

DIGEST OF UNITED STATES PATENTS RELATING TO RADIO TELEGRAPHY AND TELEPHONY*

GRANTED JANUARY 4, 1921—FEBRUARY 15, 1921

BY

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The object of this section of the PROCEEDINGS OF THE INSTITUTE OF RADIO ENGINEERS is to make available in convenient form for research engineers and others interested, brief information on the radio patents which are granted each week by the Patent Office. The rapid developments in this art emphasize the importance of radio research engineers being familiar with patent literature in order to eliminate as far as possible the duplication of research effort. It is not the purpose of this section to explain radio inventions fully, but merely to indicate the general nature of the patents in order that those of particular interest to individuals concerned with current problems may be selected, and copies of the patents obtained for complete study. Copies of the complete patents may be obtained at ten cents each by addressing the Commissioner of Patents at Washington, D. C.

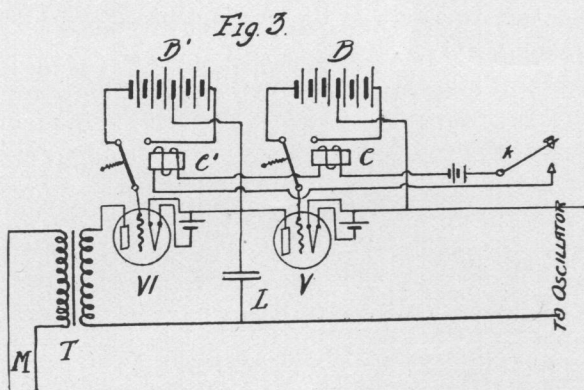
1,364,495—Henry Joseph Round, of London, and William Theodore Ditchman, of Twickenham, England, Assignors to Radio Corporation of America, of New York, N. Y., a corporation of Delaware.

Wireless Telegraph-Transmitter—Patented January 4, 1921.

This invention shows a circuit wherein current from an alternating source M is rectified and then smoothed out by a condenser L and utilized as a source of direct current for a valve oscillator. In the diagram, the grids of the tubes V and V' are connected to the armatures of two relays C and C' arranged in circuit with a key K , the opening and closing of which causes the

* Received by the Editor, March 3, 1921. While great care has been taken in the preparation of these Digests, THE INSTITUTE OF RADIO ENGINEERS assumes no responsibility for their correctness or completeness, or for possible omissions of particular patents.—EDITOR.

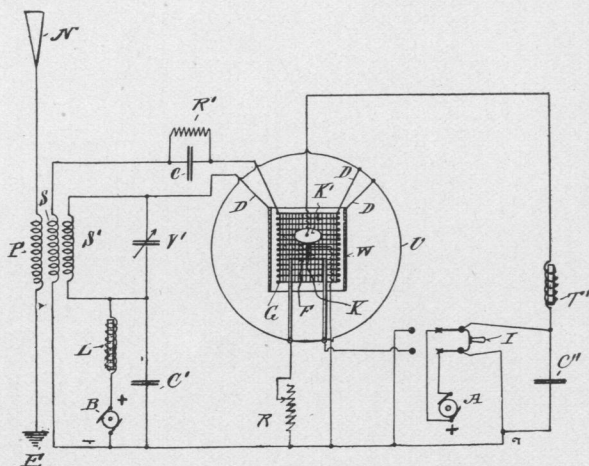
energization of the relays, whereby the grids of the two tubes are simultaneously connected to corresponding ends of batteries B B' and are thereby made positive and negative with respect to the filaments whereby the circuits on the two sides of condenser L are opened and closed.



NUMBER 1,364,495—Wireless Telegraph Transmitter

1,365,157—Lee de Forest, of New York, N. Y., Assignor to de Forest Radio Telephone and Telegraph Company, of New York., a corporation of Delaware.

Apparatus for Use in Telegraphy or Telephony—Patented January 11, 1921.



NUMBER 1,365,157—Apparatus for Use in Telegraphy or Telephony

This invention pertains to a construction of audion in which an electric arc replaces the usual filament electrode.

