(No Model.)

G. W. COY.

TELEPHONE SWITCH.

No. 552,516. Patented Jan. 7, 1896.

Fig. 1.

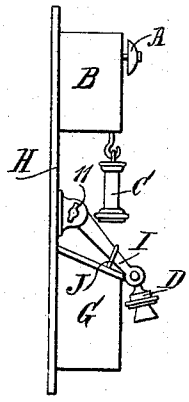


Fig. 2.

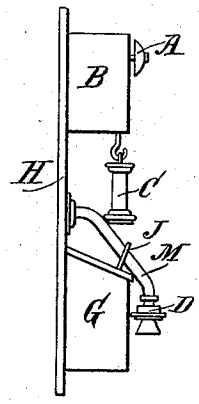
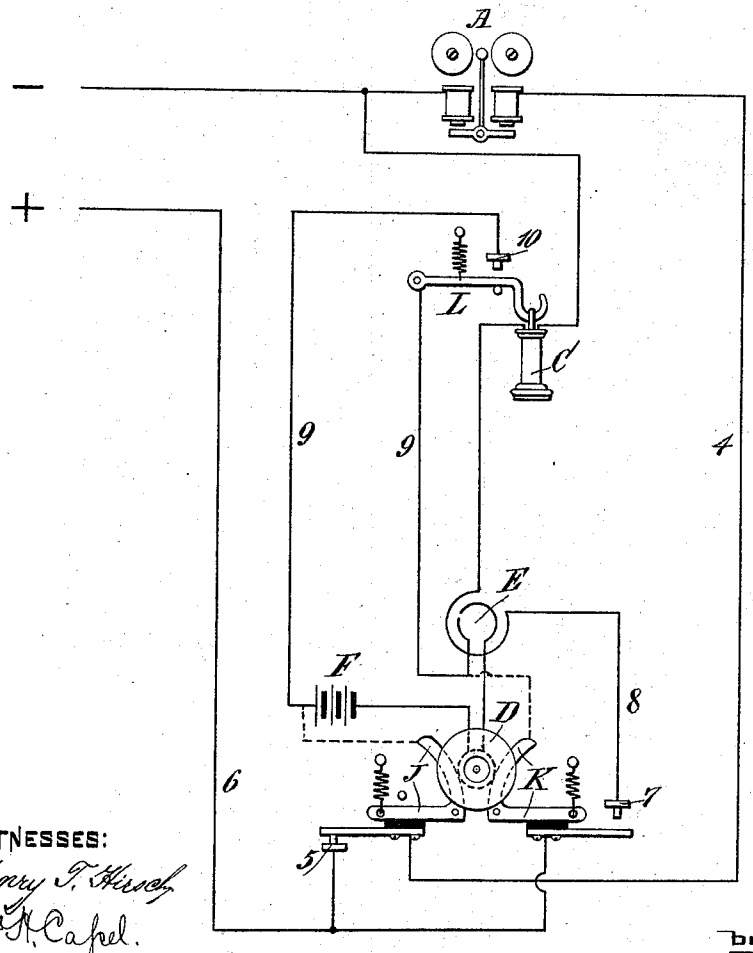


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. COY, OF MILFORD, CONNECTICUT.

TELEPHONE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 552,516, dated January 7, 1896.

Application filed March 15, 1895. Serial No. 541,850. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. COY, a citizen of the United States, and a resident of Milford, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improved Telephone-Switch, of which the following is a specification.

My invention relates to telephony, and particularly to telephone apparatus wherein one or more switches are employed in cutting into and out of circuit one or more of the various elements of said apparatus, such as the call-bell, the receiver, and the transmitter.

The main object of the invention is to so construct and arrange said parts that one or more of said switches may be operated, and, if desired, all the necessary switching may be done through the instrumentality of the transmitting apparatus instead of being done, as heretofore, by means of the receiver or hand-switches.

My invention, therefore, consists in the combination, with one or more switches in a telephone apparatus, of a transmitting apparatus so mounted and arranged as to operate said switch or switches as the telephone apparatus is thrown into or out of condition for speaking.

My invention further consists in the construction, combination, and arrangement of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 represents in side elevation a telephone apparatus, showing a hinged transmitter-arm resting in its normal position. Fig. 2 represents in like position a transmitter mounted upon an arm of flexible material. Fig. 3 diagrammatically represents the various parts of the telephone apparatus with circuit connections.

For the practical embodiment of my invention I have devised various means for operating in connection with the use of the transmitter the several switches of a telephone apparatus, some of which are herein shown, while others form the subjects of applications filed by me April 1, 1895, Serial Nos. 544,011 and 544,012, and April 5, 1895, Serial No. 544,655.

In the apparatus illustrated in this application the general arrangement of the parts thereof is much as usual, and only those features which embody my invention are shown in detail.

