

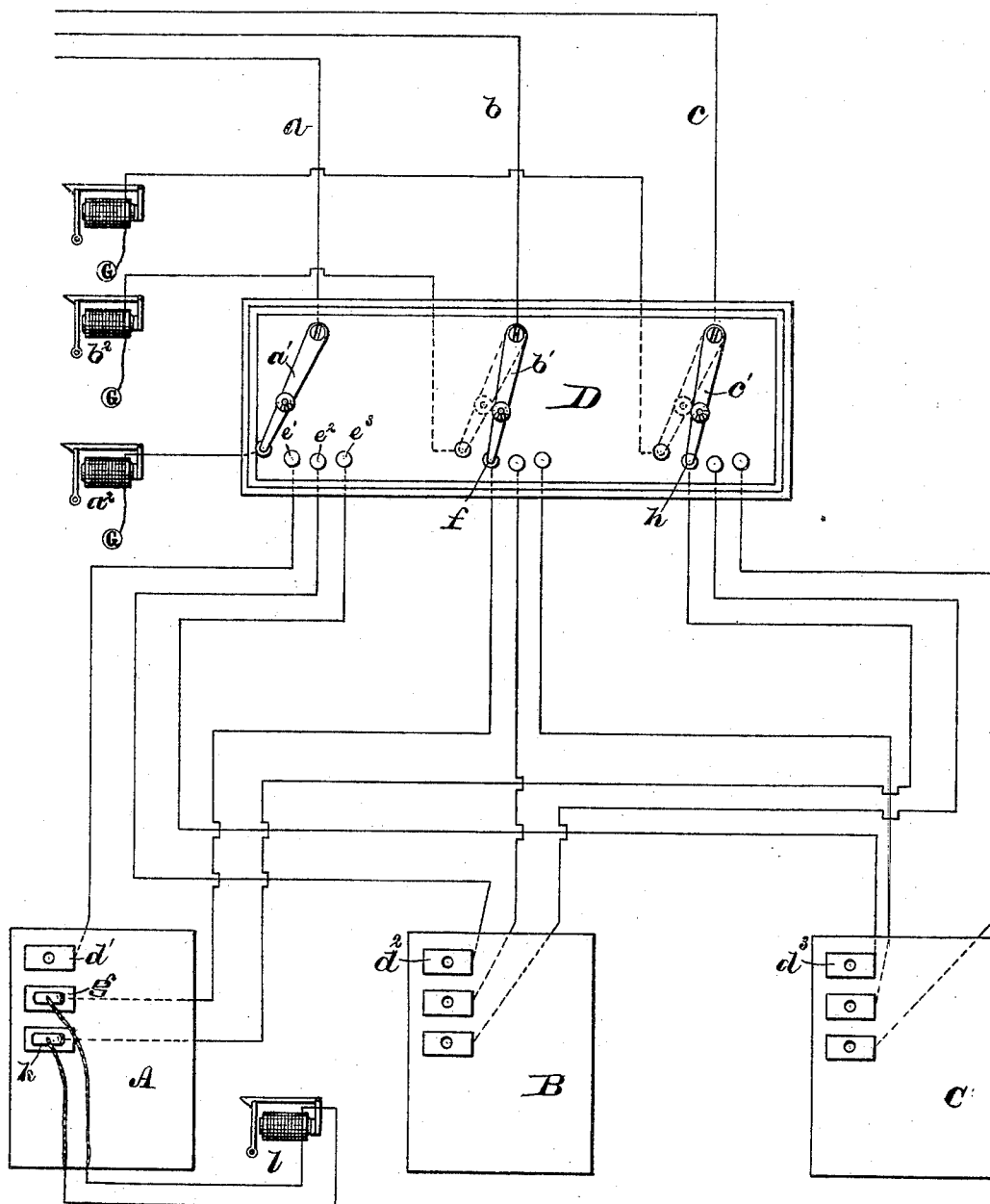
(No Model.)

