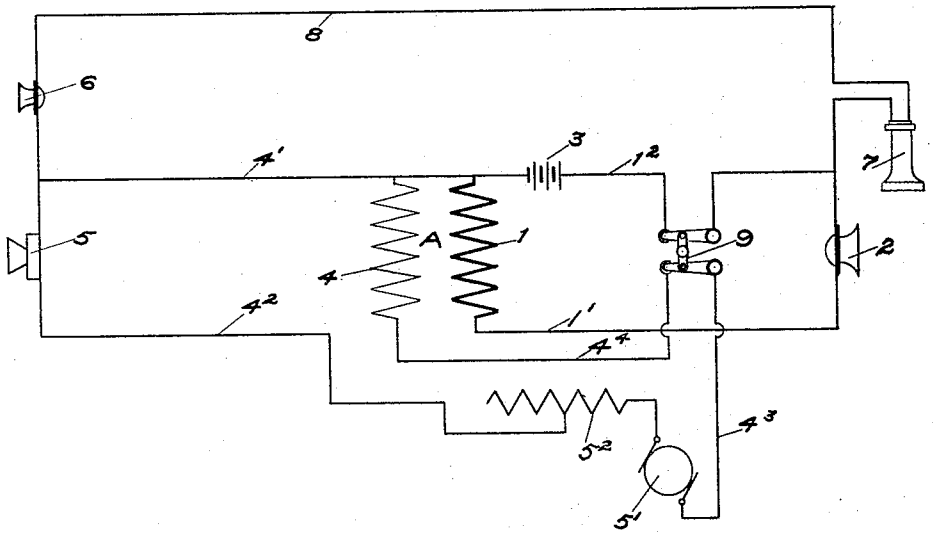
C. F. JONES.

TELEPHONE SYSTEM.

APPLICATION FILED JAN. 12, 1915.

1,177,776. Patented Apr. 4, 1916.



WITNESSES:

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TELEPHONE SYSTEM.

1,177,776. Specification of Letters Patent. Patented Apr. 4, 1916.

Application filed January 12, 1915. Serial No. 1,772.

To all whom it may concern:

Be it known that I, CHARLES F. JONES, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Telephone Systems, of which the following is a specification.

The present invention relates to a form of telephone system of the loud speaking type and by the use of which a clear articulation and an increased sound volume may be obtained.

The invention is particularly adapted for use in club rooms, hotels or the like, to supplant the paging system where the same is now employed, and is designed to announce at one or more points, with clear articulation and great volume, sounds from a single main sending station, and is provided adjacent to each annunciating means with a sending station or transmitter which enables the person called to quickly communicate with the main sending station.

The invention consists in a device of the above type in which is connected in the loud speaking circuit an independent source of electric energy of approximately 110 volts, which enables a greater number of announcing stations to be employed.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawing and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

To more fully comprehend the invention, reference is directed to the accompanying drawing, wherein the figure is a diagrammatic view of an embodiment of the improved system.

Referring more particularly to the drawing—A designates an induction coil, and to the primary 1 of which is connected by the leads $1'$ and 1^2, a transmitter 2 and battery 3. Connected in series with the secondary 4 of coil A, through the leads $4'$, 4^2, 4^3 and 4^4, is a loud speaking receiver 5 of the sound amplifying type, an independent source of electric energy $5'$, preferably 110 volts and a variable resistance 5^2. A sensitive return circuit consisting of the usual transmitter 6 and receiver 7 connected at one side to the leads 1^2 and $4'$ and at the opposite side by the lead 8 provides a means for communicating from a point adjacent to the loud speaking receiver 5 to a point adjacent to the transmitter 2, as a transmitter 6 is preferably positioned adjacent to each loud speaking receiver 5, and a receiver 7 is positioned adjacent to the main transmitter 2. The three circuits are controlled by a double pole switch 9.

The controlling switch 9 being closed to permit a flow of current from sources $5'$ and 3 through their connected circuits, the device operates in the following manner:—Sounds produced adjacent to the transmitter 2, such as the human voice, music or other sound signals, will cause the current through the primary 1 of coil A to vary, thereby inducing a flow of current into secondary 4 of coil A. The variation of the current in the primary 1 of coil A acts through the coil as an electrical valve to the flow of current from the generator $5'$, the loud speaking receiver 5 and secondary 4 of coil A, and this action provides a reproduction of increased amplitude at the receiver 5. It will be observed that the current of high voltage from $5'$ is applied to the speaking unit 5 and does not pass through the transmitter 2, and this enables the connecting of a great number of speaking units 5 on a single circuit, which is desirable when the apparatus is employed in clubs, hotels, and the like. The subsidiary current has a tendency to retard or dampen the action of the diaphragm at the receiver 5, which retarding action clarifies the sound issuing therefrom.

Should it be necessary to page a person in a building, where the device is installed, it is only necessary for the operator to speak into the transmitter 2, the sound being amplified through the receiver 5. The party called may communicate with the operator, without leaving any part of the room where he may happen to be, by directing his conversation toward the transmitter 6, it being collected thereby and heard by the operator through the receiver 7 at the sending station.

Having thus described the invention what

is desired to protect by Letters Patent is:—

1. A system of the class described, comprising an induction coil, a transmitter and source of electric energy connected in series with the primary of said induction coil, an amplifying receiver and a source of high voltage electric energy connected in series with the secondary of said induction coil, and a sensitive return circuit including a transmitter and a receiver in series with the first mentioned circuit.

2. A system of the class described, comprising an induction coil, a transmitter and source of energy connected in series with one side of said coil, an amplifying receiver, a variable resistance and a source of high voltage electric energy connected in series with the other side of said coil, and a sensitive return circuit including a transmitter and receiver in series with the first mentioned circuit.

3. A system of the class described, comprising an induction coil, a transmitter and source of electric energy connected in series with the primary of said coil, an amplifying receiver, a variable resistance and a source of high voltage electric energy connected in series with the secondary of said induction coil, and a sensitive return circuit including a transmitter and receiver and in series with said first mentioned circuits.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES F. JONES.

Witnesses:
HARRY H. TOTTEN,
D. B. RICHARDS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."