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EDITOR: *Jim Branshaw*

FORMERLY NAMED:

*THE ANTIQUE RADIO AND PHONOGRAPH NEWS*

NOW NAMED:

# THE HORN SPEAKER

## Wireless Telegraph Oddities

1908

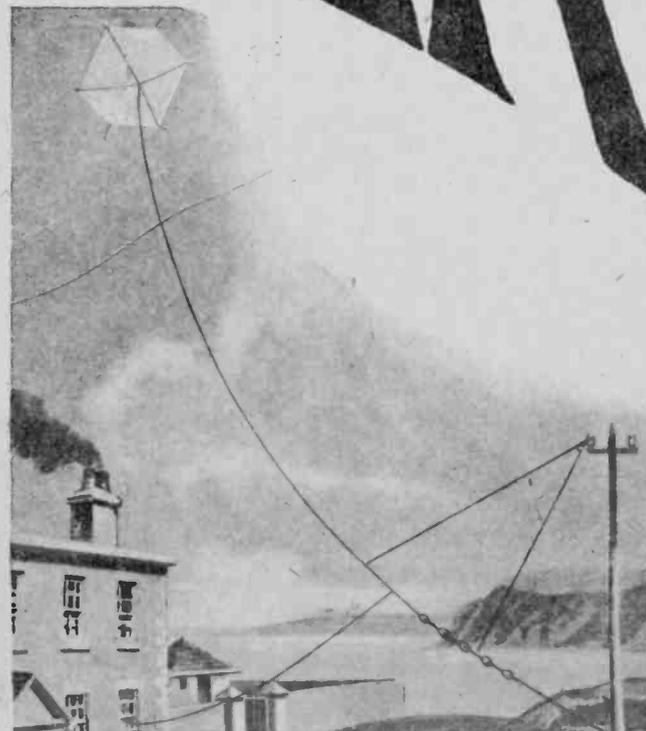
By SIGNOR GUGLIELMO MARCONI.  
(1874-1937).

"On Nov. 27, 1901, I left for Newfoundland with two assistants. As it was impossible at that time of the year to set up a permanent installation with poles, I decided to carry out the experiments by means of receivers connected to elevated wires supported by balloons or kites—a system which I had previously used when conducting tests across the Bristol Channel for the British Post Office in 1897.

"It will be understood, however, that when it came to flying a kite on the coast of Newfoundland in December, this method was neither an easy nor a com-

fortable one. When the kites were got up, much difficulty was caused by the variations of the wind producing constant changes in the angle and altitude of the wire, thereby causing corresponding variations in its electrical capacity and period of electrical resonance.

*Continued on page 2*



# off the Record

The mechanical system of recording "cut" the records with a style of sound that has a beauty of its own personality. The picture and text below, which describe the mechanical system should be interesting to The Horn Speaker readers, who are not familiar with the old method of recording sound or refreshing to record enthusiasts, who are familiar with the method.

## THE OLD METHOD

### HOW RECORDS ARE MADE FOR THE PUBLIC

Although the principle of the phonograph is now well known, the art of making records is deliberately shrouded in mystery. The particular composition of the wax-like "master" employed by a manufacturer is kept a profound secret. Few "outsiders" are permitted to see even the making of a record—certainly no one connected with a rival company. The proceeding is complex and calls for much skill, technical knowledge, and experience.

Imagine a great tenor, a popular operatic idol, about to immortalize his rendering of Verdi's "Celeste Aïda." Before him is the mouth of a horn; behind him the orchestra. Even he does not see the actual recording equipment; for the small end of the horn is located either behind a curtain or a partition. The musicians are poised between heaven and earth, for some of them sit on shelf-like benches, so that their heads are not far from the ceiling. So cramped are the quarters that often they assume positions at which a concert audience would gasp in amazement. For example, the trombonists sometimes turn their backs to the conductor; they follow him by keeping their eyes glued on mirrors by which his expressive beating of time is reflected. The loud instruments—the ponderous brasses—



## "WIRELESS ODDITIES"

"My assistants at Poldhu, in Cornwall, England, had received instructions to send on and after December 11, during certain hours every day, a succession of 'S's' followed by a short message, the whole to be transmitted at a certain prearranged speed every ten minutes, alternating with five minutes' rest.

"On December 12 the signals transmitted from Cornwall were clearly received at the prearranged times, in many cases a succession of 'S's' being heard distinctly, although, probably in consequence of the weakness of the signals and the constant variations in the height of the receiving aerial, no actual message could be deciphered.

"The following day we were able to confirm the result. The signals were actually read by myself and by my assistant, Mr. G. S. Kemp.

"The result obtained, although achieved with imperfect apparatus, was sufficient to convince me and my co-workers that by means of permanent stations—that is, stations not dependent on kites or balloons for sustaining the elevated conductor—and by the employment of more power in the transmitters it would be possible to send messages across the Atlantic Ocean with the same facility with which they were being sent over much shorter distances.

"About two months later, in February, 1902, further tests were carried out between Poldhu and a receiving station on board the American liner Philadelphia en route from Southampton to New York. The sending apparatus at Poldhu was the same as that used for the Newfoundland experiments. The receiving aerial on the ship was fixed to the mainmast, the top of which was 60 meters (197 feet) above sea level.

"As the elevated conductor was fixed and not floating about with a kite, as in the case of the Newfoundland experiments, good results were obtained on a syntonic receiver, and the signals were all recorded on tape by the ordinary Morse recorder.

"On the Philadelphia readable mes-

nate from the sun are largely absorbed in the upper atmosphere of the earth, it is probable that the portion of the earth's atmosphere which is facing the sun will contain more ions or electrons than that portion which is in darkness, and therefore, as Prof. J. J. Thomson has shown, this illuminated and ionized air will absorb some of the energy of the electric waves.

"The fact remains that clear sunlight and blue skies, though transparent to light, act as a kind of fog to powerful Hertzian waves. Hence the weather conditions prevailing in this country are usually suitable for long-distance wireless telegraphy.

"The operation of the long-distance stations in England and America made it possible to transmit messages to ships, whatever their position, between Europe and North America, and to the Cunard Company belong the credit of having greatly encouraged the long-distance tests, a circumstance which enabled them to commence, in June, 1904, the regular publication on their principal vessels of a daily newspaper, containing telegraphic messages of the latest news from Europe and America.

