

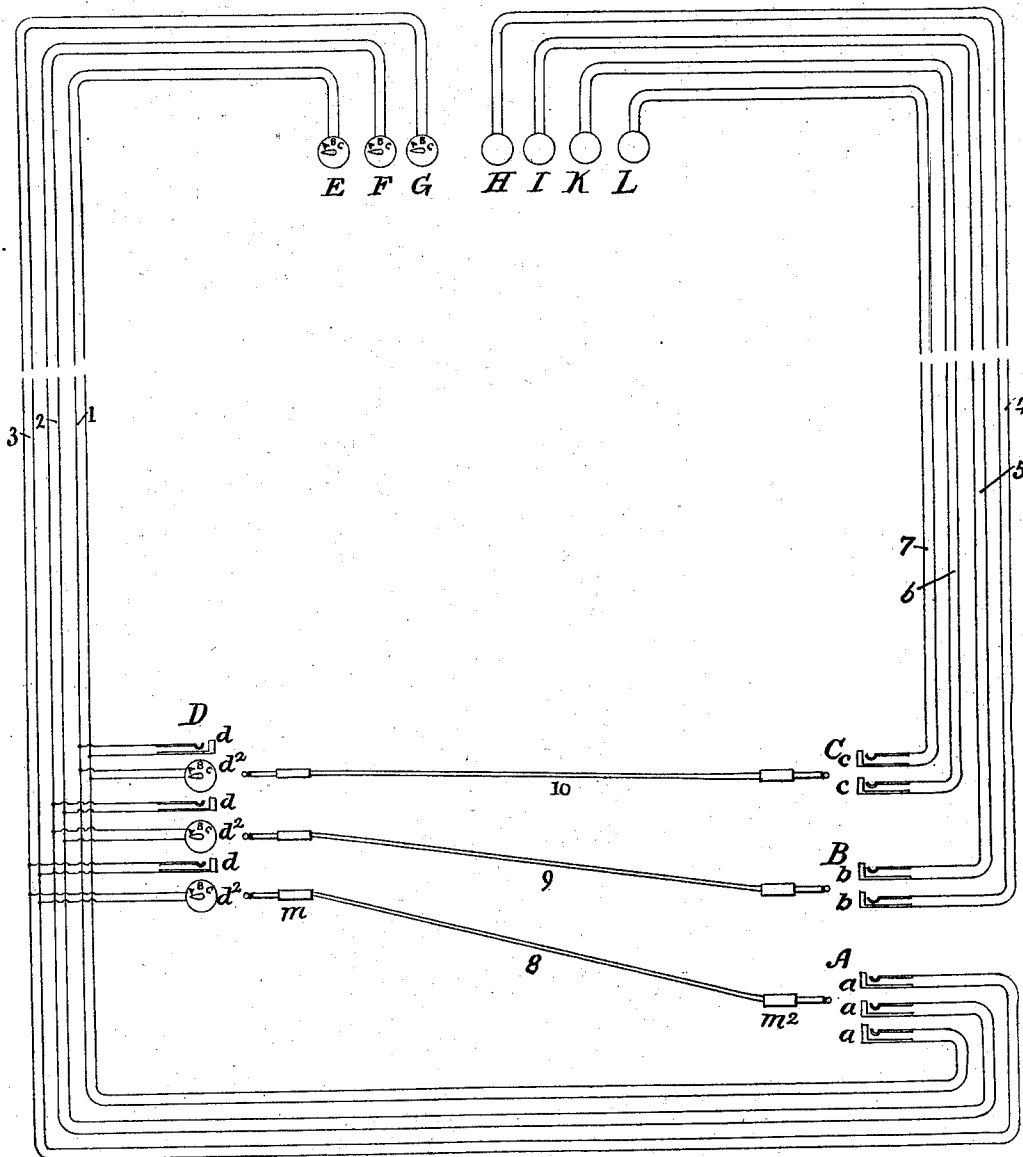
(No Model.)

J. P. DAVIS.

SWITCHING APPARATUS FOR TELEPHONE EXCHANGES.

No. 559,367.

Patented May 5, 1896.



Attest.

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UNITED STATES PATENT OFFICE.

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SWITCHING APPARATUS FOR TELEPHONE-EXCHANGES.

SPECIFICATION forming part of Letters Patent No. 559,367, dated May 5, 1896.

Application filed August 10, 1895. Serial No. 558,821. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. DAVIS, residing at New York, in the county of New York and State of New York, have invented certain
5 Improvements in Switching Apparatus for Telephone-Exchanges, of which the following is a specification.

My invention concerns switching apparatus of telephone-exchanges, being a device
10 for permitting the subscriber to designate to an attendant at a central station a particular group of subscribers among which the desired correspondent may be found. In exchange systems comprising several offices in
15 which subscribers' lines center, the subscriber may thus designate the particular office in which the required line terminates, the call being immediately trunked to an operator at the office indicated.

