

No. 867,895.

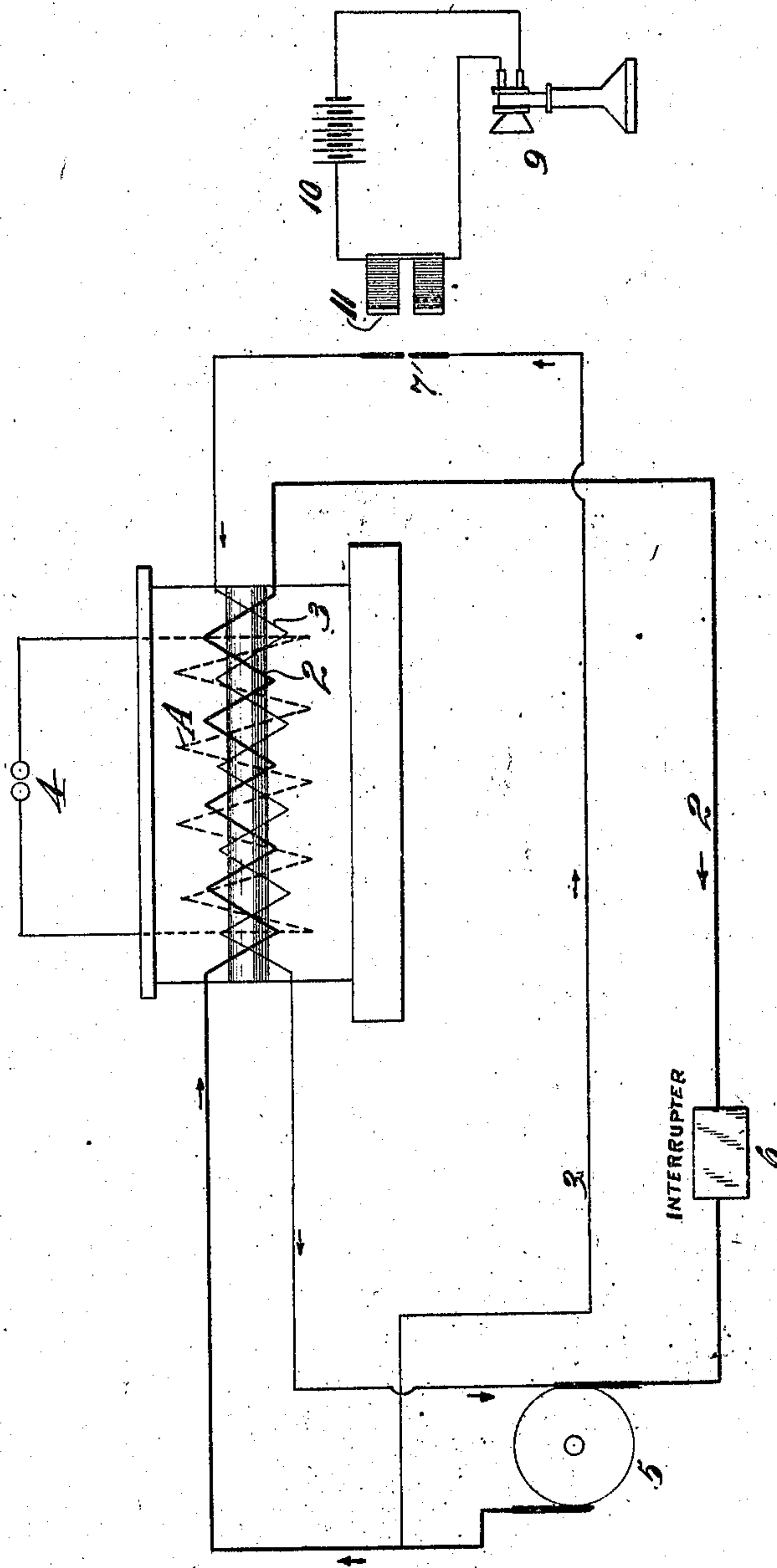
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F. J. McCARTY, DEC'D.

H. A. McCARTY, ADMINISTRATOR.

WIRELESS TRANSMISSION OF SONOROUS VIBRATIONS.

APPLICATION FILED SEPT. 20, 1906.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY A. McCARTY, OF SAN FRANCISCO, CALIFORNIA, ADMINISTRATOR OF FRANCIS JOSEPH McCARTY, DECEASED, ASSIGNOR TO McCARTY WIRELESS TELEPHONE CO., OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF CALIFORNIA.

WIRELESS TRANSMISSION OF SONOROUS VIBRATIONS.

No. 867,895.

Specification of Letters Patent.

Patented Oct. 8, 1907.

Application filed September 20, 1906. Serial No. 335,396.

To all whom it may concern:

Be it known that FRANCIS JOSEPH McCARTY, deceased, formerly a citizen of the United States, residing in the city and county of San Francisco, State of California, invented new and useful Improvements in Wireless Transmission of Sonorous Vibrations, of which the following is a specification.

This invention relates to an apparatus by which sonorous vibrations may be transmitted without the aid of wires or other mechanical intermediate connections between the stations.

It consists in the combination of devices, and in details of construction which will be more fully explained by reference to the accompanying drawings, in which— the figure is a diagrammatic view illustrating the invention.