"This daily newspaper has now been adopted by nearly all the large liners plying to New York and the Mediterranean, and it obviously owes its entire existence to long-distance wireless telegraphy.

"In some of my earliest experiments in 1896 I used copper mirrors, by the aid of which it was possible to project a beam of electric radiation in a certain direction, but I soon found that this method would only work over short distances.

"About three years ago I again took up the subject, and was able to determine that by means of horizontal aerials, disposed in a particular manner, it was possible to confine the effects of electric waves mainly to certain directions as desired. True, the limitation of transmission to one direction is not very sharply defined, but it is nevertheless very useful.

"The practical result of this method has been so far that messages can be sent over considerable distances in the



(Left) Marconi and his two assistants, Mr. G. S. Kemp and Mr. P. W. Paget



A scene at St. John's, Newfoundland, showing Senatore Marconi's arrangement for using a kite to support the antenna which he used in his first experiments. (Left) The kite itself.

## Colin B. Kennedy

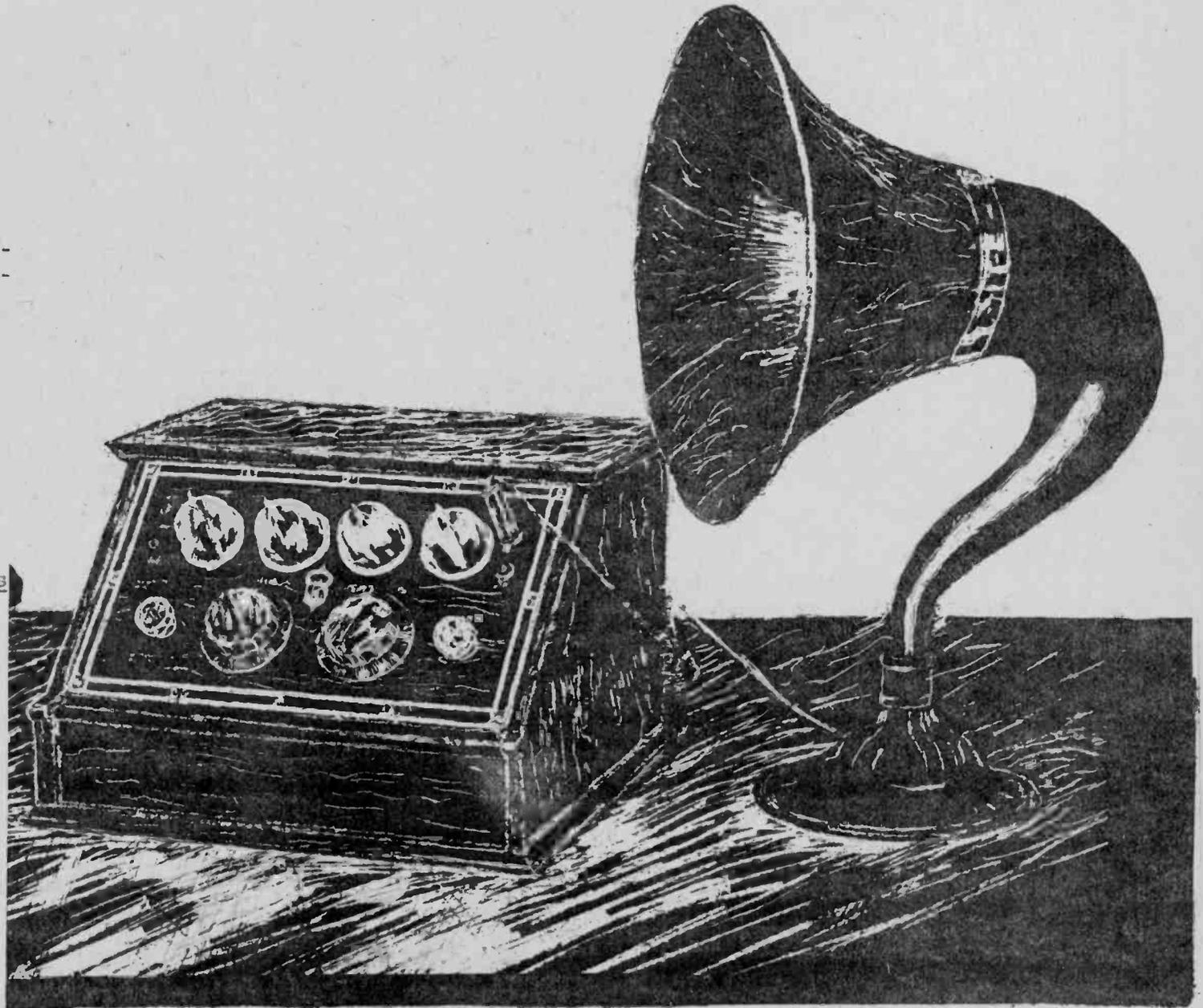
### Model VI

In a display of vintage radios the "Kennedy" model VI will assert itself like a lily among sundry flowers. The half-exposed tubes and the gold plated trim shine on the simulated wood panel in gleaming splendor.

The model VI is seldom seen in collections, making it a rare receiver. It is difficult to locate a picture of it, unlike the model V, in old radio magazines. The only place I have been able to find an old illustration of it is in the March 1925 Radio News's Radio Set Directory.

This radio has the distinction of having three stages of audio amplification. How often anyone ever pushed the the speaker plug into the last stage jack would be interesting to know. In the model VI, I operated, the last stage of amplification was high in distortion, which was a symptom that discouraged most set manufacturers to try three stages of amplification.

continued on page 2





MAKING A PHONOGRAPH RECORD.

