

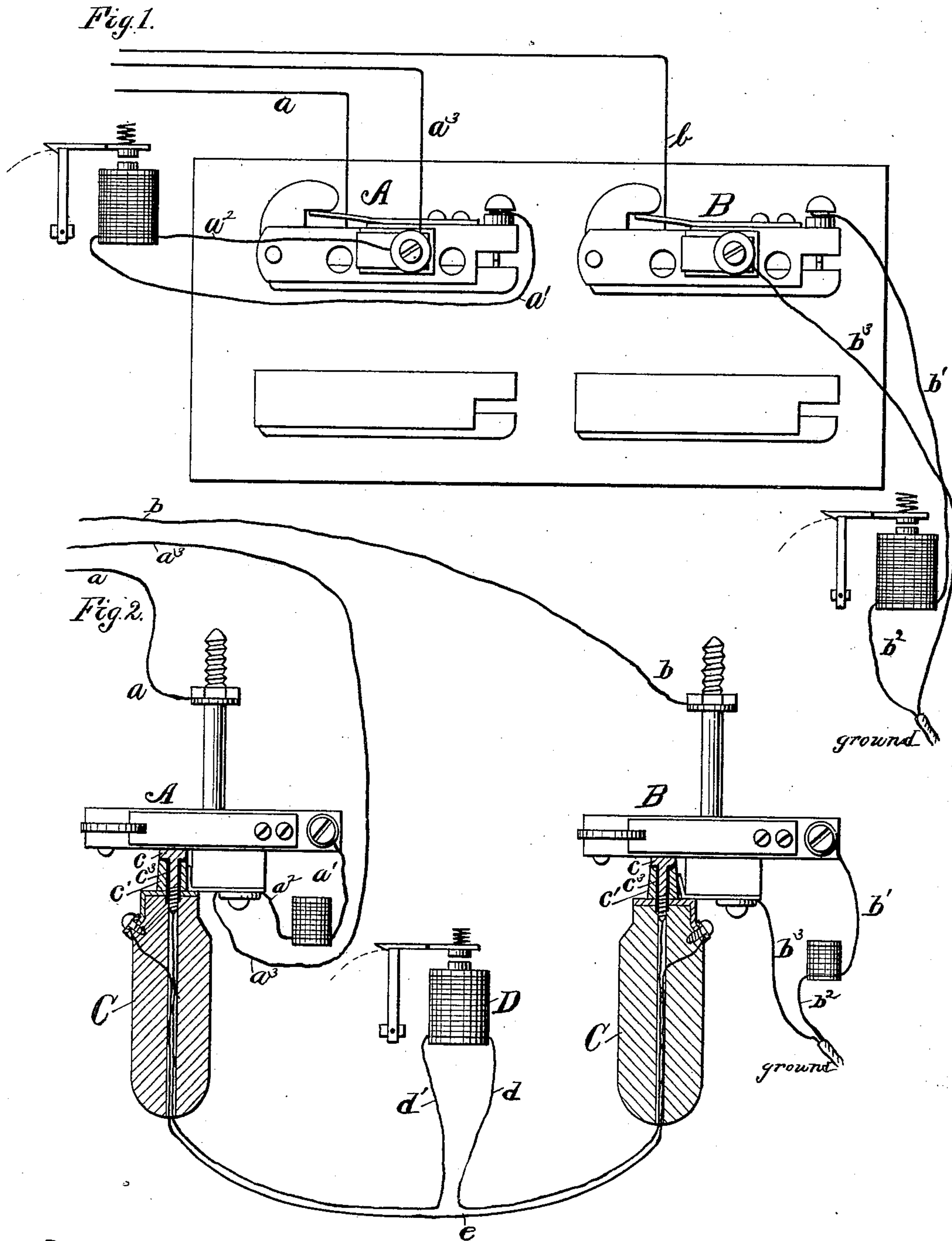
(No Model.)

C. E. SCRIBNER.

CIRCUIT FOR ANNUNCIATORS OF TELEPHONE EXCHANGES.

No. 266,319.

Patented Oct. 24, 1882.



*Witnesses.*  
*Henry Frankfort,*  
*James L. Baird.*

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*per. George P. Barton*  
*Attorney.*



# UNITED STATES PATENT OFFICE.

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

## CIRCUIT FOR ANNUNCIATORS OF TELEPHONE-EXCHANGES.

SPECIFICATION forming part of Letters Patent No. 266,319, dated October 24, 1882.