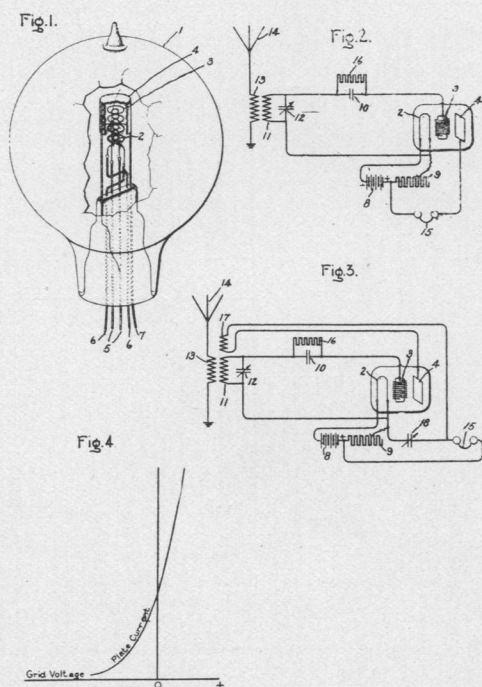
1,365,292—Philip Thomas, of Edgewood Park, Pennsylvania, Assignor to Westinghouse Electric and Manufacturing Co., a corporation of Pennsylvania.

Method of Making Condensers—Patented January, 11, 1921.

This patent covers a method of impregnating condensers. The process comprises immersing the condensers in a solution of benzol and Montan wax, removing them after impregnation, immersing the condensers in a bath of commercially pure Montan wax at about 160 degrees C., then removing the condensers, and subjecting them to pressure in a cold press.

1,365,576—William C. White, of Schenectady, New York, Assignor to General Electric Company, a corporation of New York.

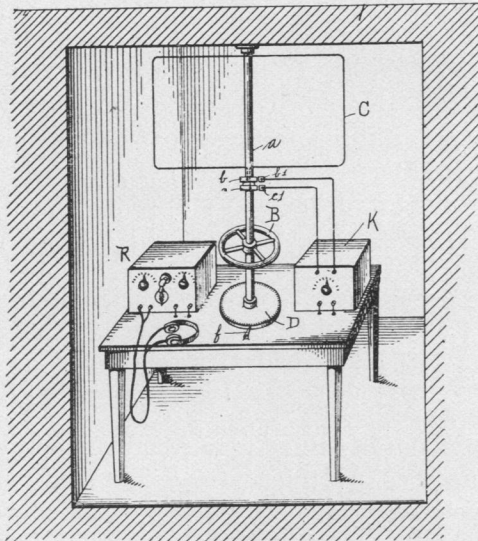
Radio-receiving System—Patented January 11, 1921.



NUMBER 1,365,576—Radio-Receiving System

This patent shows an electron discharge tube for which a single battery is employed to function as a supply for the cathode anode circuit, the filament heating source, and also as a source between the cathode and grid for adjusting the normal potential of the grid. The construction of the tube is such that the cathode and grid are separated by as small a distance as possible and the anode spaced from the grid by a distance which may be slightly greater than the spacing between cathode and grid but which will in any case be very small.

1,365,579—Thomas Appleby and Lloyd M. Knoll, of Philadelphia, Pennsylvania, Assignors of one-third to Cornelius D. Ehret, of Philadelphia, Pennsylvania.
Radio apparatus—Patented January 11, 1921.

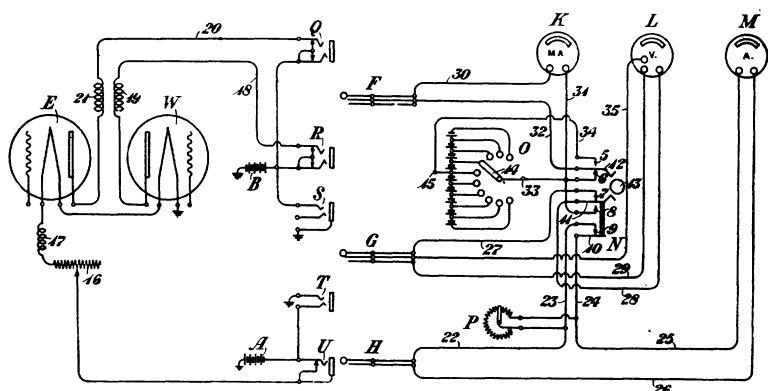


NUMBER 1,365,579—Radio Apparatus

This patent shows a rotary loop antenna arranged underground and shielded to reduce distortional effects. Other figures of the patent show arrangements of shielded loops for multiplex operation.

1,365,734—Samuel P. Shackleton, of New York, N. Y., Assignor to American Telephone and Telegraph Company, a corporation of New York.

