

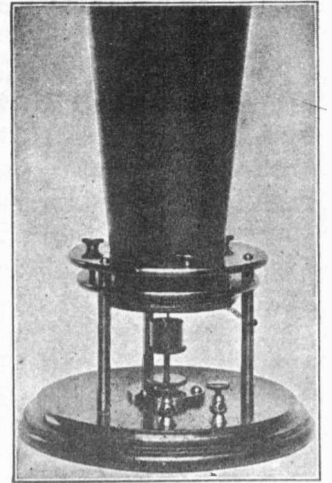
THE NEWSPAPER FOR
THE HOBBYIST OF VINTAGE
ELECTRONICS AND SOUND

TELEPHONE CENTENNIAL
1876 - 1976

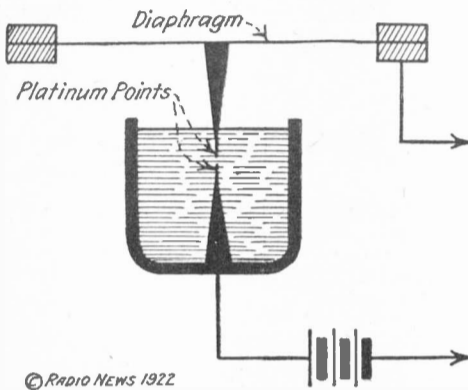
THE HORN SPEAKER

The Development of the Transmitter

By JOHN S. ARMSTRONG



ONE of the earliest attempts to perfect a commercial transmitter to supplant the then used, and but recently invented magneto-electric transmitter of Dr. Alexander Graham Bell, was a battery instrument devised by Elisha Gray, which formed a part of one of his earliest telephones, the construction of which, as shown by drawing No. 1, was very simple, the instrument consisting of a vibrating diaphragm of laminated iron having attached to its center a needle point of platinum immersed in a fluid of low conductivity, such as acidulated water contained in a receptacle, the other terminal of the transmitter being formed by a similar needle, projecting into the liquid from below. Vibrations of the diaphragm caused the needle to vary the length, and therefore the resistance of the path from one point to the other through the liquid. The variations in resistance thus brought about by the vibrations of the diaphragm cause corresponding variations in current from the battery connected in the circuit, which variations are then capable of acting in the receiver



© RADIO NEWS 1922

FIG. 1

This Microphone Consisting of Two Platinum Points Immersed in Slightly Acidulated Water Was Devised a Long Time Ago by Elisha Gray.

rating the use of carbon electrodes in place of the platinum electrodes in water, was invented and patents applied for in 1877, and granted in 1894, to Emile Berliner, the principle of which is shown in drawing No. 2 in which is the diaphragm of ordinary tinned iron, resting against a ball electrode of carbon, carried on a thumb screw. This thumb screw is mounted in a bracket in such a manner as to afford a means of adjustment of the pressure between the diaphragm and the ball electrode. Variations in pressure between the diaphragm and the ball cause corresponding variations in resistance, and thus produce similar fluctuations in the current strength. In Mr. Berliner's first transmitter, the diaphragm was about 4" in diameter, of thin tinned iron, mounted very roughly over an opening in a wooden box; the back contact consisted of an ordinary wood screw. There has been much discussion as to whether or not this instrument ever transmitted speech, but it is certain that it was not a transmitter suitable for practical use.

In the same year, 1877, Mr. Edison brought out the condenser transmitter, using the theory of electrostatic induction instead of electromagnetic induction. Drawing No. 3 shows the general method adopted. This transmitter, as shown, was composed of very thin metal plates "P," separated by paraffin paper, having a mica diaphragm "D" with a cork button "B" between it and the con-

denser. When the diaphragm is set in vibration, the plates are pressed together more or less; thus, the distance between them varies, and this changes their electrostatic capacity. While the principle of this transmitter was sound, it required a very great electromotive force and consequently a large number of cells to operate it successfully therefore it was not very practical, due to the fact that it could be used only on a short metallic line and under only the most favorable circumstances. Now, while this transmitter did not meet with much success in commercial telephony, it has, I have become convinced, great merits for its use in radiophone circuits. This is also the opinion of J. Stanley Brown, Radio Engineer.

Up to the time of Mr. Edison's electrostatic, and later, his carbon transmitter, the best condition for producing changes in resistance between two electrodes by varying the pressure, had not been realized. Prof. David E. Hughes, in 1878, by a long and interesting series of experiments, proved that the resistance of two conductors in loose contact with each other was far more susceptible to changes in pressure than if

mate trouble from "packing" and permit the use of a much higher modulation voltage than would otherwise be necessary. It is even possible that the modulation transformer might be done away with. The writer has experimented with the condenser-microphone and has found that it has vastly more superior modulation qualities than any existing form of microphone. There is no carbon or other weighty button to hamper the free movement of the diaphragm and the same may be so designed as to be practically of no natural period within the most used ranges of audibility. It may be designed to handle almost any voltage or may be operated from a few standard plate batteries in series. The progressive amateur is urged to make full use of the wonderful possibilities of this device and it is my belief that his efforts will be amply rewarded.

As to the construction, it may follow, more or less, along these lines: Use a rear conducting surface made of a solid brass plate over which a very thin disc of mica is fastened, the thickness depending on the voltage it is intended to use. Separated from this by a felt damping ring is a thin brass diaphragm. Arrangements may be made so that the distance between the two conducting surfaces may be varied mechanically in order that different capacity values may be tried. With this much of a base whereon to stand, the experimenter is in a fair way to try the results in various modulation circuits. Bearing in mind that the source of modulation causes more trouble than any one thing about a radiophone circuit, the experimenter might well use a little of his time for the study of the various applications of the devices used. He will find that telephone engineers are very well versed on this subject and most of them have data at hand that cannot be obtained elsewhere.

