

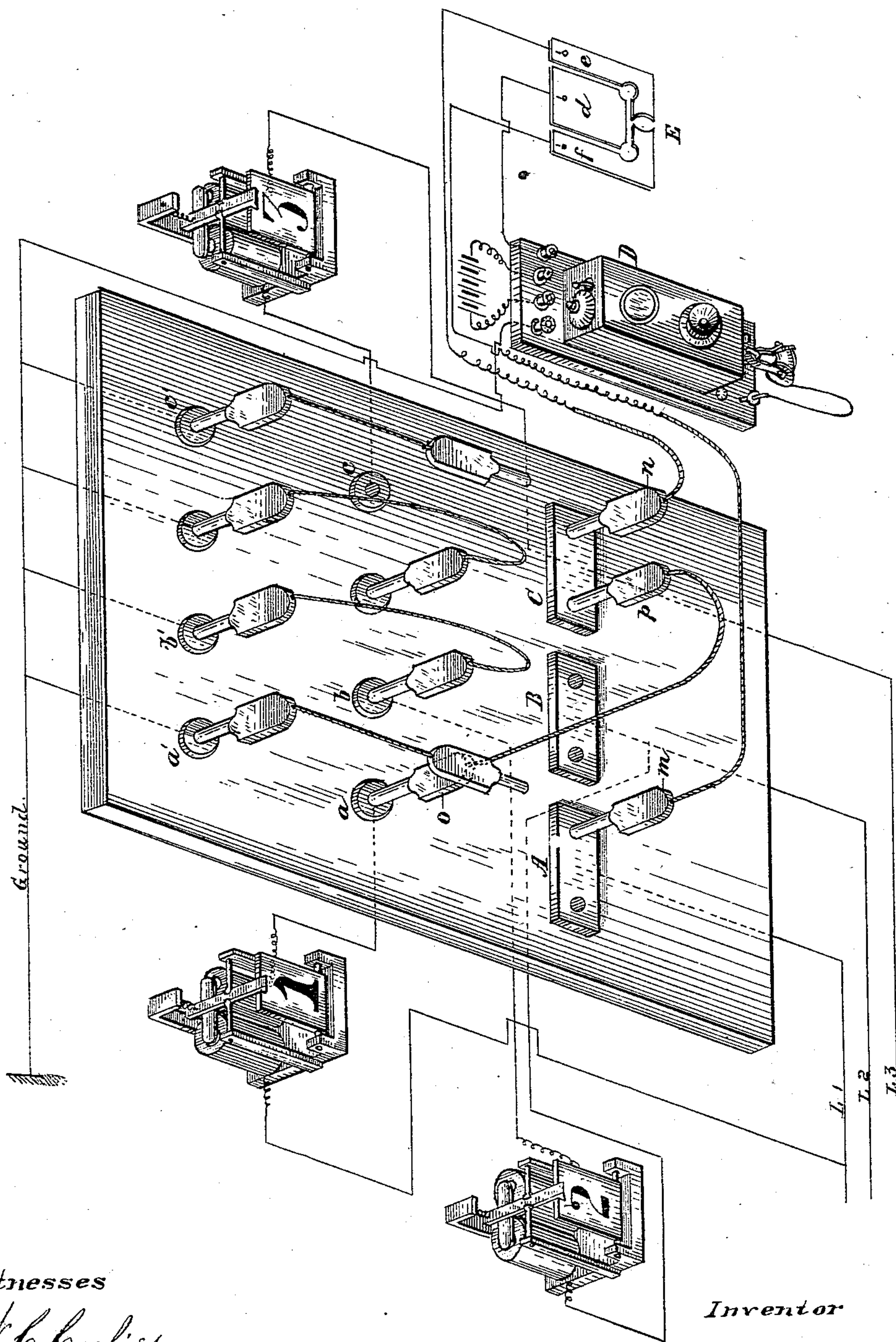
(No Model.)

L. B. FIRMAN.

CENTRAL OFFICE APPARATUS FOR TELEPHONES.

No. 283,334.

Patented Aug. 14, 1883.



Witnesses

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UNITED STATES PATENT OFFICE.

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CENTRAL-OFFICE APPARATUS FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 283,334, dated August 14, 1883.

Application filed March 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, LEROY B. FIRMAN, of Chicago, Illinois, have discovered certain new and useful Improvements in Circuits for Telephone-Exchanges, of which the following is a specification.

My invention is shown in the drawing.

A, B, and C represent connecting-plates on the switch-board at the central office.

D is the operator's telephone-outfit. E is a peg-switch.

L', L², and L³ represent the respective lines of three subscribers, whom we will designate as S', S², and S³. The telephone-line of each subscriber, when not in use, passes through an annunciator-number and two bolts and to ground at the central office. Thus S² is connected by his line L² with annunciator-number 2 and thence to bolt b, and by the plugs and flexible conducting-cord to bolt b', and thence to ground, as shown. The subscribers, signal the central office, when they wish to be connected through the central office, by sending currents along their telephone-lines. Thus if S² should send a current along line L² the shutter of his annunciator 2 would be released, and by this signal the switchman would know that S² wished to talk with some one. When the switchman sees a shutter fall he takes off the ground by pulling out a plug from one of the two bolts in the circuit of the subscriber who has sent in the call. The switchman then connects the connecting-plate of the line of the subscriber with the operator's telephone through the peg-switch. In the drawing the plugs that belong in bolts a and c are thus removed or pulled out and are allowed to hang, as shown.

The connection between the subscriber and operator may be traced as follows, and suppose that plug o has not been inserted in the bolt a: From the subscriber's station in the usual manner to the central office by line L' to plate A, thence by plug m and its cord to plate f of the peg-switch, and thence through the medium of a plug (not shown in the drawings) to plate d, and thence through the operator's telephone-outfit D in the usual manner, and to ground, as shown. S', when thus connected with the operator at the central office, informs him of what connection he desires. For example, suppose S' should ask to be connected with S³. The switchman is informed of the

fact, and thereupon inserts plug n in plate C, and takes off the ground by pulling out the plug from bolt c, as shown. A plug is inserted connecting the plates e and f of the peg-switch. The subscribers S' and S³ are thus connected with each other and with the operator's telephone-outfit. The operator by throwing his battery to line calls up S³, and at the same time informs S' that he is doing his duty. When the subscribers have begun their conversation the operator informs the switchman, who thereupon inserts plug p in plate C, and plug o in bolt a and pulls out the plugs m and n. The work of the operator is now complete and he is free to attend to another call.

The subscribers S³ and S' are shown connected through annunciator 1, as follows: By line L³ to plate C, thence by plugs p and o and their conducting-cord to bolt a, thence through annunciator 1 to line L'. When S' and S³ are through talking, either, by throwing his battery to line, may throw down the shutter of annunciator 1, and then the switchman pulls out the plugs o and p and restores the hanging plugs to bolts a and c.

It will be seen that the two subscribers will also be connected with each other through an annunciator if the plug p should be inserted in switch or plate A and plug o in bolt c.

I claim—

1. The combination of telephone-lines L' and L³ with connecting-plates A C, each provided with two plug-bales, the branch circuits, including annunciators 1 and 3, and switching apparatus, as described, whereby either of said annunciators may be included in the circuit of said telephone-lines when connected, as and for the purpose specified.

2. The combination of the telephone-lines with switches, one for each line upon the central-office switch-board, branch circuits, one branch circuit for each line, each branch including an annunciator and switching apparatus, whereby any two telephone-lines may be connected together through the annunciator of one of the lines, while the annunciator of the other line is not included in the circuit.

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Witnesses:

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