Electron-Tube-Testing Circuits—Patented January 18, 1921.



NUMBER 1,365,734—Electron-Tube-Testing Circuits

This patent pertains to a testing apparatus for vacuum tubes to determine expeditiously whether or not the tube is operating within certain prescribed limits.

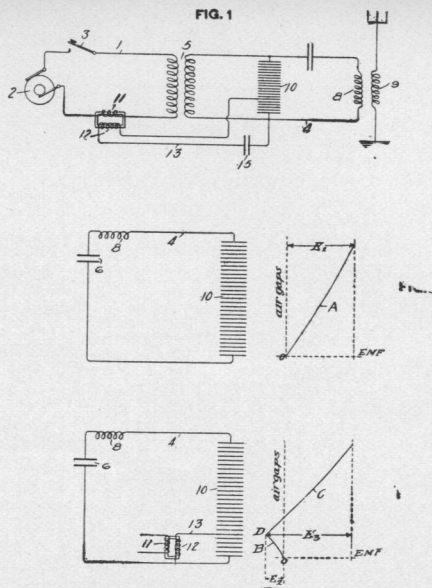
1,365,787—Fred H. Kroger, of Brooklyn, New York, Assignor by Mesne Assignments, to International Radio Telegraph Company, a corporation of Delaware.

Method and Apparatus for Wireless Signaling—Patented January 18, 1921.

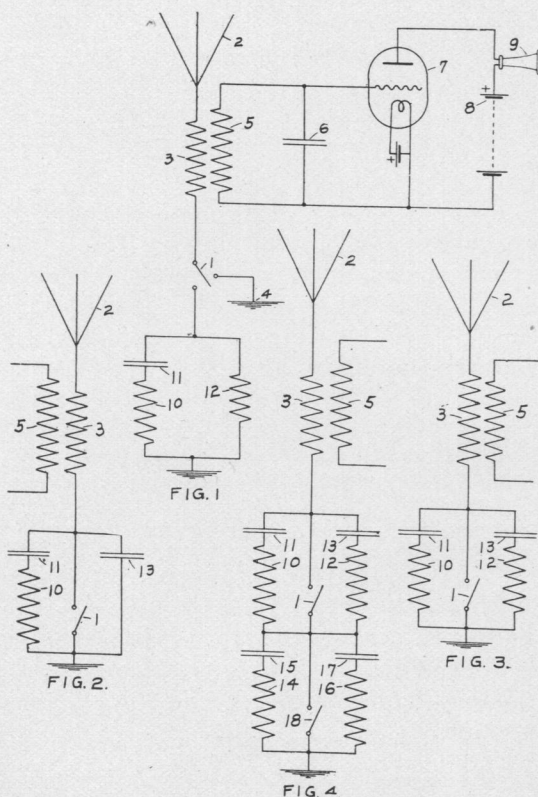
The object of this invention is to secure a more perfect tone control of a quenched gap transmitter. The transmitter circuit is arranged as shown in the diagram with a step-up transformer having its primary winding 11 in the power circuits and its secondary 12 in a control circuit 13 connected across part of the gap. The function of the auxiliary circuit is to impress on the gap an audio frequency impulse at a definite instant in each half cycle of the normal voltage whereby the gap breaks down at regular intervals.

1,365,926—Tyng M. Libby, of Tacoma, Washington, Assignor to Henry G. Cordes, of Bremertown, Washington.

Radio Interference Preventer—Patented January 18, 1921.



NUMBER 1,365,787—Method and Apparatus
for Wireless Signaling

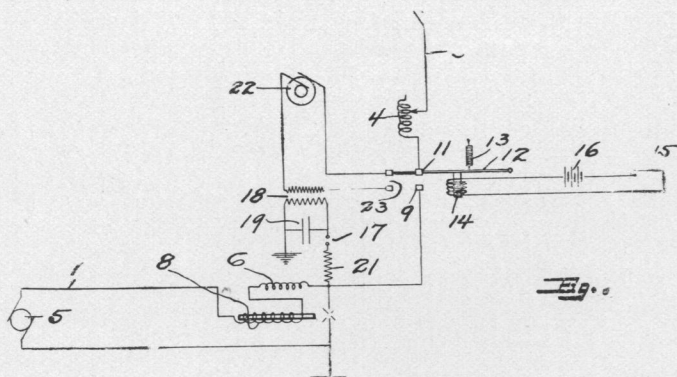


NUMBER 1,365,926—Radio Interference Preventer

This invention relates to a receiving circuit so arranged that interfering signals can be counteracted and signals of a desired frequency received.

