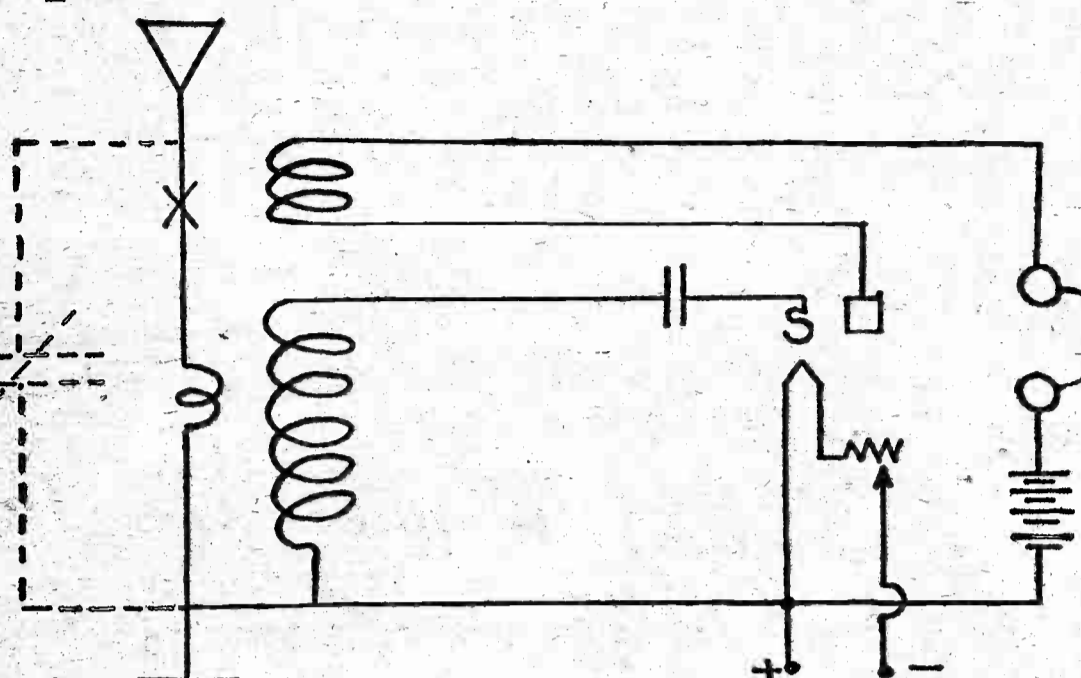


Improving the "Uncle Sam" Tuner



(IMPROVING THE "UNCLE SAM")

By JACK M. BENNETT.

For about a year a little tuner of the untuned primary type, which appeared originally as the "Uncle Sam," has been giving a high degree of satisfaction in broadcast receivers. It was originally sponsored by the writer some years ago, and, since it made its appearance, it has been built by thousands of enthusiasts into good tuners. The qualifications of it are its selectivity, simplicity of construction and operation, and very fair efficiency, the latter condition being brought about by loose coupling and general absence of superfluous parts.

Still, there have been complaints trickling into the editorial sanctum alleging that some signals are so weak that a third stage of audio amplification is necessary to get loud speaker volume, and that those sets operating in the vicinity of KDKA, WBZ, WGY and other stations of the high powered class, are not sufficient selective.

All of this we admit. Still, no matter how hopeless the situation seems, there is always a remedy, and the little tuner need not be junked if the operator is sufficiently confident that he (or she, we must include that)

Were the primary of the tuner truly aperiodic, this condition would not exist, but while we can make it aperiodic and get the necessary selectivity, we would still have the weak signal to contend with, for to make it aperiodic we must introduce detuning resistance into the antenna circuit. To be non-oscillatory or aperiodic, the total resistance of the circuit must exceed the value of the inductive reactance of the antenna coil. The only solution is to loosen the coupling still further and then tune the antenna to resonance, which explains the reason for the additional control.

The procedure is as follows: Referring to the diagram, a coil of about 85 turns of No. 22 D. C. C. magnet wire is wound loosely on a pickle bottle or other suitable support and then is slipped off, bunching the turns and tying with a few bits of thread to make it self-supporting. This is placed at "X" in the diagram. A LOW LOSS variable condenser of .005 mfd. capacity is now placed in the position shown by the dotted lines in the diagram. If any other style of condenser is used, the results will be nil.