This invention contemplates the use, with a switching system comprising an annunciator or receiving-board in which the subscriber's line terminates in a signaling instrument, several switchboards, each containing terminal
25 connection-sockets of a different group of lines, and office trunk-lines extending from the annunciator-board to the switchboards, of a signaling instrument or indicator for each line at the annunciator-board controlled
30 from the substation, whereby the subscriber may indicate to the attendant at the annunciator-board the switchboard at which the line required terminates. This signaling device may be any of the well-known contrivances
35 for designating a particular one of several requirements by the display or actuation of an indicator by mechanism controlled at the distant station. A form of the Wheatstone dial-telegraph is perfectly suitable for
40 use in the present invention.

This improved switching system is illustrated in the accompanying drawing, in which a number of subscribers' lines are represented connected with the switching apparatus
45 of the exchange-offices.

The drawing shows only three of the subscribers' lines as being provided with indicators and connection-sockets upon an annunciator-board as sufficient for purposes of
50 explanation, it being obvious that the other

lines represented on the drawing may be provided with similar indicators and connections at the same annunciator-board or at another but similar one.

There are in the exchange system here
55 shown three switchboards A, B, and C, which may be assumed to be located at different offices, and an annunciator-board D, which may be in the same office with switchboard A. The three substations E, F, and G are
60 equipped with transmitting instruments of the dial-telegraph, represented in the drawing by the dial and index only. These stations are connected by lines 1, 2, and 3, each
65 with a connection-socket *d* and a dial-receiving instrument *d*² in the annunciator-board D and each with a connection-socket *a* in the switchboard A. Lines 4 and 5 from
substations H and I lead each to a connection-socket *b* in switchboard B, and lines 6
70 and 7 to connection-sockets *c* in switchboard C.

One or more interoffice trunk-lines, 8, extends from annunciator-board D to switchboard A, terminating in the usual plugs *m*
75 and *m*² for making connection with the sockets. Another trunk, 9, extends from board D to switchboard B, and still another, 10, from the annunciator-board to switchboard C. These trunk-lines may be equipped with any
80 of the well-known devices for informing the operator at the switchboards, automatically or otherwise, when connection is made with the trunk-line at the annunciator-board and for signaling to the switchman at the latter
85 board the disconnection of the trunk-line at the switchboard. The switchboards are supposed to be furnished with the usual telephones, calling apparatus, and keys for the
90 use of the operators in establishing connection with the lines.

In operating this system the subscriber must know what group or office forms the terminal of the station with which he wishes
95 to communicate. Suppose, for example, the subscriber at station E should wish to have his line connected with line to station H. He will have information that station H belongs to group or office B. He will place the index
100 of his transmitting instrument at B, whereby

the index of the corresponding receiving instrument d^2 in annunciator-board D will be caused to indicate B. At this signal the attendant switchman will insert into the spring-jack d of the same line the terminal plug m of the trunk-line 9, extending to switchboard B. The operator at switchboard or office B, having received information that the line of a calling subscriber has been connected with trunk-line 9, will bring her telephone into circuit with that trunk-line, learn from the subscriber the number of the particular line with which connection is desired, and perform the required switching in the usual way.

15 If the calling subscriber should require connection with a member of the same group with himself, he would turn the index of his transmitting-dial to A to indicate to the switchman that the call should be trunked to switchboard A, or if he should require communication with station K or L he would turn the index to C, knowing that these lines terminated at switchboard C.

I claim as new and desire to secure by Letters Patent—

1. In combination, several telephone-lines extending to terminal connection-sockets, an indicator for one of the lines adapted to indicate any of several objects, means for controlling the indicator from the substation of the line, and switching apparatus for making connection from the socket of the line hav-

ing the indicator to the terminal socket of any other line, as described.

2. In combination, several telephone-lines terminating in connection-sockets on different switchboards, an indicator adapted to indicate any of several objects for one of the lines in an annunciator-board and means for controlling the indicator from the substation, and trunk-lines from the annunciator-board to each of the switchboards, as described.

3. In combination, telephone-lines each extending to a connection-socket and an indicator at an annunciator-board, said indicator being adapted to designate any of several objects, means at each substation for controlling the corresponding indicator, other telephone-lines terminating in connection-sockets in different switchboards, trunk-lines extending from the annunciator-board to each switchboard, and switching apparatus at the annunciator-board and at the switchboards for making connection between any trunk-line and any socket, as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 5th day of August, 1895.

JOS. P. DAVIS.

Witnesses:

GEO. WILLIS PIERCE,
FRANK C. LOCKWOOD.