

THE NEWSPAPER FOR THE HOBBYIST OF VINTAGE ELECTRONICS AND SOUND

THE HORN SPEAKER

REVIEWS

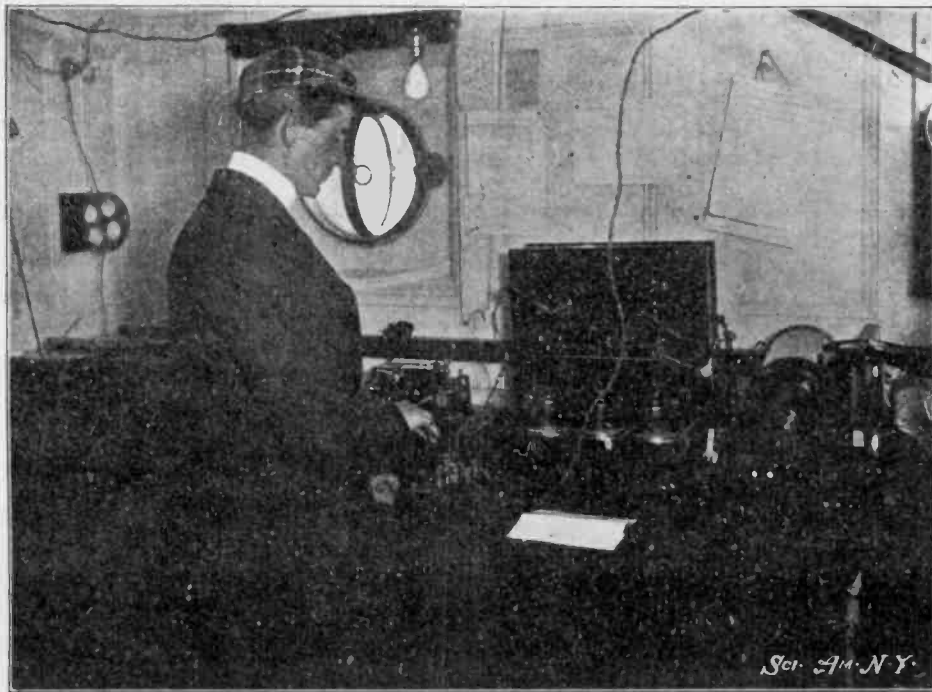
MARCONI WIRELESS TELEGRAPH RELICS. A 1903 REPORT

Commercial wireless telegraphy may hardly be said as yet to have a history. Many years from now, however, when the story of its rise will be written, the historian will find it necessary to present no small account of the first messages that were sent across the Atlantic, as well as of the practical uses to which wireless telegraphy was applied in the early days of its development. The story would not be complete without some account of the first wireless newspaper published on shipboard, and without reproductions of the first messages transmitted across the Atlantic waters.

Not the least interesting of the records which will be carefully preserved for this future historian is a copy of the first newspaper ever published aboard ship, containing wireless news sent from shore. Through the courtesy of Messrs.

Munroe & Munroe, of New York, Mr. Marconi's representatives in this country, we are enabled to present a facsimile reproduction of this interesting

Continued on page 4



THE MARCONI APPARATUS WITH WHICH THE NEWS FOR THE FIRST WIRELESS PAPER WAS RECEIVED.

DECEMBER, 1908.

WIRELESS QUESTIONS.

(120.) C. W. Crosby, Mich., writes:
1.—My wireless outfit consists of a tuning coil, potentiometer, silicon and electrolytic detectors, one head receiver, 1,500 ohms resistance, and variable condenser. My antenna is strung on the house, which is about 50 feet high, from a six-foot pole, and is 30 feet long, there being four strands of No. 12 wire, eight inches apart.

What will the receiving radius be?
A. 1.—From 300 to 400 miles. We would suggest that you space your aerial wires 18 inches instead of 8 inches apart.

2.—Do you know of any stations within that limit that I can communicate with?

A. 2.—There are several stations in Chicago which we think you would be able to pick up. We would refer you to list of wireless stations given as supplement with our September issue.

3a.—What will my sending distance be with a quarter-inch spark coil, large helix and condenser of six Leyden jars? (b) With a 1½-inch spark coil?

A. 3a.—About a half mile.
A. 3b.—From 5 to 10 miles.

Originally published in
MODERN ELECTRICS

*His Majesty King Edward Seventh.
London*

(By Marconi's Inventor, Wireless Telegraph)

In taking advantage of the wonderful triumph scientific research and ingenuity which has been achieved in perfecting a system of Wireless Telegraphy, I extend on behalf of the American people most cordial greetings and good wishes to you and to all the people of the British Empire.

*Wheeler Roosevelt
White House Washington 17*

MR. MARCONI'S TRANSCRIPT OF THE MESSAGE SENT BY PRESIDENT ROOSEVELT TO KING EDWARD VII.

PHONOGRAPH

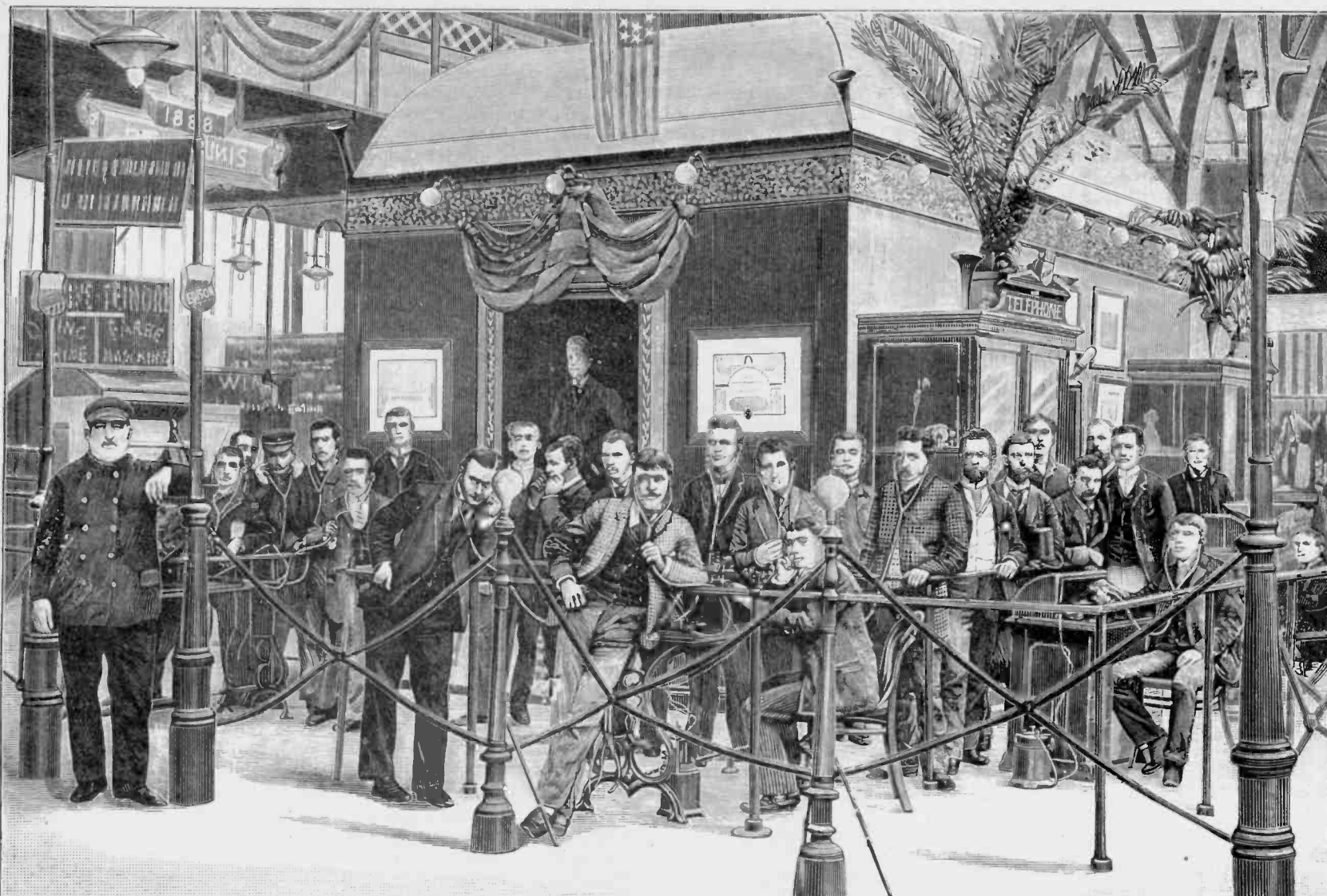


Fig. 3.—LISTENING TO THE PHONOGRAPH AT THE PARIS EXHIBITION.