In this invention an induction coil is employed having a secondary winding A, and two primary windings 2 and 3. The secondary coil is connected in the usual manner to the two sides of a spark gap 4.

5 is a suitable source of electrical energy, and one of the primary coils 2 is put in series with this source of electrical energy, and the current while flowing through this primary, is continually varied by an interrupter as indicated at 6. The other primary 3 is connected in series with the same source of electrical energy, in such a manner that the current through this primary coil is made to flow in the opposite direction to the previously described current in the primary 2.

An arc light 7 is introduced in series in the primary 3, and the current flowing through this primary in series with the arc light being a continuous one, generates an unvaried magnetic field which, owing to its steadiness, neutralizes the variations of the magnetic field of the primary 2 which are caused by the interrupter 6; and consequently no discharge takes place at the spark gap 4.

In order to cause discharges which will approximate the variations in the human voice, the variations of the current in the circuit 3, which is in series with the arc light, is effected by means of a telephone transmitter 9 which is connected through batteries 10 to an electro magnet 11. This magnet is energized by the impulses created by the voice acting through the diaphragm of the transmitter, and the magnet is placed in close proximity to the arc light. The lines of force thus generated through the magnet influence the arc so that the current flowing through the circuit 3 and the arc, are varied in unison with the variations induced through the transmitter and its connections. The primary 3, which is in series with the arc light, is now also varied, and as the steadiness of this current on

which the neutralization of the magnetic field of the other primary depended, is now varied, similar vibrations will immediately occur in the magnetic field of the primary 2, and the discharges through the spark gap will be varied by the impulses of the human voice energizing the electro magnet, and through it producing variations in the arc light and in the circuit in which it is located.

Having thus described the invention, what is claimed and desired to secure by Letters Patent is—

1. In apparatus for transmitting sonorous vibrations, primary coils, a secondary coil with connected spark gap device, a source of electrical energy with which the primaries are connected, and means whereby the passing electrical currents are independently varied.

2. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil and spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary and means to independently vary the current flowing through the other primary.

3. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil and spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary, an arc light located in the circuit of the second primary, and means whereby the impulses created by sonorous vibrations act to independently vary the vibrations in the second primary circuit.

4. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a secondary coil energized thereby and having a spark gap device, a source of electrical energy with which the primaries are connected, an interrupter disposed in the circuit of one primary, an arc light located in the circuit of the second primary, a magnet contiguous to the arc, a telephone transmitter and electrically energized connection between the transmitter and the magnet.

5. In an apparatus for the transmission of sonorous vibrations, a plurality of primary coils, a secondary coil with spark gap device and energized by the primary coils, a source of electrical energy, connections whereby an electrical current flows in opposite directions through the two primaries, an interrupter disposed in the circuit of one primary, an arc light in the circuit of the other primary, a telephone transmitter and an electrically energized magnet with which the transmitter is connected, said magnet being located in close proximity with the arc light.

6. In an apparatus for transmitting sonorous vibrations, a plurality of primary coils, a source of electrical energy from which currents are transmitted through the coils in opposite directions, a secondary coil having a spark gap device and energized by the two primaries, an interrupter in one primary circuit, an arc light located in the other primary circuit, said circuit normally neutralizing the magnetic field of the interrupted circuit.

7. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, and a secondary coil and spark gap device energized by said primaries, an interrupter disposed in the circuit of

one primary, and controlled means for varying the current of the other primary.

8. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, a secondary coil and spark gap device energized by said primaries, an interrupter disposed in the circuit of one primary and vocally controlled means for varying the current of the other primary.

9. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, two contiguous primary coils in which electrical currents flow in opposite directions, an induction coil with a spark gap, said coil being energized by the primaries, an interrupter disposed in one of the primary circuits, an arc light within the other primary circuit, an electro magnet located contiguous to the arc, a battery and a telephone transmitter in circuit with the electro-magnet.

10. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, an electrically energized primary coil, having an interrupter disposed in its circuit, a second primary coil contiguous to the first, and having an electric current passing through it in opposite direction from that of the first primary, whereby the magnetic field of the first primary is neutralized, an arc light located in said second primary circuit, an electro

magnet contiguous to the arc, and a telephone transmitter and battery in circuit with the electro magnet.

11. In an apparatus for transmitting sonorous vibrations, a source of electrical energy, a secondary coil having a spark gap device in circuit, an electrically energized primary coil with an interrupter in circuit, means to normally neutralize the magnetic field of the primary, and a telephone transmitter and connections whereby the spark gap discharges are varied.

12. In an apparatus for transmitting sonorous vibrations, a secondary coil with spark gap device in circuit, an electrically energized primary coil and interrupter, means for neutralizing the magnetic field of said coil, a telephone transmitter and connections whereby the spark gap discharges will be varied by vocal impulses through the transmitter.

In testimony whereof I, HENRY A. McCARTY, administrator of the estate of Francis Joseph McCarty, deceased, have hereunto set my hand in the presence of two subscribing witnesses.

HENRY A. McCARTY,
Administrator of the estate of Francis Joseph McCarty,
deceased.

Witnesses:

S. H. NORRIS,
JESSIE C. BRODIE.