mail order business from all over the country is more than many of us can understand, especially when there is so much business to be had in their own territory.

Manufacturers are now beginning to spend large sums of money in advertising their merchandise in a national way and of course the good jobber realizes the advantage to him in handling merchandise that is being advertised in that manner and the dealer should see the big advantage to himself in tying up with this national advertising, by advertising in his local papers and using the literature, placards, cuts and other items of publicity prepared for him by the manufacturer.

The manufacturer, by making quality merchandise backed up with national advertising, selling only through recognized jobbers and distributors, is giving a real service to those jobbers and distributors.

The jobber by stocking quality merchandise, effecting prompt shipment and maintaining a corps of trained men for the benefit of the dealer is rendering real service. The dealer in turn must give real service to the public. He must do more than merely sell his customer a \$250 outfit, but must see that it is properly installed and where conditions warrant it, have a service man for this purpose. He should see that the customer is also properly instructed how to operate his set, in order to get the best results out of it. When one buys an automobile it is not merely sold to him, but he is thoroughly instructed in how to operate it and take care of it. The dealer must render a similar service.

The writer feels sure that this coming fall and winter will see a big business for all reliable manufacturers, jobbers and dealers who will in turn render to each other service.

Let Service be the watchword in the radio industry and I am sure that we will not see a repetition of the conditions, such as we experienced this summer.

**U.S. RADIO CO.**  
OF PENNSYLVANIA INC.

Immediate delivery on anything in the Radio line. Our U. S. Eagle crystals mounted and unmounted are positively guaranteed to be sensitive.

Write for prices

**U. S. Radio Co. of Penna., Inc.**  
Pittsburgh, Pa.

# Free

## Will help YOU

### increase sales

This catalog will show you how to secure the names of your best prospective customers, those you want to reach most. Counts and prices are given on thousands of different Lists, covering business concerns, professions and individuals, such as Noodle Manufacturers, Druggists, Coal Mines, Farmers, etc. Personalized sales letters and descriptive literature mailed to live prospects will increase your sales by creating direct orders or inquiries.

**99% Guaranteed Mailing Lists backed by our 5¢ refund**

insure your getting up-to-date information, for our Lists must be compiled from latest sources to avoid heavy losses through the guarantee.

**Send for FREE Reference Book today**

A postcard will bring this valuable sales help.

**ROSS-GOULD CO., N.10th, St. Louis.**

## Ross-Gould Mailing Lists St. Louis

**RADIO RECEPTION EXPLAINED**

**HOW TO BUILD**

- Double Slider Type Crystal Receiving Set
- Loose Coupler Type Crystal Receiving Set
- Single Circuit Vacuum Tube Receiving Set
- Vacuum Tube Receiver and Two Step Amplifier
- Loose Coupler Tuner and Vacuum Tube Detector
- Short Wave Long Distance Vanometer Regenerative Tuner
- Radio Frequency Amplifier and Vanometer Regenerative Tuner
- Combined Radio-Audio Frequency Amplifier Circuit

Great Lakes Publishing Company  
Detroit, Michigan

### BUILD BUSINESS

Sell more parts by creating interest in radio matters. Distribute an inexpensive book which not only explains radio reception but also tells how to build eight separate types of receiving outfits out of parts you are selling. Complete bills of material given for each type listed and described. This will be of great help to your customers and profitable also.

List, 50c Sample, 20c Very liberal discounts

Desk 4—Great Lakes Publishing Co., Park Place, Detroit, Mich.

# NOTE TO THE TRADE:

Quote us prices, terms, discounts and deliveries

WE ARE NATIONAL DISTRIBUTORS

## Complete sets Radio Equipment SPECIALTIES

## Manufacturers

Desirous of New York Representation communicate at once

# RADIO EQUIPMENT SERVICE

500 FIFTH AVENUE  
NEW YORK CITY

Ask Our Service Bureau

**Mr. Dealer: Tie up to High-Grade FROST RADIO Merchandise**

A well-known National Reputation for Satisfactory Service guarantees you a Quick Turnover.

### FROST - RADIO LEADERS

|  |  |
|--|--|
| <p><b>Frost-Fones</b><br/>A Quality Achievement. Ideal Receivers for use with Home Radio Sets. Combine maximum efficiency with permanent sensitiveness.</p> <p><b>Frost-Radio Extension Cord and Plug</b><br/>Comes in lengths from 10 to 100 ft. Loud speaker can be placed anywhere and connected with Radio set with Frost-Radio Extension Cord.</p> <p><b>Frost-Radio Receiving Transformers</b><br/>Will tune in all stations up to 3,500 meters. Hand rubbed mahogany finish. Wound with green silk covered wire. Immediate deliveries.</p> <p><b>Frost-Radio Protector</b><br/>Listed by Underwriters' Laboratories under April, 1922, regulations. No interference with clear Radio receiving. Never Grounds. Mounts indoors. Price \$1.50. Good deliveries on this approved device.<br/><i>The best Jobbers in your locality can supply you. See them now</i></p> | <p><b>Improved Plugs and Jacks</b><br/>Specially designed for Radio Panel Work. Plugs are interchangeable with other standard makes.</p> <p><b>Cunningham Vacuum Tubes</b><br/>Nationally recognized as the Ideal Detector or Amplifier Tubes for use with Radio Receiving Sets.</p> <p><b>Remier Radio Apparatus</b><br/>Radiates Quality. Every Remier item is first studied and tested for its practical Radio utility before being marketed.</p> |
|--|--|

## HERBERT H. FROST

NATIONAL FACTORY DISTRIBUTORS TO THE ELECTRICAL-RADIO JOBBER  
154 W. LAKE ST. CHICAGO, ILL.

THIS WILL BE A RADIO CHRISTMAS!

**SELF-STARTING CONDENSERS**

What are described as "self-starting" condensers are made by W. O. Duntley Company, Chicago, Ill.

The manufacturers claim that the features of these new vernier and plain condensers are speed and accuracy in tuning up. Without removing the fingers from the knob, you can in a few seconds tune your instrument to the proper wave length. When the spindle is turned to the proper position for the station on which the operator is attempting to listen, all that is necessary to eliminate foreign noises is to adjust the vernier knob, which is placed at the end of hollow shaft carrying the regulator adjusting knob. Back panel mounting and non-conducting operating shafts make shielding unnecessary on Duntley condensers.

The Duntley Company also make Duntley switch levers with bushings. All knobs are of Formica.

**MAKE ALL-WOOD HORN**

An amplifying horn with a sound chamber is being put on the market by the Ampliphone Phonograph Company of Chicago. The entire device is made of wood, designed to ensure elimination of metallic sounds and to create resonant tones.

There is no metal throat in the construction of the Ampliphone, but it rather resembles some musical instrument. The sound box with a centre orifice to produce resonance supports the horn. At the top of the horn one receiver of an ordinary head set is attached, the other being "shorted."

When the sound waves traveling down the horn reach the opening in the sound box, they are diverted into the sound chamber, where each tone is given full chance to vibrate. The horn is finished in mahogany.

**MILLIKEN CATALOGUE**

Milliken Brothers Mfg. Co., Woolworth Building, New York City, have issued a catalogue, on their radio towers, in Spanish. This booklet is a credit to the company, same being nicely gotten up. This catalogue is being sent to Spanish speaking countries and will be of great benefit to the entire industry.

**GOOD TRANSFORMER**

The Uptegraff Electric & Mfg. Co. of Pittsburgh, are producing the Uptegraff transformer, which has a non-magnetic core, is neat in appearance and on account of its cylindrical form and small size lends itself to ease in mounting with other apparatus.

**TOM BROWN'S RADIO SET**  
*Manufactured by Lawsam*

A complete knock down tube set, cabinet drilled, wires cut and shaped, everything ready to put together, in a handsome "take-me-with-you-looking" box. **\$21.75**  
 LIST

Buy now for the holidays  
*Write or wire for discount on radio's "best seller"*

Also a complete line of parts  
**SPECIALTY SERVICE COMPANY**  
 Cor. 4th Ave. and Pacific St.      Brooklyn, N. Y.

Trade-Marks Secure Trade  
 Registrations Secure Trade-Marks

I Secure Registrations

**CHAUNCEY P. CARTER**  
*Radio Trade-Mark Specialist*

4907 Potomac Avenue, N. W. Washington, D. C.

Correspondents in all countries

**"EURACO" MICA GRID CONDENSERS AND LEAKS**  
 Price 60 cents  
 (Designed to fit Standard Grid Leak Base)

**GRID LEAK VALUES:**

.5—1.0—1.5  
 2.0—2.5—3.0  
 Megohms

Price, 60 Cents



**COMPACT, INTER-CHANGEABLE, HANDY, MOST EFFICIENT**

"Euraco" Condensers are composed of Copper Sheet and Best Grade India Ruby Mica, and are entirely Hand Made.  
 Manufactured in following capacities:  
 .000025 Mfd—Correct for Myers Radio-Audion RAC-3  
 .0001 " —For Special or Experimental Circuits  
 .00025 " —Correct for Super-Hetrodyne & UV 201  
 .0005 " —Correct for Radiotron UV 200

Condenser—Leak Mountings

|  |        |
|--|--------|
| Bakelite Base with Single Mounting ..... | \$ .49 |
| Bakelite Base with Double Mounting ..... | .60    |
| Bakelite Base with Triple Mounting ..... | .80    |

**SHIP OWNERS RADIO SERVICE, Inc., DISTRIBUTORS**  
 80 Washington St., New York  
 Interesting Proposition to Dealers  
 (Mfd. By EUROPEAN RADIO CO., 1342 East 22d St., Brooklyn, N. Y.)

THIS WILL BE A RADIO CHRISTMAS!

**WHY BE SATISFIED**  
With Single Surface Crystals  
**CONTAINA SETTING**  
(Patent Pending)

Makes Maximum Sensitive Area Available  
Awarded Evening Mail Certificate of Excellence  
**CURTIS G. CULIN**  
366 Broadway New York City

## Gould

### Radio "A" and "B" Batteries

Write for Dealer Plan  
Gould Storage Battery Co.  
30 East 42d St., New York City

### STRAHS ALUMINUM CO.

announce their removal from 53  
Grand Street to much larger premises.

New Address  
48 FRANKLIN STREET  
NEW YORK CITY

## XMAS PRESENTS

FOR BOYS AND GIRLS

### CRYSTAL SET

"The Little Wonder" \$1.75  
Unassembled - Net

Catches distinctly everything broad-  
casted within 30 miles. We also  
manufacture the "Little Wonder"  
assembled set to retail at \$4.00.

**GUARANTEED  
TESTED CRYSTALS**

Galena 7½c Radiosite 8½c

**SEND FOR FREE CATALOG**

It lists all our radio parts and  
supplies.

Holloway Elec. Supply Co., Inc.  
238 Third Ave. New York City

## Praco Panel Service

We offer to the amateur and  
dealer

**REAL PANEL SERVICE.**

Our panels are cut to your  
order. Only genuine Conden-  
site and Formica used.

1/8" per square in. 2c  
3/16" per square in. 2½c  
1/4" per square in. 3c

We also carry a complete line  
of radio essentials. Dealers  
will find it profitable to have  
our latest price list and discount  
sheet.

**PITTSBURGH RADIO  
AND**

**APPLIANCE CO., Inc.**

"Pittsburgh's Radio Shop"

Desk D

112 Diamond St., Pittsburgh, Pa.

## Selling Points

### How Champion Company Gains Confidence

A system of distributing and sell-  
ing that will appeal both to the retailer  
and the ultimate consumer is the ideal  
to which all manufacturers should aim  
to gain both prestige and profit. Such  
is the ideal of the Champion Radio  
Company of Detroit, Michigan, to  
judge from some of the ideas embod-  
ied in their selling system.

On an order of 10,000 phones from  
this company, for instance, instead of  
the name "Champion Junior" being  
stamped on each head phone, the  
Champion company will stamp the  
name of the retailer. Thus the com-  
pany tries to assist the retailer.

With the consideration in mind that  
there are many cheap phones being  
dumped on the market to-day, the  
Champion company realized in its  
early stages of radio manufacturing  
that the radio user must be reassured  
as to the quality of the goods he is  
buying. What better way of re-  
establishing his faith, then, the offi-  
cials of the Detroit company argued,  
than by giving him a guarantee prac-  
tically amounting to free repairs dur-  
ing the life of any equipment made  
by them?

This company knew that cheap  
phones demagnetize very quickly;  
they are not made to act otherwise.  
But so confident are the members of  
this company in the quality of their  
goods that their "Champion Juniors"  
are guaranteed for life against loss of  
magnetism. At any time they chance  
to become demagnetized through  
faulty manufacture or through prac-  
tical use by the owner, the company  
will recharge the magnet base of the  
phones free of charge, the owner pay-  
ing transportation charges both ways.

The Champion Junior phones are  
said by the manufacturers to be excep-  
tionally clear-toned, with 50 per cent.  
less parts than the average run of  
head phones. Thus less trouble is  
claimed for the Champion than for  
any other set. The phones complete  
with headbands and cord weigh thir-  
teen ounces.

Soldering of joints is a very impor-  
tant feature in the construction of  
phones, since to use a soldering flux  
containing an acid will cause corro-  
sion as soon as dampness arises as a  
result of human perspiration. The  
Champion company phones have no  
acid in soldering flux used. The core  
post is also protected from corrosion  
of the copper wire used in the coils  
by a special paraffin base paper which  
protects both coil and core post  
against perspiration.

## VOLIA

PRODUCTS

VARIOMO-COUPLER.....\$3.85 List  
No taps, the only coupler with  
sharp primary tuning.

VARIOMETER.....\$3.25 List  
Low distributed capacity, high  
range.

CRYSTAL SET.....\$8.50 List  
Sharp tuning, triple range.

VACUUM TUBE SET.....\$20.00 List  
Two circuit tuner, employing  
Vario-Coupler. Only one tuning  
adjustment.