A indicates the call-bell, which may be mounted in a suitable box, as B, made to contain the magneto. The latter being of the usual form and arranged in the usual manner is omitted from the drawings. C indicates the receiver; D, the transmitter; E, the induction-coil, and F the battery in the local circuit. The coil, the battery, and the switches operated by the transmitter are preferably located in the box G, mounted on the back H, along with the box B and the transmitter-arm.

The transmitter and its arm, which constitute the parts of the transmitting apparatus, may each or both be movably mounted. Either one of these parts may be used for doing the switching, as the apparatus is thrown into or out of the speaking condition. In Fig. 1 is shown a transmitter consisting of an ordinary microphone, preferably of the Hunning pattern, mounted on an arm, as I, hinged to the back H. This arm I have shown as adapted to operate the switches controlling the bell and receiver circuits.

The bell-switch consists of the elbow-lever J, pivoted at its angle and carrying a contact, insulated therefrom, which is connected to the bell-circuit 4, and in closed position engages with contact 5, connected to the common return 6. The receiver-switch consists of the elbow-lever K, pivoted at its angle and carrying a contact, insulated therefrom, which is connected to the return-circuit and engages, in its closed position, a contact 7, connected to the receiver-circuit 8.

The upper ends of the levers J and K protrude through the box G, and are curved away from each other so as to facilitate the insertion of the arm I. Suitable springs are attached to said lever, as indicated, to force them toward each other when said arm is raised.

The transmitter may be cut in and out of the primary circuit in various ways, as by the movement of the transmitter, as hereinafter specified, or by the movement of the receiver. I have shown the receiver C performing this function. A suitable hook, as L, is pivoted in the box B and protrudes therefrom to hold the receiver, the weight of which draws it down against the action of any suitable spring, as

indicated. To this hook the local circuit 9 is connected, and when the receiver is taken down the hook flies up and engages with a contact 10 in said circuit. The operation of the apparatus then is as follows: After "ringing up" the receiver is taken from its hook, permitting the local circuit to close. The transmitter is then raised into speaking position, which allows the bell-circuit to open and the receiver-circuit to close. After speaking the parts are returned to place and the switches assume the position indicated in the drawings.

If desired, the hook L may be so located that when the transmitter-arm is not in the switch-operating position the receiver cannot be hung up. This will oblige the user to press the transmitter down, as shown in Fig. 1, before leaving the apparatus. If preferred, however, said arm may be so loosely hinged that when not in use it will fall down into the switch-operating position.

When the apparatus is in a place where it is in use for long intervals it may be provided with a set-screw at its pivot, as indicated at 11, to provide for sustaining the arm in the speaking position.

With the bell and receiver switches constructed as shown the upper ends of levers J and K might be allowed to come together on raising the transmitter and the local circuit closed therethrough, its ends being connected thereto, as indicated in dotted lines. In this case the arm I would necessarily be surrounded with insulation, as the usual lacquer, at the place where it engages said lever.

If preferred, instead of the usual metal arm I a flexible tube, as M, Fig. 2, may be used, to either end of which the transmitter may be attached, here shown as attached to the outer end, when its conductors are passed through the tube.

I prefer, as above stated, to use the Hunning transmitter because it is very effective, and when inverted after each use, as in my apparatus, it never "packs."

I do not desire to limit myself to any particular form or combination of switches nor to any particular construction or form of transmitter-support, as these features may be widely varied in carrying out my invention, which consists broadly in doing the switching in a telephone apparatus by means of a movable transmitting apparatus.

What I claim as my invention is—

1. In a telephone apparatus, the combination with a transmitting apparatus mounted to move in a fixed path, of switching levers mounted independently of the transmitter and its support and located adjacent to each other in the path of movement of the transmitting apparatus to be operated by the insertion thereof between them, as and for the purpose set forth.

2. In a telephone apparatus, the combination with a transmitter mounted upon a movable support, of pivoted spring actuated switch levers controlling the bell and receiver circuits and movable by the insertion of said support between them and engaging one another when said support is removed, and the local circuit connected to said levers, substantially as set forth.

3. In a telephone apparatus, the combination with a movably mounted transmitting apparatus or a part thereof, of a switch operated by the movement thereof, and a support for the receiver so located that the receiver cannot be hung up until the transmitting apparatus or a part thereof has been moved from the speaking position.

4. In a telephone apparatus, the combination with a transmitting apparatus mounted to move in a fixed path, of switching mechanism having operating members located adjacent to one another in the path of movement of said apparatus and operable by the insertion of said apparatus between them.

Signed at New York, in the county of New York and State of New York, this 14th day of March, A. D. 1895.

GEORGE W. COY.

Witnesses:
WM. H. CAPEL,
HENRY T. HIRSCH.