Radio News for March, 1922

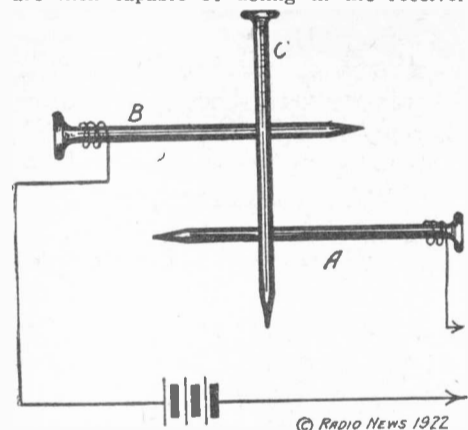


FIG. 4

This Form of Microphone Was Used by Prof. David E. Hughes in His Experiments in 1878. It Consists of Three Nails Disposed of as Shown.

connected with the wires by causing changes in strength of the magnetic field in which the coil of the receiver lies. These currents vary in uni-directional pulsation, strength, and frequency in unison with the movement of the diaphragm of the transmitter and cause the permanent magnets of the receiver to be strengthened and weakened and cause it to exert a varying pull on the diaphragm which vibrates in unison with the changes in current, and therefore more or less faithfully reproduced the sound causing the diaphragm to vibrate.

The results obtained from the water transmitter were slightly better than those obtained with the magneto-electric transmitter, but it had the disadvantage of the presence of liquid and could not be used with much success as a commercial transmitter.

It was, however, the first transmitter ever constructed with the idea of causing the vibrations of the diaphragm to vary the strength of the current by changing the resistance of the circuit in which it was flowing.

The results of this attempt led to further experiments to vary the resistance of the circuit in which the transmitter was placed by having the vibrations of the diaphragm produce a pressure between two electrodes thus varying the total resistance of the circuit.

A transmitter of this principle, incorpo-

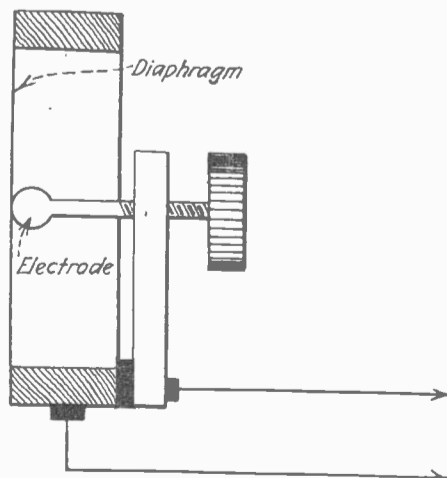
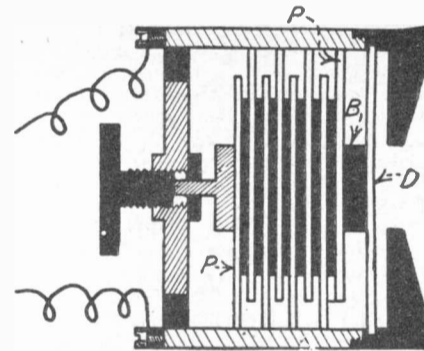


FIG. 2 © RADIO NEWS 1922

An Early Type of Carbon Ball Microphone Patented in 1877 by E. Berliner; the Pressure Between the Electrode and the Diaphragm is Adjustable.



D=Diaphragm
B=Cork Button
P=Plates

FIG. 3

This Condenser Transmitter Was Designed by Mr. Edison and Functions on the Principle of Electrostatic Induction.

firmly clamped together. He found that these laws held for any conducting material whatsoever, and in one of his experiments succeeded in producing a microphone from three nails arranged as shown in Fig. 4. In this, the nails A-B form the terminals of the circuit, which includes a battery "B" and a receiving telephone, the circuit between the two nails being completed by the nail "C" laid loosely across the other two. Any vibration in the air caused vibration of the nails, and this caused variations in the resistance where "C" came in contact with "A" and "B." So, it can thus be seen what crude but forward steps led to the production of the finely machined microphone that stands on your office desk, or hangs beside your transmitting cabinet.

The condenser transmitter, to my mind, should be of considerable use in radiophone transmitting circuits, as therein it is not so essential that current density be varied to so great an extent as it is that the voltage upon the grids of the modulating tubes be subject to great changes through very little mechanical vibration as a cause. It will be possible to do away with a lot of undesirable crackling sounds such as occur when there are carbon grains in the conducting path of the modulating source, it will elim-

Radiophone in Banks By Bert A. Teeters

Advertising value of radio telephony has been recognized by the City National Bank, of Dayton, Ohio, which plans to erect a station in Dayton within the next few weeks, according to an announcement made by President Harry Darst. It is believed this will be the first bank-owned radio station in the country.

Mr. Darst declares that regular programs will be given, of a financial nature, of course. It is planned to broadcast financial advice, give quotations on local bond and stock issues, send out warnings of activities of bogus promoters, in brief, to be of every aid in a financial way to the recipients of the messages.

Talks will be given on any special subject by officers of the bank upon request of a group of receiving stations, Mr. Darst said. Outcome of the experiment is being watched with interest by financial men in Ohio who see in the plan the first step in making Americans a more economical and thrifty race.

Radio News for March, 1922

LETTERS

EDITOR'S MAILBAG

Dear Sir:

I am in the process of restoring a 1941 anniversary model RCA Victrola Model No. V-205-A - Serial No. 135085.

I am having problems identifying the veneer used on the cabinet as well as finding a radio that will replace the original which was lost. No.1, can I replace the radio and No. 2 can you supply me with information leading to the identification of the type of veneer?

Your cooperation concerning this matter will be invaluable to me.

Sincerely,
Leonard G. Martin
716 N. Sheridan Ave.
Pittsburgh PA 15206

Editor....I suggest that you find the radio with a "want ad." and identify the veneer by taking it to an expert who has earned a good reputation in restoring wood products in your area. Start, by inquiring at antique shops.

Dear Sir:

Can you put me in touch with someone who can supply the knife hinges (pivot hinges) used on the RH door of the Victor Model IV phonograph? I need both upper & lower, and the door pull.

I enjoy your publication very much.