Now we must loosen the coupling. The variable condenser in the antenna circuit is set at zero, and the coil we have just wound is short circuited with a short piece of wire. Tune in the signal that interfered most with your reception and find the point of maximum volume. Now move the secondary condenser two degrees in the direction of maximum reading. The signal will still be heard, but not quite so strongly. One at a time, begin taking turns off the primary of the "Uncle Sam" (starting with the condenser nearest the secondary) until the interfering signal just disappears. When you have determined this point, anchor the primary turns securely in place and solder up the new end of the primary. You have obtained a "stop" by a slight readjustment of all three controls, starting with the secondary condenser and ending with the tickler. The theory of operation is the same as that of the old familiar two variometer and vario-coupler regenerative circuit, and, in fact, the antenna circuit is tuned up to resonance, it absorbs enough power from the secondary to stop oscillation. When the exact resonance between the antenna and secondary has been obtained, it is possible to regenerate the signal to unbelievable volume. The tickler operation is very smooth at resonance, little trouble being experienced with the tube sloping over into oscillation with an annoying snap, a fault sometimes difficult to eliminate with the untuned primary.

The writer hopes that this little suggestion will clear up some of the mystery apparently surrounding the untuned antenna-circuit-in-the-minds of some fans.

Complete parts for three-tube set, including Litz wire-wound Tuner, Condensers, Sockets, Engraved Panel, Freshman Parts complete for 5-tube set, Complete parts for 5-tube set, complete for 5-tube set, complete for 5-tube set.

Burgess 2 1/2-Volt Large B Batteries, Uncle Sam Collie, Simplex Low Loss Coils, Electric Soldering Iron, 80 Amp. Storage Battery, No. 12 Bush Bar, No. 12 Enamelled Aerial Wire, 100 feet, Ceco-Bakelite Base Tubes, Uncle Sam New Low Loss Coils.

BEIGHLEY HARDWARE & TOOL CO.

240 DIAMOND STREET
PITTSBURGH, PA.

GUARANTEED RADIO TUBE REPAIRS (ALL TYPES) \$2.25
Bring or Mail in your burned out or broken Radio Tubes, any type, pay \$2.25 and take away with you a guaranteed repaired Tube of any standard make.

GLOBE ELECTRIC CO.

Wholesale Distributors
Brandes O-M-C Supply Co.
Matched Tone Headsets
138 Ninth St., Pittsburgh, Pa.

Table-Talker



What Greater Gift?
Fun for the holidays—for all the year. Fun for the fellow who gets the gift—and for the family. Give it all—give a Table-Talker.

You're sure of its tone. Sure that it will always be loud yet pleasant, because its horn is matched to the unit. It reproduces every word, every note with vivid clarity—it makes the joys of radio real!

It needs no extra batteries

The name to know in Radio

Wholesale Distributors

Pittsburgh Radio & Appliance Co., Inc.

112 Diamond St. Pittsburgh, Penna.

RADIO PROGRAMS FOR THE WEEK

(Continued from Page 8.)

12 m.—Weather forecast, "Stockman" reports of the Pittsburgh livestock and wholesale produce markets.

12:30 p. m.—Sunday school lesson for December, by James C. Maco, from Y. M. C. A., Pittsburgh.

1:30 p. m.—Closing quotations on hay, grain and feed.

6:30 p. m.—Concert by the Hotel Selden Meyer Davis Orchestra, Louis XIV room, 1000 Broadway, Pittsburgh.

7:30 p. m.—"Stockman" reports of the primary livestock and wholesale produce markets.

8:15 p. m.—Monthly book review, "Two Real Objects of Short Stories" given by the Literary Club, Room 1117, Carnegie Library, University of Pittsburgh, from the University of Pittsburgh studio.

9:30 p. m.—Arlington time signals; weather forecast.

10:15 p. m.—Produce market and live stock reports.

11 p. m.—Meyer Davis Bellevue Stratford Hotel Concert Orchestra.

11:15 p. m.—Meyer Davis Bellevue Stratford Hotel Concert Orchestra.

12:30 p. m.—Report of the closing prices of the Chicago grain market.

1:30 p. m.—"The Spiritual Analysis of Schoenberg's Work," given by Thyra Sloan Steig, soprano; String Quartet, Albert Boral, violinist; Henry Bery, cellist; Jacob Bery, cellist; Aaron Midland, violinist.

2:30 p. m.—"Afternoon Follies" broadcast from KVM studio in Hearst Square, 6:2 to 6:48 p. m.—News, financial and local markets furnished by the Union Trust Company, Chicago, for KVM studio, and U. S. department of agriculture.

6:55 to 7 p. m.—Children's bedtime story told by Walter Wilson, who is known to the little ones as "Uncle Bob."