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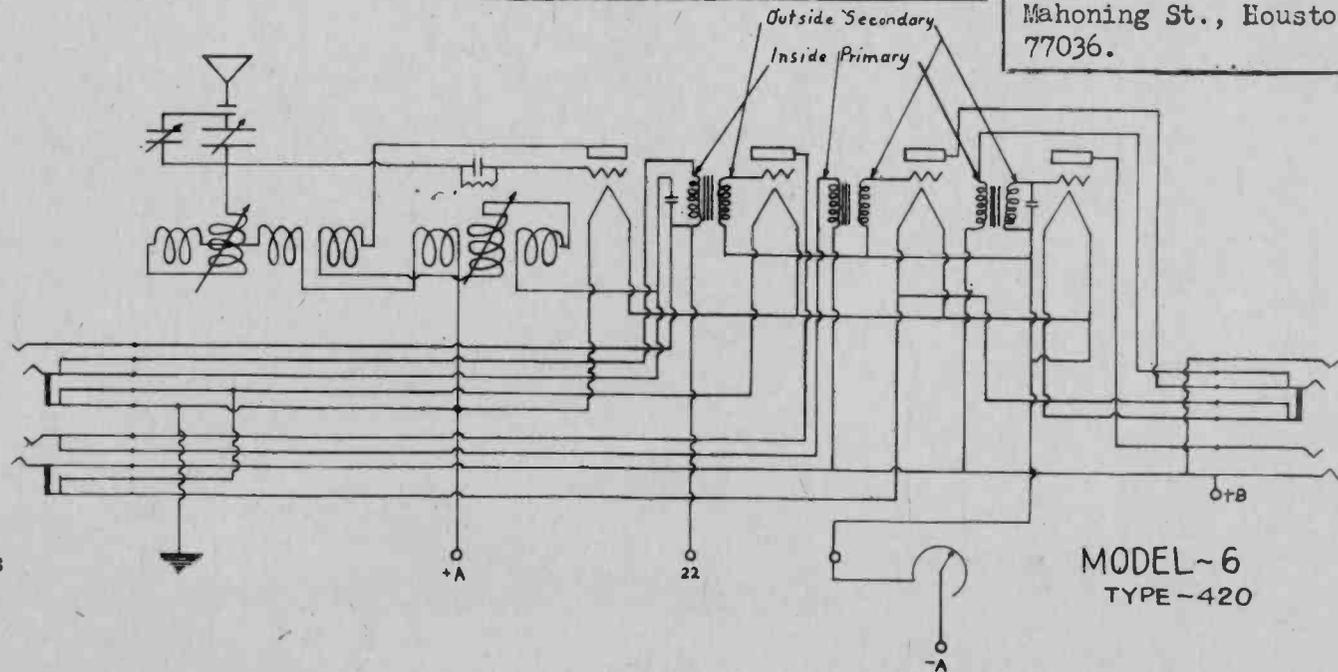
Reprint: A Popular History of American Invention, Waldemar Kaempffert, pages 462-463, A. L. Burt Company, New York, 1924.

**"KENNEDY" Model VI**  
continued from front page

The four jacks, which permit the operator to choose the stage he wants can be seen clearly in the accompanying schematic.

The features of the model VI can be summed up as having one dial tuning--one large dial for selecting the desired station, the other large one to control sound volume. One small knob is for filament strength control and the other small knob is provided for fine tuning.

This is a fun set for collectors. It is easy to display in operating condition almost anywhere an antenna is available. The batteries for it can be contained in its cabinet.



sages were received from Poldhu up to a distance of 1,551 miles, 'S's' and other test letters as far as 2,099 miles.

"The tape records of the signals are in my possession, and some of them are here exhibited to-night. The distances at which they were received are all verified and countersigned by the Captain and chief officer of the ship, who were present during the tests.

"A result of some scientific interest, which I first noticed during the tests on the Steamship Philadelphia, was the very marked effect of sunlight on the propagation of electric waves over great distances.

"At the time of these tests I was of the opinion that this effect might have been due to the loss of energy at the transmitter by daytime, caused by the dielectricity of the highly charged transmitting elevated conductor operated by the influence of sunlight. I am now inclined to believe that the absorption of electric waves during daytime is due to the ionization of the gaseous molecules of the air affected by ultra-violet light, and as the ultra-violet rays which ema-

only a comparatively short distance in other directions, and that, with aerials of moderate height, greater efficiency in a given direction can be obtained than can be obtained all round by means of the ordinary aerials.

"When this type of aerial was adopted at Glace Bay, a considerable strengthening of the received signals at Poldhu was noticed. It was, therefore, decided to adopt the directional aerial at all long-distance stations.

"A further improvement introduced at Clifden and Glace Bay consisted in the adoption of air condensers, composed of insulated metallic plates suspended in air at ordinary pressure. In this manner it is possible to prevent the dissipation of energy due to losses caused by the dielectric of the condensers previously employed, and a very appreciable economy in working, resulting from the absence of breakages of the dielectric, is effected. These air condensers, which have been in use since May of last year, have been entirely satisfactory.

THE DIRECTORY of Antique Radio Collectors will be available after January 1, 1973. Write to: James Fred, R. 1, Cutler, Ind. 46920 for details.

WE REPAIR, rebuild, restore antique radios and cabinets. Send description of equipment for free estimate. Bob Lucas, 9014 Mahoning St., Houston TX. 77036.

"After considerable time and expense the new station at Clifden was got ready for tests by the end of May, 1907, and experiments were then commenced with Glace Bay.

"The messages can now be transmitted across the Atlantic by day as well as by night, but there still exist certain periods, fortunately of short duration, when transmission across the Atlantic is difficult, and at times ineffective unless an amount of energy greater than that used during what I might call normal conditions is employed.

"Thus in the morning and evening, when, due to the difference in longitude, daylight or darkness extends only part of the way across the Atlantic, the received signals are weak and sometimes cease altogether.

"It would almost appear as if illuminated space possessed for electric waves a different refractive index to dark space, and that in consequence the electric waves may be refracted and reflected in passing from one medium to the other. It is, therefore, probable that these difficulties would not be experienced in telegraphing over equal distances from north or south, or vice versa, as in this case the passage from daylight to darkness would occur almost simultaneously in the whole of the medium between the two points.

"In the same manner a storm area in the path of the signals often brings about considerable weakening of the received waves, while if stormy conditions prevail all the way across the Atlantic no interference is noticeable. Electric wave shadows, like sound shadows, may be formed by the interference of reflected waves with the direct waves, whereby signals may be much less effective or imperceptible in the area of such electric wave shadow.