Sincerely,
R. Robbins
253 Standish Road
Merion Station PA
19066

Dear Jim:

This letter is to serve 2 purposes, first, I want to start receiving The Horn Speaker, next, I need some information on my At-water Kent Model 75 Radio-Phonograph in the "P" chassis. I've repaired the radio portion of it and it works fine, my problem is the phono portion. It has the magnetic pickup. The magnet is quite strong. I can not get a signal to the amplifier section of the radio. You can however hear the un-amplified signal quite clearly, (a little scratchy, but clear) when you listen to the pick-up on the turntable. I

took some measurements that I'll pass along. Across the contacts on the pickup head is 15 ohms. The output of the matching impedance transformer is 4,000 ohms. From the pickup contact to the left or right-hand pole piece, no contact. I at first thought the pick-up coil was shot, but I don't know how much resistance is suppose to be there, is 15 ohms enough? At least it's not open. Can you help me. It's the same pick-up that is shown on A-K page 45 of Abridged Rider Manual Vol. 1-V.

If you can furnish any of the replacement parts, let me know.

73's
Jim Sargent WA5QBR X
300 S. Hospital #607
Jacksonville AR 72076

Editor....Who has the help and parts?

Club News

ROCKY MOUNTAIN ANTIQUE WIRELESS ASSOCIATION

We would like to pass along some news about the Rocky Mountain Antique Wireless Assn. Our last meeting, September 19, was a radio contest where radios had to perform and were also judged on condition, rarity and accessories matching the particular entry. We found it to be very exciting to watch those sets warming up. A Breadboard AK 10, took Best of Show owned by us, and we were very proud. If anyone is visiting the Denver area and would like to visit some collectors please contact us at 303 278-2646.

If anyone has any lists of radios and items for sale please send them to us and we will take them to club meetings.

We have a lot of beginning collectors.

Happy Radio Hunting!

Lee Bruton, President RMAWA
Carolyn Bruton, Sec.-Treas.
16500 W. 12th Drive
Golden, Colorado 80401

SPERDVAC

SPERDVAC is the Society to Preserve and Encourage Radio Drama, Variety and Comedy. For more in-

formation write: SPERDVAC, P.O. Box 1587, Hollywood, CA 90028.

They publish an interesting bulletin with front page color and good pictures of the old stars on the inside pages.

They are making plans for a magazine to come out early in November.

Thanks to Joe Crawford for the above information.

CONVENTION

5, 6, 7 November 1976

The First Southwest Vintage Radio & Phonograph Convention will be sponsored by the Southwest Vintage Radio & Phonograph Society on the 5th, 6th, and 7th of November at the Ramada Inn-Dallas East in Dallas, Texas. Planned activities include forums on collecting of antique and vintage radios, restoration of antique radios, Classic Radios (McMurdo-Silver/Scott), antique phonographs, and General Q&A. The usual banquet, swap sessions, and an auction will also be held.

Of special interest will be a contest various equipment submitted by convention registrants. Three prizes will be awarded in each division. In addition a "Best-of-Show" award will also be made. The categories are as follows:

1. Crystal Sets
2. TRF Receivers (pre-1930)
3. Regenerative Receivers (pre-1930)
4. Super heterodyne Receivers (pre-1930)
5. Components and assemblies
6. Loudspeakers (horn, etc.)
7. Homebrew and Kit receivers (pre-1930)
8. AC Table receivers (post-1930)
9. AC Console receivers (post-1930)
10. Classic Receivers (McMurdo-Silver, etc.)
11. Ham gear (pre-1940)
12. Phonographs, outside horn
13. Phonographs, inside horn
14. Telephone/Telegraph

For more information and a pre-registration packet please contact CONVENTION SVRPS, P.O. Box 19406, Dallas, Texas 75219.

1976 ad

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65¢ or five 13¢ STAMPS

EVERYTHING FOR ANTIQUE RADIO RESTORATION
TUBES - SCHEMATIC DIAGRAMS - RADIO BOOKLETS

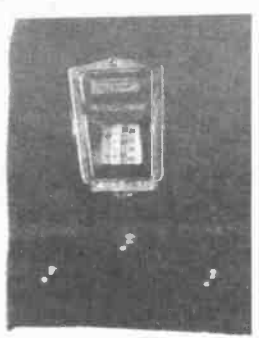
CAPACITORS - RESISTORS - INTERSTAGE & POWER TRANSFORMERS, SPEAKERS, CHOKES, DIAL LAMPS, RF COILS, I. F. TRANSFORMERS, SWITCHES, VOLUME CONTROLS, DRIVE BELTS, TUBE SOCKETS & ADAPTORS, HOOK-UP WIRE, DIAL LAMPS, BATTERIES, METERS, ETC.



PUETT ELECTRONICS

P.O. BOX 28572 DALLAS TEXAS 75228
PUBLISHERS OF
THE CLASSIC RADIO NEWSLETTER

TURN BACK THE DIAL



TURN BACK THE DIAL--April 1936
By Fred L. Davis

Lloyd Lewis, a seventeen year-old high school student of Plattsburg, Missouri has won the Eddie Cantor \$5,000 peace scholarship for his essay on "How Can America Stay Out of War?"

The current Jumbo series, although nothing spectacular, was one of the most expensive shows in radio history. It started off with Jimmy Durante, Gloria Grafton, Donald Novis, a glee club, a group of actors, and Paul Whiteman's band under the direction of Adolph Deutsch. Durante dropped out because it was too much of a job to play in both the air and

the Broadway versions of the show. Then Miss. Grafton became ill and Jane Pickens came into the picture. Since Eddy Euchin and his orchestra were under contract to the company, they were added. All in all, the cost of the program has averaged around \$12,000 a week for talent alone.

At last some of those banned Warner Brothers tunes will be heard over NBC. But only on one program and by one singer. The sponsor of the new Follies Bergere of the Air, which opened on NBC April 15, purchased the right to Warner songs for Fifi D'Orsay. It had to be, for her movie work has been with Warner's and without those songs she may not click.

The black cocker spaniel owned by Marge of Myrt and Marge walked off with first honors in the puppy class at the recent Chicago Kennel Club Show.

Have you noticed a bit of weakness in a few recent Jack Benny Shows? Perhaps the grind of the Benny theater tour has overwhelmed him. At any rate, his show of April 5--when he burlwaqued a Fred Allen program--was great. May 3 will be Jack Benny's fourth radio anniversary.