1,365,977—Leonard F. Fuller, of San Francisco, California, Assignor, by Mesne Assignments, to the United States of America.

Radiotelegraphy—Patented January 18, 1921.



NUMBER 1,365,977—Radiotelegraphy

This patent relates to an arc signaling system. The antenna circuit is opened and closed in accordance with signal characters to be transmitted. The arc is extinguished each time that the antenna circuit is opened, but re-ignited upon the closing of the antenna circuit by energy from an auxiliary source 22.

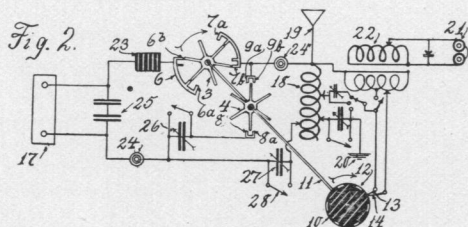
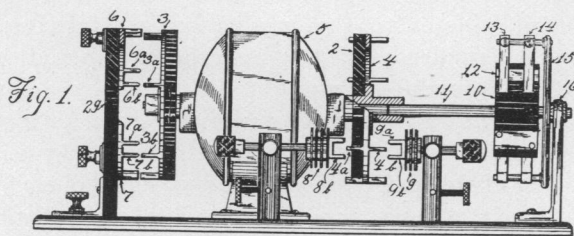
1,366,160—August J. Kloneck, of New York, N.Y.

Rotary Spark-Gap—Patented January 18, 1921.

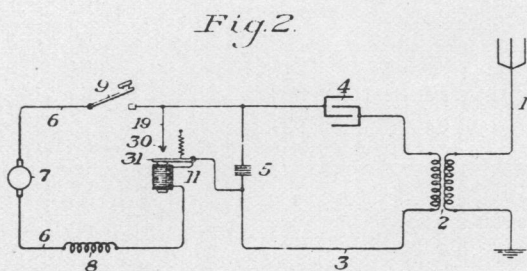
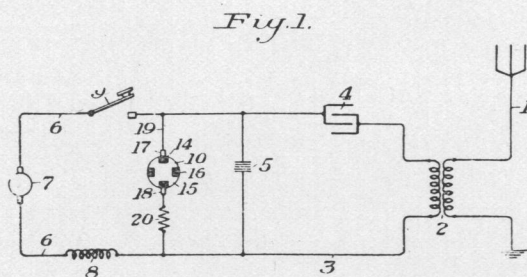
This patent concerns a particular circuit arrangement for a rotary spark-gap radio transmitter.

1,366,311—Fulton Cutting, of Tuxedo Park, New York, and Bowden Washington, of Cambridge, Massachusetts.

Production of High-Frequency Oscillations—Patented January 18, 1921.



NUMBER 1,366,160—Rotary Spark-Gap



NUMBER 1,366,311—Production of High-Frequency Oscillations

This patent relates to the production of high frequency oscillations by periodically exciting a discharge gap and condenser circuit so as to produce groups of radio frequency oscillations. The circuit includes a condenser, a supply circuit, a discharge gap for the condenser, of for example the Chaffee type, and a make and break which operates at an audible frequency when the oscillations are being produced to short circuit the gap periodically, whereby the radio frequency oscillations have a group frequency corresponding to that of the make and break device.

1,366,411—Alexander McLean Nicolson, of New York, N. Y., Assignor to Western Electric Comapny, Incorporated, of New York, N. Y., a corporation of New York.

Thermionic Translating Device—Patented January 25, 1921

Fig. 1

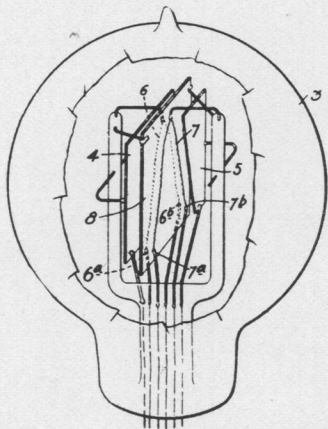
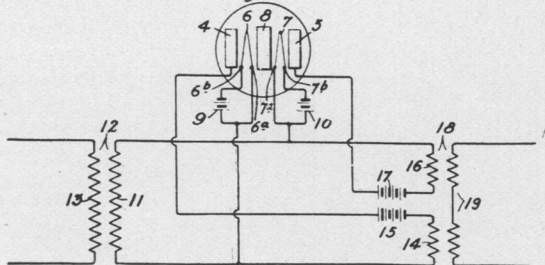


Fig. 2.