"In the same manner as there exist periods when signals across the Atlantic are unusually weak, there exist other conditions, especially at night, which make the signals abnormally strong. Thus on many occasions ships and stations equipped with apparatus of a normal range of 200 miles have been able to communicate over distances of over

## OLD RADIO PERSONALITIES

RADIO DIAL, July 18, 1935 and June 13, 1935

### Major's Youngest Amateur



A tough hombre from out West — West Norwich, Conn. — is five-year-old Eddie, seated on Major Bowes' knee. He's the youngest to perform on the Major's NBC Amateur Hour.

still a matter of conjecture, but in my opinion it rests a good deal on what the cables can do in the way of cheaper rates.

"Whatever may be the view as to its shortcomings and defects, there can be no doubt that wireless telegraphy across the Atlantic has come to stay, and will not only stay but continue to advance.

"Cable telegraphy across the Atlantic was subjected at the commencement to a series of discouraging failures and disappointments, but whatever its difficulties I think I am not unjust in saying that it enjoyed one advantage over wire-

## Fibber's Idea of a Joy Ride



Fibber McGee (Jim Jordan), tin-can tourist, steps on the gas on his stream-lined auto during the Fibber McGee and Molly program. The wash-boiler contraption constitutes the sound effects counterpart of a Tin-Lizzie.

## on the Air

Looks like we have another first. According to news received from the Society of Wireless Pioneers, Bulletin-32, Station KQW operated by Charles Herrold in San Jose is called the first broadcast station in the U. S. It went on the air in 1909 the source said.

The above information as well as displays about Dr. Lee deForest will be exhibited at the Space Science Center, Foothill College, Los Altos Hills, California. Ken Richardson, editors of the DeForest Pioneers, said that the museum will open in January 1973



## Victor I

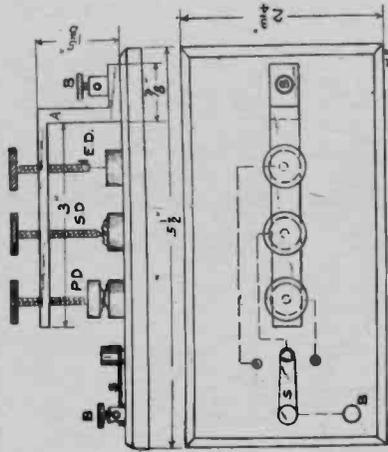
The Victor I advertised in 1909 at \$25.00 was a good buy. In the same year Victor sold phonographs from \$10.00 to \$250.00. The Victor V with an exalted horn was constructed of quartered oak and cost \$60.00. The Victor I is a favorite on which to play old disc records and savor the original recording style of Farrar's old records.

Sept. 1910

TRIPLE DETECTOR.

Here is a diagram of a detector with which I have had very good results. It is a Perikon silicon and electrolytic detector. I think the illustration will speak for itself.

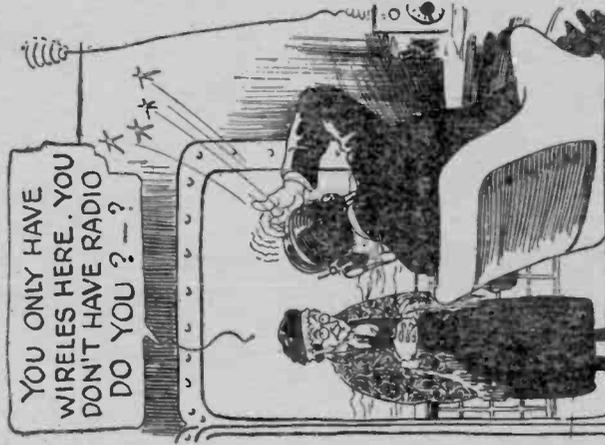
The materials needed are: A piece of



teries. One of the cups of the Perikon detector is soldered to the screw, while the other is screwed to the base. The silicon cup is fixed to the base. The minerals are soldered in.

The electrolytic cup is taken from the battery with the carbon left in. Then the carbon is cut off within 1/8-inch of the top of the cup and a 1/4-inch hole bored in. This is to contain the sulphuric acid. One inch of wollaston wire is then soldered into the screw. This can be bought at some mineral or electrical store. A 3-point switch is connected on the base so that you can use any detector you like.

Contributed by FRANK KOCH.



RADIO NEWS, November 1922

At the time "Wireless Telegraph Oddities" was published in the May 1908 issue of Modern Electrics David Sarnoff had been working for two years at the 2-year-old American Marconi Wireless Telegraph Company. The president of the company was James W. Griggs, formerly a governor of New Jersey. John Bottomly was general manager. Press messages sent by wireless across the Atlantic were 5 cents a word, priced in 1907. Ordinary messages cost 10 cents a word. Cable price was 25 cents a word.

less telegraphy, namely, that it was free from the natural hostility of vested interests representing over sixty millions sterling, now invested in cables, which rightly or wrongly consider long-distance telegraphy as menacing their interests.

"In seven years the useful range of wireless has increased from 200 to 2,500 miles. In view of that fact, he will be a bold prophet who will venture to affirm what may not be done in seven years more.

"Among many people there seems to be a rooted conviction that wireless telegraphy is not suitable for the handling of code or cipher messages. What ever gave rise to this idea I do not know, but I wish to emphasize that it is purely fictitious. Code messages can be sent just as well by wireless as by ordinary methods of telegraphy.

"I do not wish to claim that wireless telegraphy is infallible, and although errors do sometimes occur it is absolutely certain that, having regard to the London and Montreal service, most of the mistakes can be traced to the land line telegraph transmission between London and Chifden, and between Glace Bay and Montreal.

"I find, however, that probably the greatest ignorance prevails in regard to what is termed 'tapping,' or intercepting, wireless messages. No telegraph system is secret. The contents of every telegram are known to every operator who handles it.

"Nevertheless, there are penalties attached to the tapping of a telegraph wire, and it ought to be as well known that, since the passing of the Wireless Telegraphy act in England, there are penalties involved if any wireless stations are erected or worked without the consent of the Postmaster-General.

"In conclusion I may say that I am very confident that it is only a question of time, and not a very long time, before wireless telegraphy over great distances, possibly round the world, will become an indispensable aid to commerce and civilization."