As of April 25, 1936 RADIO GUIDES popularity polls were as follows:

STAR OF STARS

1. Jack Benny
2. Eddie Cantor
3. Lanny Ross
4. Nelson Eddy
5. Rudy Vallee
6. Lulu Belle
7. Joan Blaine
8. Bing Crosby
9. Fred Allen
10. Jessica Dragonette
11. Grace Moore
12. Helen Hayes

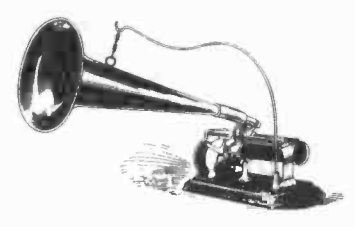
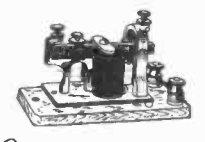
MUSICAL PROGRAM

1. Show Boat
2. Hit Parade
3. Hollywood Hotel
4. Fred Waring
5. Vallee Variety Hour
6. Humber's Champions
7. National Barn Dance
8. Breakfast Club
9. Wayne King
10. Bing Crosby
11. Cities Service
12. Major Bowes Amateur Hour

DRAMATIC PROGRAM

1. One Man's Family
2. First Nighter
3. Lux Radio Theater
4. Mary Marlin
5. March Of Time
6. Today's Children
7. New Penny
8. Grand Hotel
9. Myrt & Marge
10. Leslie Howard
11. Crime Clues
12. Gangbusters

HURRY! HURRY! NOTE FOR YOUR FAVORITE STAR AND PROGRAMS!



Southwest

Vintage Radio and Phonograph Society

P.O. Box 19406

Dallas, Texas 75219

CONVENTION

NOV 5, 6, 7!

ET CONTEST FORUMS SWAPFEST AUCTION MORE!

THE SOUTHWEST VINTAGE RADIO & PHONOGRAPH SOCIETY

LD AT THE RAMADA INN-DALLAS EAST DALLAS, TEXAS

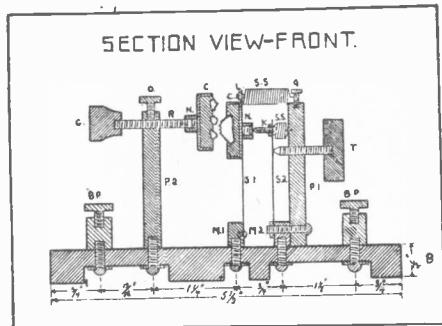
FORMATION CONTACT P.O. BOX 19406, DALLAS, TX 75219

1910

Construction of a Sensitive Wireless Detector

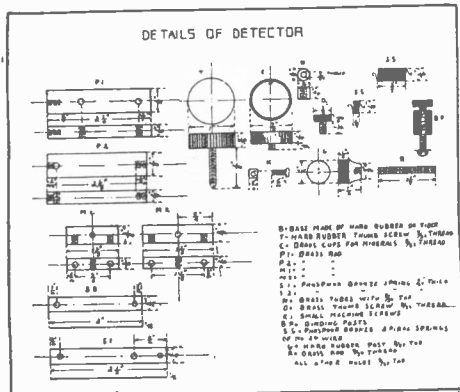
By WILLIAM H. TABER.

I NOTICE that most of the simple designs of mineral detectors, sent in by amateurs, lack sensitiveness,



which is the most essential part of any wireless detector. Knowing this, I determined to design a detector which would have great sensitiveness of adjustment, without being too complicated or expensive for the average amateur to construct.

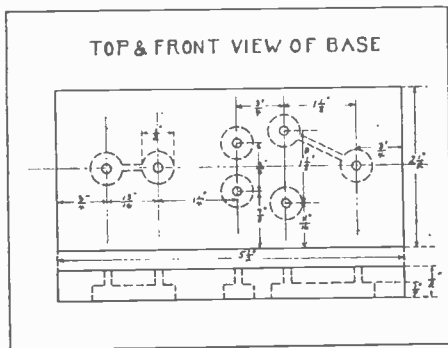
The base may be made of hard rubber, fiber, or mahogany; rubber prefer-



ably, as it takes a fine polish and is much the best insulator. The dimensions of the base are 1/2 inch thick, and 5 1/2 by 2 1/2 inches. The holes for the machine screws are bored with a 1/8-inch drill, taking care to space them exactly as shown on the base view. The dotted lines on the base view show where the under side of the base is to be bored and grooved out for the wire connections to the binding-posts.

Get two binding-posts, thumb screw T and knob G, all of which can be secured, made of electrose, which will

match the base and look very well. The binding posts shown in the drawing are not made of electrose, and the maker must use his own judgment, as one is as good as the other except for looks. The cups C can be secured from the round carbons on dry batteries, though it is better to buy them, if possible, as near the size as shown. Next get eight inches of brass rod, 1/2 in. by 1/4 in., cutting it into four pieces, one of which is for each of the following: 2 1/4 in. for P 1, 2 1/8 in. for P 2, 1 1/8 in. for M 1, 1 1/2 in. for M 2. You will notice, if you add up the number of inches for each piece, that there is an extra inch to be accounted for. This is to be used in the cutting and squaring of the pieces. A rod 1 1/4 in. long, with an 8/32 in. thread, will be needed to fasten knob G to the cup. This can be made from a



1 1/4 in. brass machine screw with the head cut off.

Get a strip of phosphor bronze about 1/64 in. in thickness, 5/16 in. wide, and 5 in. long. Then cut out S 1 and S 2 with the holes as shown on the detail drawing. Now get some No. 24 phosphor bronze wire, and wind the two spiral springs SS as shown. You may have a little trouble in getting just the right tension to the springs, but as soon as you do they will work very nicely. You do not need to make tube N, as a battery knurl will answer the purpose just as well. Set-screw O can be obtained from a binding-post. Q is a small machine screw, or may be a piece of brass rod soldered into P 1. K is a small 5/16 in. brass machine screw to fit. Phosphor

bronze strip S 1 may be soldered or riveted to SS. Purchase six machine screws, five of which are 1/2 in. long, the other being 5/8 in. with nut.

When all the parts are made and threaded, put them together as shown, and connect a wire through the groove from the machine screw in the bottom of P 2 to the binding-post. The other wire connecting the other binding post to M 2. It would be advisable to cut a piece of green felt and glue it onto the bottom of the base, so as not to scratch your table, or whatever you may have it on.