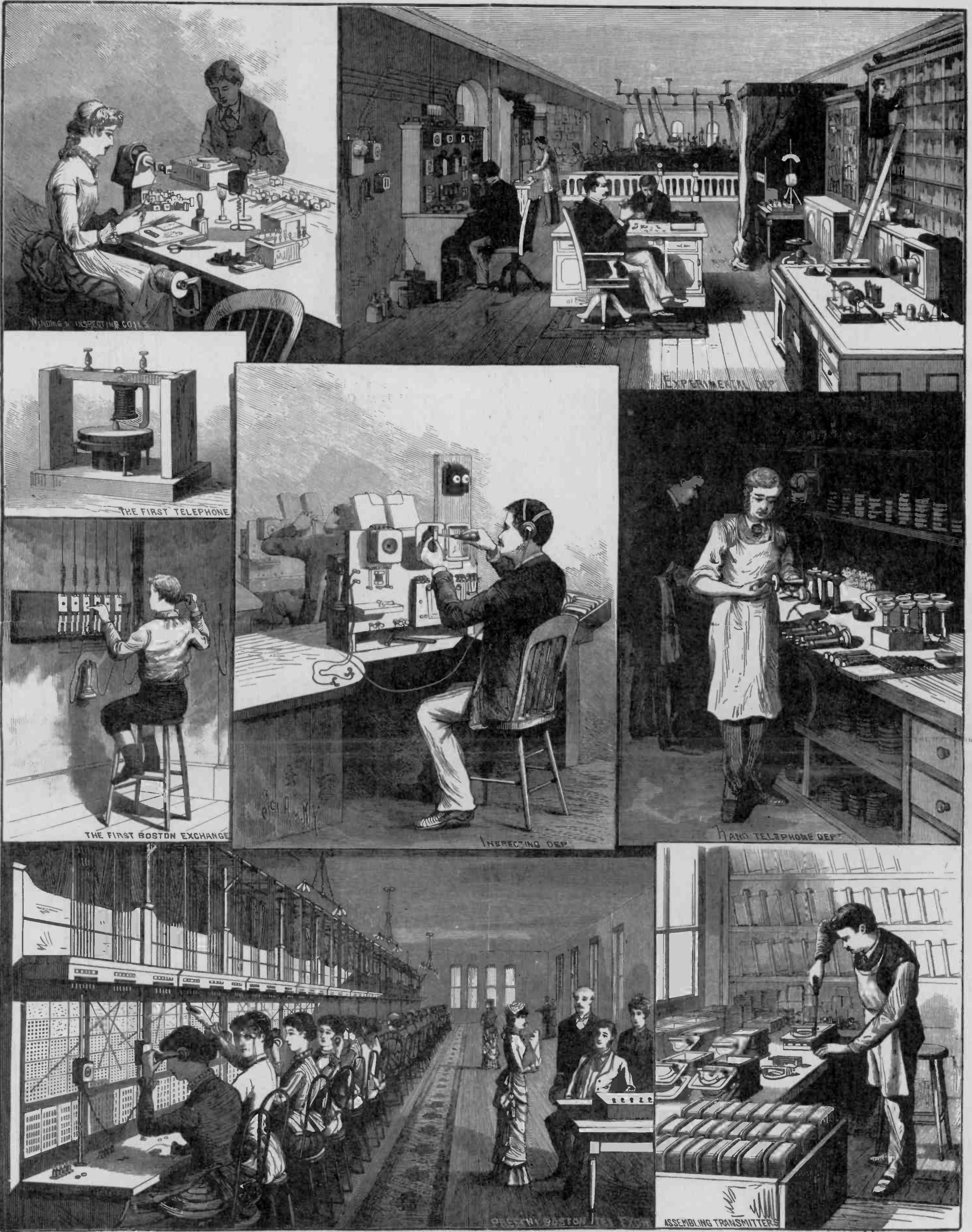
1889.

The most remarkable, the most incontestable, and the least contested of Edison's inventions is, without doubt, the phonograph. We have many times referred to the improvements introduced into the original invention, but it seems to us of interest to return to it

again and point out some of the modifications adopted for the faithful reproduction of speech, or of pieces of music, which, reproduced by the improved phonograph that we recently described, astonish and delight the numerous visitors who daily crowd around the apparatus in the machinery gallery or in the American section

tubes, to the speech or music registered and reproduced by these wonderful apparatus; but these auditors merit on the part of our readers a special examination, for they consist of the various collaborators and young engineers of the great American savant. One of Mr. Edison's representatives, Mr. Hammer, has been kind

Continued on page 6



ILLUSTRATIONS OF THE AMERICAN BELL TELEPHONE

Scientific American.

SEPTEMBER 20, 1884.

THE TELEPHONE.

One of the most striking characteristics of the present age is the marvelous rapidity with which useful inventions are introduced. The telephone is a striking example of this. The first public exhibition of the telephone was in the year 1876, at the Centennial Exhibition in Philadelphia. In the following year the first telephone exchange was established in Boston with five subscribers. With extraordinary forethought, the primitive switchboard illustrated in our cut was made long enough to contain switches for five subscribers in addition to those who originally joined the exchange. It soon became evident that the telephone system was destined to extend more rapidly than was at first believed possible, and the original switchboard was never filled up, but was supplanted by a more comprehensive arrangement.

To give an idea of the rapid development of telephonic communication, it may be interesting to show how the Boston exchange has grown to its present proportions. It has many times outgrown its quarters, and besides the principal exchange, there are now two branch offices and seventeen suburban exchanges in direct connection, and more than two hundred cities and villages in New England may be reached by telephone from Boston. The new "central office," which we illustrate, is furnished with the latest form of multiple switchboard, manufactured by the Western Electric Company, in Chicago. The capacity of this board is 3,500 lines, and together with the two branch offices gives Boston a capacity for nearly 6,000 lines. The number of subscribers in Boston, April 1, 1884, was 2,386. Taking the increase in the United States, the figures are even more startling. In May, 1877, there was but one exchange with five subscribers; in January, 1884, there were 906 exchanges, with 123,025 subscribers.

Although the telephone has attained its present importance within the last decade, and the first announcement of Professor Bell's invention must still be fresh in the memories of most of our readers, yet a concise history of this wonderful invention will not be out of place.

The credit of first conceiving the possibility of transmitting articulate sounds by electricity is due to Prof. A. Graham Bell. His familiarity with the applied sciences, particularly acoustics, dates from early youth. He was instructed by his father, who was engaged in the difficult task of teaching the deaf to articulate, in the physiology of the human throat and ear. Even when quite a boy, young Bell had ingenuity enough to construct a talking machine which would utter one or two simple words. About ten years ago Prof. Bell was engaged in increasing the efficiency of the electric telegraph by employing the vibrations of reeds of different pitch in connection with the usual telegraphic apparatus. While engaged in perfecting his system of harmonic telegraphy, he

(Continued on page 6)

off the Record

BETTINI RECORDS

How many collectors possess the rare Bettini cylinders which originally sold for \$2.00 to \$6.00? As most readers know Gianni Bettini's own collection of originals of classical music on cylinders were destroyed in the bombing of a French warehouse during World War II.

TIN FOIL PHONOGRAPH

In Vol. 1, No. 4 of THE AMERICAN PHONOGRAPH COLLECTING SOCIETY NEWSLETTER four large pictures of the 1878 tin foil phonograph made in Paris, France, discovered in Mexico and bought by Orval White show six views of it.

Incidentally, phonograph collectors interested in rare phonographs, research projects, technical tips, etc. should write to: American Phonograph Collecting Society, P. O. Box 5046, Berkeley, California, 94705.

on the Air

NEW

A new magazine by the name of LEISURE ELECTRONICS, which can be purchased at Radio Shack Stores has an excellent article about the Radiola III with good illustrations.

OLD TIME RADIO SERIES

Old time radio program buffs are enjoying a series: Monday, "The Shadow"; Tuesday, "The Lone Ranger"; Wednesday, "The Hall of Fantasy"; and Friday, "Gangbusters".

James Fred, editor of Antique Radio Topics, wrote that the series are weekdays at 5:30 p.m. at 99.5 Mhz (FM) from WSMJ-FM, Greenfield, Indiana.