*Paper read before the Royal Institution.*

Editor's Note -- The text of "Wireless Telegraph Oddities" was reprinted from the May 1908 issue of Modern Electrics.

correspond with another in the Mediterranean. But the important factor in wireless telegraphy is that a service be established for a certain distance which will be able to maintain reliable communication over that distance.

The erection of long-distance stations for the purpose of telegraphing across the Atlantic met at the outset with the severe criticism of a certain important section of the English technical press, which, although one would imagine it existed for the purpose of enlarging and promoting the progress of practical science and industry, always seemed more inclined to champion the particular interests of the cable companies.

"Without wishing to enter into any controversy on this point, I venture to predict that some of the statements published with reference to long-distance wireless telegraphy will make very amusing reading in a few years to come. "Long-distance stations are now in course of erection in many parts of the world, the most powerful of all being that of the Italian Government at Colono, and I have not the slightest doubt that telegraphy through space will soon be in a position of affording communication between distant countries at cheaper rates than can be obtained by any other means.

"As to the practicability of wireless telegraphy working over long distances such as that separating England from America, there is no longer need for any doubt. Although the stations have been worked for only a few hours daily, 119,000 words of press and commercial messages had been transmitted across the ocean by this means up to the end of February last, since the service was opened.

"The best judges of a service are those who have made use of it, and among newspapers the chief users have been the New York Times and the London Times, which have already publicly expressed their opinion of this new method of communication.

"Whether the new telegraphy will or will not injure or displace the cables is

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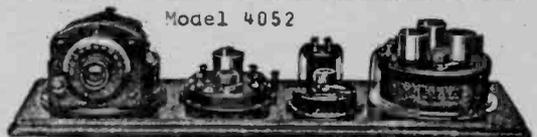
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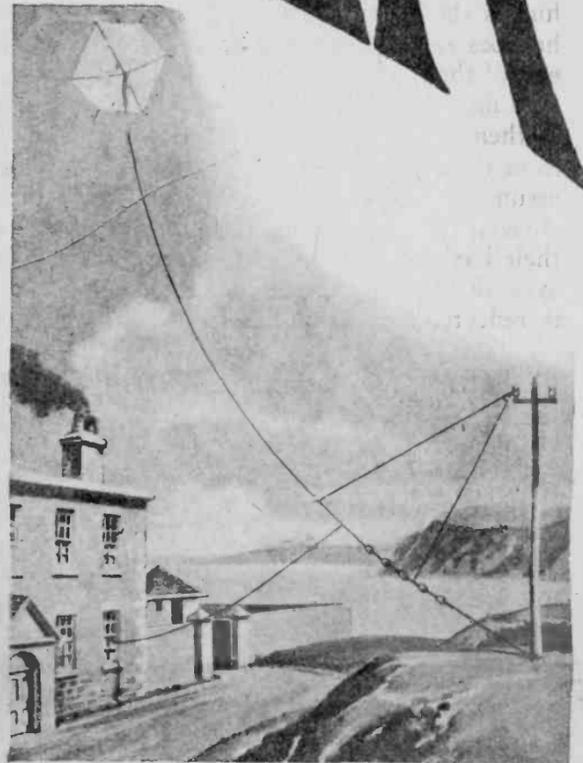
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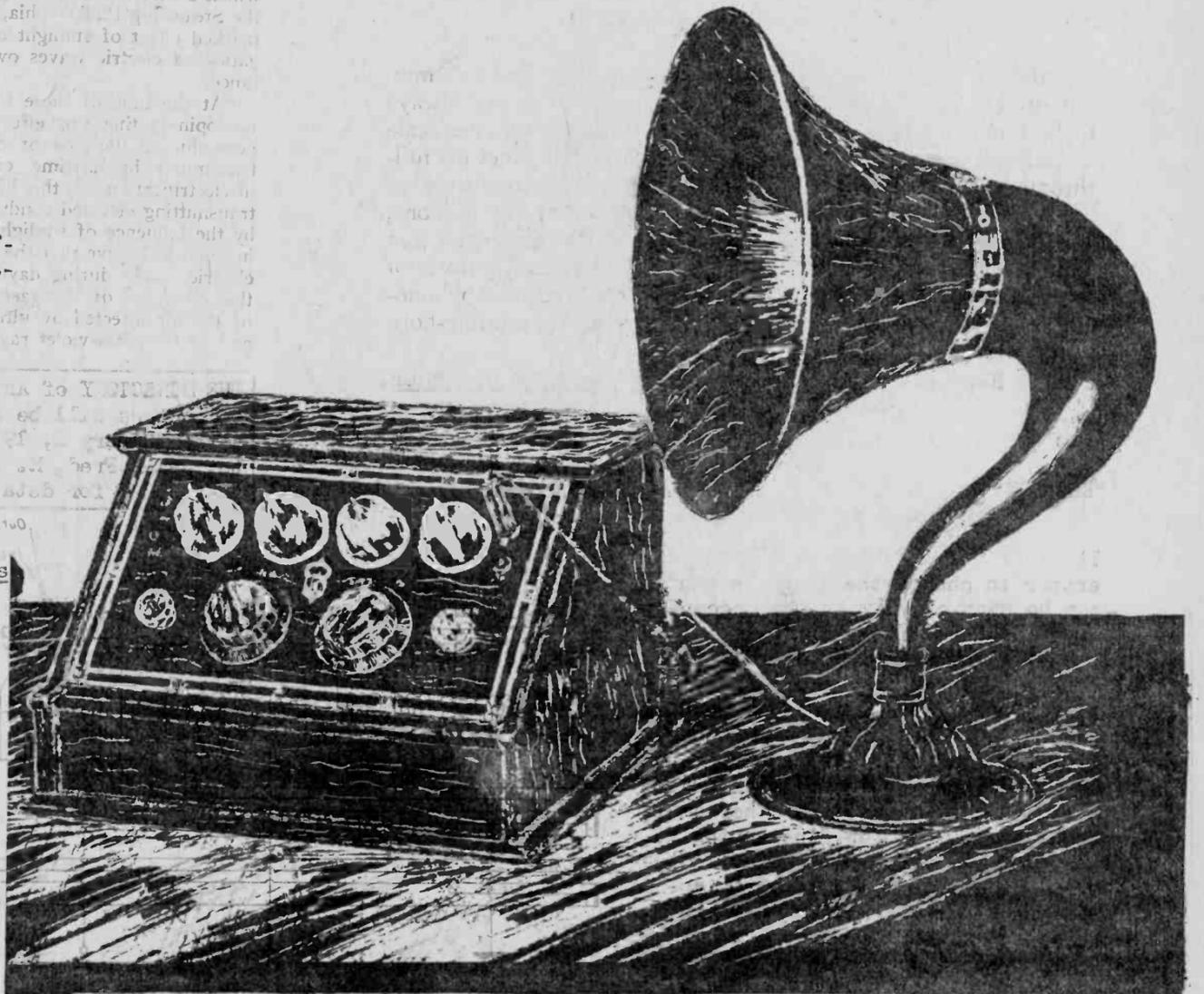
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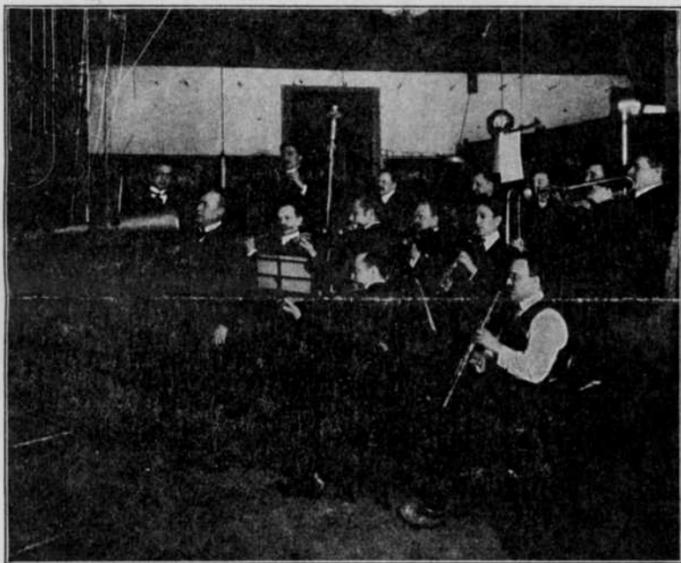
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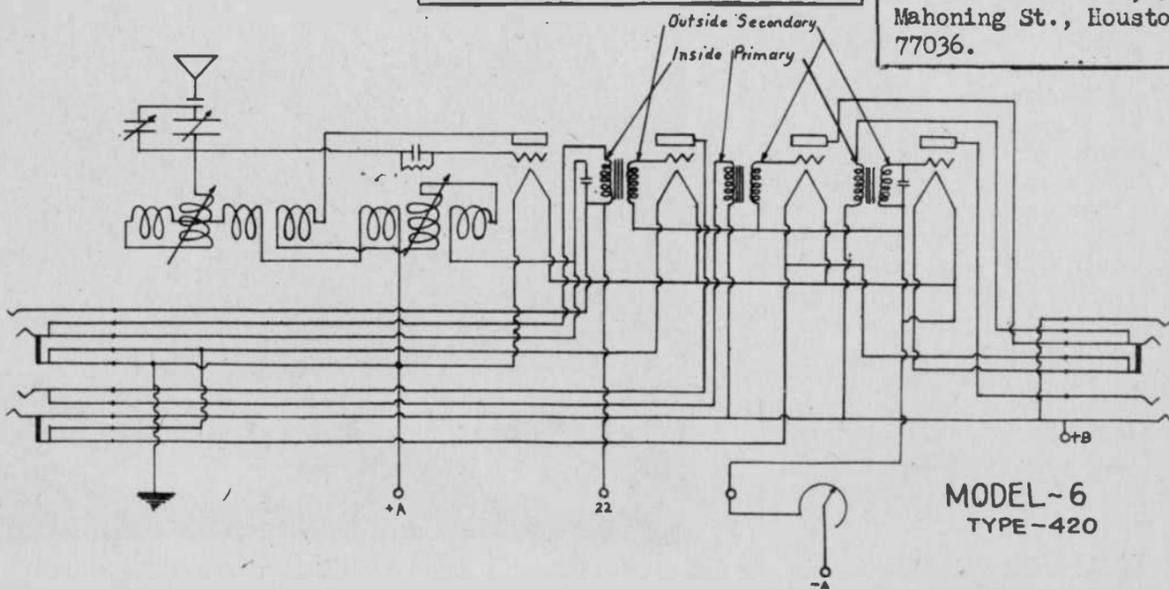
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## "KENNEDY" Model VI continued from front page