C. E. SCRIBNER.

CIRCUIT FOR MULTIPLE SWITCH BOARDS FOR TELEPHONE EXCHANGES.

No. 271,279.

Patented Jan. 30, 1883.



Witnesses,
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UNITED STATES PATENT OFFICE.

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CIRCUIT FOR MULTIPLE SWITCH-BOARDS FOR TELEPHONE-EXCHANGES.

SPECIFICATION forming part of Letters Patent No. 271,279, dated January 30, 1883.

Application filed August 4, 1882. (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 invented a certain new and useful Improvement in Circuits for Multiple Switch-Boards, 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.

My invention relates to circuits for multiple switch-boards of a telephone-exchange; and it consists in the combinations herein described, whereby any given telephone-line may be connected with its bolt or switch upon either of the multiple boards.

Heretofore each telephone-line has been connected normally with all the multiple boards. Switch-board room was thus provided for as many switchmen as might be necessary. Different systems have been devised to enable switchmen at one board to see what lines are in use at other boards, in order that confusion may be avoided. As thus used, it is, however, possible for a switchman at one board to interfere with lines connected at another board. In my system, as herein described, the telephone-lines are not connected with either of the multiple boards, except while in use for conversation, and the possibility of confusion is obviated from the interference or meddling of switchmen at other of the multiple boards, since two lines, when connected together for conversation upon one multiple board, are open to all other of the multiple boards of the system.

In the drawing I have shown three telephone-lines, *a*, *b*, and *c*, entering the central office. The subscribers respectively connected with these lines are provided with any of the well-known subscribers' outfits. The normal circuit of each line is through a switch and an annunciator to ground. Thus the circuit of line *a* passes through switch *a'* and annunciator *a*² to ground, and is not connected with either of the multiple or duplicate switch-boards A, B, and C. The multiple switch-boards A, B, and C are each provided with connecting plates or bolts—one plate or bolt for each line on each board, as shown. Each line, it will be seen, is thus provided with as many bolts as there are multiple boards, and the bolts of a series belonging to any given line are connected to points near the switch of

the line of the series. Thus bolts *d'* *d*² *d*³ are connected respectively to points *e'* *e*² *e*³, near switch *a'*, as shown. Suppose, now, that the subscriber of line *b* has sent a call to the central office. The switchman at board D, seeing the annunciator *b*² fall, immediately moves the switch *b'* into contact with the point *f*, thus connecting the line with bolt *g* upon switch-board A, as shown. The switchman at the multiple board A finds out, by means of his telephone outfit, what line is wanted. He then informs the switchman at board D, who thereupon connects the line of the subscriber wanted with the bolt of the line upon the proper multiple switch-board. Thus line *c* is shown connected by switch *c'* to point *h*, and thus to bolt *k* of board A. The operator at multiple board A, now having rung up the subscriber of line *c*, connects the bolts *g* and *k* through clearing-out annunciator *l*, as shown, in the usual manner. At a signal from the clearing-out annunciator, the plugs are removed from bolts *g* *k*. The switchman at board D then replaces the switches *b'* *c'* upon their ground-connections, as indicated by the dotted lines, and thus restores the normal circuits of the lines *b* *c*.

Having thus described my invention, what I claim is—

1. Two, three, or more multiple switch-boards with bolts and connecting-lines—one bolt for each line on each multiple board—in combination with telephone-lines, the said telephone-lines being normally disconnected from all the boards and switching apparatus, whereby any telephone-line may be connected to either one of the bolts of its series upon either of the boards.

2. A series of telephone-lines each normally passing at the central office through a switch and annunciator to ground, in combination with a series of bolts on multiple switch-boards—one series for each line and one bolt of each series on each board—whereby any two lines, when connected upon either multiple board are disconnected from all other multiple boards, substantially as set forth.

In witness whereof I hereunto subscribe my name this 26th day of July, A. D. 1882.

CHARLES E. SCRIBNER.

Witnesses:

PAUL A. STALEY,
ERNEST P. WARNER.