NEW WIRELESS ASSOCIATION

At the home of Dale Goodwin, famous for his extensive Zenith collection, the members of THE ROCKY MOUNTAIN ANTIQUE WIRELESS ASSOCIATION, met last February. They are planning their next meeting in May. Dale Goodwin's address is: 2361 Iola Street, Aurora, Colorado.

EDITOR LETTERS

EDITOR'S MAILBAG

Dear Editor:

Could you please send me information, all you have, on the following radios, along with estimates of their worth. I have been collecting antique radios just recently, and would greatly appreciate any information you can give me.

The first radio is a stand up model, RCA Victor Model 96K. It is about three feet high, and has a 12" speaker. It is in perfect condition, and working order, except the plastic piece that surrounds the station band, and has the station selector buttons in it. This is warped. Is there anywhere I could get a new piece, or how much is it worth as is?

The second radio is a dome radio, Philco Model 70 Superheterodyne. It is in working order, and perfect condition, except it is missing one of the small dials. Is there somewhere I can get a new dial, or how much is it worth as is?

My favorite piece seems to be from around 1924. It is a Freshman Masterpiece, and the serial number is A11582. The body is in perfect condition, and so is the horn. The horn's stand works, but is pretty beat up. Information and worth of this radio would be appreciated.

Finally, can you give me any names of radio collectors out here in the East. Thanks for your help.

Chris Lane
Box 213-Trinity Clg.
Hartford, Ct.
06106



10:00 PM I LOVE A MYSTERY Two smart detectives, a smart secretary, and a clever plot. Five times every week.



8:30 PM DINAH SHORE, songstress, and Cornelia Otis Skinner head the new variety show.



7:00 PM KATE SMITH HOUR Radio's beloved Kate, sweet singer with Ted Collins.

CBS Programs

1943 *



9:00 PM TAKE IT OR LEAVE IT Phil Baker sweeps money for information.



8:00 PM LIONEL BARRYMORE as Mayor of the Town, a brilliant portrait of a kindly man.



7:30 PM INNER SANGTUM opens its squeaking door upon a series of thrills and chills.

Dear Mr. Cranshaw:

Glad to receive the back issues of "The Horn Speaker". Thanks. I am wondering if you are still in the parts business. If you are, I would be interested in a list of whatever you might have for sale or trade.

E. Marcus Barnes
Route 7, Box 884
Austin, Texas 78703

EDITOR'S REPLY: I am no longer in the parts business. However, I hope to see more antique parts advertisers in "The Horn Speaker" to help all collectors locate needed parts. . . A goal of T. H. S.

Gentlemen:

Do you have or know of a publication giving the prices currently being paid for 78 RPM records, particularly popular music?

I have seen such a book, called "The Collector's Guide to Popular Records," but it was published in 1950.

I would appreciate any information on this subject.

J. R. Shannon
978 Robin Hood Lane
Memphis, Tenn. 38111
February 26, 1973

Dear Sir:

I wrote. . . to get information about the age and the price at time of manufacture for a Radiola 46, Model AR596, Range 500-1500 Kilocycles. . .

Yours truly,
Willard W. Bloedow
308 W. Washington
Port Washington, Wis.
53074

EDITOR'S REPLY: Someone please help Mr. Bloedow.

Fillers for Cracks and Holes — Polishing Blemishes

To restore radios, phonographs, etc., to their original sales condition, one must learn to play surgeon to the woodwork. Chelsea Fraser in Popular Science Monthly October 1927, describes how craftsmen repaired blemishes when the phonograph and radios of the 20's were new or at least newer. Reading from a contemporary the reader can easily understand how a 1928 Norden Hauck of 1928 would have had its woodwork repaired.



How a dent or crack is filled by melting a shellac stick into it, just as sealing wax is applied. Only a few inexpensive materials are needed for touching up all ordinary types of furniture scars

You may be surprised to learn that nearly every tool you are likely to need for touching up your furniture can be found in the ordinary home. As a burning iron, nothing can surpass a common, medium-sized screw driver. For applying stains, liquid shellac and varnish, you will need a hair-line artist's brush, also one of medium size, costing five or ten cents each.

A good rubbing block can be made from an old felt hat. Cut out a strip of the brim about 6 in. long and 2 in. wide and wrap this around a small wooden block.

So much for the tools. Now for the materials. At a paint store buy 1 oz. each of walnut-brown and mahogany-red aniline powders, soluble in water. If the dealer does not have them, get household dyes for wool in these four colors: brown or seal brown; turkey red, cardinal red or garnet; yellow or orange, and black. Almost any finish can be imitated closely enough for patch work by blending two or more of these colors. Do not get dyes for cotton as they lack the depth and brilliance of the other kind when applied to wood.

FROM your paint dealer obtain a small can of turkey burnt umber ground in oil, 1/2 pt. liquid orange shellac, 1/4 lb. shellac flakes, 1 lb. whiting, 1/2 lb. FF pumice powder, and (if you haven't them at home) 1/2 pt. each of alcohol and turpentine, also purchase 1/4 pt. liquid glue. A small can of asphaltum varnish is also worth getting; it is an excellent oil stain for varying shades of brown when diluted with turpentine and it imparts a noticeable sheen to the wood.

With this outfit you are equipped to do any common touch-up job.

One of the commonest methods of filling deep bruises and dents is to use what is termed "stick shellac." If your paint dealer carries a stock of these sticks, you can buy one for a few cents to match any ordinary furniture finish. The smaller stores often do not have them, so that is why I have advised you to buy shellac flakes. With them you can make your own sticks.

Heat a handful of the shellac flakes in the cover of a

coffee can or other receptacle. As they begin to melt, stir them with a screw driver or the handle of an old spoon to keep them from burning on the bottom. While stirring, pour in a little aniline stain powder of the color you wish the stick to be and blend this thoroughly with the simmering shellac. You may have to put in two different colors in order to secure the desired shade.

As soon as the mixture suits you, pick the cover up with a pair of pliers and scrape the soft mass out on to a hand saw blade. It will cool rapidly. While it is still pliable, scoop it up with the fingers and roll it briskly between the palms of the hands to form a long pencil-like stick. Lay the stick down upon the saw and in a minute the shellac will be as hard and brittle as an icicle.

To use the stick, heat a screw driver point enough to melt the shellac without causing it to boil. Hold the stick at the edge of the cavity, as illustrated above, with the screw driver point bearing gently down upon the corner of the shellac, much as you would solder metal parts, and force the hole full.

Damp a finger and quickly pack the soft shellac down. Burn on a little more, and pack again, until the filling rounds up slightly above the surface. Be careful all this time not to let the hot iron touch the surrounding varnished surface. Then with a knife or chisel held flat, carefully pare away the surplus shellac, and smooth with the rubbing felt, as described a little later.

Sealing wax also can be used as a filler. This is to be had in various colors at stationery stores.

Another excellent filling agent is what is called "gesso." In fact, gesso makes a tougher and more durable filler than shellac stick. To make a small batch, fill a tablespoon with liquid glue, and pour this into any small vessel, such as the cover of a baking powder can. Add an equal amount of whiting. When the two substances are well blended, put in a little aniline stain powder of the



desired color and stir until the composition is of a uniform color throughout. The gesso is then ready to apply.

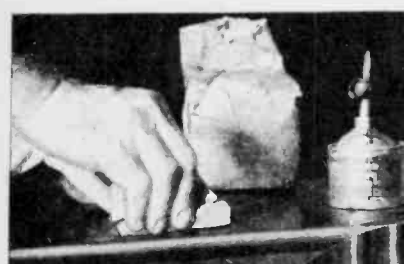
Take up a small quantity on the corner of a putty knife or table knife and press it firmly into the cavity. Pack the hole full, rounding it over a trifle to allow for shrinkage. With a damp cloth pulled over the forefinger, carefully remove any of the filler that may have gotten on the surrounding varnished surface. By the next morning the gesso will have hardened until it is like rock, yet with a sharp knife or chisel you can easily shave off the surplus. Pumice and oil are used for the final smoothing.

YOU can obtain in many hardware and paint stores a plastic wood filler that is excellent for repair work. It is probably best used in the natural color, which is light, and then tinted after it has been dressed smooth. It hardens very quickly and, because of its adhesive qualities and strength, can be used in building up broken corners and replacing missing bits of carving or molding. It can be modeled into any shape with the fingers.

Still another good filler is made from glue and wood dust. Mark that I do not say sawdust, which is too coarse. Take a cabinet file and a piece of scrap wood of a kind to match in color the part containing the cavity. Fasten the wood in the vise and stretch a cloth on the floor beneath. File away like a good fellow and in a little while you will have a sufficient deposit.