This detector is very efficient, especially when perikon is used. If you use perikon, solder the zincite crystals into the cup, without the spring movement, and the copper pyrites into the cup with the spring movement. The reason for having the cup, which contains the zincite crystals a little higher than the other, is so that the lump of copper pyrites will strike more in the centre of the zincite crystals. Of course, this detector will work excellently with silicon, molybdenite, iron pyrites, carborundum, etc., but in this case, a point must be fastened to S 1 instead of the cup. A platinum point is the best, silver next best, though brass or copper will do. If desired, all the parts may be nickel-plated, which will add a great deal to the detector's appearance.

Modern Electrics, December 1910

OPERATOR'S SALARY.

(792.) CHAS. ADAMS, Brooklyn, N. Y., writes:

Q. 1. What is the salary paid to Wireless Operators on land and sea stations, for beginners as well as experts?

A. 1. It varies from \$50.00 to \$75.00 per month.

LAMP CHIMNEY CONDENSER.

(786.) L. A. BELKNAP, Ohio, says:

Q. 1. Do Welbach gas light burner chimneys make good sending condensers, if covered with tin foil, leaving 1 1/2 inches space at each end?

A. 1. Yes.

Q. 2. What is a good solution for an electrolytic detector?

A. 2. 4 parts water to 1 nitric acid.

Q. 3. In a variable condenser is it necessary to have one more stationary plate than there are movable ones?

A. 3. Yes.

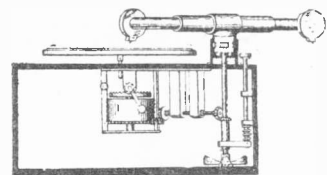
Modern Electrics, December 1910

1922 INVENTIONS

Phonograph Repeating Device

(No. 1,404,774 issued to Lucian Jakubowsky)

Inventions of this type seldom find a market because they are usually rather elaborate, although the construction of this one is quite simple. Repeating devices, if simple enough, may meet with greater favor. When the reproducing arm has reached the center of the record, the plate upon which the two reproducers rest will have rotated sufficiently to clear the rollers. Here the force of a spring causes the plate and rod to rise, thus

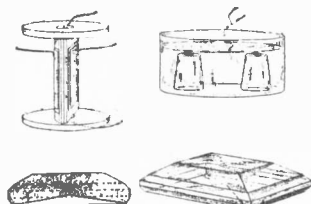


bringing gears into relation with each other, and turning the swinging arm, so that one sound box will swing away from the record, and the other sound box will swing towards the record. This being accomplished, the second reproducer is permitted to engage with the record. The lifting and lowering of the reproducers is adjustable.

Making Piezo-Electrical Crystals

(No. 1,414,370 issued to Alexander McLean Nicolson)

To those who have experimented with piezo-electrical crystals described in the December, 1919, issue of this journal by Mr. Nicolson himself, this method of making them will be interesting. Crystals weighing as much as one pound are very simply grown. A warm concentrated solution of sodium potassium tartrate is prepared. Into this a small warm seedling is dropped. The vessel containing the solution is then heat-insulated by wrapping with paper or placing in a fireless cooker. The crystal is preferably placed on an inverted tumbler. The crystal when removed from the mother liquor is then desiccated with a drying agent, such as calcium chloride, for two or three hours, and then submerged in alcohol, where it remains for twenty-four hours. It is then baked at a temperature of 105° F. for twelve hours. Conductors made of tinfoil sheets are then attached to the crystal and held in place by ambroid



cement, with which the whole crystal is painted to exclude moisture.

Science and Invention,

August 1922

COLUMBIA PHONOGRAPH COMPANY, Gen'l.

SOLE SALES AGENT FOR THE

AMERICAN GRAPHOPHONE COMPANY,

1906

TWENTIETH CENTURY GRAPHOPHONE

COLUMBIA PEERLESS



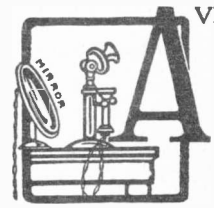
Type BF \$40.00

Suitable for all ordinary Cylinder Records and the new Columbia Gold-Moulded Twentieth Century Records (half-foot long). CANNOT BE USED FOR RECORD MAKING. Ideal for reproducing records made at home. Requires Special Horn and Stand. Prices extra. 54-inch brass horn \$15. or, 36-inch silk finish floral horn \$10. Nickered Horn Stand \$2.

Style Premier Type BC, \$100.00 Without Horn

WIRELESS TELEPHONE UNIVERSAL

TRANSMITS COLORS, FEATURES, EXPRESSION OF THE USERS WITH SAME FIDELITY THAT THE PHONE REPRODUCES THE HUMAN VOICE.



VIBRANT ring, tingling with a new impulse, calls you to your own phone. Putting receiver to your ear, you are amazed to find attached to your phone a mirror which reveals Herbert Myrick, the Editor and Publisher, just as your visage is likewise mirrored to him. "Say, won't it be great when this new French system of telephony

is introduced?" he begins.

"Indeed it will," you answer. "Wireless phones, the telautograph to take down the message if no one is at the other end to receive it, and the phone mirror certainly will be perfect."

"I don't quite hear you," replies Mr. Myrick. "I guess this experimental wireless-mirror connection doesn't work right yet. Let's switch onto the regular wired service."

"Yes, I hear better. What is it, Mr. Myrick?"

A New Cash Market

"Let me ask if you have all the business you want. Do you wish to make more money?"

"Why yes, how?" you say, eagerly.

"I mean this," Editor Myrick responds; "that a new market, a profitable cash market, is now available for nearly all manufactures and productions—even luxuries."

"In South America?" you ask, excitedly.

"Right here at home," the Editor declares, "among the thirty million folks upon our six million American farms."

"Oh, we don't sell to country people—farmers haven't the money to buy our—"

"Hold on there," cuts in Editor Myrick, "pardon me, but you don't know what you're talking about, and I do. My periodicals reach nearly one-third of our farm people. We have thousands of correspondents and agents. My editors and myself tour every state frequently to keep in personal touch with conditions."

"So that accounts for the accuracy of the Orange Judd Farmer crop reports," you interrupt.



"A New Cash Market"

Rule the World's Markets

"Precisely. Our crop reports rule the markets of the world," the Editor replies. "Patten cleaned up \$5,000,000 profits on wheat last summer by following Orange Judd reports, other parties lost millions by dependence upon government reports. Leiter almost went broke a few years ago by following the government instead of our American Agriculturist reports."

