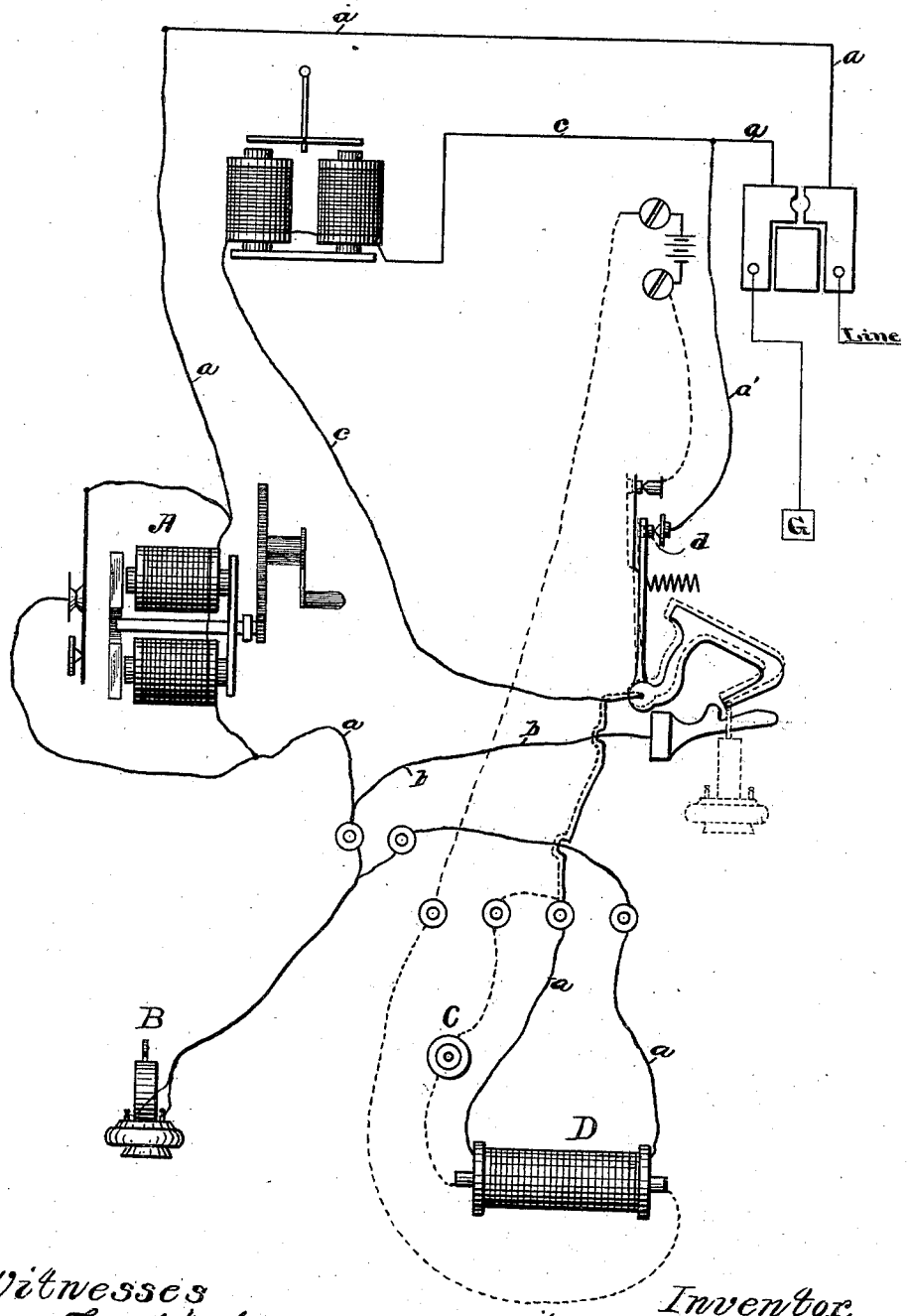
(No Model.)

C. E. SCRIBNER.

CIRCUIT FOR TELEPHONE CALL BOXES.