Place the wood dust on a scrap block or in a saucer, and pour on enough hot or cold glue to make a paste. Then add sufficient aniline stain powder to produce a color to match the furniture exactly. Use it like gesso.

Such blemishes as scuffs and shallow scratches occur more frequently to furniture than any other kinds of damage, and, fortunately, are the easiest to remedy. As a rule the (Continued on page 6)



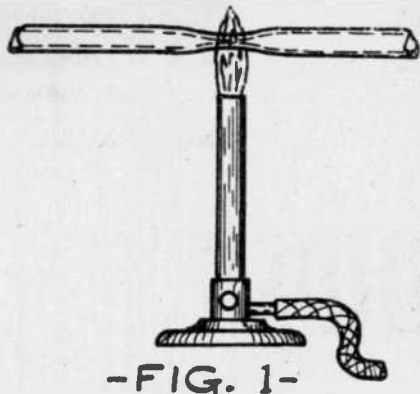
Mr. Fraser, who was once a furniture inspector for the United States Government, shows how to rub a blemish with pumice stone and oil (at left) and how to use shellac stick (below)



The correct way of filling a hole or crack

4 FOR YOUR COLLECTION OR MUSEUM How to Make an Electrolytic Detector

The following directions will enable the amateur to make a very sensitive wireless detector, one which will receive messages up to five hundred miles. However, the operating radius of any detector depends largely upon the height

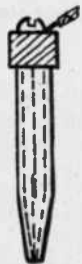


-FIG. 1-

of the aerial, the ground connection, and the tuning coil.

The material needed is a piece of thermometer tubing about three inches long, having a bore of not more than 1/64 in. diameter, two pieces of platinum wire, one 1/2 in. long and .001 in. diameter, the other 3/8 in. long of No. 20 or 24, a piece of glass tubing 2 in. long having an inside diameter of 1/4 in., a brass cap which will just fit over the top of the thermometer tube.

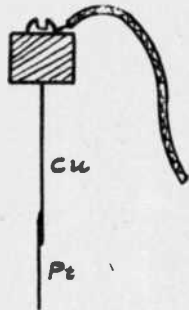
Hold the thermometer tube in the flame of an alcohol lamp or bunsen



-FIG. 2-

burner, preferably the latter, turning it continually. When it begins to be red-hot pull gently upon each end until the thin-

nest part of the tube is about 1/16 in. diameter (Fig. 1). Quickly take the tube from the flame and hold it suspended by one end and allow it to cool. When cool cut or break it in two at its thinnest part. Take the smaller piece of platinum wire and solder one end to a piece of copper wire. Place these joined wires in the best piece of the tube so that the tip of the platinum wire protrudes at the end of the pointed part of the tube. Place the cap on the other end of the tube, letting the copper wire stick through a small hole in the top of the cap (Fig. 2). Bend the wire over on the cap and remove both cap and wire from tube. Solder this wire and the flexible lead to the cap as in Fig. 3. Replace the wire in the tube and seal the

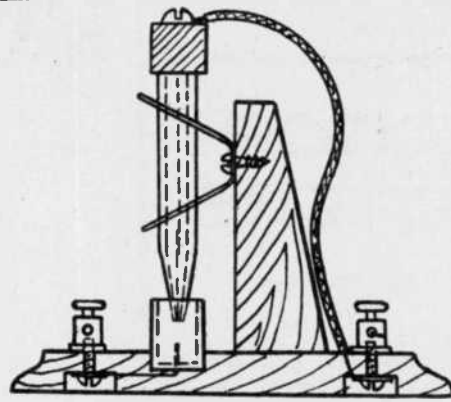


M.E. -FIG. 3-

cap to the tube by means of sealing wax. Seal the small end of the tube to the platinum wire by directing the flame of the blowpipe upon it. When cool rub the point on an oil stone to make sure that the platinum point is exposed.

The cup which contains the acid is made by fusing the larger piece of platinum wire into one end of the remaining glass tube. This is done by directing the flame of a blow pipe upon the edges of the end of the tube until the opening left is slightly larger than the diameter of the wire. Insert the wire with a twisting motion by means of a pair of pliers until about 1/16 of an inch

By C. C. WHITTAKER.



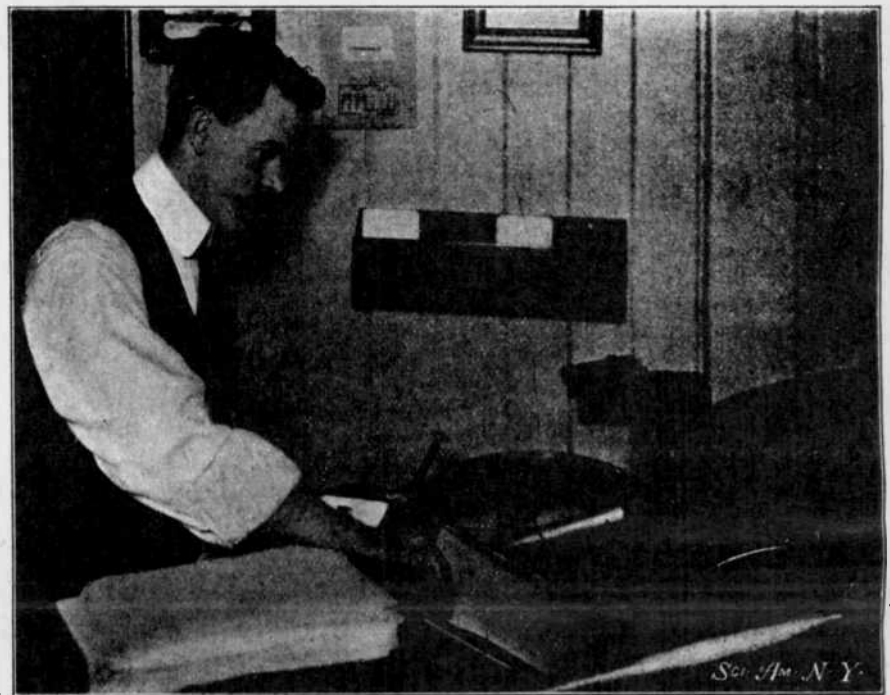
-FIG. 4-

is left projecting. Now direct the flame upon this wire and the glass immediately around it so as to thoroughly fuse the two together.

As soon as this is finished, a small piece of copper wire, about four inches long, should be soldered on to the outside end of the platinum wire to serve as a connector. Now place the whole in a place where no draft will strike it and allow it to cool gradually. After it has once cooled it will require no little skill to heat it without cracking it. This is because platinum conducts heat much more readily than glass.

Cut off the end which contains the platinum wire, making it 3/4 of an inch long. Fig. 4 shows the detector complete. The solution for the cup is sulphuric or nitric acid one part, water four parts. The platinum point will need cleaning from time to time on a whet stone.

Reprinted from MODERN ELECTRICS, November, 1908



THE HAND PRESS ON WHICH THE FIRST WIRELESS NEWSPAPER EVER ISSUED ON SHIPBOARD WAS PRINTED.

G. Marconi

THE TRANSATLANTIC TIMES.

VOLUME 1. NUMBER 4.

THE TRANSATLANTIC TIMES

Published on board the "ST. PAUL," at sea, en route for England, November 15th, 1899.

One Dollar per Copy in aid of the Seamen's Fund.

Mr. W. W. Bradfield, Editor-in-Chief. Mr. T. Bowden, Assistant Editor. Miss J. B. Holman, Treasurer. Mr. H. H. McClure, Managing Editor.

Through the courtesy of Mr. G. Marconi, the passengers on board the "St. Paul" are accorded a rare privilege, that of receiving news several hours before landing. Mr. Marconi and his assistants have arranged for work the apparatus used in reporting the Yacht Race in New York, and are now receiving dispatches from their station at the Needles. War news from South Africa and home messages from London and Paris are being received.

The most important dispatches are published on the opposite page. As all know, this is the first time that such a venture as this has been undertaken. A Newspaper published at Sea with Wireless Telegraph messages received and printed on a ship going twenty knots an hour!

This is the 52nd voyage eastward of the "St. Paul." There are 375 passengers on board, counting the distinguished and extinguished.

The days' runs have been as follows:—

| | |
|----------|-----|
| Nov. 9th | 435 |
| " 10th | 430 |
| " 11th | 425 |
| " 12th | 424 |
| " 13th | 431 |
| " 14th | 414 |
| " 15th | 412 |

97 miles to Needles at 12 o'clock, Nov. 15th.