"Why, I'm tremendously impressed, Mr. Myrick, by what you say. Those are indeed great agricultural weekly magazines of yours. Didn't they induce Congress to establish agricultural experiment stations in each state, and rural free delivery of mails? Weren't they the father of the American sugar industry? Didn't they thwart the sugar trust, secure the economic independence of Cuba and protect domestic producers and labor against tropical competition? Weren't you the power behind the Farmers' Political League, that made all parties sit up and take notice? Isn't it the American

"The Bond of Confidence" Agriculturist Weeklies which so possess farmers' confidence that you guarantee your readers satisfactory dealings with your advertisers, and refund to your subscribers the full amount they pay for anything advertised that proves unsatisfactory?"

"That's right," replies Editor Myrick, in a pleased voice. "Long years of doing by our clients (readers, subscribers, advertisers) as we would that they should do to us has developed between all a perfect bond of confidence."

"Well, now, can't you tell me confidentially what you think of the business outlook, Mr. Myrick?"

Portent of the Golden Flood

"Back of everything is the unprecedented flood of gold. This past year (1909) the world has produced \$450,000,000 of gold or four times the annual average, 1860-90. All the gold that poured into Spain from the New World, the unlimited wealth of the Indies that enriched England, all the precious metal that flowed out of California in '49, are not a circumstance to the present golden flood. And it will continue."

"This means years of good times, doesn't it?"

"Prosperity! Along with increasing population and a fixed supply of land, it accounts for this equally amazing fact: That while prices of labor and of commodities have been advancing, increase in values of land and its produce has been still greater. For years the American farmer has been getting relatively higher prices for what he had to sell, but only recently has he had to pay more for what he had to buy. Result: Our farmers today possess more wealth, have more cash, owe less, know more, want more, than ever before."

"Why, this is tremendously important," you cut in over the wire. "Just what do you mean by the farmers' wanting more, Mr. Myrick?"

The New Farmer

"Now look here, my dear sir," the Editor replies earnestly, "grasp this fact: The farmer's family has economized for generations. Hence, therefore, now that the farmer has the price, his folks want, need and are bound to have, relatively, much more than the town or city family."

"Say, but how true that is! I'm astonished that manufacturers, bankers, business men, haven't realized this situation any better than I did."

"Some are 'on,' all right," Mr. Myrick comments heartily. "More automobiles were sold to western farmers in 1909 than to any other class."

Farmers Living Like Aristocrats

"Automobiles!—farmers?"

"Yes, indeed!" says the Editor laughingly. "Why, a little county fair in Kansas advertised a combination horse and motor race—sixty cars and one old nag entered. One little town, Oneida, South Dakota, with 200 population, about 40 families, has 16 automobiles. The farmer's boys and girls are going to college, his wife and sister dress stylishly, the old man himself wears good tailor-made clothes. His house is being equipped with carpets and rugs, musical instruments, books and pictures, automatic heating and lighting, hot and cold water, other household conveniences. Machinery that will save labor on the farm is in great demand, fine breeding stock, better seeds and plants, more scientific methods, co-operative marketing of produce. Farmers are becoming the landed aristocracy."



Connected Via Long Distance With Your Own Phone

"How astonishing! Is it so all over the country?"

"Relatively, yes," replies Mr. Myrick. "Western farms have doubled in value within a few years. Eastern farms are also advancing, so are Southern lands."

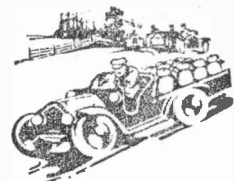
"Why isn't land a good purchase, then?"

"It is, especially if you're going to live on the land and work it," Mr. Myrick responds enthusiastically. "It's the place to rear a family. The rural school, combined with the family-farm and shop, is the training for youth. The automobile, good roads, social organizations, mail delivery, the motor post coach to supplement electric railways—farm life is indeed bright. Why, you'd be surprised at the extent to which old or poor farm buildings are being repaired or replaced by new."

"I catch the idea," you cry back. "There is a great market among farmers at present, and it is expanding. Tell me how best to get into this market."

How to Reach Rural Markets

"It's easy enough when you know how," the Editor and Publisher assures. "Tell me what you make or sell, how your business is conducted, your capacity for production, your ability to meet the increased demand we can create for your goods. Above all, are your goods right, are your prices right, are your methods right, will you guarantee satisfaction to any of our millions of clients whom we may induce to patronize you?"



The New Farmer

"Oh, I can easily satisfy your periodicals perfectly on all such points."

"Well, then, write me fully," comes Herbert Myrick's reply.

"Does this obligate me in any way?"

"Not a bit of it. I will lay your proposition before our editorial, promotion, commercial and publicity departments. We will have conferences over it, at our Chicago, New York and Springfield offices. If you have an advertising agent, manager of promotion or other experts, we will co-operate with them. Finally a plan will be evolved that will put your sales just where you want them."

"No matter what it costs, if it pays," you exclaim.

Profits Insured by Right Methods

"That is exactly our basis," declares the Editor. "We make our plan pay. One firm began by spending \$500; now they have a \$40,000 contract with us."

"Ah, but the rub comes in knowing how to advertise in just the right way."

"Which is precisely why our service is indispensable," Mr. Myrick responds. "Our clients spend much larger amounts with us

year after year. Why? Because it pays them to do so. Proof of circulation? Certainly—books open to all, maps showing number of subscribers in each state, rates and estimates. The most substantial proof lies in our mighty building—reinforced concrete, fireproof, imperishable. See picture of it above. Just awarded national prize as best office structure in concrete. Its eight acres of floors and 5,000,000 cubic feet of space can accommodate 5,000 workers, none too much for the largest publishing plant of the kind. Quite a contrast to the Colorado shack in which I learned the printer's trade."

Admirable Results

"Such facts speak for themselves, sir. Now tell me more about your publications, Mr. Myrick."