No. 283,927. Patented Aug. 28, 1883.



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UNITED STATES PATENT OFFICE.

CHARLES E. SCRIBNER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

CIRCUIT FOR TELEPHONE CALL-BOXES.

SPECIFICATION forming part of Letters Patent No. 283,927, dated August 28, 1883.

Application filed February 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SCRIBNER, of Chicago, Cook county, Illinois, have discovered certain new and useful Improvements in Circuits for Telephone Call-Boxes, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

The object of my invention is to provide, for the telephone outfit furnished to subscribers, a circuit so arranged in connection with a switch on the box that when the switch is in one position the telephone-line is connected to the call-bell of the subscriber, while at the same time the local battery of the transmitter is left open, and the receiver, telephone, and secondary wire of the induction-coil are shunted out of the circuit. On changing the position of the switch the local battery of the transmitter is closed and the call-bell is shunted out of the circuit, while the receiving-telephone and secondary wire of the induction-coil are brought into the circuit. Heretofore this has been done by branching the line-wire through the bell in one direction and through the receiver and secondary of the induction-coil in the other, and arranging the switch to vibrate between the two points to which these two branch wires are respectively connected, an additional point being provided on the switch for closing the local circuit of the transmitter-battery. The lever of the switch was connected through the magneto-generator and thence to ground or the continuation of the line, as the case might be. The objection to this arrangement is that the switch frequently fails to make connection on the one point or the other, and the result is that the circuit of the line is thereby left open. In one case the system will be rendered inoperative for talking; in the other it will be impossible to ring the subscriber's bell. This trouble is met with most frequently in boxes having automatic switches—that is to say, switches operated by hanging up and taking down the receiving-telephone. By arranging the circuits as hereinafter described, a circuit is always maintained through the subscriber's outfit, though the switch, whether automatic or otherwise, should make an imperfect connection or fail entirely to make connection at either of the points.

In the drawing I have shown a diagram of the circuits which constitute my invention.

A is the magneto-generator, B the receiving-telephone, C the transmitter, and D the induction-coil.

The telephone-line coming from the central office passes in the usual manner to a plate of the lightning-arrester, and thence, as indicated by lines *a a a'*, through the receiving-telephone and secondary of the induction-coil and to the other plate of the lightning-arrester, and thence to the ground, when the switch is in the position shown by the full lines. The local circuit is indicated by dotted lines. When the metallic ring of the receiver is thrust upon the hook of the switch, as indicated by the dotted lines, the switch-lever is moved and contact at point *d* is broken, while the lines *b* and *c* are connected through the medium of the ring of the telephone, and the circuit of the telephone-line may be traced as follows: from the right plate of the lightning-arrester, by line *a a* to line *b*, and thence by line *c* through the call-bell, which connects with line *a* near the left plate of the lightning-arrester, and to ground. It will be seen that in one position of the switch the shunt-wire *b* of the telephone and secondary of the induction-coil is broken, while the shunt of the call-bell will be broken at *d*, and the circuit of the telephone-line will be directed, as indicated by line *c*, through the call-bell. Suppose, now, both shunt-lines should be open. The circuit of the telephone-line would be through the receiver, the secondary of the induction-coil, and, by line *c*, through the call-bell, and thence to ground; and the only difference would be the additional resistance of the magnets of the call-bell or that of the receiving-telephone and secondary of the induction-coil, as the case might be, left in circuit.

I disclaim the combination of the ring of the telephone with the switch, this being the subject-matter of a prior application.

Under ordinary conditions, when shunt *b* is broken shunt *a'* is closed, and vice versa. If, however, through accident or mistake, both shunts should be broken at the same time, the box will be operative, as before described.

I claim—

1. The combination of a telephone-switch with the shunt-wire a' of the call-bell and the shunt-wire $b\,b$ of the receiving-telephone, substantially as and for the purpose specified.

2. The circuit of line a, passing through the telephone-receiver to the switch-lever, in combination with line c through the call-bell, and line a', and the switch, whereby the call-bell is shunted from the circuit, as and for the purpose set forth.

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