BULLETINS

1.50 p.m. First Signal received, 66 miles from Needles.

2.40 "Was that you "St. Paul"? 50 miles from Needles.

2.50 Hurrah! Welcome Home! Where are you?

3.30 40 miles, Ladysmith, Kimberley and Mafeking holding out well. No big battle. 15,000 men recently landed.

3.40 "At Ladysmith no more killed." Bombardment at Kimberley effected the destruction of ONE TIN POT. It was auctioned for £200. It is felt that period of anxiety and strain is over, and that our turn has come."

4.00 Sorry to say the U. S. A. Cruiser "Charleston" is lost. All hands saved.

The thanks of the Editors are given to Captain Jamison, who grants us the privilege of this issue!

FACSIMILE OF THE FIRST NEWSPAPER EVER PUBLISHED ABOARD SHIP CONTAINING WIRELESS NEWS FROM SHORE. MARCONI'S SIGNATURE AUTHENTICATES THE ORIGINAL.

SPECIAL: Ken Wood of Nacogdoches, Texas is interested in hearing from all phonograph collectors who are interested in having a swap meet in the Texas area. Ken's Address is: 618 Inwood, Nacogdoches, TX. 75961.

SPECIAL: The Indiana Historical Radio Society has been scheduled to meet on April 29, 1973 at the Waynedale Branch of the Peoples Bank and Trust Company in Fort Wayne, Indiana.

Messages one thousand five hundred and fifty six. Test letter two thousand and ninety nine on tape receiver.

Marconi

FACSIMILE OF MARCONI'S ORIGINAL RECORD OF THE FIRST TRANSATLANTIC MESSAGES RECEIVED ON BOARD THE "PHILADELPHIA."

Wireless

sheet. The paper was published on board the "St. Paul" of the American Line, at sea, en route for England, on November 15, 1899. It bears Mr. Marconi's signature.

The apparatus used for the publication of this first of wireless newspapers involved no additional expense. Indeed, the newspaper may be said to have been the logical outcome of wireless communication itself. News was received from shore by means of the regular working outfit of the vessel. It was set up in type, and then printed on the small hand-press with which every ship is provided for the printing of menus. The first example of the possibility of transatlantic telegraphy without wires was afforded on the occasion when Marconi received, on board the "Philadelphia," messages up to 1,551 miles, and a test letter up to 2,099 miles. Marconi's record of that fact is here presented in facsimile, and will constitute what will some day be still another relic of early wireless telegraphy.

For Americans, the most important step in the development of wireless telegraphy was the transmission from Cape Cod of President Roosevelt's greetings to Edward VII. That message, written in the

President's own hand, has been carefully preserved. Mr. Marconi's transcript is here reproduced. Other wireless curios could be pictured, almost without number. Those that have been shown, however, may be considered of most historical value.

Reprinted from SCIENTIFIC AMERICAN, August 8, 1903



TRADE NAME: "Crosley Trirdya."
 MODEL: Special.
 TYPE: Armstrong regenerative; reflex and tuned radio frequency.
 TUBES: Three.
 BATTERIES: Not furnished, but may be contained in cabinet.
 CONTROLS: Three.
 AERIAL: Outdoor or indoor.
 PRICE: \$60.00 without accessories.
 MANUFACTURER'S NAME: Crosley Radio Corp.

TRADE NAME: Dereanadyne.
 MODEL: De luxe.
 TYPE: Two stages of tuned radio frequency amplification detector, two stages of low ratio audio frequency amplification.
 TUBES: Five.
 BATTERIES: None furnished.
 CONTROLS: Three.
 AERIAL: Outdoor, indoor.
 PRICE: \$165 without accessories.
 MANUFACTURER'S NAME: A. R. C. Andrews.



TRADE NAME: "Duo-Dyne Receiver."
 MODEL: 775
 TYPE: One stage of tuned radio frequency amplification, detector and two stages of audio frequency amplification.
 TUBES: Four.
 BATTERIES: None furnished.
 CONTROLS: Two.
 AERIAL: Indoor or outdoor.
 PRICE: \$80.00 without accessories.
 MANUFACTURER'S NAME: Globe Electric Company.

TRADE NAME: "Dynergy."
 MODEL: Console A.
 TYPE: Operates direct from A.C. or D.C. house lighting line; needs no antenna.
 TUBES: Five.
 BATTERIES: None needed.
 CONTROLS: Three.
 PRICE: For A.C. \$235.00; for D.C. \$185.00.
 MANUFACTURER'S NAME: Dynamotive Radio Corporation.



TRADE NAME: Dereanadyne.
 MODEL: Standard.
 TYPE: Tuned radio frequency, detector and two audio.
 TUBES: Five.
 BATTERIES: None furnished.
 CONTROLS: Three.
 AERIAL: Outside or inside.
 PRICE: \$150.00 without accessories.
 MANUFACTURER'S NAME: A. R. C. Andrews.



TRADE NAME: "Duo-Dyne Receiver."
 MODEL: 880.
 TUBES: Five.
 BATTERIES: None furnished.
 CONTROLS: Three.
 AERIAL: Indoor or outdoor.
 PRICE: \$100.00 without accessories.
 MANUFACTURER'S NAME: Globe Electric Company.

TRADE NAME: Eagle Balanced Neurodyne.
 MODEL: B.
 TYPE: Hazeltine neurodyne set.
 TUBES: Five.
 BATTERIES: Not furnished.
 CONTROLS: Three.
 AERIAL: Indoor, outdoor.
 PRICE: \$175 without accessories.
 MANUFACTURER'S NAME: Eagle Radio Company.



TRADE NAME: Crystal Receiver.
 TYPE: Fixed crystal receiver, no tubes or batteries required.
 CONTROLS: Two.
 AERIAL: Outdoor.
 PRICE: \$6.00 without accessories.
 MANUFACTURER'S NAME: Bird Radio Corp.



TRADE NAME: "Duck."
 MODEL: Five tuned super.
 TYPE: Tuned radio frequency, detector and two audio.
 TUBES: Five.
 BATTERIES: "A" and "B" needed.
 CONTROLS: Four.
 AERIAL: Inside or outside.
 PRICE: \$125.00 without accessories.
 MANUFACTURER'S NAME: Wm. B. Duck Company.

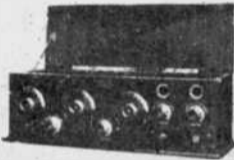


TRADE NAME: "Duo-Dyne Receiver."
 MODEL: 815.
 TYPE: Two radio, detector and two audio.
 TUBES: Five.
 BATTERIES: None furnished.
 CONTROLS: Four.
 AERIAL: Outdoor or indoor.
 PRICE: \$110.00 without accessories.
 MANUFACTURER'S NAME: Globe Electric Company.

TRADE NAME: Eagle Balanced Neurodyne.
 MODEL: Console.
 TYPE: Hazeltine neurodyne set.
 TUBES: Five.
 BATTERIES: Not furnished.
 CONTROLS: Three.
 AERIAL: Indoor, outdoor.
 PRICE: \$275 with built-in loud speaker.
 MANUFACTURER'S NAME: Eagle Radio Company.



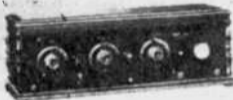
TRADE NAME: "Day-Fan."
 MODEL: Daytonia.
 TYPE: Two radio, detector and two audio; duplex circuit; complete with "A" and "B" batteries and special recharging apparatus.
 BATTERIES: "A" and "B."
 CONTROLS: Three.
 AERIAL: Inside or outside.
 PRICE: \$285.00 complete except tubes.
 MANUFACTURER'S NAME: Dayton Fan and Motor Company.



TRADE NAME: "Day-Fan."
 MODEL: Daytonia.
 TYPE: Two radio, detector and two audio; duplex circuit.
 BATTERIES: "A" and "B" needed.
 CONTROLS: Three.
 AERIAL: Inside or outside.
 PRICE: \$125.00 without accessories.
 MANUFACTURER'S NAME: Dayton Fan and Motor Company.