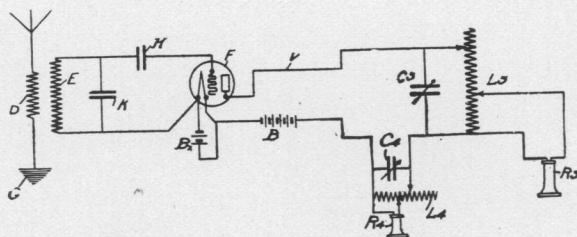


NUMBER 1,366,411—Thermionic Translating Device

This patent shows a vacuum tube comprising two cathodes. a dielectric sheet of mica separating the cathodes and an anode, adjacent to each of the cathodes. The tube is arranged in circuit in such manner that one cathode always serves as a control electrode for the electron flow from the other cathode.

1,366,830—Frederick E. Pernot, of Berkeley, California, Assignor of one-third to George Lothaine Greves, of Berkeley, California.

Frequency-Selecting Receiving-Circuit—Patented January 25, 1921.



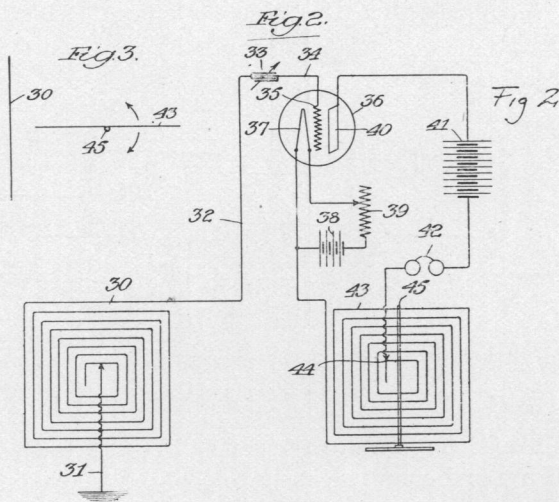
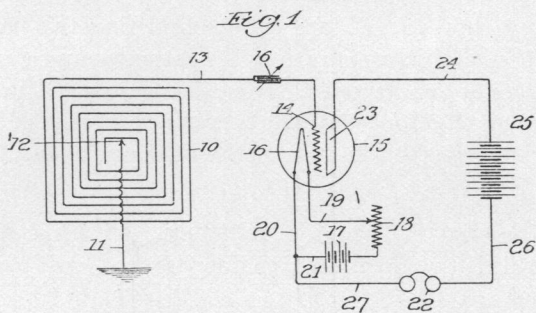
NUMBER 1,366,830—Frequency-Selecting Receiving Circuit

This invention relates to a receiving circuit arranged to segregate and respond simultaneously to separate signal impulses of different group frequencies. The circuit is shown in the accompanying diagram wherein two operators receive simultaneously signals of different group frequencies, one by means of circuit $C_3L_3R_3$ and the other by aid of circuit $C_4L_4R_4$. Each receiver circuit is sensitive to one group frequency only.

1,366,953—Henry K. Sandell, of Chicago, Illinois, Assignor to Herbert S. Mills, of Chicago, Illinois.

Radio Receiving Apparatus—Patented February 1, 1921.

A form of receiving circuit is shown in this patent. A grounded loop antenna 30 is employed connected at the other end with the grid of a vacuum tube. In another form a second loop antenna in proximity to the first grounded antenna is connected in the plate circuit and arranged for angular adjustment relative to the first loop.



NUMBER 1,366,953—Radio-Receiving Apparatus

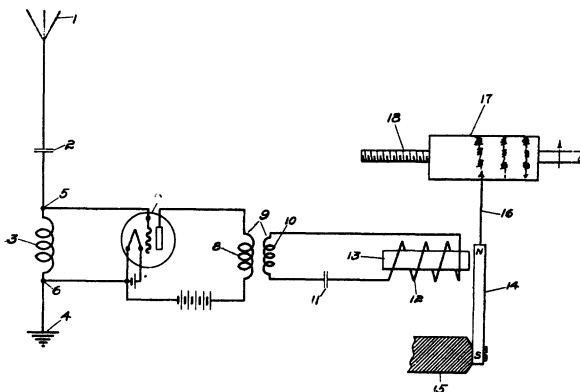
1,367,165—Haraden Pratt, of San Francisco, California.