Write for Trade Discounts

**VOLTA ENGINEERING CO.**  
172-4 Lorimer St. Brooklyn, N. Y.



## Na-ald

De Luxe

### V.T. Socket

Contact strips of laminated Phosphor bronze press  
firmly against contact pins, regardless of variation  
in length. No open current trouble possible. Socket  
moulded from genuine Condensite. Practically un-  
breakable. Special protected slot, with exterior re-  
inforcement. Unaffected by heat of bulbs or solder-  
ing iron. All excess metal eliminated, aiding re-  
ception. May be used for 5 Watt power tube.  
Highest quality throughout. Price 75c.

Special proposition to dealers and jobbers

**ALDEN-NAPIER CO.**  
52 Willow St. Dept. H Springfield, Mass.

## BEFORE you adopt a trade-mark

Have the Radio Dealer  
Trade-mark Bureau give  
you a report on its novelty  
based on registrations in the  
Patent Office AND IN  
**THE RADIO DEALER  
TRADE-MARK  
BUREAU.**

**AFTER** you have adopted a  
novel trade-mark

Register it at once in the

## RADIO DEALER TRADE-MARK BUREAU

4907 Potomac Ave., N. W.  
Washington, D. C.

THIS WILL BE A RADIO CHRISTMAS!



## Thorophone

### New High Powered Type of Loud Speaker

The Winkler-Reichmann Company, Chicago, listed among the pioneer manufacturers of loud speaking telephones, have brought out a new radio type of loud speaker which gives remarkable results. On account of its beautiful tone quality and great volume of tone on the ordinary receiving set, it is meeting with a most enthusiastic reception by radio engineers, set manufacturers and fans.

This high-powered Thorophone is made in two types, one with a horn, and another without horn, this latter type being arranged to lay in the phonograph. The artistic designs of these instruments are particularly appealing. In the phonograph type, the cost of the horn is of course eliminated, and it puts this high powered instrument, with its beautiful tone quality within the reach of the careful buyer at a very attractive price.

The Thorophone has a mica diaphragm set between rubber tubing, an amplifying lever with control features, while the electrical element is a powerful electro magnet with solenoid action, requiring external battery. The manufacturers claim that this combination of the most efficient of electrical elements with the phonograph type of sound box gives the perfect combination, beautiful tone with ample volume. Perfect tone reproduction makes for increased sales.

High ideals in radio reproduction deserve the well wishes and support of the radio public.

### FADA HANDBOOK

The Fada Handbook of Radio-facts is a well compiled, neatly printed handbook, of 48 pages and cover, giving facts about Fada products. This booklet is thorough and practical, simplifying radio and offering helpful suggestions to the radio enthusiast who builds for efficiency in radio reception. Copies may be had upon request to Frank A. D. Andrea, 1581 Jerome Avenue, New York City.

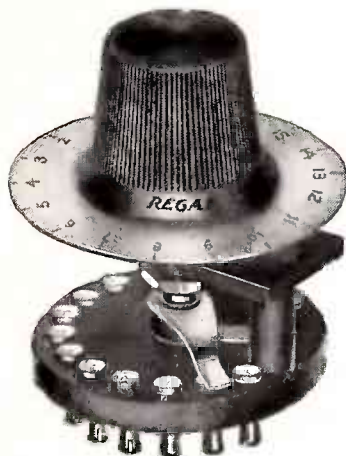
### HOME VACUUM SET

Designed to provide a vacuum set for the home at a moderate price, the Duntley Radio Receiver, got out by the W. O. Duntley Company with offices in New York and Chicago, is made to sell for \$45.

The Duntley is enclosed in an oak cabinet and the makers claim for it a wave-length range of 150 to 1,000 meters.

## TWO FAST SELLING "REGAL" PRODUCTS

Write for Handsome New Catalog No. 10



### INDUCTANCE SWITCH WITH KNOB AND DIAL

15 point switch complete in one unit. Requires but one hole to mount on panel. Smooth wiping contact over heads machined to same height on one piece contacts. Complete soldered assembly attached, or removed from panels by means of one threaded shaft bushing. Gives inductance regulation by dial contact.

\$2<sup>00</sup>



### FILAMENT RHEOSTAT

Has full exposed resistance wire, giving critical adjustment so necessary to the efficient operation of a vacuum tube. Fine, smooth working control. Handsome knob, heat resistance base and highly nickel plated parts. 6 ohms resistance—2.2 amperes.

\$1<sup>25</sup>

AMERICAN SPECIALTY MFG. CO., Bridgeport Conn.



## What Caused The "Catfight"

Many good radio outfits are condemned by the amateur because they do not receive clearly; because there is a "catfight" interference. "Static" should not be blamed for every receiving interference—it is often due to an unbalanced storage battery. Help your customers get good, smooth, clear messages by recommending that they test their batteries often with a *guaranteed*



This improved hydrometer readily retails for 75c; with a good profit margin for you. It is easy to read and accurate and scientific in construction. Rubber shield protects tube from easy breaking. Graduated for gravity reading—also simply and boldly marked to indicate if battery is empty, half-charged or full.

We have a good proposition ready for responsible jobbers and dealers—a sure winner. The Hafner Hydrometer is a high grade guaranteed instrument—priced to sell in a hurry.

We are forcefully telling over 2,250,000 consumers about the Hafner in the *Saturday Evening Post* every month. This means real sales for you.


Write us for Details and Prices.

**HAFNER MANUFACTURING CO.**  
3130 Carroll Avenue Chicago, Ill.



THIS WILL BE A RADIO CHRISTMAS!

**ROCKY MOUNTAIN CRYSTALS**  
 Better Than Galena  
 The most sensitive mineral rectifier known. Can also be used with one or more stages of amplification.  
 Mounted 35c. Unmounted 20c. Postpaid  
 Manufacturers, Jobbers, Dealers, Clubs.  
 Apply for Special Prices.  
 Rocky Mountain Radio Products, Inc.  
 9 Church Street, New York, N. Y.



**Shamrock**  
 180°  
**Vario Coupler**  
 Retail Price \$4.50

Both Tubes Are Made of  
**BAKELITE**  
 Distributors, Jobber and Dealers Write for  
 ATTRACTIVE DISCOUNTS  
**SHAMROCK RADIO CO.**  
 152 Sussex Ave., Dept. T, Newark, N. J.

**T-B-H PHONES**  
 Speak for Themselves  
 Pure Natural Tones, Light Weight  
 Ornamental Appearance  
 A Sturdy Reliable Head Set  
 That Will Sell and Stay Sold  
*Let us send a sample set for your inspection*  
**List \$7.00**  
 Substantial Discounts to Jobbers and Dealers  
**T. B. H. CORPORATION**  
 Dansville, N. Y., U. S. A.

**"COPPERWELD"**  
TRADE MARK REG. U.S. PAT. OFF.  
**ANTENNA WIRE**  
 50% stronger than either  
 solid or stranded copper  
**ELIMINATES SAGGING**  
*Adopted by Largest Radio Manufacturers*  
 100, 150, 200 ft. per Carton

**LEAD-IN and GROUND WIRE**  
 has the Underwriters' O. K.  
 Rubber Insulated—Brown Braid  
 25, 50, 100 ft. per Carton

**BUY IT IN CARTONS**  
 with construction directions  
**COPPER CLAD STEEL COMPANY**  
 New York Chicago  
 Braddock P. O., Rankin, Pa.

**Trade-Mark Department**  
 Conducted by Chauncey P. Carter, Trade-mark Specialist of Washington, D. C.

Radio Trade-Marks Recently Accepted by the Patent Office

**CHADBURN** — Electrically-operated ships telegraphs—Chadburn (Ship) Telegraph Co., of America, Inc., Troy, N. Y. Jan. 1, 1885.

**TELE-CALL** — Electrically-operated code senders or transmitters of signals, used in automatic code signaling.—Mead Electric Signal Co., Cleveland, O. April 8, 1912.

**ATLANTIC**—Various radio apparatus—Atlantic Instrument Co., Inc., New York, N. Y. January 2, 1922.

**LALLEY**—On red and black disc - receiving sets.—Lalley Radio Corporation, Detroit, Mich. April 17, 1922.

**BABY GRAND**—Receiving sets.—Beaver Machine & Tool Co., Inc.—Newark, N. J. April 1, 1922.

**AERIOLA GRAND** — Various radio apparatus.—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. December 23, 1921.

**TRIANGLE**—Receivers.—B. & C. Radio Mfg. Co., Boston, Mass. May 27, 1922.

**RAD-O-PLUG** — Condenser lighting circuit plugs.—Radio Products Corporation of Detroit, Mich. April 27, 1922.

**BASCO**—Various radio apparatus.—Briggs & Stratton Co., Milwaukee, Wis. June, 1922.

**ALADDIN**—Receiving sets and parts.—Phillip E. Edelmann, New York, N. Y. December 22, 1921.

**MAXOLOUD**—Loud-speakers, receivers and reproducers.—Radio Improvement Co., Chicago. March 29, 1922.

**HRC**—Receiving sets and parts.—Heslar Radio Corp., Indianapolis. April, 1922.

**JRH**—Receiving sets and parts.—J. Roy Hunt, Inc., Long Island City. April 15, 1922.

**MORADIO**—Receiving sets and parts.—Morland Sales Corp., Newark, N. J. March 15, 1922.

**OIDAR** — Transmitters, receivers and parts.—Ludwig Hommel & Co., Pittsburgh. April 24, 1922.

**AEROVOX**—Receiving and sending sets and parts.—Radiola Wireless Corp., New York, N. Y. April 1, 1922.



**"PRECISION"**  
**GRID LEAKS AND MOUNTINGS**  
 Resistance Ranges from .25 Megohms to 5 Megohms. Accuracy Guaranteed  
 GRID LEAKS .....75c  
 MOUNTINGS .....50c  
**RADIOPHONE EQUIPMENT CO.**  
 49 NEW STREET, NEWARK, N. J.

**Maclite Vario-Coupler**  
 Price \$5.00

Is, in the opinion of experts, the most efficient on the market.  
**All Other Maclite Parts** are equally efficient, including the Maclite Variometer, Double Slide Tuner, Variable Condensers and Crystal Detectors. The Maclite Single Tube set at \$25.00 is the best buy we have ever seen. Let us tell you more about this set, also all other Maclite parts.  
 Dealers and Jobbers Write for Discounts  
**MACLITE RADIO CO.**  
 701 Maclite Bldg., Claredon St.  
 Boston, Mass.

**It pays to advertise—ask our advertisers.**

If you have something to sell the Radio Trade, fill in the blank below—an ad this size would only cost \$18.60 per issue on contract

**ADVERTISING ORDER**

**THE RADIO DEALER,**  
 1133 Broadway, New York City.

You may insert our advertisement, copy attached, in the next 12 issues of the RADIO DEALER, to occupy space of six inches, for which we agree to pay you at the rate of \$18.60 per issue.

(Signed) .....

(Address) .....

(City and State).....

Minimum order, four inches

THIS WILL BE A RADIO CHRISTMAS!

SHRAMCO—Various radio apparatus.—Shotton Radio Mfg. Co., Albany, N. Y. August 1, 1919.

AMPLITONE—Antenna cable.—W. C. Shinn Mfg. Co., Niles, Mich. April 25, 1922.

ELMCO—Receiving sets and parts.—Electric Machine Corp., Indianapolis. April 25, 1922.

RADIANT—Couplers and jacks.—Heath Radio & Electric Mfg. Co., Newark. June 1, 1922.

## Cole Condensers

Built on Best Engineering Design Properly

Cole variable condensers are the result of seventeen years of successful design and manufacture of radio apparatus combined with twenty years' experience in the manufacture and operation of electrical and mechanical apparatus.

A. B. Cole, of A. B. Cole, Inc., says:

"Long experience in the manufacture and use of condensers has shown that Condensite has all the qualifications for a first class condenser head, for it will not warp under any condition of heat or cold, it will not absorb moisture, it is mechanically strong and has very high insulating qualities. All our condenser heads are made of this material.

"Although heads made of fibre, shellac composition, or hard rubber are much less expensive, all these materials will warp and cause the plates to short circuit. In addition fibre absorbs moisture and causes leakage, shellac composition is very brittle and the heads are liable to break under ordinary handling and hard rubber loses its finish and you soon have a shabby looking condenser

"Metal heads depend on bushings for insulation and can not be made with a high enough degree of insulation for best results. They also have a capacity effect between the heads and plates which causes a non-uniform variation of capacity."

### THORO-BRED CATALOGUE

The Marshall-Gerken Company, Toledo, Ohio, manufacturers of Thoro-bred products, have published an attractive catalogue of their products. In spite of the flood of untested, hastily constructed apparatus that has flooded the market this company maintains it has refused to sacrifice quality at any cost because they realize their success in the long run can never be secured without a reputation for high standards of manufacture.

## A WARNING TO THE TRADE!

The popular line of EBY Binding Posts known to the trade as MIDGET, CORPORAL, BUDDY, SERGEANT, SERGEANT "SS," SERGEANT "W," CAPTAIN, MAJOR and GENERAL, also COMMANDER "S" insulated post are all patented.

THE H. H. EBY MANUFACTURING COMPANY as sole licensee under said patent hereby notifies and warns all manufacturers, jobbers, dealers or users not to make, sell or use infringing Binding Posts, and anyone so infringing either directly or as a contributory infringer will be vigorously prosecuted.

We therefore warn the trade not to buy imitations infringing such patent, and thereby avoid expensive patent litigation.

We are in better shape than ever to take care of your requirements for EBY posts and in view of the outlook for big business during the coming Radio season, we cannot too strongly urge you to anticipate your orders.

THE H. H. EBY MANUFACTURING CO., PHILADELPHIA, PA.

## New "All-American" Completely Shielded Audio Frequency Amplifying Transformers

The cut shows our new method of shielding "All American" Audio Frequency Transformers, in a compact brass case, nickled and burnished.