7 to 7:30 p. m.—Musical program broadcast from the Congress Hotel; Jaska DeBary's orchestra, Louis XVI room; Coon-Sander's orchestra, Louis XVI room.

8 to 8:30 p. m.—Twenty Minutes of Good Reading, by Rev. C. Forsyth, pastor of the department of English, Loyola University, Chicago.

8:30 to 9:15 p. m.—Musical program; Lillian Hertrich, soprano; Irving Schuster, tenor. Other artists will be announced by radio-phone.

10 to 11:30 p. m.—"Evening at Home" program broadcast from the Hotel Selden Meyer Davis Bellevue Stratford Hotel, 1000 Broadway, Pittsburgh.

11:30 to 11:45 p. m.—Market report, weather forecast, and live stock reports.

11:45 to 12:15 p. m.—Market report, weather forecast, and live stock reports.

12:15 to 12:30 p. m.—Market report, weather forecast, and live stock reports.

12:30 to 12:45 p. m.—Market report, weather forecast, and live stock reports.

12:45 to 1:15 p. m.—Market report, weather forecast, and live stock reports.

1:15 to 1:30 p. m.—Market report, weather forecast, and live stock reports.

1:30 to 1:45 p. m.—Market report, weather forecast, and live stock reports.

1:45 to 2:15 p. m.—Market report, weather forecast, and live stock reports.

2:15 to 2:30 p. m.—Market report, weather forecast, and live stock reports.

2:30 to 2:45 p. m.—Market report, weather forecast, and live stock reports.

2:45 to 3:15 p. m.—Market report, weather forecast, and live stock reports.

3:15 to 3:30 p. m.—Market report, weather forecast, and live stock reports.

3:30 to 3:45 p. m.—Market report, weather forecast, and live stock reports.

3:45 to 4:15 p. m.—Market report, weather forecast, and live stock reports.

4:15 to 4:30 p. m.—Market report, weather forecast, and live stock reports.

4:30 to 4:45 p. m.—Market report, weather forecast, and live stock reports.

4:45 to 5:15 p. m.—Market report, weather forecast, and live stock reports.

5:15 to 5:30 p. m.—Market report, weather forecast, and live stock reports.

5:30 to 5:45 p. m.—Market report, weather forecast, and live stock reports.

5:45 to 6:15 p. m.—Market report, weather forecast, and live stock reports.

6:15 to 6:30 p. m.—Market report, weather forecast, and live stock reports.

6:30 to 6:45 p. m.—Market report, weather forecast, and live stock reports.

6:45 to 7:15 p. m.—Market report, weather forecast, and live stock reports.

7:15 to 7:30 p. m.—Market report, weather forecast, and live stock reports.

7:30 to 7:45 p. m.—Market report, weather forecast, and live stock reports.

NO DISTORTION WITH DAVEN RESISTANCE COUPLED AMPLIFICATION

For the Critical!

The prevailing tendency today is more and more toward perfect resistance coupled amplifiers. Resistance coupled amplifiers have convinced the most skeptical that resistance coupled amplifiers are now available to all, in the Super-Amplifier for those who build their own.

Why not obtain from you set pleasure, you have never before enjoyed?

Read our "Resistor Manual" and understand how to do it. Price 25c. At All Dealers.

DAVEN RADIO CORPORATION
Newark, N. J.

DISTRIBUTORS FOR DAVEN PRODUCTS

O-M-C Supply Company

138 Ninth St., 2nd Floor, Pittsburgh, Pa.

10 m.—Meyer Davis Bellevue Stratford Hotel Concert Orchestra.

11:15 to 11:30 p. m.—Market report, weather forecast, and live stock reports.

11:30 to 11:45 p. m.—Market report, weather forecast, and live stock reports.

11:45 to 12:15 p. m.—Market report, weather forecast, and live stock reports.

12:15 to 12:30 p. m.—Market report, weather forecast, and live stock reports.

12:30 to 12:45 p. m.—Market report, weather forecast, and live stock reports.

12:45 to 1:15 p. m.—Market report, weather forecast, and live stock reports.

1:15 to 1:30 p. m.—Market report, weather forecast, and live stock reports.

1:30 to 1:45 p. m.—Market report, weather forecast, and live stock reports.

1:45 to 2:15 p. m.—Market report, weather forecast, and live stock reports.

2:15 to 2:30 p. m.—Market report, weather forecast, and live stock reports.

2:30 to 2:45 p. m.—Market report, weather forecast, and live stock reports.

2:45 to 3:15 p. m.—Market report, weather forecast, and live stock reports.

3:15 to 3:30 p. m.—Market report, weather forecast, and live stock reports.