Radio Telegraphic Receiving System—Patented February 1, 1921.

This patentee claims a receiving system having a tuned circuit containing an electromagnet with armature mechanically tuned and adapted to vibrate in synchronism with the radio frequency energy received by the antenna system. The armature is shown associated with tracing arm of an inking recorder.

1,367,224—Harold de Forest Arnold, of East Orange, New Jersey, Assignor to Western Electric Company, Incorporated, of New York, N. Y., a corporation of New York.

Radio-Receiving System—Patented February 1, 1921.



NUMBER 1,367,165—Radio Telegraphic Receiving System

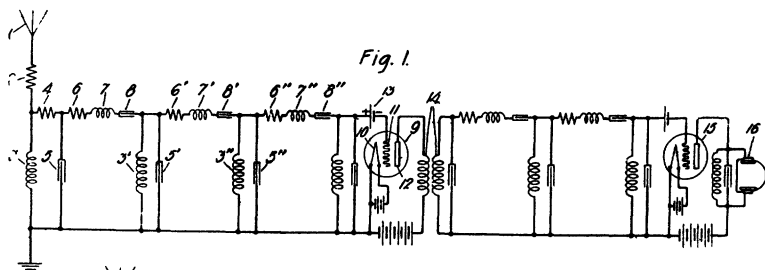
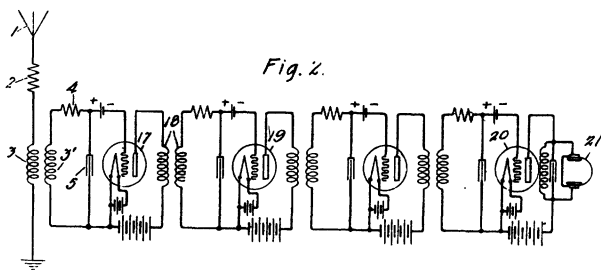


Fig. 2.



NUMBER 1,367,224—Radio-Receiving System

This invention pertains to a highly damped receiving circuit selectively responsive to signal oscillations of a given frequency. The circuit includes an antenna system, and a chain of resonant circuits coupled to the antenna, each circuit of the chain being rendered aperiodic by damping.

1,368,584—Samuel S. Torrissi, of Philadelphia, Pennsylvania.
Cathode for Audions—Patented February 15, 1921.

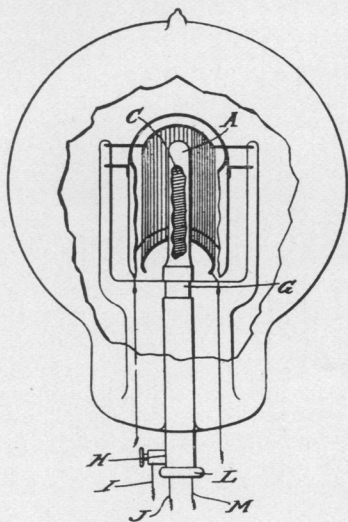


Fig. 1

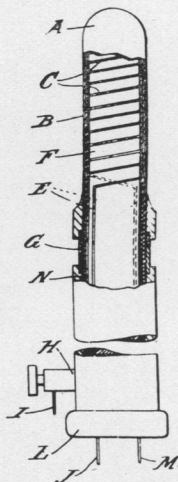


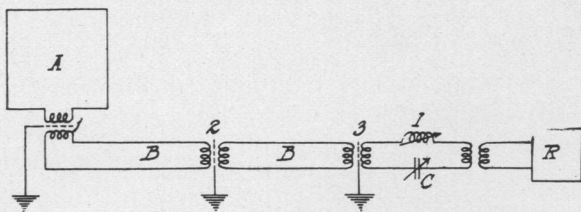
Fig. 2

NUMBER 1,368,584—Cathode for Audions

This patent shows a construction of vacuum tube designed to eliminate the filamentary cathode. The cathode is formed of a heating coil wound upon a removable rod and enclosed within a cathode tube which forms the electron emitting element.