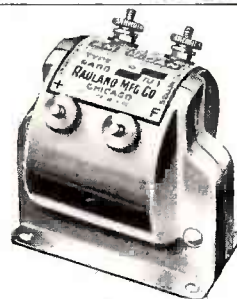
The outward beauty of this line of transformer will greatly stimulate its sale.

This improvement in design will still further increase the leadership of the "All American" Transformers, which have already won the entire confidence of the leaders in the radio world.

Correct design, proper turns-ratio, effective shielding and the best of workmanship make "All American" Transformers very satisfactory to both dealer and user.

Our New R-21, can be used on as high as three stages without distortion or howling.

Send for Bulletin No. 22 and Liberal Discount Sheet.



List Prices

|           |            |        |
|-----------|------------|--------|
| Type R-12 | Ratio 3-1  | \$4.50 |
| Type R-13 | Ratio 10-1 | \$4.75 |
| Type R-21 | Ratio 5-1  | \$4.75 |

**RAULAND MFG. CO.**  
35 So. Dearborn St., Chicago, Ill.

## Ask Our Service Bureau

# RADIO PANELS

And other insulation for Wireless Work

## BAKELITE-DILECTO

Grade XX Black was used by the Government during the war for this purpose. It is the

*Standard of the World*

## THE CONTINENTAL FIBRE COMPANY

NEWARK, DEL.

New York, 233 Broadway  
Pittsburgh, 301 Fifth Ave.  
Los Angeles, 411 S. Main St.  
Seattle, Wash., 1927 First Ave., South

Chicago, 332 S. Michigan Ave.  
San Francisco, 75 Fremont St.  
Rochester, N. Y., 85 Plymouth Ave., South

THIS WILL BE A RADIO CHRISTMAS!

**THE KENTONE RADIO  
AMPLIFYING HORN**



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

**RETAILS FOR \$6.00**

Write for particulars

**F. C. KENT CO.**

**IRVINGTON NEW JERSEY**

**SENSORY CABINET UNITS**

The variety of instruments used in radio permit of many combinations in hooking up the circuit. When these instruments are mounted on *one* panel and permanently interconnected for a particular circuit, it becomes very inconvenient to alter connections for some other scheme. In many cases a complete new panel is required. Realizing this situation, the Heine-mann Electric Company, of Philadelphia, have designed a line of units each with its own panel and cabinet, under the trade name of "Sensory" cabinet units. The different instruments are mounted in unit cabinets, and can be readily arranged for almost any style of hook-up desired. It is simply a matter of "ganging" the units, side by side, or in vertical gangs, or a combination of both methods, and making connections on the front to the binding posts, provided for such purpose. The assembly follows to a certain extent the well-known "sectional book case" scheme and looks equal to a continuous cabinet. There is also a decided advantage offered in that a few cabinet units can be purchased at the start to cover some simple hookup, and then added to, as the operator becomes more efficient, or desires a greater range or more sensitive installation.

The "Sensory" line of cabinet units includes variometer, variocoupler, variable condenser, detector, amplifier and other units. These units are furnished also without cabinets, as a panel unit, or completely unassembled. The "Sensory" line includes all standard parts and accessories sold separately.

**A NEW DETECTOR**

One of our readers advises us that he recently saw a new detector, for crystal receiving sets and having tried it out wants everyone to know about it. Says he:

"Better than any mineral; it is a reddish metal plate—a piece of pencil lead. It's a wonder."

Incidentally—our reader is an anonymous writer, signing himself "A Crystal Radio Fan."

**MARING MAGNET WIRE**

Magnet wires play an important part in the construction of wireless apparatus and far-sighted dealers carry stocks in hand to cover the demands for this staple. The Maring Wire Company, Muskegon, Michigan, have a good magnet wire and offer same on small spools for the amateur radio operator.

**100% Radio**

**Altadena Radio Laboratory**

560 E. Colorado Street  
Pasadena, Calif.

*Jobbers of All Standard Radio Apparatus, including*

- Acme Apparatus Company
- Adams-Morgan Company
- American Hard Rubber Company
- Automatic Electrical Devices Company
- Nathaniel Baldwin, Inc.
- Burgess Battery Company
- Blank Radio Call Book
- Edison Storage Battery Company
- Everett Electric Corporation
- Federal Telephone & Telegraph Company
- General Radio Company
- Colin B. Kennedy Company
- Magnavox Company
- Parkin Mfg. Company
- Radio Corporation of America
- Thordarson Electric Mfg. Company
- Western Electric Company
- Westinghouse Electric & Mfg. Company
- Weston Electrical Instrument Company

**PAUL FRANKLIN JOHNSON**



**AEROVOX  
POCKET COMPANION**

A Dealer Writes:—

"Your little pocket set is the best seller I have. Your panel design effect, the special crystal, the low price and the long range make selling it easy."

*The set comes complete for operation.*

Write for full description, discounts and our dealer co-operation feature.

**BRADY**  
ELECTRIC MFG. CO.  
PITTSBURGH, PENNA. U.S.A.  
415 S. Highland Ave.

**Variable Condensers**

**SEMI-CIRCULAR TYPE**

|               | List   |
|---------------|--------|
| 43 Plate..... | \$3.75 |
| 23 Plate..... | 3.00   |
| 11 Plate..... | 2.75   |
| 3 Plate.....  | 1.50   |

**BALANCE TYPE**

|                |        |
|----------------|--------|
| .001 Mfd.....  | \$5.50 |
| .0005 Mfd..... | 4.75   |
| .0025 Mfd..... | 4.00   |

**SQUARE LAW TYPE**

|                 |        |
|-----------------|--------|
| .0015 Mfd.....  | \$6.50 |
| .001 Mfd.....   | 5.50   |
| .00075 Mfd..... | 4.50   |
| .0005 Mfd.....  | 3.50   |

**Montrose Mfg. Co.**

1200 Bedford Ave. Brooklyn, N. Y.

**THIS WILL BE A RADIO CHRISTMAS!**

## Westphal Adapter

(Continued from page 68)

requires no extra attachments for the different phonographs. It will fit the Victrola, Columbia, Brunswick, Edison, Sonora, Pathe, Steger Aeolian-Vocalion Federal, Vitanola, Pooley Chorister, Standard, Electro-Phone, Mastertone, Silvertone, and as a matter of fact over 95 per cent of all phonographs and all radio head phones.

In connecting the radio to the phonograph only one of the head phones is used, the other being shorted with a piece of wire or solder. Two receivers conflict and neutralize each other. By actual test the Westphal Adapter with one receiver gives 50 per cent more volume. Another feature is that only a minute is required to change the phonograph from a record playing instrument to a radio loud speaker or vice versa.

At a list price of \$2.50 it will undoubtedly give the radio enthusiast a worthwhile addition to his outfit. This is a desirable feature in any radio dealer's store.

## New Circuit Tuner

(Continued from page 68)

binding posts are provided on the back for adjusting the instrument to the particular type of antenna being used. Once this adjustment is determined, no further adjustment is necessary for broadcast reception. It is absolutely unaffected by body capacity at the dial knob. All insulating parts are sturdily made of moulded condensite, and the workmanship throughout is of the highest quality.

The manufacturers state that at their summer laboratory in Kennebunkport, Maine, using this tuner, in conjunction with a standard circuit and two stages of audio frequency amplification, broadcast concerts have been clearly received from Porto Rico, Davenport, Iowa; Chicago, and many other distant points.

The instrument can be used with a crystal detector and the crystal detector later discarded when a more pretentious set is desired.

### TO OUR READERS

The RADIO DEALER has received a few communications extolling apparatus and quite a few condemning certain products. But as these letters are unsigned they cannot be used. Please attach your name and address to articles, not necessarily for publication, but as an evidence of good faith.

THE RADIO DEALER CO.



← THE SIGN OF GOOD SERVICE AND GUARANTEED SATISFACTION

IMMEDIATE DELIVERIES ON:

|                |                          |
|----------------|--------------------------|
| CLAPP-EASTHAM  | RADIO CORP. OF AMERICA   |
| BALDWIN PHONES | MURDOCK APPARATUS        |
| THORDARSON     | DRAGON STORAGE BATTERIES |
| NOVO BATTERIES | FADA APPARATUS           |

And All Other Standard Lines

EXCEPTIONAL DEALER'S DISCOUNTS—WRITE AT ONCE

**WILMINGTON ELECTRICAL SPECIALTY CO., Inc.**  
912 ORANGE STREET Dept. A-10 WILMINGTON, DEL.

## This Letter Was Unsolicited

We are distributors for the complete "RADAK" line, made by Clapp-Eastham.

A. H. LAWFORD  
292 Main St., Bar Harbor, Me.  
VIRGINIA RADIO CORP.

Dear Sirs:

Our books show that your company was the first to deliver their order although your letter was mailed last of four different companies which I ordered my initial stock from and also you were the greater distance from this town. Therefore you may expect the full amount of my business from now on.

Respectfully yours,  
AUTHOR H. LAWFORD.

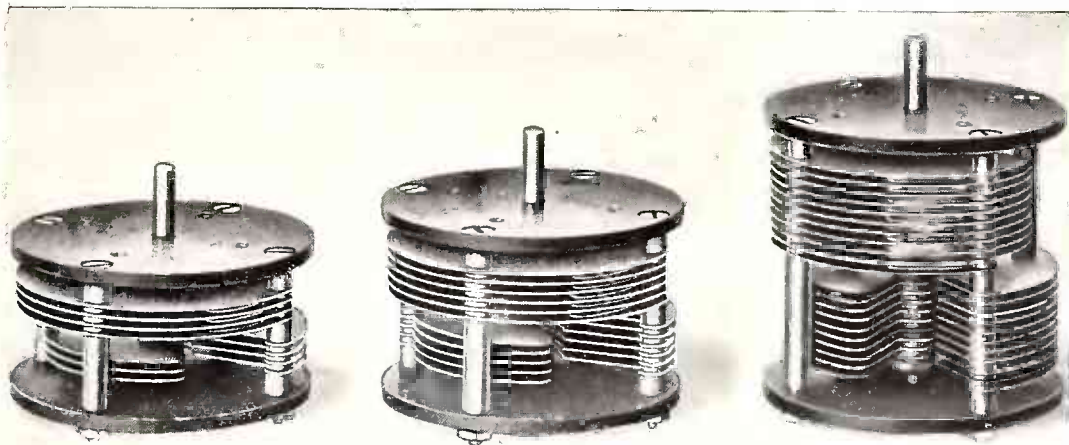
LARGE STOCK



PROMPT SERVICE

**VIRGINIA RADIO CORPORATION**  
Manufacturers—Jobbers  
Charlottesville, Virginia

## Ask Our Service Bureau



### "Universal" Balanced Variable Condenser

All important mechanical and electrical features are embodied in the construction of the "Universal" Balanced Variable Condenser. The instrument is readily mounted on the back of panels and balanced. The "Universal" Balanced Variable Condenser is made in three sizes, as follows:

|           |   |            |                    |
|-----------|---|------------|--------------------|
| 14 plates | — | .0003 M.F. | List Price, \$3.00 |
| 22 "      | — | .0005 M.F. | " " 4.00           |
| 42 "      | — | .001 M.F.  | " " 5.00           |

Special discounts, according to quantity.

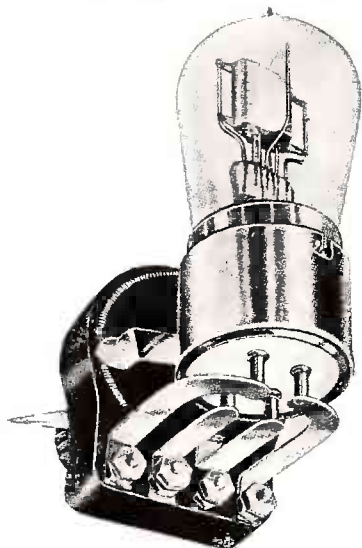
All condensers are guaranteed as to workmanship and material and tested before leaving factory.

**Universal Stamping & Mfg. Co.**  
1925 South Western Ave., Chicago, Ill.

THIS WILL BE A RADIO CHRISTMAS!

**SOCKET-RHEOSTAT**

Registered U. S. Patent Office



Type A-5 ohms, suitable for detector bulb  
 Type B-2 ohms, suitable for power bulb  
**\$2.00**  
**TWO IN ONE.** A socket and rheostat so combined as to form a single unit. No more unnecessary leads between socket and rheostat. Just connect your leads to the four posts marked P F-F G and you are hooked up as far as the SOCKET-RHEOSTAT is concerned.

MANUFACTURED BY

**Ajax Radio Corporation**

Telephone: Bigelow 4097  
 538 SOUTH 10th STREET  
 NEWARK, N. J.

**Possibilities of Work for Association**

(Continued from page 59)

any other of the evils that have slackened demand in some sections.

The need for more and better publicity for the newspapers and magazines of the country that are anxious to carry real accurate and reliable information on radio subjects points the way for one of the most important committees of the association, that on publicity.

A report on the possibilities for good for this committee follows:

**REPORT ON PUBLICITY NEEDS OF THE RADIO TRADE**

The publicity committee of the Radio Trade Association can do a great deal for the industry at large by aiding the daily press in securing sufficient and proper reading matter of eternal interest for their radio sections, as well as the mere handling of publicity about the association with the idea of advertising the activities of the organization.

The services of THE RADIO DEALER have been offered the association for the prepa-

ration of publicity matter and its dissemination. Until the committee is able to make preparations for paid work of this kind, or until the employment of a paid secretary there will be no charge for any assistance given in this matter.

The matter of a national advertising campaign for the association and radio in general has been carefully considered and the present conclusion seems to be that there is no definite need for such a campaign. The past experience of other organizations in the matter of national co-operative advertising campaign shows that only a very small percentage of these campaigns are profitable.