Application filed November 3, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. SCRIBNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have discovered certain new and useful improvements in circuits for annunciators of telephone-exchanges where some or all subscribers are provided with complete metallic circuits, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

In the drawings, Figure 1 shows a switch-board which is provided with a switch for each subscriber. Fig. 2 shows direct connections between two switches.

The switches shown are more particularly described in my application for a patent filed September 13, 1879.

A single switch must be provided on the switch-board, or, in case of duplicate boards, on each board for each subscriber.

The switch or bolt A is represented in Fig. 1 as connected with a subscriber by a complete metallic circuit, as indicated. The complete circuit is as follows: from the subscriber by line *a*, through the contact-points of the switch, and by line *a'*, through a number of an annunciator, and thence by line *a<sup>2</sup>* to insulated metallic plate, and by line *a<sup>3</sup>* back to the subscriber. Another subscriber is connected with switch B in the usual manner by a single line grounded at both ends. The circuit is from the subscriber by line *b*, through the contact-points of the switch, and by line *b'*, through the number of annunciator, and by line *b<sup>2</sup>* directly to ground. The insulated metallic plate of the switch B is connected directly to ground by wire *b<sup>3</sup>*.

In Fig. 2 I have shown switches A and B detached from the board, and connected by a double cord with one of my plugs at each end. The point of the plug consists of the portion *c* and the collar *c'*, which are insulated by hard-rubber bushing *c<sup>3</sup>*. One insulated wire of the cord is connected with the central part, *c*, and the other wire with the collar *c'*. Hence the two ends of the insulated conductors of the cord terminating in a plug are insulated by the rubber or other insulating substance which

separates the central metallic portion of the plug from the metallic collar. A subscriber signals the central office in the usual way by a battery or magneto-generator, and by means of his annunciator informs the attendant, who, by connecting his own telephone, cuts out the annunciator. When all things are ready the attendant connects the subscriber's two switches, as shown in Fig. 2, and the circuit is as follows: from subscriber's telephone by line *b* to bolt B, thence through central portion, *c*, and strand of cord connecting said central portions, *c*, of the plugs to bolt A, thence by line *a* to the second subscriber's telephone, thence through telephone and by return-wire *a<sup>3</sup>* to insulated plate of the switch A, thence from collar *c'* through the other strand of the cord to collar *c'* of the plug at switch B, and thence by insulated plate and wire *b<sup>3</sup>* to ground. Thus the two subscribers are connected, and the return-wire of the one who has a complete metallic circuit is disposed of by ground-connection at the central office.

In case it is necessary to connect two subscribers who have complete metallic circuits, the plugs are inserted in the same way, and the subscribers will be connected by a complete metallic circuit, and two subscribers with single lines may be connected with equal facility, in which case there is a circuit from ground-wire *b<sup>3</sup>* off through the collar and connecting-cord to the collar of the other plug and to ground. The connection between the two subscribers is by their lines through their respective switches and plug-points *c* and the strand of the cord connecting the said central points, *c*.

The foregoing description is found substantially in my application filed herewith, entitled "improvement in plugs for connecting the lines of subscribers at a telephone-exchange central office," and which therefore I disclaim as to this application.

My invention consists in placing a clearing-out annunciator in the line *d d'*, which connects the central points, *c c*, of two plugs connecting any two subscribers, whether provided with complete metallic circuits or otherwise, in such manner that either of the subscribers may notify the central office when they are through talking.

The annunciator D may be of any of the well-known forms, and the wires *d*, *d'*, and *e* may be connected with binding-posts near the point *e*, allowing sufficient cord between the  
5 binding-posts and plugs, respectively, to reach to any part of the board.

The connections between the binding-posts must be so arranged that the circuit of the wires connecting with the points *e e* of the two  
10 plugs will be complete through the annunciator.

I claim—

The combination, in the circuit of two con-

nected telephone-lines, of double-pointed plugs, one plug inserted in the spring jack-switch of each of the lines, respectively, and an annun- 15  
ciator-magnet included in the strand of the cord which connects the central points of the plugs, whereby the annunciator is included in the circuit, whether the plugs are used for connecting single lines or metallic circuits.

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