3:30 to 3:45 p. m.—Market report, weather forecast, and live stock reports.

3:45 to 4:15 p. m.—Market report, weather forecast, and live stock reports.

4:15 to 4:30 p. m.—Market report, weather forecast, and live stock reports.

4:30 to 4:45 p. m.—Market report, weather forecast, and live stock reports.

4:45 to 5:15 p. m.—Market report, weather forecast, and live stock reports.

5:15 to 5:30 p. m.—Market report, weather forecast, and live stock reports.

5:30 to 5:45 p. m.—Market report, weather forecast, and live stock reports.

5:45 to 6:15 p. m.—Market report, weather forecast, and live stock reports.

6:15 to 6:30 p. m.—Market report, weather forecast, and live stock reports.

6:30 to 6:45 p. m.—Market report, weather forecast, and live stock reports.

6:45 to 7:15 p. m.—Market report, weather forecast, and live stock reports.

7:15 to 7:30 p. m.—Market report, weather forecast, and live stock reports.

7:30 to 7:45 p. m.—Market report, weather forecast, and live stock reports.

7:45 to 8:15 p. m.—Market report, weather forecast, and live stock reports.

8:15 to 8:30 p. m.—Market report, weather forecast, and live stock reports.

8:30 to 8:45 p. m.—Market report, weather forecast, and live stock reports.

8:45 to 9:15 p. m.—Market report, weather forecast, and live stock reports.

9:15 to 9:30 p. m.—Market report, weather forecast, and live stock reports.

9:30 to 9:45 p. m.—Market report, weather forecast, and live stock reports.

9:45 to 10:15 p. m.—Market report, weather forecast, and live stock reports.

10:15 to 10:30 p. m.—Market report, weather forecast, and live stock reports.

MORE VOLUME LESS NOISE

The addition of Power Amplification to the ordinary Audio Frequency Amplifier solves the problem of building a better reproducing broadcast program with greater volume. To build this unit you need—

Type R-30 Pwr. Transformer, \$6.00
Type C-1 Pwr. Transformer, \$4.00
.005 Mfd. Mica Cond., \$1.50
Curtis Hammer Sockets, \$1.25
Prot. Discs, \$2.50
Frost S. C. Jacks, \$1.70
Dial Lamp, \$1.00

MAKE IT A RADIO XMAS
Frost Musical Loud Speakers, \$12.50
Musical Selective Aerials, \$4.25
Remier Variometers, \$7.50
Remier Aerials, \$1.50
Radio "A" and "B" Batteries—All Sizes.

Radio Receiving Sets From \$5.00 to \$42.00.

The Robbins Electric Co.
880 LIBERTY AVE., Pittsburgh
Est. 1899.

Buy Cautiously—by name

Radiotron

It needs no extra batteries

The name to know in Radio

FRIDAY
Friday, December 19.

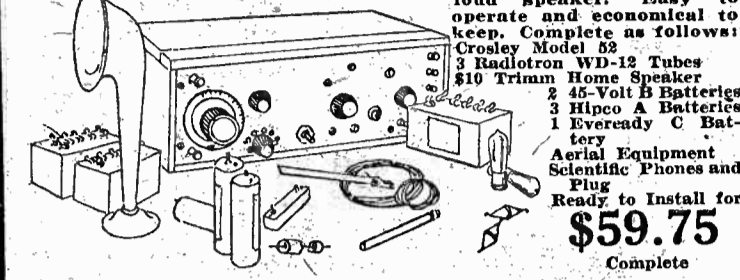
Wholesale Distributors
Pittsburgh Radio & Appliance Co., Inc.
112 Diamond St. Pittsburgh, Penna.

FRANKSEDER

FIFTH AVE., SMITHFIELD AND DIAMOND STS.

Sale Radio Sets

Crosley, Model 52 Three-Tube Radio Receiver!



Long distance reception, great selectivity and all on one speaker...

FRESHMAN MASTERPIECE 5-tube tuned radio frequency set...

RADIOLA III-A 4-tube long-distance set complete with 4 batteries...

AWATER KENT MODEL 10 5-tube set complete with 5 batteries...

HIGH-GRADE CRYSTAL SET An ideal Xmas gift—complete, ready to install...

Phone Orders Filled. Fresh Stock. Special Deferred Payment Terms Can Be Arranged.

(Continued from Page Three.)

RADIO PROGRAMS FOR THE WEEK

—EASTERN STANDARD TIME. —CENTRAL STANDARD TIME. —PACIFIC STANDARD TIME.