It has been suggested, however, that special efforts might be taken to arrange for a central service of prepared advertising for members, the illustrations and copy layouts being furnished at a nominal cost. This plan could be handled through some of the companies in this field, who no doubt will be very glad to make special prices to members of the association who wish to advertise in local newspapers and who do not care to go to the expense of having special illustrations and cuts made up for their own use exclusively.

The matter of the publication of an association organ, published by and for the association was referred to a committee of advertising men who regard the proposition with disfavor. A recent campaign conducted by *Printers' Ink*, a well-known publication in the advertising field, points out that very few associations make any profit on similar organs, and that advertisers as a rule consider space used in such organs more as a donation, and do not receive fair returns for the money invested.

—R. C. C.

The manufacturer and large distributor is considerably worried by the multiplicity of radio shows that are being announced every week or so. These firms realize the advantage and possibilities for good of real shows, but are hard put to choose and pick between the various shows announced for various dates.

**Radio PLAN-O-PHONE**  
  
**Loud Speaker \$3.50**  
 The Plan-O-Phone is the most amazing value of any Radio Loud Speaker, on the market. Remarkable acoustics. Used with any 2 stage amplified receiving set. Fits any receiver. Made of stately bronze—handsome, durable. Dealers: Write for special proposition.

**PLANET RADIO CORPORATION**  
 1223 S. Wabash Ave., Dept. F2, Chicago, Ill.

**New Radio Inventions**

Be sure to get the latest—



**Combined Variable Grid Leak and Micon - Condenser**

Price **\$1.00**

Unbroken range from zero to 5 megohms—all intermediate points. Fixed capacity .00025 M. F. Will improve your set wonderfully.

Clarifies Your Signals  
 Lowers Filament Current  
 Increases Battery Life  
 Eliminates Hissing

Write for Terms and Discounts

**CHAS. FRESHMAN CO., Inc.**  
 97 Beekman Street, New York  
 Home of Micon and Antenna

**RADIO DEALERS**



We Are Manufacturers of

**F. M. C.**

**Audio Amplifying Transformers**  
**Radio Frequency**  
**Mica Condensers**  
**Sensitive Crystals**

Dealers and Jobbers Write Us for Proposition

**IMMEDIATE DELIVERY**

**Ford Mica Co., Inc.**

**14 Christopher St.**

**New York**

The manufacturers of the country wish to lend their support to real shows and very likely will find the committee on shows and expositions of this association of great value to them.

The report follows:

*REPORT ON THE MATTER OF  
SHOWS AND EXPOSITIONS*

As long as the present flood of shows open to the general public continues there seems to be no definite need for a national show for dealers only, although no doubt this need will come up at some future date.

For the present it seems the safe thing for the association to refuse its official endorsement to all shows of every character in the radio field, as no material good can come to the association by such endorsement, while considerable damage may be done to the association's reputation were official endorsement given to irresponsible promoters.

It would be unwise, however, for the association to take definite stand against any show unless the entire proposition be so ill-managed and so grossly poor as to require a warning to the trade. Radio shows serve a definite purpose and will be a great benefit to the industry and for such reasons should be encouraged. Every effort to bring radio into the eyes of the public should be praised, and aided, but it is unfair for promoters of shows or publishers of magazines or newspapers to ask the association to pass official endorsement for their schemes.

Should the occasion arise for a national dealers' show at the national meetings of the association it is felt that the management of these shows should be handled by the association as their success will not depend on paid admissions but rather on there being a large attendance at the meeting with a large number of exhibitors at the show.—B. J. F.

Considerable talk has been aroused over the matter of large quantities of inferior apparatus being thrown on the market due to failures, etc. The possibilities of the association establishing a clearing house for this apparatus which can pick between the poor apparatus that should not be offered the public and the good merchandise that is being held by firms pressed for cash. In the latter case it might be possible for the association members to relieve the market and at the same time aid the buying public by giving them a chance to buy superior merchandise at very reasonable prices. This matter is being carefully investigated and detailed reports will be made to the association at an early date.

The continued offering of standard merchandise at cut prices reduced public confidence in the articles so advertised. Manufacturers in the industry realize this better, perhaps, than the dealers, and it is believed that the trade will find the manufacturers ready to co-operate and aid the committee on price cutting in every way possible. Manufacturers who are

(Continued on page 120)

Dealers who want strictly high class quality  
Radio Sets and Equipment,  
we can serve you.

*Distributors:* General Radio Corp., King Quality,  
Dubilier Condenser and Radio Corporation,  
De Witt - La France Co. *All Guaranteed Lines.*

**INVINCIBLE PRODUCTS CO., Inc.**

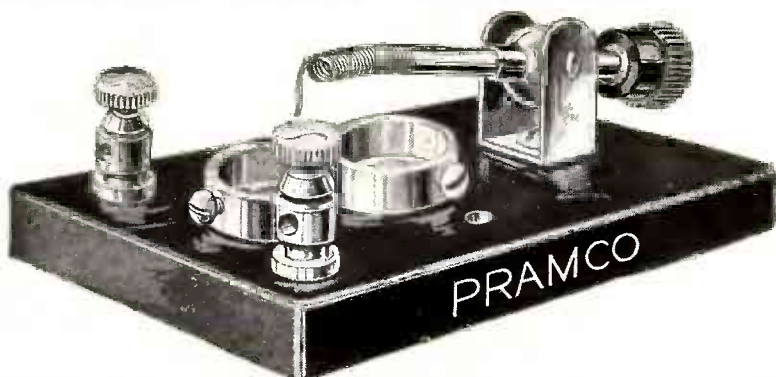
159 N. State St.

Phone: Dearborn 2638

Chicago, Ill.

**PRAMCO DUO - TECTOR**

A Pramco  
Duo - Tector  
will outsell  
any \$1.00  
Crystal De-  
tector on the  
market.



The two-cup arrangement allows a quick change from one crystal to another with very little interruption. It offers an opportunity to determine the relative value of different minerals under the same conditions.

All Metal Parts Standard Pramco Hand Polished and Plated

List \$1.00

LIBERAL DEALER AND JOBBER DISCOUNT

PREMIER RADIO MFG. CO.

1900 No. 6th St., Phila., Pa.

**WALD ELECTRIC COMPANY**

*Manufacturers*

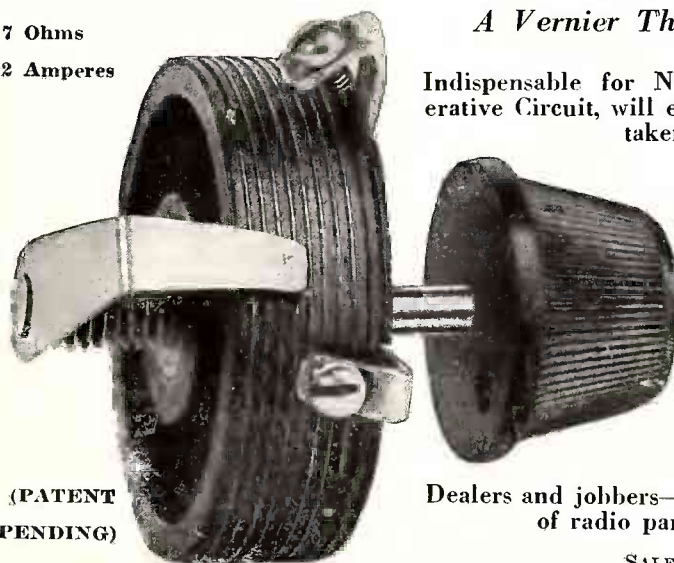
**"MICROSTAT"**

*A Vernier Throughout Its Range*

7 Ohms

2 Amperes

Indispensable for New Armstrong-Super-Regenerative Circuit, will eliminate noises usually mistaken for static



(PATENT  
PENDING)

STEPLESS  
FILAMENT  
CONTROL

List Price

**\$1.50**

An Instrument of Merit

Dealers and jobbers—Write for discounts and list of radio parts we manufacture

SALES DEPARTMENT

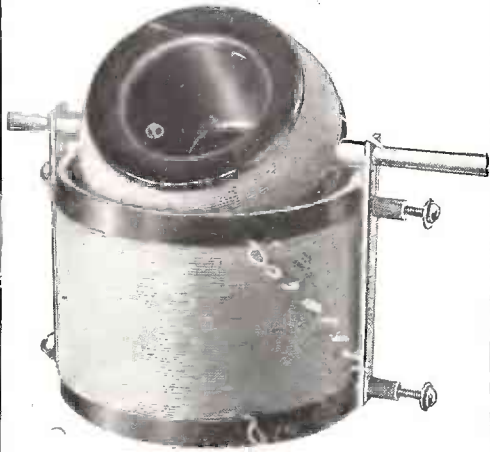
**LOUIS A. STAFF COMPANY**

1755 Broadway

New York

THIS WILL BE A RADIO CHRISTMAS!

## VARIO COUPLER



List Price . . \$3.50

Dealers and Jobbers  
Write for Particulars

**Nelson Radio Parts Co.**  
89 Academy Street  
Newark, N. J.

## Efficient Operation of Detector Tubes

(Continued from page 53)

put a detector tube in an amplifier circuit, nor in any circuit where the "B" battery is apt to be too high. Should it be done for a short time, the tube will usually require a different plate voltage for good detection.

The next tube we are interested in is the VT-1, which is of the "hard" type. It makes a good detector or amplifier for ordinary work and is used extensively in this universal capacity in army and navy radio equipment. It is very stable, easily adjusted and quite sensitive as a detector, although not as good for distant signals as is the "soft" tube. It works satisfactorily on any voltage between 18 and 45 for the plate, and will not "ionize" until about 100 volts. The normal filament temperature is a dull red glow, hardly noticeable in daylight, due to its special type of coated filament which works at a low temperature. The current should be about 1.1 amperes for good detection and this can be obtained on a 4-volt storage battery.

In some cases amplifier or "hard" tubes make better detectors than "soft" tubes, especially if receiving very near stations or when the circuit is not adjusted for the "soft" tubes. But, where distance work and efficiency are desired, a good "soft" tube is always preferable.

The Radiotron UV-201 is in the same class as the VT-1, except, having a tungsten filament, it requires a 6-volt battery for a filament current of between nine-tenths, and one and one-tenth amperes as does the UV-200.

There is one thing that must be adjusted when a "hard" tube is used as a detector and that is grid leak resistance. The "harder" the tube is the lower the resistance must be. For VT-1's or UV-201's it should be about 1 megohm (1 million ohms) or even  $\frac{1}{2}$  megohm, (assuming an average of .0005 microfarad grid condenser). The "soft" detectors require a higher value of 2 to 4 megohms or may even work without one. If the leak is too high for the tube used a slow "putt, putt, putt," will be heard in the phones with certain adjustments, and will render the tube inoperative to signals.

The last tube we have to discuss is the  $1\frac{1}{2}$ -volt "dry cell" tube, which is growing rapidly in popularity because of its efficiency, low upkeep cost and sensitiveness. This tube, the WD-11, is a very satisfactory detector as may be determined from users of the

## RADIO CONCERTS CORACO

America's Greatest Radio Receiver  
No Inside or Outside Connections  
GOTHAM THEATRE BUILDING  
Broadway at 138th Street

## GANAERITE Detector Crystals

Twenty years of practical mineralogy gave us the material to produce the highest quality crystal.

We are now undertaking the largest single order for mounted crystals in the market.

We individually test and guarantee to replace or refund on any unsatisfactory Ganaerite crystal.

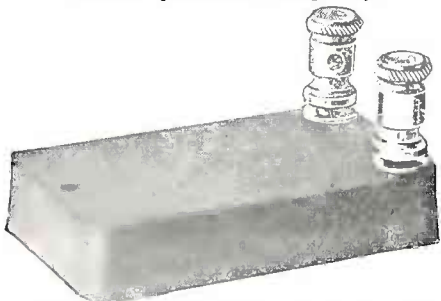
**The Harris Laboratory**  
26 Cortlandt St., New York City

TRADE **HPMCO** MARK  
Reg. U. S. Patent Office

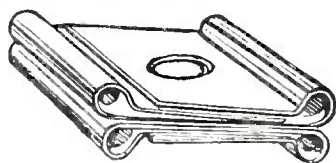
Molded fixed Condensers are best by test. The newcomers to radio invariably want this type. Experienced amateurs demand them as the molding process.

**No. 20  
Fixed Condenser  
70c.**

insures permanent capacity.

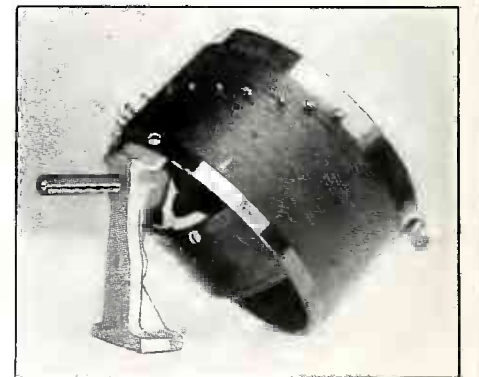


Duplex Binding Post Clips are just what your customers demand when using two pairs of headsets. 5c each. Each Clip adds two extra connections.



Write for Our Liberal Discounts.  
**HEDDEN PLACE MACHINE CO.**  
44 HEDDEN PLACE  
EAST ORANGE, N. J.

## "IDEAL" 180° Variocoupler



List Price \$4.50

Write for discounts

Secondary and primary wound on pure Bakelite Dilecto Tubing. Silk covered wire used throughout. Wave length 150 to 600 meters.

## IDEAL SWITCH LEVERS

With the "mirror-like" knobs. Genuine Thermoplas Knobs used on our levers. Highly blue-nickel levers. Made in two sizes—Junior 1" radius. List 35c. Senior, 1 $\frac{1}{8}$ " and 1 $\frac{1}{2}$ " radius. List 50c.

Send for samples and discounts.

**NEWARK RADIO SUPPLY CO.**

Manufacturers and Distributors "IDEAL"  
Radio Supplies and Equipment.