The four jacks, which permit the operator to choose the stage he wants can be seen clearly in the accompanying schematic.

The features of the model VI can be summed up as having one dial tuning—one large dial for selecting the desired station, the other large one to control sound volume. One small knob is for filament strength control and the other small knob is provided for fine tuning.

This is a fun set for collectors. It is easy to display in operating condition almost anywhere an antenna is available. The batteries for it can be contained in its cabinet.



## "WIRELESS ODDITIES"

"My assistants at Poldhu, in Cornwall, England, had received instructions to send on and after December 11, during certain hours every day, a succession of 'S's' followed by a short message, the whole to be transmitted at a certain prearranged speed every ten minutes, alternating with five minutes' rest.

"On December 12 the signals transmitted from Cornwall were clearly received at the prearranged times, in many cases a succession of 'S's' being heard distinctly, although, probably in consequence of the weakness of the signals and the constant variations in the height of the receiving aerial, no actual message could be deciphered.

"The following day we were able to confirm the result. The signals were actually read by myself and by my assistant, Mr. G. S. Kemp.

"The result obtained, although achieved with imperfect apparatus, was sufficient to convince me and my co-workers—that is, stations not dependent on kites or balloons for sustaining the elevated conductor—and by the employment of more power in the transmitters it would be possible to send messages across the Atlantic Ocean with the same facility with which they were being sent over much shorter distances.

"About two months later, in February, 1902, further tests were carried out between Poldhu and a receiving station on board the American liner Philadelphia en route from Southampton to New York. The sending apparatus at Poldhu was the same as that used for the Newfoundland experiments. The receiving aerial on the ship was fixed to the mainmast, the top of which was 60 meters (197 feet) above sea level.