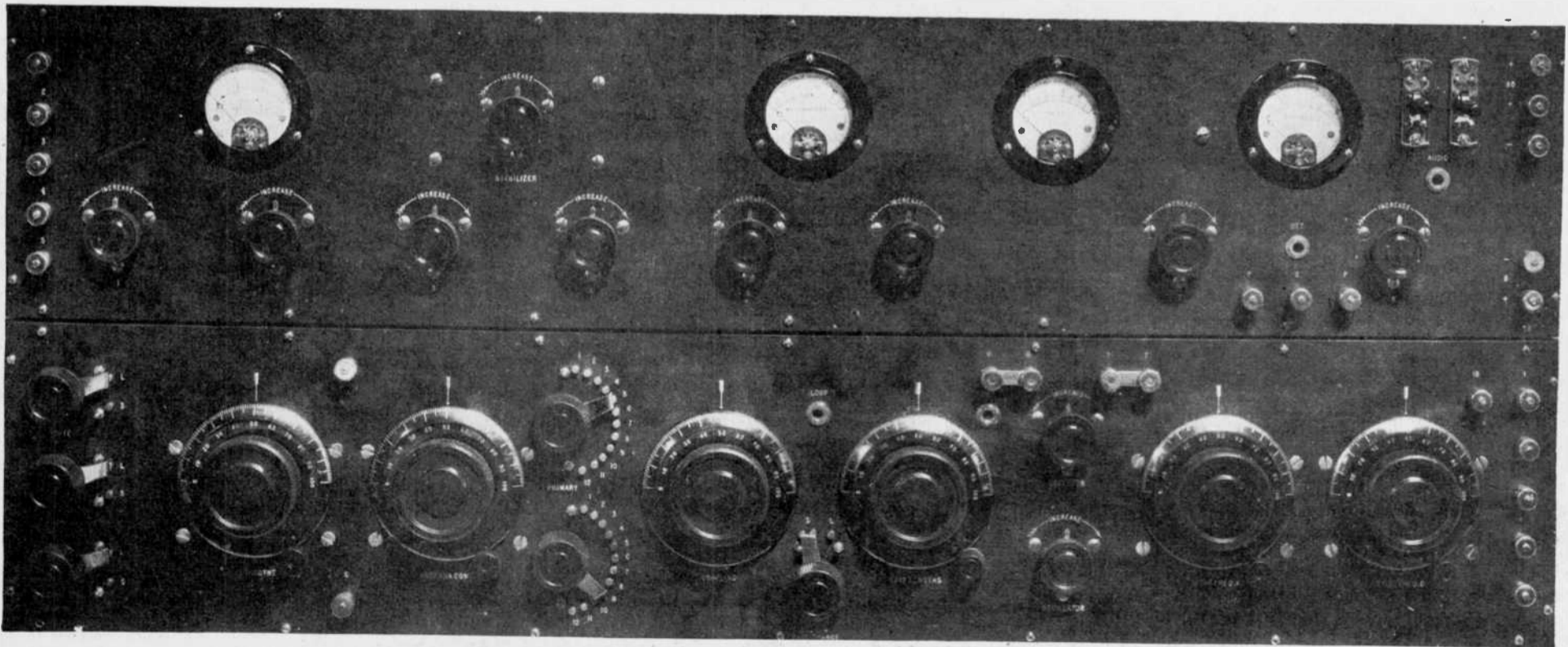


TRADE NAME: "Duo-Dyne Receiver."
 MODEL: 770.
 TYPE: One stage of tuned radio frequency amplification, detector and two stages of audio frequency amplification.
 TUBES: Four.
 BATTERIES: None furnished.
 CONTROLS: Two.
 AERIAL: Indoor or outdoor.
 PRICE: \$55.00 without accessories.
 MANUFACTURER'S NAME: Globe Electric Company.



TRADE NAME: "Duo-Dyne Receiver."
 MODEL: 900.
 TYPE: Two radio, detector and two audio.
 TUBES: Five.
 BATTERIES: None furnished.
 CONTROLS: Three.
 AERIAL: Indoor or outdoor.
 PRICE: \$135.00 without accessories.
 MANUFACTURER'S NAME: Globe Electric Company.

TRADE NAME: Echophone.
 MODEL: V-3 standard.
 TYPE: Regenerative type.
 TUBES: Three.
 BATTERIES: None furnished.
 CONTROLS: Two.
 AERIAL: Outdoor.
 PRICE: \$50.00 without accessories.
 MANUFACTURER'S NAME: The Radio Shop, Inc.



Model L-Super-Heterodyne, containing six stages of R. F. Amplification and one audio amplifier, two detectors and oscillator.

Since the picture of the Model L was printed in reverse on page one of The Horn Speaker for the March edition, we have reprinted it in its proper order. Such an outstanding receiver deserves the best of treatment.

For readers who missed the March edition or for ones who are not familiar with the Model L, it was sold in kit form by Experimenters Information Service (Leutz).

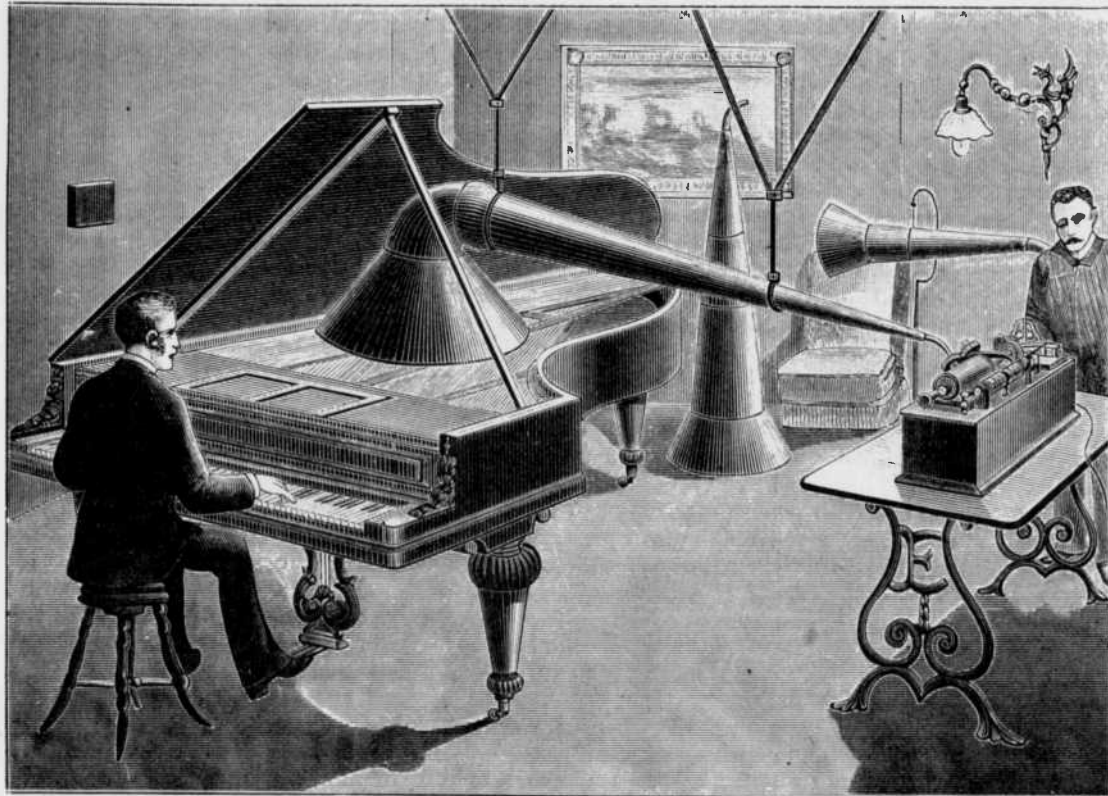


Fig. 1.—APPARATUS FOR REGISTERING PIANO MUSIC BY THE PHONOGRAPH.

TELEPHONE

conceived a method of making a complicated receiver, consisting principally of a set of reeds of different pitch, giving forth tones corresponding to those entering a similar transmitter connected by an electric current with the receiver; much as the strings of a piano will respond to the human voice. Coupled with the then recent discovery of Helmholtz, that the vowels and other vocal sounds were simply the combination of several elementary notes, Prof. Bell at once perceived the possibility of transmitting speech.

It only remained to try the experiment, and to improve and simplify the apparatus, in order to make his invention practically useful in every day life.

Immediately on the publication of Prof. Bell's success in transmitting speech by electricity, the whole scientific world turned with interest to the new wonder. Many improvements were soon made in the details of the telephone; and other inventors, as Edison and Blake, produced transmitters of greater power and better suited for actual service than Prof. Bell's instrument. As a receiving telephone, however, Prof. Bell's invention is in universal use in almost the exact original form, and it seems unlikely that it will be superseded by any other receiver, so perfect and simple is it at the present time.