284 Market St., Newark, N. J.

THIS WILL BE A RADIO CHRISTMAS!



"Aeriola Sr." It is of the "soft" type, although not as critical to plate voltage as the UV-200. It has an oxide coated filament of about the same type as the VT-1, although much smaller. It is quite stable in operation when the grid leak resistance is from one to two megohms. The operating filament current is about 0.3 ampere, which may be obtained on one dry cell, and the plate voltage can be from 22½ to 45 volts, with perfect results. Above this point the older type WD-11 would blue-haze and deteriorate rapidly, but the new WD-11's are quite satisfactory up to about 90 volts. They, therefore, make good amplifiers, but with limitations, which will be discussed in our next article of the series. We shall also take up several other types of voltage amplifier tubes.

**NEW ESSEX CATALOG**

A new loose-leaf catalog with printing on but one side of the pages which present a pleasing and unique appearance has been distributed to the trade by the Essex Manufacturing Co., 117 Mulberry Street, Newark, N. J. In it are illustrated and described the extensive line of radio parts and equipment that are made by the company which has been engaged in the electrical manufacturing business for many years and prides itself on the quality of the products it turns out.

While the Essex line is featured, consisting as it does of double slide tuning coils, inductance switches, an improved type of lightning arrester, bank wound variometers and couplers, rotors, panels, jacks and parts; other apparatus is shown such as condensers, detectors, receiving and transmitting sets, amplifier transformers, sockets, plugs, rheostats, potentiometers, controls, audiphones, radiophone adapter, batteries and other equipment and parts. In the back of the catalog is a list of parts with prices under the heading of "Build Your Own."

**FRANKLIN SOCKET**

The Franklin socket has just been placed on the market by the Franklin Radio Manufacturing Co., 711 Penn Avenue, Wilksburg, Pa. This appliance which is intended to hold the WD-11 dry cell tube firmly and make perfect contact, retails at fifty cents. This socket should be appreciated by those who consider the convenience of the dry cell tube over those requiring a storage battery, and now that a socket can be readily obtained for the tube, an opportunity is offered to those who have crystal sets, to change over to audion sets for small expense.

**LITTLE GIANT SET**

The Little Giant receiving set is housed in a neat little American walnut cabinet about 4 by 3 by 6 inches deep, that you could hold in your hand and when opened up, discloses a crystal set of entirely new design, labelled with the trademark "Little Giant," and manufactured by the Metropolitan Radio Corporation, 67-71 Goble Street, Newark, N. J. Instead of the awkward, imperfect tuning coil, all that one has to do to time this set, is to pull out the rod until the signals are sharp and clear and then stop. A

little switch on the Bakelite panel board grounds any static or interference. The crystal detector maintains its adjustment almost indefinitely.

A set like this which includes a pair of Metro head phones might easily sell for a high price, yet this entire set can be had for only \$14.00.

When the Metropolitan people put the "Little Giant" into special holly boxes for the holidays, added aerial wire, ground wire and ground clamps all for \$15.00, the demand kept their plant working to full capacity, but increased production facilities allows for filling all orders.

**CONDENSERS—GUARANTEED—TESTED—  
PERFECT**

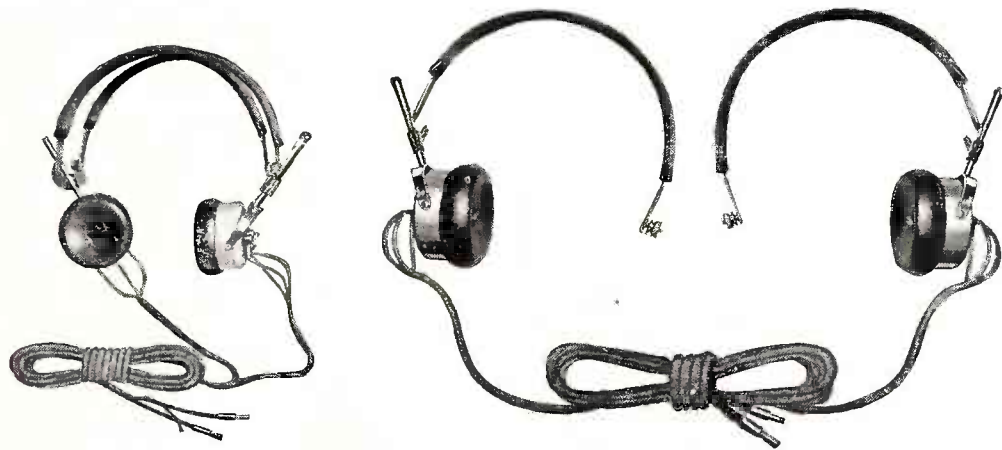
Your orders must be placed now—No waiting

|                       |            |
|-----------------------|------------|
| 43 Plate .0011 .....  | \$1.35 net |
| 21 Plate .0005 .....  | .90 net    |
| 11 Plate .00025 ..... | .72 net    |
| 3 Plate Vernier ..... | .54 net    |

*Fixed—Phone—Grid—Grid Leak, .05½ each net*

To facilitate matters we have prepared set of samples of above at \$3.75, sent upon receipt of cash or money order only

**DUKE RADIO CO., 1758 Bergen St., Brooklyn, N. Y.**



The Band Splits Into Two Parts. Each Having an Overhead Strip, Is Very Convenient for Two Persons

*Premier Duplex*

PATENTS APPLIED FOR  
Phones

2000 Ohms \$6.50

3000 Ohms \$8.00

Discount to Dealers

**PREMIER ACCESSORY & SPECIALTY CORP.**

27 CONGRESS STREET

NEWARK, N. J.

*THIS WILL BE A RADIO CHRISTMAS!*

## Possibilities of Work for Association

(Continued from page 117)

careful merchandisers will restrain from overloading any particular market with their goods, tending rather to sell the reliable jobbers and dealers only, restricting their sales to the better channels of the trade where the reputation of the goods will be upheld.

It is thought that the association, by bringing the manufacturers and dealers in closer touch will serve to identify the better class manufacturers in the eyes of the dealers with resulting profit and betterment for both. Several leading merchandising men in the industry are making a close study of the situation today with the view of making recommendations to the association as to how and when conditions can be bettered through the organization. This report will be transmitted to the membership at an early date.

There has been considerable talk among the membership about calling local meetings for the association to give the members opportunity of availing themselves of the power of the association. Present plans point to several sectional meetings.

The association has as its object close co-operation with sectional associations of retailers or manufacturers, believing that two strong bodies can work better when there is fuller understanding between them. Assurances of support and aid in any campaign for the betterment of the industry have been given by several of the local associations while there is no doubt that others will join the national body in any movement of national import.

The membership committee of the association is already hard at work and it is believed that in a short time the association will boast a membership that will compare favorably with any other national association representing another and older industry.

Headquarters of the association will remain at 1133 Broadway, New York City, until after the national meeting.

### HOME RADIOPHONE

The Home radiophone receiver has been designed and built primarily for radiophone reception up to 1,450 meter wave length which the Army Signal Corps uses in transmission. It is said to be a quality plus instrument of high electrical efficiency, is well made of the best materials and is simple in operation as it has only three movable parts. The Home is manufactured by the Arrow Radio Company, Hackensack, N. J., and retails at \$35.

## MUSIO New Radio Discovery

\$12.50

Retail



Perfection Clarity

Range Beauty

Improved, Perfected Crystal Detector  
Sensation of Radio World.

Includes complete antenna equipment  
Immediate Deliveries

*Order your samples NOW*

DISTRIBUTORS

**American Electro Phone Company, Inc.**  
NEW YORK

512 Fifth Avenue

Longacre 3552

*Write us for attractive discounts on our complete  
line of first class radio sets and accessories*

## National Radio Week December 23 - 30

*"If a man can write a better book, preach a better sermon, or make a better mouse trap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door."—EMERSON.*

We have organized a better service to the retailer, "CSE" Service,—and the trade is making a path to our door. Why not join in and let us help you to larger radio business.

"CSE" Service is controlled by men of many years' experience in radio merchandising whose experience is at your service without additional cost.

To the trade in the Central States, we can offer the most comprehensive service—Engineering—Sales—Merchandising—of any organization. It will pay you to get in line with "CSE."

## Central States Engineering Company

224 No. Halsted Street

Chicago, Illinois

*THIS WILL BE A RADIO CHRISTMAS!*

## King Symbol Used

(Continued from page 60)

of King Quality, which means perfection in design, material and workmanship.

One of the primary steps in the establishment of the King Sewing Machine Company radio apparatus division, was the addition to their manufacturing facilities of a complete modern bakelite plant. Their facilities for bakelite moulding are unlimited, and production methods of bakelite are to the highest point of efficiency. This efficiency was established by a bakelite engineer, C. E. Leffel, who for the past ten years has been very active in bakelite moulding. Mr. Leffel operated one of the first customs moulding bakelite plants in America. Through this experience, they have been able to produce bakelite parts of the highest quality and finish.

"Our one thought," says a King man, "in radio has been to manufacture something better. This thought has been accomplished on the following: dials, sockets, rheostats, binding posts, contact points, switch levers and condensers.

"We are at present in production on these parts, and the jobbers who have carried our line so far, have expressed entire satisfaction in their sales.

"We fully realize that the public is becoming more and more enthused and educated on radio phone reception, and are now demanding apparatus of quality and extreme merit. It is this fact that constantly concentrates in our manufacture."

It is obvious that a house of this sort is the right sort of a house—the kind that will become factors in the growing radio industry.

### G-W UNMOUNTED COILS

After the flood of unknown, unadvertised, untrade-marked coils of more or less doubtful quality that have been offered to the public, the announcement of an unmounted coil bearing the trade-mark "G-W" is welcome. This is exactly the same coil as is used in the G-W 2 slide tuning coil, and is made of No. 20 Beldon enameled wire very tightly wound on a card board tube, and impregnated with a high dielectric insulating material.

The G-W line, led by the popular G-W slider, and now containing slider rods, detectors, 2 slide tuning coils and aerial insulator, has the reputation of making good on all claims of quality. The manufacturers, Gehman & Weinert, 42 Walnut Street, Newark, N. J. promise other products for the line as soon as they are perfected.

### EBY BINDING POSTS

The slogan of the H. H. Eby Manufacturing Company of Philadelphia, Pa., the well-known manufacturers of

manufacture, including the Commander H, the Ensign H, the Sergeant SS, the Buddy, the Captain, the Commander S, the Corporal, the Junior H, the Ace and the Midget. Arrange-



binding posts is: "Use Eby posts and forget your binding post troubles." The accompanying illustration shows some of the types of posts that they

manufacture have been made with responsible jobbers in all parts of the country to carry complete stocks of the Eby binding posts.

**MANUFACTURERS!**

**DEALERS!**

## RADIO PANELS

of Genuine XX Grade Black

## BAKELITE — DILECTO

Cut to Any Size

and Drilled to Your Specifications if Desired

**STANDARD RADIO PARTS CO.**

30 Church Street, Room 2013 (Phone Cortlandt 2515) New York

## NOT LIKE RIP VAN WINKLE

Trade  
"VAC-SHIELD"  
Mark



Patent Pend.  
Price, \$1.00

We were awake to the possibilities for improvement in RADIO and now announce a new invention "THE VAC-SHIELD," the only device of its kind that has been put on the market since Radio became popular.

A Non-Magnetic Shield for Detector and amplifying tubes, which prevents stray capacity affects between tubes, cuts out howling, guards the Tube Against Breakage and makes reception worth while.

See our Advertisements in the Radio News. Now is your chance to get in line for something new in Radio and stimulate your sales. Distributors Wanted. Attractive Discounts.

**Paramount Electrical Supply Co.**

132 Church St., New York

Distributors for New York City

**Orange Research Laboratories**

Manufacturers

41 North 16th St., East Orange, N. J.

THIS WILL BE A RADIO CHRISTMAS!

## RACONY PLUG

Genuine **\$3.00** Made to  
Mica Dielectric Stand 2500 Volts  
4 Outlet Plug with 14 Combinations  
THE RACONY CORP.  
799 Broadway New York City

YOU SHOULD KNOW ABOUT OUR



THE MILLS RADIO & ELECTRIC CO.  
INCORPORATED  
1008 Springfield Ave. Irvington, N. J.

Ask Our Service Bureau

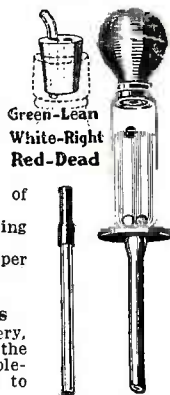
### A Nimble "Dollar-Seller"

#### The "Chaslyn" Sink-or-Swim Ball Battery Testing Outfit

Thirty thousand sold the first three months with practically no advertising. Our national advertising will multiply sales.

- Set consists of
1. Battery Tester, with 3 balls of different colors and weights. The way they sink or swim shows condition of acid instantly.
  2. Depth Gauge for determining depth of acid.
  3. Air-Controlled Bottle Stopper for adding distilled water.

Price of Set \$1.00  
**Special Offer to Dealers**  
Write on your business stationery, enclose one dollar for TWO of the above sets. This is below wholesale price. Only two Sets sold to each dealer at this price.



The Chaslyn Company, 4323 Kenmore Ave., Chicago

## QUALITY-PLUS INSTRUMENTS



Types 711; 711A

### THE HOME Radiophone Receiver

Single Tube Set

Type 711, Wave length 150-2600 meters \$35

Type 711A, Wave length 150-800 meters \$28

Awarded Certificate of Excellence

Dealers! Jobbers! Distributors!  
See Our Exhibit at the Radio Fair  
Hotel Imperial, New York City

#### ARROW RADIO CO.

Manufacturers of Quality Plus Instruments

Hackensack New Jersey

## Vacuum Tube Detector Uses Dry Battery

Newark Sunday Call Shows Latest Development in Tube Set

By H. E. BENNETT

Newark, N. J., retailers and radio men generally are interested in the set on display at the *Sunday Call* radio department for the past few weeks. Some retailers are already profiting by this display—as they're offering the various "parts" for sale.