1,368,622—Charles Samuel Franklin, of Buckhurst Hill, England, Assignor to Radio Corporation of America, a corporation of Delaware.

Aerial System Employed in Wireless Telegraphy and Telephony—Patented February 15, 1921.

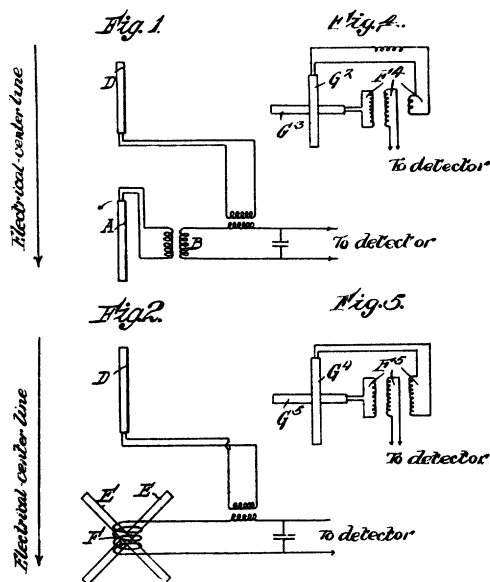


NUMBER 1,368,622—Aerial System Employed in Wireless Telegraphy and Telephony

This invention pertains to a system for loop radio reception.

1,368,657—Henry Joseph Round, of Muswell Hill, London, England, Assignor to Radio Corporation of America, of New York, N. Y., a corporation of Delaware.

Wireless Direction-Finder—Patented February 15, 1921.



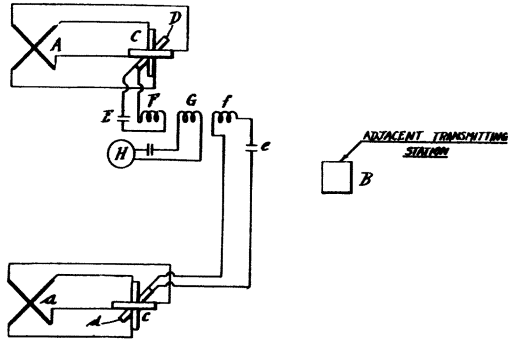
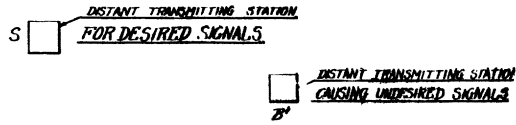
NUMBER 1,368,657—Wireless Direction-Finder

This invention relates to the reduction of error in direction-finder readings where the receiving direction-finder antenna is surrounded by interfering metallic structures such as parts of a ship or aeroplane. The effect of these structures is compensated to give the true direction of signals.

Reissue 15,040—Charles S. Franklin, of London, England, Assignor, by Mesne Assignments, to Radio Corporation of America, a corporation of Delaware.

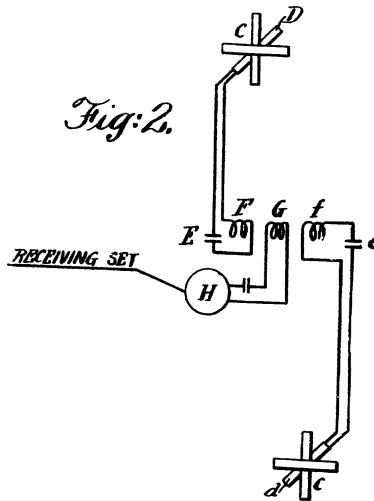
Aerial Conductor for Wireless Telegraphy—Reissued February 15, 1921.

This patent relates to a receiving circuit for duplex operation in conjunction with an adjacent transmitter. The circuits are based on the principle that antennas of two loops placed at right angles to each other and used in connection with a radio-goniometer can receive best from any two opposite directions and eliminate signals from any two opposite directions at right angles to the first.



REISSUE NUMBER 15,040—Aerial Conductor for Wireless Telegraphy

Reissue 15,041—Charles S. Franklin, of London, England, Assignor, by Mesne Assignments, to Radio Corporation of America, a corporation of Delaware.
Aerial Conductor for Wireless Telegraphy—Reissued February 15, 1921.



REISSUE NUMBER 15,041—Aerial Conductor for Wireless Telegraphy

This patent relates to an antenna system for a receiving station adapted to operate in conjunction with an adjacent transmitting station for duplex radio telegraphy.