The extent and variety of experimental work for improving the telephone now being carried on by the American Bell Telephone Co., and the facilities which they possess for continuing this work, are not generally known, and it is our object to illustrate and describe these facilities. Inventions connected with the telephone are continually being offered to the company, and those which appear to have merit are carefully examined, and adopted or rejected according to their value. Often those inventions which are purchased by the company require more or less modification to adapt them to practical use. To successfully carry out the objects indicated above, the company employs a corps of expert mechanics and others skilled in the principles and practice of electricity and its allied sciences, and has provided an experimental shop, a chemical laboratory, and an electrical testing-room, fully equipped with the necessary machinery and apparatus. The experimental shop, well shown in the illustration, is remarkably well supplied with such tools as are required for producing and altering electrical apparatus. It has a full complement of iron and brass working machine tools, carpenters' and mechanics' benches, forges, and other mechanical appliances. Power is supplied by a gas engine.

In addition to this purely experimental work, the department is continually making tests of samples of wires, of insulating material, and of supplies of various kinds, both as a basis of purchase and to maintain the required standard of quality. For these purposes special apparatus is provided where it is required; as, for example, tensile and torsional wire-testing machines. Perhaps the most important tests made are those upon the telephones and transmitters manufactured for the company by the Western Electric Co., of New York, Chicago, and Boston. As this company is licensed to manufacture electrical apparatus and supplies under all the patents owned and controlled by the American Bell Telephone Co., and actually produces upward of 50,000 new telephones yearly, the magnitude of the work of testing is very great. Large numbers of telephones are sent abroad, as nearly all the telephonic apparatus used in Belgium, Holland, Norway, Sweden, Russia, and Italy is made in this country.

Very interesting and expensive experiments are often undertaken by the company. Among these may be mentioned experiments in long-distance telephoning. A very heavy copper metallic-circuit line, nearly 300 miles long, has been erected between New York and Boston, and conversation is carried on between those cities with perfect ease, much more satisfactorily, in truth, than over most of the local city circuits. Plans are now being perfected for overcoming certain difficulties in connecting local subscribers to this trunk line in order to insure satisfactory service and secure commercial success. This line will undoubtedly be soon in the hands of the local company, and open for public use. The results thus far attained point to a speedy solution of the long-line problem; and in a few months the wonder will be why long-distance telephoning was not sooner introduced.

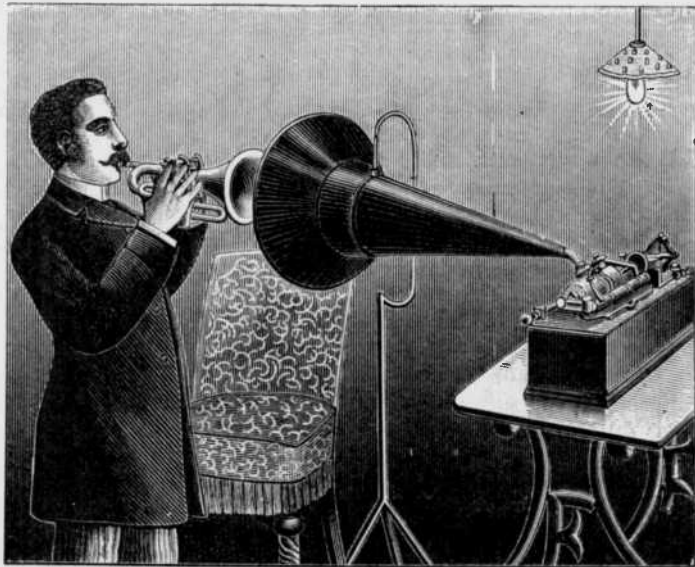


Fig. 2.—REGISTRATION OF A CORNET SOLO BY THE PHONOGRAPH.

In order to meet as far as possible the public demand for underground wires, the company has been and is now making extended experiments upon various makes of subterranean cables, with as yet only partial success. To give an idea of the vast sums of money the company is expending in this experimental work, it is only necessary to state as a single example that one of these cable experiments cost \$30,000, and that this is by no means the maximum outlay for a single experiment.

Of the future possibilities of the telephone little can with safety be said. Recently an invention has been brought out for making the telephone an accurate timekeeper. By means of a simple apparatus, including an accurate clock stationed at the central office, a signal is given once a minute indicating the precise time, somewhat after the manner of a repeater watch. This system is now on trial at Lowell, Mass., and seems likely to be generally introduced.

The Bell telephone exhibit at the Electrical Exhibition now in progress at Philadelphia is well worth the careful attention of visitors. It forms one of the most prominent features of the exhibition. The whole history of the telephone from its first conception to the present complex system is well illustrated by models, some of the original apparatus being on exhibition. Many forms of apparatus now discarded from use are shown; and all the latest improvements, including the most recent style of multiple switchboard, may be seen.

Woodwork

varnish is scored sufficiently to dull it or give it a white appearance, the latter being most noticeable in pieces that have been coated with a cheap grade of varnish.

If your examination convinces you that the stain coat has not been cut through, all you will have to do is to sprinkle a few drops of sewing-machine oil or olive oil on the damaged surface, shake a little pumice powder on the same place, and rub the two ingredients with the felt block previously described. If the felt absorbs the oil, add more oil. Don't rub too long, as you may cut entirely through the varnish. A dozen firm shoves back and forth should do the work. Some jobs of this nature you can efface entirely; others will always show a little on close inspection.

The same method is used after the other filling treatments previously mentioned.

GOT AN OLD RADIO? Want it repaired or restored? Write for free estimate to fix your crystal set or 1940 Superhet. Bob Lucas, 9014 Mahoning, Houston, TX. 77036.

PHONOGRAPH

of industrial arts. All those who have heard the phonograph of 1878, and who compare it in mind with the one of 1889, will certainly be struck with the progress made during this first period of ten years, and will agree with us that, although the fine promises made at first might have seemed premature and stamped with exaggeration, none of them can to-day be considered as impossible to realize materially. Edison is still young enough to keep all his promises, even those that his as enthusiastic as sincere admirers have often hastily made in his name, *Gloire, comme noblesse, oblige.*

When one has heard the new phonograph speak at the exposition, he is astonished at the distinctness exhibited in the reproduction of piano and wind instrument music. It has seemed to us of interest to indicate the means employed for registering the airs obtained by the aid of these musical instruments. Fig. 1 shows the immense ear trumpet which leads the sounds of a grand piano to the wax cylinder of the phonograph. The apparatus, as here represented, is the one that is operating in the room set apart for Mr. Edison at the exposition. For the registration of the airs obtained by means of a brass instrument, a trumpet of smaller size suffices, as may be seen in Fig. 2.

The phonographic experiments at the exposition are having great success, and the crowd does not cease to show how much it appreciates the interest thereof. Fig. 3 represents the aspect of these remarkable experiments executed in the machinery palace. We reproduce a photograph which shows numerous auditors listening, through the intermedium of double speaking enough to communicate to us a copy of this photograph, which may be considered as a historic piece from a scientific point of view. All the young American scientists are grouped in the attitude of the public when it is listening to the phonographs, and they have taken care to place themselves in the presence of the picture which reproduces the features of their master, Edison.

The illustrious American inventor long ago gained every one's admiration by his discoveries, and we may add that when one has the honor of seeing him close by, it is soon recognized that he knows how to enhance his merit by those rare qualities—simplicity and modesty.—*La Nature.*

Scientific American.

OCTOBER 12, 1889.]

WANTED

WANTED: Two burned out WD11 tubes for display purposes. Also need 2 in operable condition. FOR SALE "Mignonphone" camera size Antique Phonograph, perfect condition, best offer takes, or will trade for early 20's 1 or 2 tube radio operable, unaltered and in good condition, will exchange photos prior to deal. Charles B. Lewis, 2251, Watt Ave., Sacramento, CA. 95825. Ph: 916 489-6462. ✓

WANTED: All kinds of cylinder phonographs and disc phonographs with outside horns also cylinder boxes for the five inch records. Send price and condition. Would like to correspond with all Phonograph collectors in the Texas area to form a Phonograph swap meet. Ken Wood, 618 Inwood, Nacogdoches, TX. 75961.