"As the elevated conductor was fixed and not floating about with a kite, as in the case of the Newfoundland experiments, good results were obtained on a syntonie receiver, and the signals were all recorded on tape by the ordinary Morse recorder.

"On the Philadelphia readable messages were received from Poldhu up to a distance of 1,551 miles, 'S's' and other test letters as far as 2,099 miles.

"The tape records of the signals are in my possession, and some of them are here exhibited to-night. The distances at which they were received are all verified and countersigned by the Captain and chief officer of the ship, who were present during the tests.

"A result of some scientific interest, which I first noticed during the tests on the Steamship Philadelphia, was the very marked effect of sunlight on the propagation of electric waves over great distances.

"At the time of these tests I was of the opinion that this effect might have been due to the loss of energy at the transmitter by daytime, caused by the dielectricity of the highly charged transmitting elevated conductor operated by the influence of sunlight. I am now inclined to believe that the absorption of electric waves during daytime is due to the ionization of the gaseous molecules of the air affected by ultra-violet light, and as the ultra-violet rays which ema-

nate from the sun are largely absorbed in the upper atmosphere of the earth, it is probable that the portion of the earth's atmosphere which is facing the sun will contain more ions or electrons than that portion which is in darkness, and therefore, as Prof. J. J. Thomson has shown, this illuminated and ionized air will absorb some of the energy of the electric waves.

"The fact remains that clear sunlight and blue skies, though transparent to light, act as a kind of fog to powerful Hertzian waves. Hence the weather conditions prevailing in this country are usually suitable for long-distance wireless telegraphy.

"The operation of the long-distance stations in England and America made it possible to transmit messages to ships, whatever their position, between Europe and North America, and to the Cunard Company belong the credit of having greatly encouraged the long-distance tests, a circumstance which enabled them to commence, in June, 1904, the regular publication on their principal vessels of a daily newspaper, containing telegraphic messages of the latest news from Europe and America.

"This daily newspaper has now been adopted by nearly all the large liners plying to New York and the Mediterranean, and it obviously owes its entire existence to long-distance wireless telegraphy.

"In some of my earliest experiments in 1896 I used copper mirrors, by the aid of which it was possible to project a beam of electric radiation in a certain direction, but I soon found that this method would only work over short distances.

"About three years ago I again took up the subject, and was able to determine that by means of horizontal aerials, disposed in a particular manner, it was possible to confine the effects of electric waves mainly to certain directions as desired. True, the limitation of transmission to one direction is not very sharply defined, but it is nevertheless very useful.

"The practical result of this method has been so far that messages can be sent over considerable distances in the desired directions, while they travel over only a comparatively short distance in other directions, and that, with aerial of moderate height, greater efficiency in a given direction can be obtained than can be obtained all round by means of the ordinary aerials.

"When this type of aerial was adopted at Glace Bay, a considerable strengthening of the received signals at Poldhu was noticed. It was, therefore, decided to adopt the directional aerial at all long distance stations.

"A further improvement introduced at Clifden and Glace Bay consisted in the adoption of air condensers, composed of insulated metallic plates suspended in air at ordinary pressure. In this manner it is possible to prevent the dissipation of energy due to losses caused by the dielectric of the condensers previously employed, and a very appreciable economy in working, resulting from the absence of breakages of the dielectric, effected. These air condensers, which have been in use since May of last year have been entirely satisfactory.

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"After considerable time and expense the new station at Clifden was got ready for tests by the end of May, 1907, and experiments were then commenced with Glace Bay.

"The messages can now be transmitted across the Atlantic by day as well as by night, but there still exist certain periods, fortunately of short duration, when transmission across the Atlantic is difficult, and at times ineffective unless an amount of energy greater than that used during what I might call normal conditions is employed.

"Thus in the morning and evening, when, due to the difference in longitude, daylight or darkness extends only part of the way across the Atlantic, the received signals are weak and sometimes cease altogether.

"It would almost appear as if illuminated space possessed for electric waves a different refractive index to dark space, and that in consequence the electric waves may be refracted and reflected in passing from one medium to the other. It is, therefore, probable that these difficulties would not be experienced in telegraphing over equal distances from north or south, or vice versa, as in this case the passage from daylight to darkness would occur almost simultaneously in the whole of the medium between the two points.

"In the same manner a storm area in the path of the signals often brings about a considerable weakening of the received waves, while if stormy conditions prevail all the way across the Atlantic no interference is noticeable. Electric wave shadows, like sound shadows, may be formed by the interference of reflected waves with the direct waves, whereby signals may be much less effective or imperceptible in the area of such electric wave shadow.

"In the same manner as there exist periods when signals across the Atlantic are unusually weak, there exist other conditions, especially at night, which make the signals abnormally strong. Thus on many occasions ships and stations equipped with apparatus of a normal range of 200 miles have been able to communicate over distances of over 1,000. This occurred recently, when a ship in the English Channel was able to correspond with another in the Mediterranean. But the important factor about wireless telegraphy is that a service established for a certain distance shall be able to maintain reliable communication over that distance.

"The erection of long-distance stations for the purpose of telegraphing across the Atlantic met at the outset with the severe criticism of a certain important section of the English technical press, which, although one would imagine it existed for the purpose of encouraging and promoting the progress of electrical science and industry, always seemed more inclined to champion the particular interests of the cable companies.

"Without wishing to enter into any controversy on this point, I venture to predict that some of the statements published with reference to long-distance wireless telegraphy will make very amusing reading in a few years to come.

"Long-distance stations are now in course of erection in many parts of the world, the most powerful of all being that of the Italian Government at Coltano, and I have not the slightest doubt that telegraphy through space will soon be in a position of affording communication between distant countries at cheaper rates than can be obtained by any other means.

"As to the practicability of wireless telegraphy working over long distances such as that separating England from America, there is no longer need for any doubt. Although the stations have been worked for only a few hours daily, 119,945 words of press and commercial messages had been transmitted across the ocean by this means up to the end of February last, since the service was opened.

"The best judges of a service are those who have made use of it, and among newspapers the chief users have been the *New York Times* and the *London Times*, which have already publicly expressed their opinion of this new method of communication.