This set was constructed by C. S. Ingraham, of Newark, N. J., and consists of a regenerative receiver, detector, and two-step amplifier.

From all appearances the dry cell tube as a detector is now in radio society.

For the past few weeks the single dry cell has given an hourly service of over twenty-six hours, operating all three tubes to full capacity.

Not only is the circuit very sensitive on long distance stations but it tunes sharply and regenerates all over the entire wave length scale, from 150 meters to 800 meters.

This set, tested on a phonograph horn and victrola cabinet, gives ample volume. In some cases distant stations have come in strong enough to be successfully reproduced upon the phonograph.

An examination of the set shows in detail the complete outlay for the regenerative receiving set and detector with two-step amplifier.

No parts other than the apparatus required for the building of an ordinary set with a two-step amplifier are necessary.

One or two little improvements have been added to the circuit, such as a grid leak across each transformer secondary, which aids greatly in the clarification of music and voices.

Note is made of the .002 fixed condenser inserted across the primary terminals of the first step amplifying transformer, as this condenser assists greatly in making the set oscillate over its entire range of 150 to 800 meters.

Telephone jacks have been included in the set. A "C" battery of 4½ volts is shown in the grid circuit of the third tube.

The circuit is regenerative and covers a wave length of 150 to 800 meters, depending upon the length of the aerial. Westinghouse aeration tubes are used and these tubes act as both detectors and amplifiers.

One dry cell is employed for all three tubes, but if the owner desires to operate the set continuously over



## Radiphono Adapter - \$3.00

Add quality of tone and volume to your radio concerts

Designed for Edison, Victrola, Brunswick and other makes of phonographs. With this adapter you can eliminate distorted and metallic sounds and improve your receiving. This is a real adapter built along proper lines of a reproducing musical instrument. It gives better results than self-contained, expensive amplifying loud speakers.

Jobbers Dealers Ask  
Communicate Your Jobber

Manufactured by

Industrial Sales Engineering Co.  
671 BROAD ST., NEWARK, N. J.

## TUNING COILS

Cross Weave Tuning Coils the heart of a receiving set just the coils for bringing in the Radiophone Broadcasting stations 180-500 Meters. Price \$1.25 each, or set of three coils Primary, Secondary and Ticker Coils, \$3.50 per set with circuit diagram.

## CONDENSERS

Phone and Grid built of the best material obtainable. Price \$1.00 each.

## MOTOR-GENERATOR SET

250 Volt DC 175 Watt Generator and 110 Volt AC 60 Cycle (Any Cycle) Motor. The best there is. Price \$78.00 complete.

## AERIPHONE

The wireless telephones. Price \$35.00 to \$300.00.

## PANELS

Treated with a special process made by us. Will not Warp or Shrink and is not affected by Temperature changes. Waterproof and possesses High Dielectric properties. Easily machined and will not Crack or BREAK. Looks as good as Bakelite. We are prepared to ship promptly the following sizes:

|           |            |       |
|-----------|------------|-------|
| 6" x 6"   | x ¼" thick | \$.60 |
| 6" x 7"   | x ¼" thick | .75   |
| 6" x 10½" | x ¼" thick | 1.09  |
| 6" x 12"  | x ¼" thick | 1.25  |
| 9" x 12"  | x ¼" thick | 1.50  |
| 9" x 14"  | x ¼" thick | 1.75  |
| 12" x 14" | x ¼" thick | 2.20  |
| 12" x 21" | x ¼" thick | 3.00  |

Strips 8½ x 6; 3½ x 8, \$.40 each; 3½ x 10, 3½ x 12, \$.60 each; 3½ x 18, \$.75 each.

Add postage for 1 lb. for Panels up to 6 x 12 x ¼; and 2 lbs. for larger sizes. We will be pleased to quote prices on these panels cut to a different size on receipt of your specifications. NO FREE SAMPLES.

NATIONAL RADIO CO.  
MARSHALL, MINN.

THIS WILL BE A RADIO CHRISTMAS!

long periods, it is advisable to place three dry cells in multiples, not in series.

In order to connect three dry cells in multiple, the following plan must be followed out.

Connect the three center poles of the battery together. The outside or zinc poles must then be connected together, and leads taken just as if one cell were used.

In this matter the potential of one and one-half volts will remain constant, but there will be three times as much current available for the operation of the three tubes, thereby prolonging the life of the batteries. The center poles of the battery are the positive and the outside the negative.

Following is guide to the parts used in the circuits:

1. Primary of variocoupler, 75 turns No. 22 wire, tapped.
2. Secondary, or rotor of variocoupler, 44 turns No. 24 wire.
3. 23 plate variable condenser.
4. Grid condenser and grid leak.
5. Detector tube.
6. Plate variometer.
7. Federal amplifying transformer.
8.  $\frac{1}{2}$  megohm grid leak.
9. Amplifier tube.
10. Telephone jack.
11. Amplifying transformer.
12.  $4\frac{1}{2}$  volt "C" battery (flash-light cells).
13. Amplifier tube.
14. Single-way jack.
15. Ground.
16. .002 fixed condenser.
17. Rheostat.
18. One megohm grid leak.
19. Rheostat.
20. Dry cell.
21. B batteries.

The *Sunday Call* printed a diagram of this interesting dry-cell tube set in a recent issue, and a copy can be had—we feel certain—upon request to the genial Radio Editor, McNeary, the man who made the Man in the Moon popular.

### BODINE MOTORS

The Bodine Electric Company, Chicago, Ill., is distributing a very attractive catalogue showing the application of fractional horse-power motors. It has been compiled for the convenience of manufacturers who desire to get the greatest possible efficiency in operating their machines and devices by electricity. Pictures of many devices operated by Bodine motors are shown. A chapter is devoted to the various types of motors in general use which gives the manufacturer a good idea as to what type motor is best adapted to his purpose.

## Binding Posts—Contact Points

Knock-down Detector Sets

# VARIABLE CONDENSERS

with patented adjustable tension

JOHN A. COZZONE & CO.

61 Arlington Street

Newark, N. J.



ASK OUR SERVICE BUREAU

# MICHIGAN



## "Senior" Receiver

### Equipment

The equipment of the Michigan Senior Receiver consists of tuner, detector and two stages of amplification. Wave length 150-650 meters. Cabinet richly finished in brown mahogany, representing the highest standard of Grand Rapids cabinet work. Size  $18\frac{1}{4}$ " wide,  $11\frac{3}{8}$ " high and  $7\frac{1}{2}$ " deep. Weight, approximately 20 pounds.

Vernier dial adjuster.

Filament control jacks.

Molded variometer wound with special green silk magnet wire.

Binding posts located on rear sub-panel, not inside.

Michigan Vernier rheostat for detector tube control.

Michigan filament rheostats for amplifier tube controls.

Radiation hard rubber panel (shield over entire panel) on which are mounted all instruments, including rear sub-panel. This arrangement permits immediate accessibility to all instruments and wiring by removing four front panel screws.

The ease of operation and the wonderful performance of the Michigan "Senior" Receiver makes any amateur sure of obtaining satisfactory broadcasting.

An outstanding feature of the Michigan "Senior" Receiver is the Vernier Dial Adjuster. This means that a very fine adjustment may be made on each dial, which is necessary in tuning in on stations located at great distances.

Another superior feature is the Vernier Rheostat, which enables the operator to obtain extremely delicate adjustment of filament current on the detector tube.

A complete line of radio parts and accessories are manufactured in our own plant. Michigan "Junior" and "Senior" Receivers are not merely assembled sets, but are made complete by us. We are, therefore, enabled to guarantee, absolutely, everything we sell.

A connection with this Company will prove pleasant and profitable for you. Send for our catalogue of high grade, first quality merchandise.

## MICHIGAN RADIO CORPORATION

GRAND RAPIDS, MICHIGAN

THIS WILL BE A RADIO CHRISTMAS!

**MAGNA INSTRUMENTS**

The Magna-Tone receiver is a scientifically designed instrument embodying the late improvements. It is a non-regenerative detector circuit to which is added an arrangement designed by means of which extra sharp tuning can be obtained. The set has a range of 150 to 750 meters.

The Magna-Tone two stage-amplifier is an instrument which for purity of tone, lack of distortion, am-

plitude of volume, and simplicity of operation, is to be compared with the highest priced units. With all ship-



Magna-Tone Receiver

ments of instruments the manufacturers, the Magna Instrument Company, 340 West 42d St., New York, sends a



Magna-Tone Amplifier

schematic hookup diagram which cannot be misunderstood.

**Conditions in Radio Security Market**

*(Continued from page 56)*

**CANADIAN MARCONI:** A continuation of the heavy demand for radio equipment in Canada, a virgin territory for this development, is reported by my correspondent there. Canadian Marconi is making preparations to handle a record-breaking volume of business. Buying of the stock for Canadian interest has recently developed. They realize the great possibilities for the company and in its shares.

**WESTERN UNION:** Earnings of the company for the first nine months of 1922 were almost as great as for the entire twelve months of 1921. The exact figures of net income are \$9,454,228 for the period from January 1 to September 30, 1922, and \$9,704,964 for the calendar year 1921. The Western Union makes its largest earnings in the last quarter of the year. Present indications are that the amount applicable to dividends this year will be in the neighborhood of \$13 a share, against \$9.65 a share a year ago.

Western Union is paying dividends of \$7 per share annually which we understand will be increased to an \$8 or \$9 rate. Dividends have been paid uninterruptedly for more than forty years. In addition to its investment qualities, the stock possesses good possibilities for price appreciation.

**DE FOREST:** Good demand is indicated for the company's radio apparatus. Company paid dividends of \$1 per share so far this year and with earnings reported much in excess of this requirement, talk is heard of another payment before the year is out. A purchase of the stock returns 10 per cent. on the present selling price without considering prospects for market enhancement.

**NEW YORK TELEPHONE 6 1/2 PER CENT. PFD.:** Investors in general are beginning to appreciate the investment qualities of this issue and the consistent buying of the stock has caused an advance to \$111 1/2, a new high record. This stock is a safe investment.

| Stock.                      | Bid.    | Asked.  |
|-----------------------------|---------|---------|
| All American Cables.....    | \$117   | \$120   |
| American Tel. & Cable....   | 62      | 63      |
| American Marconi Stamped    | 5c.     | 20c.    |
| Amer. Marconi Unstamped     | 7       | 9       |
| American Tel. & Tel.....    | 123 1/4 | 123 1/2 |
| Canadian Marconi .....      | 2 1/2   | 3       |
| De Forest Radio .....       | 8       | 10      |
| English Marconi, com.....   | 11      | 14      |
| English Marconi, pfd. ....  | 11 1/2  | 14 1/2  |
| Federal Tel. Co. (Calif.).. | 6 1/2   | 7 1/2   |
| Federal Tel. & Tel.(N.Y.)   | 8 1/2   | 13      |
| General Electric .....      | 184     | 185 1/2 |
| Internat. Tel. & Tel.....   | 56      | 62      |
| Mackay Co., com.....        | 102     | 103     |
| Manhattan Elcc. Supply..    | 52      | 53      |

**SUNRAID RHEOSTATS**

A new principal—the contact is as a wheel-spoke to a rim. The contact point is forced against the filament wire by a spring inserted in the finger. Positive contact—can't come out.

List, \$1.00 Standard Discounts  
**SUNRAID RADIO CO.**  
 534 Eighth Ave. New York City

*States Radio Corporation*

*Manufactures*

**RADIO EQUIPMENT**



501 S. Jefferson St., Chicago, Ill.

**Brunet Headsets**

Made in France, approved and used by the French Army and Navy; 4000 ohms resistance. Highest type of material and workmanship throughout.



List Price \$8.00  
 Discounts on  
 Request

**JOHN R. LIVERMORE, INC.**

Importers

Established 1865

Exporters

50 Church St., New York City

*THIS WILL BE A RADIO CHRISTMAS!*

|                           | Bid. | Asked. |
|---------------------------|------|--------|
| Marconi Int. Marine.....  | 6½   | 8½     |
| N. Y. Tel. 6½% pfd. ....  | 110  | 111    |
| Radio Corporation, com..  | 4⅞   | 47⅞    |
| Radio Corporation, pfd... | 3⅞   | 3¾     |
| Reynolds Spring .....     | 25   | 27     |
| Spanish Marconi .....     | 1½   | 3½     |
| United Fruit .....        | 155  | 156    |
| Western Union .....       | 114  | 115    |
| Westinghouse E. & M....   | 62   | 63     |

No doubt there are readers interested in concerns not covered in this article. I will be glad to furnish detailed information without obligation.

## Aggressive Publicity

(Continued from page 60)

carry over vibrations which make the voice and music sound mushy.

"3. It filters out a great deal of the tube and static noises which distract the ear from the voice and music.

"Half an hour of use will convince anyone of the restful effect of these qualities." The cover then goes on to extol the qualities of sensitivity, comfort and ruggedness, the ear caps, the sanitary bands and the fact that the C. I. C. headset is guaranteed.

That is one form of aggressive publicity. Another form which dealers are using more and more to their advantage is that of the show window dressing. The window trim here reproduced shows how the Cable Company of Chicago displayed a Zenith set. The simplicity of the setting suggests that radio is simple. The ribbons leading from the sets to points on the map above representing radio stations thousands of miles away from Chicago give a graphic representation of what radio means to the average person.

These examples illustrate but two forms of publicity that are direct aids to salesmanship. The wise dealer seeks publicity support from the manufacturer, of course, but does some aggressive advertising himself. He takes advantage of every opportunity afforded him to put radio before the public—and keep it there.