WANTED: Paragon RA-10 Tuner & DA-2 Detamp.; Kurz-Kasch vernier dial; Marco vernier dial; Old UV/UX sockets; various old knobs (skirted type with 0-100 deg.); Bakelite sheets 1/4" thick or heavier for radio panels (or hard rubber); HRC Dial & Gear. E. Marcus Barnes, Route 7, Box 884, Austin, TX. 78703. ✓

WANTED: Federal Trans. No. 65, 66, 35, Atwater-Kent Breadboard, tuning condenser and RF stage coil; Atwater-Kent Varie Meter and Varie Coupler, Federal parts, Grebe parts. Edward C. Hall, Jr., 4 Portland St., Bridgton, ME. 04009. ✓

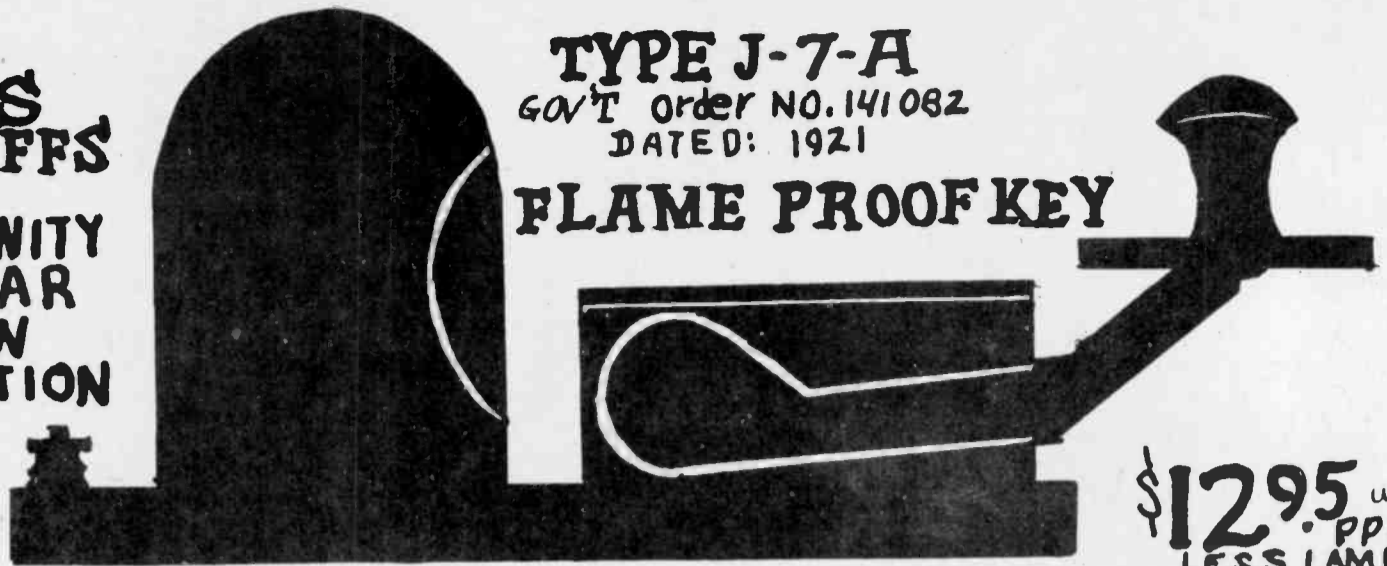
WANTED: Crystal Radio Receiver Schematics from early 1920's, including details of construction, wire sizes, etc., also Tesla coil, Jacob's ladder, etc. G. Seidel, 1201 Powell St. Norristown, Pa. 19401, 215 275-6333.

WANTED: December 1926 issue *Citizen's Radio Call Book*. Need not be perfect. Edward Crosby, 441 Cedar Ave., E. Greenwich, R. I. 02818. ✓

WANTED: IP500, 501, 501A Kennedy or Renartz equipment. Also Remler dial with paper scale. R. Carroll, 48 Wayne Blvd., Madison, N. J. 07940. ✓

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CORPS. IN 1941, IS THE SAME TYPE EXCEPT FOR THE BULB PART.

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IF YOU HAVE, OR YOU PLAN TO BUILD, THE 210 TNT TRANSMITTER AS WRITTEN UP IN A RECENT ISSUE OF "C. Q.", EITHER ONE OF THESE KEYS WOULD BE EXCELLENT TO GO ALONG WITH THE DISPLAY. BUY NOW, FOR SUPPLY IS LIMITED.

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FOR SALE: Edison Standard and Home Phonographs in very good condition, write for price SASE please. George Miller, 6537 Turner Way, Dallas, TX. 75230.

FOR SALE: Display your Radio's Schematic along with it. The perfect compliment of every set; \$1.00 each. Cecil Bounds, Pine Springs Route, Carlsbad, N. M., 88220.

FOR SALE OR TRADE: Rider Manuals complete set through Volume 21. Write for details. J. W. F. Puett, 3008 Abston Dr., Mesquite, TX. 75149.

FOR SALE Stromberg Carlson 864-A, excellent condition, other radios. Write for list SASE please. Chris Lane, Box 213-Trinity Hartford, CT. 06106. Ph: 203 246-4488.



FOR SALE: A-K 69 Battery needs tubes and a little work \$45.00. Cecil Bounds, Pine Springs Rte., Carlsbad, N. M. 88220, Ph: 505 785-2363.

PROFESSIONAL CW operators, retired or active, commercial, military, Gov't, police, etc., invited to join Society of Wireless Pioneers, W7GAQ/6, Box 530 Santa Rosa, CA. 95402.

FOR SALE OR TRADE: Civil War Buffs, "Official War Record", contains 1,000 pen and ink sketches of Civil War battles. Size of volume 13" X 17 1/2". Published 1898. Good condition, needs rebinding. Authors', General Marcus J. Wright, Colonel Benjamin LaBree and James P. Boyd. Sell or trade for collectables. J. W. F. Puett, 3008 Abston, Mesquite TX. 75149.

TRADE: Collection of 305 new, old stock tubes in original boxes, from 1930 to 1960. Trade for old battery radio sets, or large tube transmitter before 1927. Package deal only. Also desperately need schematic and information on coil windings for Kennedy Model 110 receiver. Gordon Bramwell, 1439 Hasket Way, Sacramento, CA. 95825. Ph: 916 922-6100.

SALE OR TRADE duplicates of my receiver and library collection consisting of Grebe, AK, Western Electric and many other QST's from 1916 and CQ's from 46. Many early wireless books. List for stamp. Erv. Rasmussen, W6YPM, 164 Lowell St., Redwood City, CA. 94062.

FOR SALE: Best offer Sterling model R-403 vacuum tube reactivator, original box, all labels, instructions, knobs, etc., used for UV201-A, UX201-A, UV199 etc., excellent. W9HCL, Box 103, Tallula, Ill. 62688.

FOR SALE Grebe CR-9, fair, less tubes, first \$150.00. Buy and sell teletype-writer parts, machines. SASE list. Typetronics, Box 8873, Ft. Lauderdale, Fla. 33310, W4NYF.

ANTIQUE Tubes for trade or sale new UX200's, UX201-A's, UX210's and UX30's (Sorry no WD-11's or WD-12's) List SASE, WA4NED, Box 468, Gainesville, Georgia 30501.

SEND SASE for Antique Radio list of duplicate items in my collection for sale or trade. David T. McKenzie, 1200 W. Euclid, Indianola, Iowa 50125.

FOR SALE: Radio equipment, send SASE for list. John Kuzma, 20 Union Place, Bloomfield, N. J. 07003.

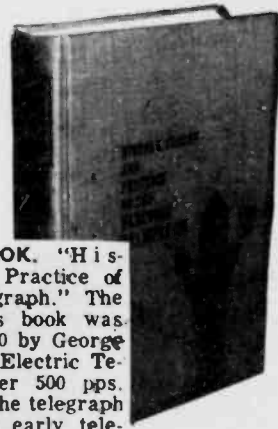
OLD TUBES for sale, write for list. SASE please. J. W. F. Puett, 3008 Abston, Mesquite, TX. 75149.

THE DIRECTORY of Antique Radio Collectors is now available. Write to: James Fred, R. 1, Cutler, Ind. 46920 for details.

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THE HORN SPEAKER

April, 1973



Eldridge Johnson through his Consolidated Talking Machine Company of 1900 manufactured this Type B Gramophone with his improved exhibition sound box after his business estrangement from Emile Berliner and Frank Seaman of the National Phonograph Company. After a legal attack by Seaman against Consolidated, Berliner and Johnson got together with their patents, services and plant to incorporate on October 3, 1901 The Victor Talking Machine Company.

Since this type B has the cradled horn and the rear mount spring, it is similar to the phonograph in the painting, "His Master's Voice," which made this type a symbol for reproduced sound.

Mr. Gary B. Schneider
6971 Pearl Rd. Apt. 4
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