"If you wish the better class of farm and rural family trade throughout the United States, our plan would involve publicity in all our whole combination of periodicals which reach this vast constituency. This great combination includes the weekly magazines published by Orange Judd Company—American Agriculturist, published at New York, for the Middle States and the South; Orange Judd Farmer, published at Chicago, for the West, Northwest, Inter-mountain and Coast States; The New England Homestead, published at Springfield, Mass., covering the East. Also the twice-a-month Farm and Home, published by the Phelps Publishing Company—Eastern edition from Springfield, Mass., Western edition from Chicago. If you desire to reach only a certain territory, use such of our combined periodicals as cover it. If your appeal is to the better class homes in towns and cities, use our Good Housekeeping Magazine."

"Why, I have known your publications for years. My wife ties to your Good Housekeeping Magazine as the very best. Everyone knows the old reliable American Agriculturist, the name of the late Orange Judd is a household word, and wherever I go in the country I find Farm and Home."

"You just ought to see the feast of good things we've got for our readers. Judge Shute's new story, Farming It, will run exclusively in Farm and Home. Humorous? Gee whizz, the whole American people will laugh over it. Funnier even than his Diary of a Real Boy."

"Say, he is funny—I must have that, surely. What is the subscription price?"

"A dollar will bring any one of the Weeklies for a year. Fifty cents pays for Farm and Home's 24 numbers, while Good Housekeeping advances to \$1.25 on February 1. \$2.00 for all three."

"Put me down for the whole bunch, Mr. Myrick. I'll mail you \$2 today. No wonder your papers get so close to the people! No wonder they pay advertisers, I shall at once take up with my own concern your idea of getting after the new country trade, and will write you fully today with reference to our own proposition."



"The Colorado Shack where I learned the printing business—quite a contrast to our gigantic building shown at top of page."

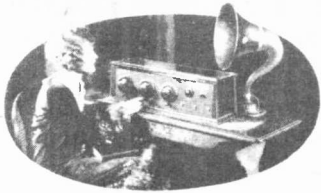
"Just address Herbert Myrick, President Orange Judd Co., 439 Lafayette St., New York."

"Good bye, Mr. Myrick."

"Thank you, I will," he replies significantly.

Old Radio Treasures

There's a rare old radio waiting for you somewhere. Here's how to have year-round fun discovering valuable old sets in your attic, local swap meet or antique barn. You'll enjoy McMahon's fascinating books, truly fine collector's references.



VINTAGE RADIO, 1887-1929: Pictorial story of pioneer days, 1,000 photos, 263 pages. \$10.95 hard-cover, \$8.95 soft.

A FLICK OF THE SWITCH, 1930-50: Fun picture reference of home, military, Ham, professional radio-TV-electronics, 312 pages. \$10.95 hard-cover, \$8.95 soft.

RADIO ENCYCLOPEDIA, Gernsback's 1927 classic beautifully recreated, 175 pages. \$14.95 hard-cover, \$10.95 soft.

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1926-38 RADIO DIAGRAMS: Beitman's classic of 600 models, 240 pages, \$7.00.



Here are the ideal holiday gifts.

ORDER NOW FOR IMMEDIATE DELIVERY!

CIRCUIT DIAGRAM for any pre-1951 radio: \$3.50. Send model number.

SEND TODAY to Vintage Radio, Dep't D, Box 2045, Palos Verdes, Ca. 90274. We pay postage. Calif. residents add 6%.

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Street _____

City _____ St. _____ Zip _____

FREE! Age Guide with each order. FREE!

Year-round Fun!

From HOW TO GET THE MOST OUT OF YOUR VICTROLA, Victor Talking Machine Co., Camden N.J. 1923

We would strongly recommend that you try all the varieties of Victrola Tungs-tone Styli and Victor Steel needles with the modifying doors at certain chosen apertures and in the various available rooms until you find the combination giving the most satisfying results.

In this connection it might be well to point out that a full tone Tungs-tone Stylus or Steel needle is particularly suited for a large music-room and that when the Victrola is to be used in a small room or even a room which is comparatively small, the soft tone Tungs-tone Stylus or Steel needle very frequently will give better results. It sometimes happens that a particularly good effect is secured by placing the Victrola in a room adjoining the one in which the listener sits, and using a full tone Tungs-tone Stylus or Steel needle.

When giving a varied program in the home, it is especially convenient to use a full tone Tungs-tone Stylus and vary the volume of the music to suit the taste of the audience, the acoustic properties of the room and the nature of the record played, by changing the aperture of the modifying doors. In this way it will not be necessary to change the stylus during the entertainment. If the room is rather large, the draperies heavy, and the audience is a large one, it will be found more satisfactory to use the extra loud Tungs-tone Stylus which will give any record in the Victor Catalogue a carrying volume sufficient even for a large concert hall or theatre.

The operation of a Victrola is exceedingly simple, but the few prescribed rules should be followed literally until they become a fixed habit.

Stand beside the instrument rather than in front of it. Close but do not latch the modifying doors. Place the record on the turntable. Wind the motor slowly and evenly to a good, but not to its fullest tension. Examine the tungs-tone point to make sure it has not been bent through careless handling. Release the brake. Allow the turntable to develop its correct speed. Take the soundbox at its circumference between the thumb and first two fingers of the right hand and lower gently until the reproducing point comes, gently, into contact with the smooth, shiny rim at the outer edge of the record and push, gently, toward the sound wave grooves. Lower the lid of the Victrola. Open the modifying doors at the first notes of the music.

In stopping the record when the automatic stop is not in use, the soundbox should be lifted up and doubled back until it lies on the taper tone arm or other rest provided for it.

SPEED The dealer from whom you purchased your Victrola will see that it is properly assembled and that the speed of the turntable is set at 78 revolutions per minute. That is the speed at which all Victor records should be played, and we most strongly advise that the speed regulator be not tampered with under any circumstances, except when it may be necessary to reset the regulator in order that the turntable shall actually turn at 78 revolutions when the soundbox is *not* in contact with the record.

MART

Classified ad rate: 6¢ per word.
Photo ads: \$2.00 extra.

MISC.

PHONOGRAPH COLLECTORS, join the American Phonograph Society. Receive the quarterly Journal and four Newsletters. Receive free reprints and stereoscopic phonograph cards. For more information send 13¢ stamp. For one year membership, send \$6.50. The American Phonograph Society, P.O. Box 5046, Berkeley CA 94705.