## RADISCO CURRENTS

A new monthly house organ has joined the ranks of the radio press. It is called *Radisco Currents* and is published by the Radio Distributing Company, Newark, N. J. The first issue is an attractively gotten up four page paper, is well illustrated and printed and contains matter that is of interest to the progressive radio dealer, including a talk by the sales manager, some business getters, an article headed on the Armstrong super regenerative receiver, and directions for dressing a show window with Radisco products.

## STANDARD SPECIAL CRYSTALS

TESTED AND GUARANTEED

THEY TALK FOR THEMSELVES



Every STANDARD SPECIAL CRYSTAL is tested on the Radio Waves before and after mounting, which assures perfect satisfaction.

JOBBER AND DEALERS, be convinced. Send for a free sample of the STANDARD SPECIAL CRYSTAL and make your own test.

The STANDARD SPECIAL CRYSTAL is sold mounted and unmounted.

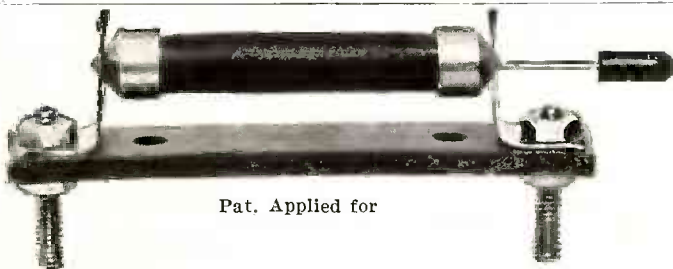
All Orders Shipped Same Day Order Is Received

**STANDARD CRYSTAL CO.**

274-A HALSEY ST.

NEWARK, N. J.

Canadian Agents: Sterling Specialties, 213 Somerset Bldg., Winnipeg, Man., Canada



Pat. Applied for

## The Only One in America

With the usual type of "Grid Leak," which is of fixed value, it is necessary to try a number of them to determine the one best suited.

### The Durham Variable High Resistance (Adjustable Grid Leak)

is the only one of its kind now on the market, because it is adjustable over a wide range and will maintain its value permanently after initial setting—It is non-conductive and has negligible capacity.

Made in two sizes:—No. 100—1000—100,000 ohm range. No. 101—100,000—1,000,000 ohm range.  
Resistance \$ .75 Base \$ .40

**DURHAM & COMPANY**

Radio Engineers  
1936 Market Street Philadelphia, Pa.

## Radio Finds a Better Condenser

**BAYLEY'S 43  
PLATE 0011 PORT-  
ABLE PANEL  
GLASS CASED  
TABLE CO DENSER**

It is made with glass panels set between four brass uprights, highly polished and presents the finished effort of precise workmen.

Solid rubber end pieces finished like black morocco leather add to its beauty.



**A DIE-CAST  
PRODUCT WITHIN  
THE CASE**

Its plates spaced close give it the finest tuning qualities.

The plates are assembled as a solid integral part of the whole by the die cast process. It is impossible for any plates to loosen in service.

Each condenser has our guarantee, backed with a manufacturing record of more than forty years.

We want business from houses that appreciate real value. It will give satisfaction and stay sold

A sample order will convince you of its value

And Make You, Certainly, A BAYLEY CONDENSER BOOSTER

List Price \$5.00 Each, Complete

TO JOBBERS AND DEALERS A SPLENDID PROPOSITION

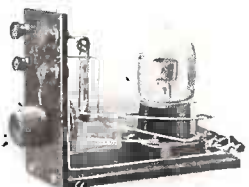
**BAYLEY CONDENSER CO.**

105-109 Vanderveer Street

Brooklyn, New York

THIS WILL BE A RADIO CHRISTMAS!

## ADD-A-STEP



**DETECTORS AND AMPLIFIERS**  
See them at the RADIO FAIR  
**ARROW RADIO CO.**  
Manufacturers of Quality Plus Instruments  
**HACKENSACK NEW JERSEY**

# RUSONITE



**CRYSTAL RECTIFIER**  
**MULTIPOINT (Patent Pending)**

**A synthetic CRYSTAL DETECTOR sensitive over its entire surface**

Eliminates all detector troubles.  
50% increase in clearness and volume.  
Endorsed by Radio experts and press.  
Awarded certificates of excellency.  
Sets a new standard of efficiency.

List price mounted  
Every package sealed **50c**

Dealers and Distributors quoted  
Attractive Discounts

**RUSONITE PRODUCTS CORP.**  
15 Park Row, N. Y. Room 2004

## THE TITAN-O-TONE \$10

WITH HEADSET and AERIAL  
Same with Double Titan-O-Tone Headset - - \$12



A well made and very efficient outfit mounted in genuine mahogany cabinet. Discounts 40 and 10.

**Titan-O-Tone Products**

Per 100 net

- 3" Aluminum Dial with Knob \$8.00
- Large Contact switch 8.00
- Large Knob with set screw . . . 2.50
- Crystal Detector, Knocked Down . . . 13.00
- Mounted Galena Crystal, Tested 4.50
- Crystal Wash, 1 oz. Bottle. 7.00



**T-F RADIOPHONE CO., Inc.**  
Manufacturers "Titan-O-Tone" Products  
667 Coney Island Ave., Brooklyn, N. Y.

## Radio on Train

### Successful Test with No Outside Aerial

Receipt of wireless messages inside a steel car of a moving train with no outside aerial was successfully demonstrated recently by the Pennsylvania Railroad on the Broadway Limited, en route from New York to Chicago, according to the *New York Times*.

Radio messages have been received aboard trains before, but always an outside aerial was used. The instrument used on the Pennsylvania train was small, compact and placed on a table in the car. The aerial used was eighteen inches square.

The tests were conducted by Arno Zillger of Philadelphia, who came to Chicago to attend the radio show. J. D. Jones, Superintendent of Telegraph and Signals of the railroad, was present.

"The most remarkable feature of the program was that we were able to receive messages from broadcasting stations all over the country, even while traveling, under high tension wires," said Mr. Zillger. "The Pennsylvania system is electrified near Philadelphia and even while we were traveling over that section of the road the messages came with great clarity—a remarkable feature.

"I believe that all train orders, in fact, all important messages of the future, will be transmitted by wireless. A set may be put up in each end of a long freight train and the crews will be able to communicate without walking the length of the train.

"Another feature will be conversations between stations and moving trains. It is quite possible."

"It demonstrates that radio for receiving and transmitting messages from speeding trains can be employed successfully," said J. D. Jones, Superintendent of Telegraph and Signals, who acted as official observer for the Pennsylvania Railroad. "The traveling public in the near future may expect such service on railroads."

The outside form of antennae had been developed and was in use on the Chicago, Milwaukee & St. Paul Railroad until the shopmen's strike, and was then temporarily discontinued. The interior set is considered superior, however, because of the results of this latest experiment. No interference was found while receiving between Philadelphia and Paoli, a stretch where the road is paralleled by a power line of 11,000 voltage. Similarly there was no trouble due to elec-



## RHEOSTATS

and Other  
**STANDARD PARTS**  
FOR TUBE and CRYSTAL SETS  
Dealers: Write for Price List and Proposition.

**The Radiola Wireless Corp.**  
208 W. 17th St. New York City

## TUNING COILS

Double Ply—Dull and Bright Finish—9x3 1/2, End Pieces Made of Composition Fibre.

**REGULAR \$3.50 - NOW \$1.30**

**BERSHAW RADIO & MFG. CO.**  
82 Barclay St. Newark, N. J.

## RADIO CABINETS



We manufacture a complete line of radio cabinets, of mahogany, walnut, oak, and white wood, in all sizes, and in any finish. Best of construction. Dirt, dust and moisture proof. Quick deliveries—quantity production prices. Send us your specifications, or a sample of your cabinets, and get our prices. We also make indoor loop aerials.

Cabinet Work Since 1900

**E. ESHOO CABINET WORKS**  
635 Herkimer St. Telephone  
Brooklyn, N. Y. Lafayette 2324



**We Are Overstocked On Crystal Detector Sets**

Owing to the failure of Local Broadcasting we have a large number of first-class sets to dispose of. To make a quick clearance we will sell them at the following

**Exceptionally Low Prices**

List price with Frost 2000 Ohm Phones, 100 ft. No. 14 Antenna Wire and two Insulators.....\$25

List price without Phones and Antenna material.....\$18

**Discount 50%**

Send \$9 for Sample Set

**Julius Andrae & Sons Co.**  
In Business Since 1860  
114 Michigan St., Milwaukee, Wis.

THIS WILL BE A RADIO CHRISTMAS!



tric lines, train generating equipment or the powerful locomotive while passing through a tunnel at Philadelphia.

The radio set was assembled after the train left New York, enroute to Chicago, and immediately was tuned into station WOR at Newark. The entire concert was heard during the run to Philadelphia where a second one was picked up.

Later Mr. Zillger tuned in on a ship on Lake Superior and, while still 200 miles from Chicago, listened to the naval spark signals from the Great Lakes station. Several amateur stations in Ohio and Pennsylvania also were copied.

The receiving equipment consisted of a tuned 18-inch loop antennae, three steps of radio frequency amplification, Audion detector and two steps of Audio frequency amplification. The vibration of the train, according to Mr. Zillger, did not affect the reception.

**Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912.**

Of the Radio Dealer, published monthly at New York, N. Y., for October 1, 1922.  
State of New York } ss.  
County of New York }

Before me, a Notary Public in and for the State and County aforesaid, personally appeared Harry M. Konwiser, who, having been duly sworn according to law, deposes and says that he is the Publisher of the Radio Dealer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations.

1. That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher, Harry M. Konwiser, 1133 Broadway, New York City. Editor, Bernard J. Farrell, 1133 Broadway, New York City. Managing Editor, Laurence A. Nixon, 1133 Broadway, New York City.

2. That the owners are: Radio Dealer Co., 1133 Broadway, New York City; Harry M. Konwiser, 1133 Broadway, New York City; Laurence A. Nixon, 1133 Broadway, New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: None.

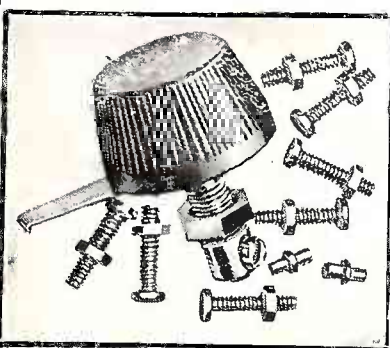
4. That the two paragraphs next above giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown is: Not required.

HARRY M. KONWISER, Publisher.  
Sworn and subscribed before me this 25th day


(Seal) M. J. KLEIN.  
(My Commission expires March 30, 1924)

INDUCTANCE  
**SWITCH**



Switch, Complete, 50c. Without Contact Points and Stops, 35c.

6 Ohms, 1½ Amp.  
FILAMENT  
**RHEOSTAT**



List Price, 75c.

Catering to Jobbers and Distributors Exclusively. Unusual Discount Rate

**ACORN RADIO SUPPLY CO.**  
15 WEST 30th STREET NEW YORK

Positive Contact

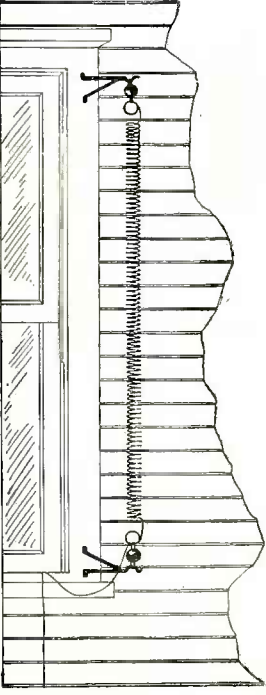
**KOMPRESSED, BAKED, SEALED  
KAPACITON  
INDIVIDUALLY TESTED  
KONDENSERS**

Perma-  
nent  
Capacity

**ARE BETTER CONDENSERS!**

\*Phone \* Grid \* Grid with built-in leak \* Grid with detachable and variable leak \* (Pat. pend.) All capacities.

**Meirousky** Jersey City, N. J.  
Established 1910



**"K-N"**  
**HELIX ANTENNA**

Only 6 feet of space required to install  
100 feet of wire

The "K-N" is adjustable to any space

The ideal aerial, made from ideal Antenna Wire

The "K-N" is a spirally wound aerial and is therefore adjustable to the available space, either on the roof, outside the window or within the home.

Receptive area in all directions.  
Remains taut—no swaying.  
Installed with greater ease.

**RETAIL PRICE, \$1.60**

Manufactured by  
**WALTER S. KRENZ**  
339 So. Central Park Blvd. CHICAGO, ILL.

Jobbers and Dealers write for special discounts

THIS WILL BE A RADIO CHRISTMAS!

## Book Review

By **BERNARD JEROME FARRELL**

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

**TEXT BOOK ON RADIO.** By James R. Cameron. 338 pages. Published by the Technical Book Company, New York City.

This comprehensive treatise is intended for the man who is serious in the desire to secure accurate and trustworthy information regarding the practical and sufficient of the technical phases of radio installation, operation and construction for ordinary needs. The author of this excellent volume is well qualified for the work he has undertaken, having previously written "Radio for Beginners," "Radio Dictionary," "Motors and Motor Generators," "Electricity for Projectionists," and other books on electrical subjects.

In clear style and written so that one who knows practically nothing about the subject can readily understand it, the essentials of radio knowledge are told, beginning with the description of radio. This is followed by a description of electricity, its measurements, generation, alternating currents, resistance and transformers.

Other chapters are devoted to aeriels, coupled circuits, damping, what happens in a transmitting set, tube transmitters, telegraphy and telephony, radio-telephony, vacuum tubes, the electron tube as a detector and as a generator.

Several chapters are devoted to the subject of receiving sets, and several types are described. In some cases instructions for installing same are given. Of course tuning and amplification are treated, as are condensers, vario-couplers, variometers, the double slide tuner, and the making of tuning coils. The super-regenerative receiving set is described and instructions for making one are given. Storage batteries receive attention as well as generator and motor troubles and their causes and remedy. Regulations for the installation of aeriels, the requirements of the national electrical code for radio installation and the United States radio laws and regulations are each the subject of a chapter. The volume closes with a comprehensive glossary of radio words with lucid definitions.

