

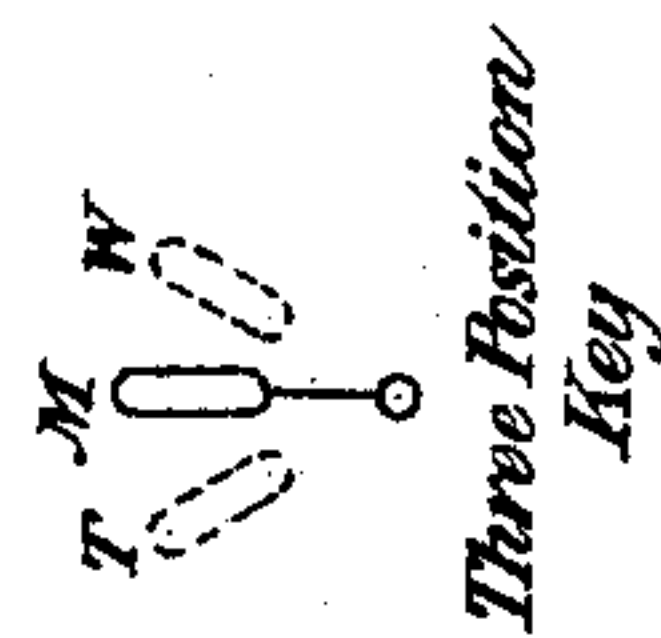
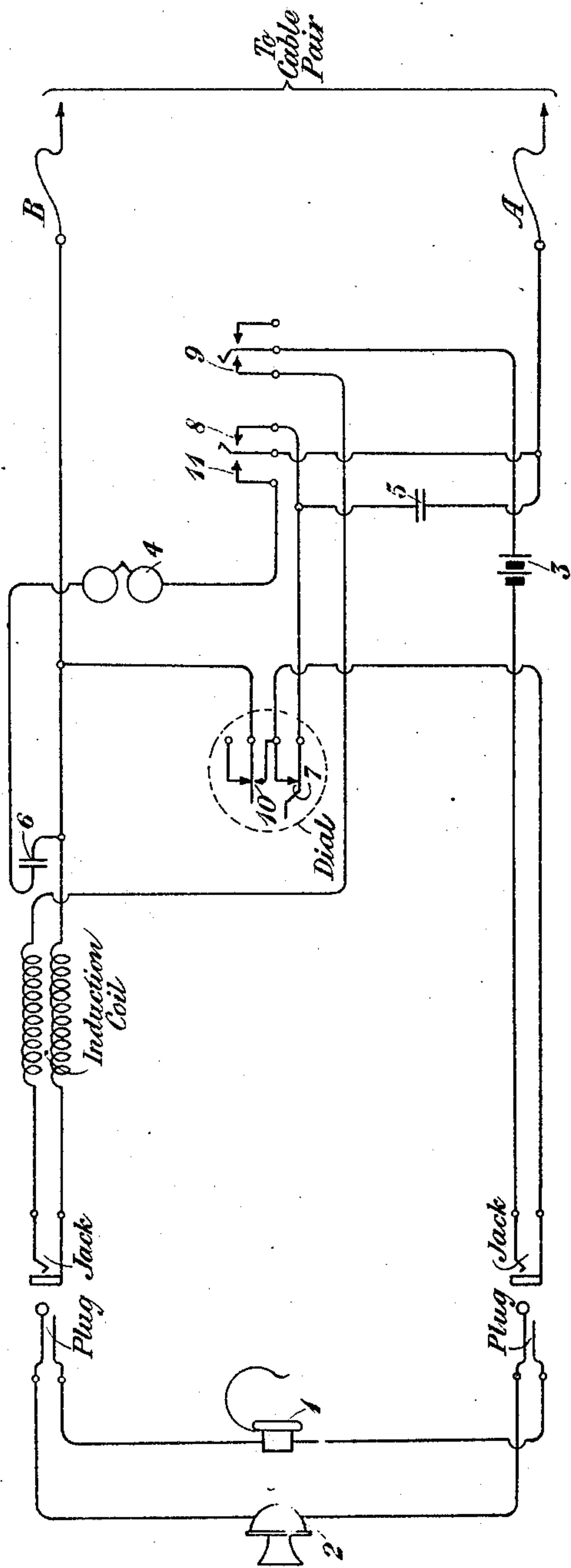
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W. H. EDWARDS

TELEPHONE SUBSTATION CIRCUITS

Filed Dec. 24, 1923



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UNITED STATES PATENT OFFICE.

WILLIAM H. EDWARDS, OF BROOKLYN, NEW YORK, ASSIGNOR TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, A CORPORATION OF NEW YORK.

TELEPHONE SUBSTATION CIRCUITS.

Application filed December 24, 1923. Serial No. 682,529.

To all whom it may concern:

Be it known that I, WILLIAM H. EDWARDS, residing at Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Telephone Substation Circuits, of which the following is a specification.

This invention relates to telephone substation sets, and more particularly to cablemen's testing sets which are suitable for use in machine switching central office districts.

The principal object of the invention is to provide means by which a cable splicer may (1) monitor on a cable pair to determine whether it is in use or not, (2) talk, listen and dial, and (3) receive calls from a central office.

Applicant's invention provides for a circuit arrangement which gives common battery signaling and local battery talking. A three-position switching means is provided, which in the normal position permits of monitoring on a cable pair, in the second position permits of talking, listening and dialing, and in the third position connects an alternating current annunciator in series with a condenser across the line, for the purpose of receiving calls from the central office.

The circuit arrangement will be more clearly understood when the following detailed description of the preferred form is read with reference to the accompanying drawing, which shows diagrammatically such arrangement.

The apparatus indicated in the circuit diagram includes the receiver 1, the transmitter 2, the local battery 3, an induction coil, the alternating current ringer 4, the condenser 5, the condenser 6, a dialing arrangement labeled "Dial", and a three-position key. The three positions of this key are labeled M, T, and W. The position M is the monitoring position; the position T is the talking, listening, and dialing position; and the position W is the position used

when the cableman wishes to wait for a call from the central office. A and B are the cord wires which may be connected to the cable pair selected. The plug and jack connections are indicated on the drawing.

With the key in the normal or M position, the receiver is connected across the line, and the transmitter is cut out. The operative circuit is as follows: A, condenser 5, closed contact 7, receiver 1, and B.

With the key in the second position, contacts are closed at 8 and 9, and when the cableman dials, contact is closed at 10. The receiver circuit is the same as that in the case of the first position of the key. The transmitter circuit is closed as follows: transmitter 2, contact 9, and battery 3. The dialing circuit is: A, contact 7, contact 10, and B.

In the third position of the key, contact is made at 11 (and, of course, contacts 8 and 9 are broken) and the alternating current ringer 4 and the condenser 6 are connected in series across the line. The circuit is as follows: A, contact 11, ringer 4, condenser 6, and B.

What is claimed is:

A telephone substation set including a transmitter, a local battery therefor, a receiver, a condenser, an induction coil, an alternating current annunciator, a second condenser associated therewith, a dialing arrangement, and a three-position switching means, which switching means in the first position connects the receiver and the first condenser across the line and cuts out the transmitter; in the second position connects the receiver and the first condenser across the line, closes a circuit including the transmitter and the local battery, and prepares a dialing circuit; and in the third position connects across the line the alternating current annunciator and the second condenser.

In testimony whereof, I have signed my name to this specification this 21st day of December, 1923.

WILLIAM H. EDWARDS,