8:30 p. m.—The Original, Blue Grass Entertainers, William Schuchter, director. 8:30 p. m.—Original, Blue Grass Entertainers, William Schuchter, director. 9 p. m.—The Original, Blue Grass Entertainers, William Schuchter, director.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

8:30 p. m.—Boys Club of Hudson Guild. 8:30 p. m.—Y. M. C. A. Glee Club concert. 8:30 p. m.—Program from New York Studio.

Here's Your Opportunity--

Our Annual Before Christmas Clearance Sale.

These Specials will be appreciated by the Radio Fan who builds his own--

- Hippo 2 1/2 Volt B Battery, Large Type... \$1.69
Hippo 4 1/2 Volt B Battery, Large Type... \$3.40
Hippo 6 Volt B Battery, Large Type... \$4.98

Standard Vacuum Socket, for all circuits; special... \$25
Ernico Stator and adjustable Rheostat for all tubes; special... \$1.39

THE U. S. RADIO COMPANY OF PENNA., Inc.

FERRY AND DIAMOND STREETS Atlantic 2227 Mail and Phone Orders promptly filled Pittsburgh, Pa.

THE MOST IN SOUND REPRODUCTION!

Is the New WESTERN ELECTRIC CONE SPEAKER! Gives perfect reproduction on the lowest musical notes—where other speakers fail.

Price \$35.00

Price \$100.00

NEW RADIO PARTS Pyrex Insulators... 45c E-Z-Ton Dials... \$2.00

THE GAROD V. NEUTRODYNE—NOW HERE!

WIRELESS ELECTRIC

TUESDAY

Tuesday, December 16.

—KDKA (PITTSBURGH), PA.

8:45 a. m.—"Stockman" reports of the Pittsburgh livestock market; general market review and agricultural items.

—WVBT (316) PHILADELPHIA.

7:15 p. m.—"Bedtime story for the kiddies." 7:15 p. m.—"Bringing the World to America."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

—WVBT (303) BOSTON, MASS.

7:15 p. m.—"Bringing the World to America." 7:15 p. m.—"Bedtime story for the kiddies."

Biggest dollar's worth in RADIO



514 PAGES

THE most complete book of its kind ever published. Written, compiled and edited by practical radio experts of national reputation.

Electrical terms and circuits, antennas, batteries, generators and motors, electron (vacuum) tubes, every receiving hook-up, amplifier and audio frequency amplification, broadcast and commercial transmitters and receivers, wave meters, super-regeneration, codes, license rules. Many other features.

Send \$1 today and get this 514-page I.C.S. Radio Handbook before you spend another cent on parts. Money back if not satisfied.

Mail the coupon today

INTERNATIONAL CORRESPONDENCE BUREAU, 314 Broadway, New York, N. Y.

I enclose One Dollar. Please send me post-free the 514-page I.C.S. Radio Handbook. It is understood that I will not return it unless I may return it book within five days and you will refund my money.

Check here if you enclose \$1.50 or less. Use this coupon for \$1.50 or more.

STOP! DON'T BUY UNTIL YOU HEAR THE



WITH A COAST TO COAST RANGE

We Are Wholesale Distributors for:

- Durham & Co. Turn It Radio Sales Co., Inc. Mylar Radio Co. Daven Radio Co. Walbert Manufacturing Co. Frantz Manufacturing Co. Automatic Electrical Devices Jewell Electric Instrument Co. Weston Electric Instrument Co. Herald Electric Co. Thoradson Electric Mfg. Co. Cosmopolitan Plusformer Corp. Frantz Manufacturing Co. Herbert H. Frost. Victrolan Radio Co.

408 Ferry St., Pittsburgh Court 3358

Schutler Electric Supply Co.

Tested and Listed as Standard by Underwriters' Laboratories



is simple and unfailling in operation

The Bal kite Battery Charger radio set is in use. It cannot discharge, short circuit or get out of order. It has no moving parts, vibrators or bulbs. It is entirely noiseless. It does not create disturbance in your set or your neighbor's. It can be used while the leading radio dealers.

PRICE of 6 cells. Sold by all leading radio dealers.

Sold by The Iron City Electric Co. 438-38 Seventh Avenue

VOLMETER Buy Cautiously by name

Radio B Batteries \$1.50

Each Guaranteed Accurate For Hand or Household Testing

Order by Mail—Dealers Wanted.

CONSUMER AUTO SUPPLY CO., INC. 438 WOOD STREET PITTSBURGH, PA.

TUBES REPAIRED

MADE BY THE SAME MACHINES USED IN THE MANUFACTURE OF THE TYPE OF TUBES EXCHANGED WITH US

WD-11 Radiotron