**THE BOOK OF RADIO.** By Charles William Taussig. 447 pages. Published by D. Appleton & Company, New York City.

In a popular and lucid manner the author gives a description apparatus used in radio for radio reception and transmission including the outstanding features of the radio service to the public by private and governmental agencies. The interesting foreword is written by James C. Edgerton, superintendent of radio of the Post Office Department. The appendices include a description of how to make a simple home made receiving set, also a two-circuit receiving equipment with a crystal detector, a report of conference on radio telephony, proposed revision of Rule 86 of the National Electrical Code on radio equipment, market and crop estimates and a partial list of the broadcasting stations in the United States and Canada.

**THE MARVEL OF THE WIRELESS TELEPHONE.** Published by the Freed-Eisemann Radio Corporation, New York City.

This book is an elementary course in the principles of radio apparatus and the electrical laws upon which they depend. The text has been divided into lessons arranged in their logical sequence. Starting with magnetism, the theory of induction, battery phenomena and generation are explained. It contains lessons on the induction coil, the transformer, condenser, and the electromagnetic theory of light.

### CORRECT METRO STORY

Through the proverbial pranks of the printer, the description of the Metro TRIPHONE appearing on page 131 of the October RADIO DEALER was made to say exactly what was NOT intended. The article, as written, said that the TRIPHONE "does away with the necessity of 'shorting' when using two or more phones. Three headsets can be used at the same time from the single jack of any receiving set." But some printer, after setting the words in type, switched the leads about and caused the notice to read to the effect that the TRIPHONE "does away with headsets."

The Triphone is an accommodation plug which fits any standard jack. One headset or loud speaker is permanently connected to any phone plug. On either side of the cord is a separate jack built in the body of the Triphone, each of which accommodates a standard plug or, if desired, another Triphone, making it possible to use half a dozen or more headsets.

The RADIO DEALER trusts that everybody, including the Metro Electric Manufacturing Company of New York, who make the Metro Triphone plug, will make allowance for printers, and feels that a quality article such as this attractive device, will succeed in a field where good products are coming more and more to be appreciated.

### HELP THE SALESMEN

The greatest good that can develop for many advertisers is not the direct sales received, but the help it gives to the salesmen when they are calling in new territory, when they are making calls upon their old customers, and in giving an appreciation of what his firm stands for in the minds of a great many customers and possible customers.—B. J. FARRELL.

# TRESCO RADIO

Licensed under Armstrong U. S. Patent 1,113,149

The simplicity of the Tresco Receiving Set means everything to the dealer.

Few parts, practically indestructible, easy to learn to operate.

Once sold it stays sold and requires no service by the dealer.



Orders are now being placed for fall delivery—are you ready? Better write us for our discounts.

Remember the "Tresco" is a regenerative set, manufactured under the Armstrong License.

## TRESCO RADIO

J. Matheson Bell, Sales Mgr.

Davenport, Iowa, U. S. A.



THIS WILL BE A RADIO CHRISTMAS!

## Germer is Optimistic

### Interview with Manager of General Merchandise Company

The General Merchandise Company, as is evidenced by the picture of their booth at the Second Newark Radio Show held at the Robert Treat Hotel, Newark, N. J., recently, have taken rapid strides as distributors in radio apparatus. An illustration of the booth is shown on page 41.

Frederick W. Germer, the general manager of the General Merchandise Company in an interview given to a representative of the RADIO DEALER said: "The radio business was never so prosperous as now. If a good many more distributors and jobbers would take a more optimistic stand about the over-production of last summer, now on the market, and would help to clean up these items, we would have more business than we have today. When I mention 'we' that means distributors of radio apparatus.

"One way in which to discourage the influx of new ideas, that would never pass muster in a testing laboratory, is not to buy them. We're distributors for several well-known manufacturers of radio equipment, and all their products will stand the highest test of efficiency and worthiness."

This company also makes radio frequency sets, that have produced results on loud speakers over a distance of five hundred miles with only four tubes. They also make a new type of roller bearing switch which has the feature of being able to work on either one-inch and an eighth and one inch and a quarter radius, and further having a little roller bearing for running over the switch points, which eliminates the cutting of the switch stops, and also insures a positive contact.

Another special item which is taking the market with popular approval is the G.M. 4 radio frequency transformer. This transformer lists at \$2.00 and has brought in stations within the radius of nine hundred miles very clearly and distinctly using one stage of radio frequency and one detector, and two stages of audio-frequency. The curve runs fairly straight from 340 to 500 meters.

The General Merchandise Company's offices and ware rooms are located at 142 Market Street, Newark, N. J., and are operated under the personal supervision of Frederick W. Germer—at least judging from the picture of their booth, the average dealer can see for himself the thorough method and manner in which the General Merchandise Company handle and operate the radio department of their business.

## A Sales Policy That Means Profit for You

**T**O meet the revival of radio demand which promises to equal that of last winter, the Jewett Manufacturing Company, manufacturers of ABC radio apparatus, announce to radio dealers a firm, definite sales policy that means real turn-over profits to dealers selling Jewett apparatus.

Jewett dealers are absolutely protected and assured of an exclusive sales territory having potential buying capacity sufficient to insure the dealer a profitable turn-over.

Jewett dealers are protected against competition on ABC apparatus within their territory, and Jewett salesmen will advise dealers honestly and efficiently as to the quantity of stock to buy to avoid over-stocking.

The Jewett Development Department, with Professor J. H. Morecroft of Columbia University as Consulting Engineer, is always conducting radio research, assuring dealers and users the latest and most up-to-date apparatus manufactured, of high quality design, material and workmanship.

*Send for our catalog descriptive of ABC Radio Tuner as designed by Professor Morecroft*

## JEWETT MANUFACTURING CORPORATION

Herbert F. L. Allen, *President*

226 Sherman Ave.

Newark, N. J.

*Makers of*

ABC Receiving Sets  
ABC Transformers

ABC Variable Condensers  
and other radio parts

**THIS WILL BE A RADIO CHRISTMAS!**

## Baseball Fans Receive Radio Reports

### Crowds Heard Announcements While Watching Player Board

By FREDERICK H. KEEFE

General Manager, Newburgh (N. Y.) News

The *Newburgh Daily News*, in connection with its broadcasting station WCAB staged a race between the United Press wire, through which it regularly receives its news service, and the radio broadcasting of the World's Series by the big stations WIZ and WGY, both of which sent out the detailed play of this annual baseball classic each day as the game progressed. The *News* annually places a standard player board on the front of its building on which the action of the game is depicted.

Anticipating that the radio would be the faster, the *News*, with its antenna and receiving equipment and a loud speaker, prepared to give to the fans of Newburgh the benefit of both services. The loud speaker was placed alongside the player board and acted as announcer for the plays shown on the board.

How well the arrangement worked—and, "synchronized"—can best be expressed as "nip and tuck."

It was found that the two methods of transmission were absolutely simultaneous, but the action of the player board in showing the pitched ball was not detected by the crowd so quickly as the spoken words of the announcer on the Polo Grounds.

The reverse was true of important plays. The cheers and applause of the crowd on the Polo Grounds forecast the making of hits, runs and other important plays, which had been completely enacted by the player board before the noise had quieted down sufficiently to permit of the radio announcer being heard.

It is, therefore, obvious there can be no decision rendered as to which is the faster, each having its advantages.

### AIR-WAY CATALOGUE

The Air-way Electric Appliance Corporation, Toledo, Ohio, for which the Zinke Company, 1323 South Michigan Avenue, Chicago, Ill., are the wholesale distributors, is sending a catalogue of its Air-Way Green Seal radio equipment. Included in the line are complete receiving sets of both one and two-stage amplification, variometers, vario-couplers, variable condensers, audio frequency and radio frequency transformers, tube sockets, etc.



ACTUAL SIZE

**MOFFAT RADIO LOCK RHEOSTAT**

**\$1.50 List**

LOCKS OFF CURRENT  
LOCKS ADJUSTMENT



**LOCK**

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**MOFFAT RADIO LOCK CIRCUIT SWITCH**

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LOCKS ALL TUBES

**NO MORE TUBES DAMAGED BY MEDDLESOME PERSONS  
NO MORE TIME LOST IN READJUSTING TUNING  
NO MORE LOSS OF BATTERY CURRENT**

**FITS ANY STANDARD INSTRUMENT OPERATED BY A SHAFT**

JOBBERS AND MANUFACTURERS WRITE

**JOSEPH ROSS & CO., IRVINGTON, N. J.**

ESTABLISHED 1875



— AND NOW

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Following in the popular wake of the Queens "Green Tag of Perfection" Variometers and Variocouplers, comes the Queens Five Unit System—a "Green Tag of Perfection" complete vacuum tube receiving outfit.

Popular demand is the reason for this. Radioists nation-wide requested it—so we perfected it for radioists, expressly to receive broadcasting.

The five units complete, embody a Queens Variocoupler in a single unit—two Queens Variometers in a unit each—a detector unit and a one step amplifier unit. Each unit is constructed of solid genuine mahogany with genuine bakelite panels. The binding posts are solid brass triple nickel plated. New style knobs are uniformly used throughout, made of genuine bakelite with dials to match. Size of each unit is 5 5/8" wide x 7 1/8" x 5 7/8" deep. The five unit set retails for \$70.00, minus batteries and tubes. Additional steps of amplification may be added for a loudspeaker.

From end to end, every inch of these units are manufactured right in our own factory. This fact and huge production account for the popular low price. In line with Queens requirements, each unit is personally inspected and tested by our engineers before being shipped from our factory. After this, the "Green Tag of Perfection" is placed upon each. This is your protection and our guarantee—look for it. Every unit leaves our factory individually packed in cartons, neatly labeled for attractive display on your shelves. Every label carries a complete description of the contents.

Units also sold individually:

|  |                                       |
|--|---------------------------------------|
| Variocoupler Unit . . . . . \$15.00 list | Detector Unit . . . . . \$12.50 list  |
| Variometer Unit . . . . . \$12.50 list   | Amplifier Unit . . . . . \$17.50 list |

Write today for our valuable catalog showing our complete line of "Green Tag of Perfection" radio apparatus, together with attractive discounts. It's free.

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**QUEENS RADIO COMPANY, INC.**

12-A Forest Street

WINFIELD, L. I.

THIS WILL BE A RADIO CHRISTMAS!

# no ground no aerial

## The Oard Phantom Receptor



Carry one in your car

Thousands of additional sales made possible by this marvelous new—

### A-P set

Many people live in locations where an aerial is impossible. Others object to their premises being disfigured by poles and wires. And many doubt their ability to operate sets with such complications. The Oard PHANTOM Receptor removes these objections completely, and opens to the radio trade this profitable new additional market of thousands of people.

The Oard PHANTOM Receptor requires neither aerial nor ground connection. With a single antenna wire not exceeding 50 feet in length, which may be concealed in the picture molding, laid on the floor or ground, or placed wherever most convenient, it will give better results over both short and long distances than other types of receivers requiring ground connections and elaborate aerials or loop systems. It is highly selective, and a marvel of beauty, simplicity, and efficiency. It is the ideal set for home, hotel or apartment house, business office, or automobile.

Get your share of the profitable business from the tremendous new market this set has created. Write us for Bulletin D-3 and full particulars, mentioning your jobber's name. Do it now. Be the first in your locality.



Pats. Pending

—performing new feats every day

As an example of the actual operating efficiency of the Oard PHANTOM Receptor, we cite the experience of J. F. Carpenter, Denver, Colo. On September 13th he received Dinwoody Institute, Minneapolis, 700 miles away, without either aerial or ground connection, using only a piece of lamp cord about 20 feet long. Other stations heard by Mr. Carpenter include—

- 1ZN—Chicago, Ill. . . . . 900 miles
- 5XA—Auburn, Ala. . . . . 1050 miles
- 7QD—Aberdeen, Wis. . . . . 800 miles
- SEK—Rochester, N. Y. . . . . 1300 miles
- 9BXK—Louisville, Ky. . . . . 1000 miles
- 6KA—Los Angeles, Cal. . . . . 800 miles

View Closed



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**Atlantic-Pacific Radio Supplies Co.**  
Radio Supplies      646 Mission St. San Francisco      Receiving Sets

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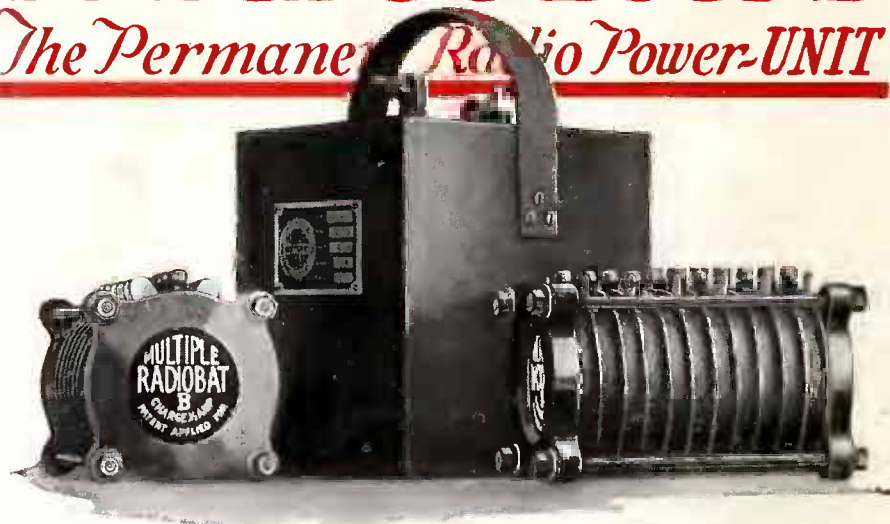
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