"RADIO AGE," a radio magazine devoted to wireless and early broadcast eras. Contains interesting articles written by collectors, articles published in early radio magazines, lots of reprints of famous radio ads, and a classified section for buying or selling radio and electronic items. Subscribe at \$7.50 per year for 10 issues. Mail check or money order to Radio Age, 1220 Meigs Street, Augusta, Georgia 30904.

FOR THE RARE OLD PHONOGRAPH, OR RADIO YOU HAVE BEEN LOOKING FOR TRY THE SOUTHWEST VINTAGE RADIO AND PHONOGRAPH SOCIETY CONVENTION IN DALLAS ON NOVEMBER 5, 6 and 7, WRITE P.O. BOX 19406, DALLAS TX 75219 OR CALL (214) 262-7855 OR (214) 286-1673. LOCATION IS: RAMADA INN--DALLAS EAST, 8901 E. R.L. THORNTON, DALLAS, TEXAS.

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OFFICIAL RADIO SERVICE MANUAL high-quality reprints. Gernsback's 550 page classic with 75 pages circuit repair and 1500 pre-1932 radio diagrams, many not in Riders. Loose-leaf bound in heavy cover for easy use. Limited reprint. Only \$40.00 postpaid while they last. Vintage Radio, Dep't. D, Box 2045, Palos Verdes CA 90274.

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WD11 Adaptors, use UX199, 120, VT24. No wiring changes, Radiola III's battery hook-up included \$5.25 pp., 2 for \$9.25. Keith Parry, 17557 Horace St., Granada Hills CA 91344.

BLANK BAKELITE STOCK cut to size, 1/8" to 1/2" thick. Fabricating and engraving services available. SASE for pricing sheet. Norman A. Parsons, 22 Forest St., Branford CT 06405, Phone: 203 488-4267.

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- Title of publication: THE HORN-SPEAKER.
- Date of filing: Sept. 30, 1976
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- Location of known office of publication (street, city, county, state, zip code): 9820 Silver Meadow Dr., Dallas, Texas 75217.
- Location of the headquarters or general business offices of the publishers (Not printers): 9820 Silver Meadow Drive, Dallas, Texas 75217.
- Names and addresses of publishers, editor, and managing editor: Publisher: Jim Cranshaw, 9820 Silver Meadow Drive, Dallas, Texas 75217. Editor: Jim Cranshaw, 9820 Silver Meadow Drive, Dallas, Texas 75217. Managing Editor: Jim Cranshaw, 9820 Silver Meadow Drive, Dallas, Texas 75217.

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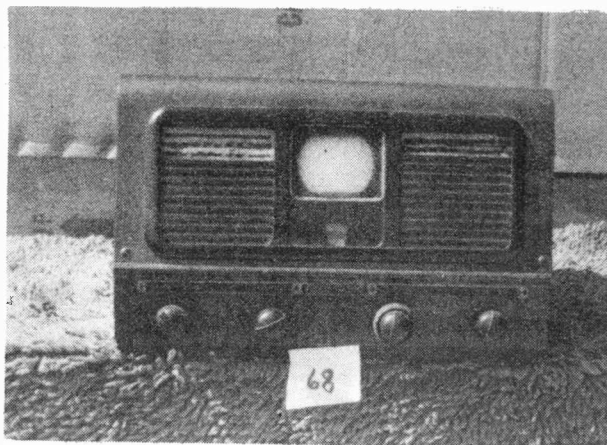
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7

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WANTED: AK Breadboard at \$95 - \$100. Airline writing desk Radio - Radak - Airline - Westingale, 3-tubers. Northland - Northome - Galloway - Silvertone 5-tube-3 dial - Stomberg Carlson. Strand, #3053, Marion, Ind. 46952.

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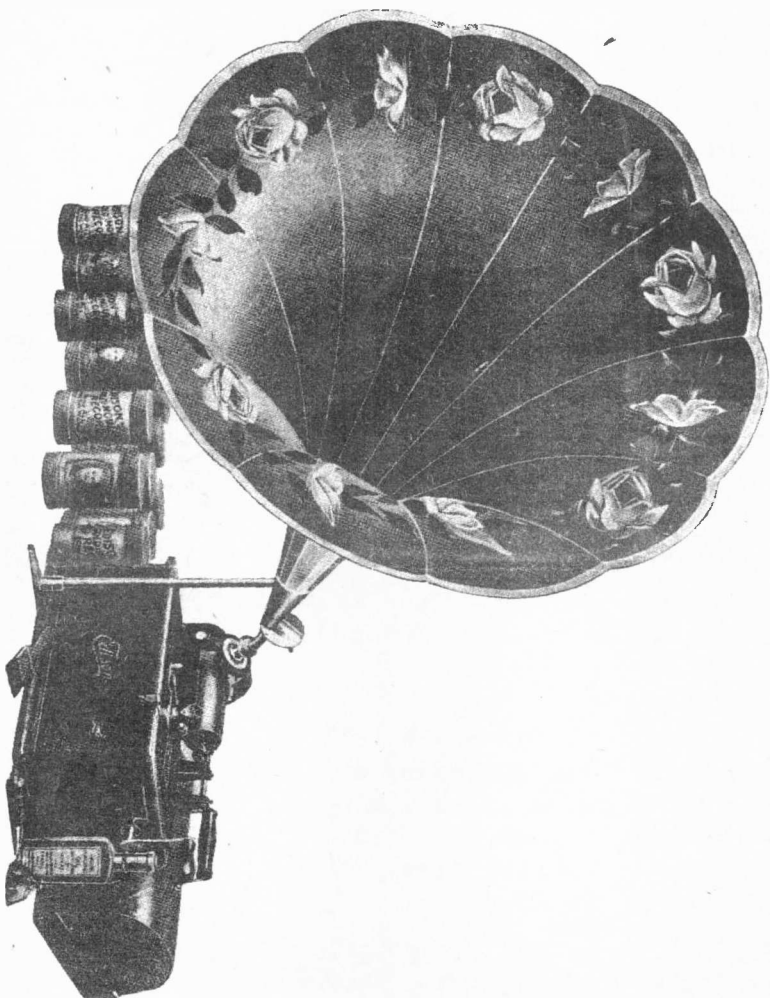
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THE HORN SPEAKER

1976



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