"Whether the new telegraphy will or will not injure or displace the cables is

## OLD RADIO PERSONALITIES

RADIO DIAL, July 18, 1935 and June 13, 1935

### Major's Youngest Amateur



A tough hombre from out West — West Norwich, Conn. — is five-year-old Eddie, seated on Major Bowes' knee. He's the youngest to perform on the Major's NBC Amateur Hour.

still a matter of conjecture, but in my opinion it rests a good deal on what the cables can do in the way of cheaper rates.

"Whatever may be the view as to its shortcomings and defects, there can be no doubt that wireless telegraphy across the Atlantic has come to stay, and will not only stay but continue to advance.

"Cable telegraphy across the Atlantic was subjected at the commencement to a series of discouraging failures and disappointments, but whatever its difficulties I think I am not unjust in saying that it enjoyed one advantage over wireless telegraphy, namely, that it was free from the natural hostility of vested interests representing over sixty millions sterling, now invested in cables, which rightly or wrongly consider long-distance telegraphy as menacing their interests.

"In seven years the useful range of wireless has increased from 200 to 2,500 miles. In view of that fact, he will be a bold prophet who will venture to affirm what may not be done in seven years more.

"Among many people there seems to be a rooted conviction that wireless telegraphy is not suitable for the handling of code or cipher messages. Whatever gave rise to this idea I do not know, but I wish to emphasize that it is purely fictitious. Code messages can be sent just as well by wireless as by ordinary methods of telegraphy.

"I do not wish to claim that wireless telegraphy is infallible, and although errors do sometimes occur it is absolutely certain that, having regard to the London and Montreal service, most of the mistakes can be traced to the land line telegraph transmission between London and Clifden, and between Glace Bay and Montreal.

"I find, however, that probably the greatest ignorance prevails in regard to what is termed 'tapping,' or intercepting, wireless messages. No telegraph system is secret. The contents of every telegram are known to every operator who handles it.

"Nevertheless, there are penalties attached to the tapping of a telegraph wire, and it ought to be as well known that, since the passing of the Wireless Telegraphy act in England, there are penalties involved if any wireless stations are erected or worked without the consent of the Postmaster-General.

"In conclusion I may say that I am very confident that it is only a question of time, and not a very long time, before wireless telegraphy over great distances, possibly round the world, will become an indispensable aid to commerce and civilization."

Paper read before the Royal Institution.

Editor's Note --The text of "Wireless Telegraph Oddities" was reprinted from the May 1908 issue of *Modern Electrics*.

## Fibber's Idea of a Joy Ride



Fibber McGee (Jim Jordan), tin-can tourist, steps on the gas on his stream-lined auto during the Fibber McGee and Molly program. The wash-boiler contraption constitutes the sound effects counterpart of a Tin-Lizzie.

## on the Air

Looks like we have another first. According to news received from the Society of Wireless Pioneers, Bulletin-32, Station KQW operated by Charles Herrold in San Jose is called the first broadcast station in the U. S. It went on the air in 1909 the source said.

The above information as well as displays about Dr. Lee deForest will be exhibited at the Space Science Center, Foothill College, Los Altos Hills, California. Ken Richardson, editors of the *DeForest Pioneers*, said that the museum will open in January 1973

### BUILD A 1910 RECEIVER from MODERN ELECTRICS,

#### TRIPLE DETECTOR.

Here is a diagram of a detector with which I have had very good results. It is a Perikon silicon and electrolytic detector. I think the illustration will speak for itself.

The materials needed are: A piece of

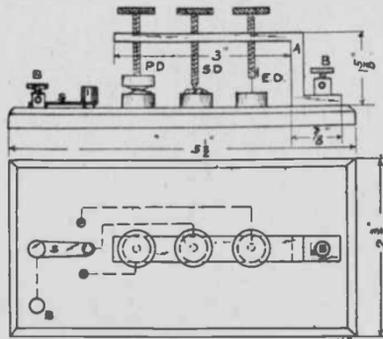
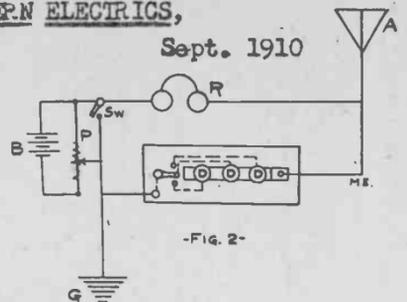


Fig. 1

brass 3-16 inch thick by 1/2 inch wide by 7 inches long. Base is 7 x 3 x 1/2. Three brass screws 2 inches long by 1/8 inch thick with hard rubber of fibre heads. Brass cups taken from "Ever-ready" bat-



Sept. 1910

Fig. 2

teries. One of the cups of the Perikon detector is soldered to the screw, while the other is screwed to the base. The silicon cup is fixed to the base. The minerals are soldered in.

The electrolytic cup is taken from the battery with the carbon left in. Then the carbon is cut off within 1/8-inch of the top of the cup and a 1/4-inch hole bored in. This is to contain the sulphuric acid. One inch of wollaston wire is then soldered into the screw. This can be bought at some mineral or electrical store. A 3-point switch is connected on the base so that you can use any detector you like.

Contributed by FRANK KOCH.

At the time "Wireless Telegraph Oddities" was published in the May 1908 issue of *Modern Electrics* David Sarnoff had been working for two years at the 9-year-old American Marconi Wireless Telegraph Company. The president of the company was James W. Griggs, formerly a governor of New Jersey. John Bottomly was general manager. Press messages sent by wireless across the Atlantic were 5 cents a word, priced in 1907. Ordinary messages cost 10 cents a words. Cable price was 25 cents a word.





## Victor I

The Victor I advertised in 1909 at \$25.00 was a good buy. In the same year Victor sold phonographs from \$10.00 to \$250.00. The Victor V with an exalted horn was constructed of quartered oak and cost \$60.00. The Victor I is a favorite on which to play old disc records and savor the original recording style of Farrar's old records.

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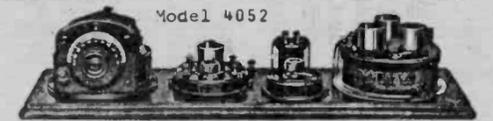
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