(No Model.) 2 Sheets—Sheet 1.

J. FEAREY.

TRUNK TABLE FOR TELEPHONE EXCHANGES.

No. 306,818. Patented Oct. 21, 1884.

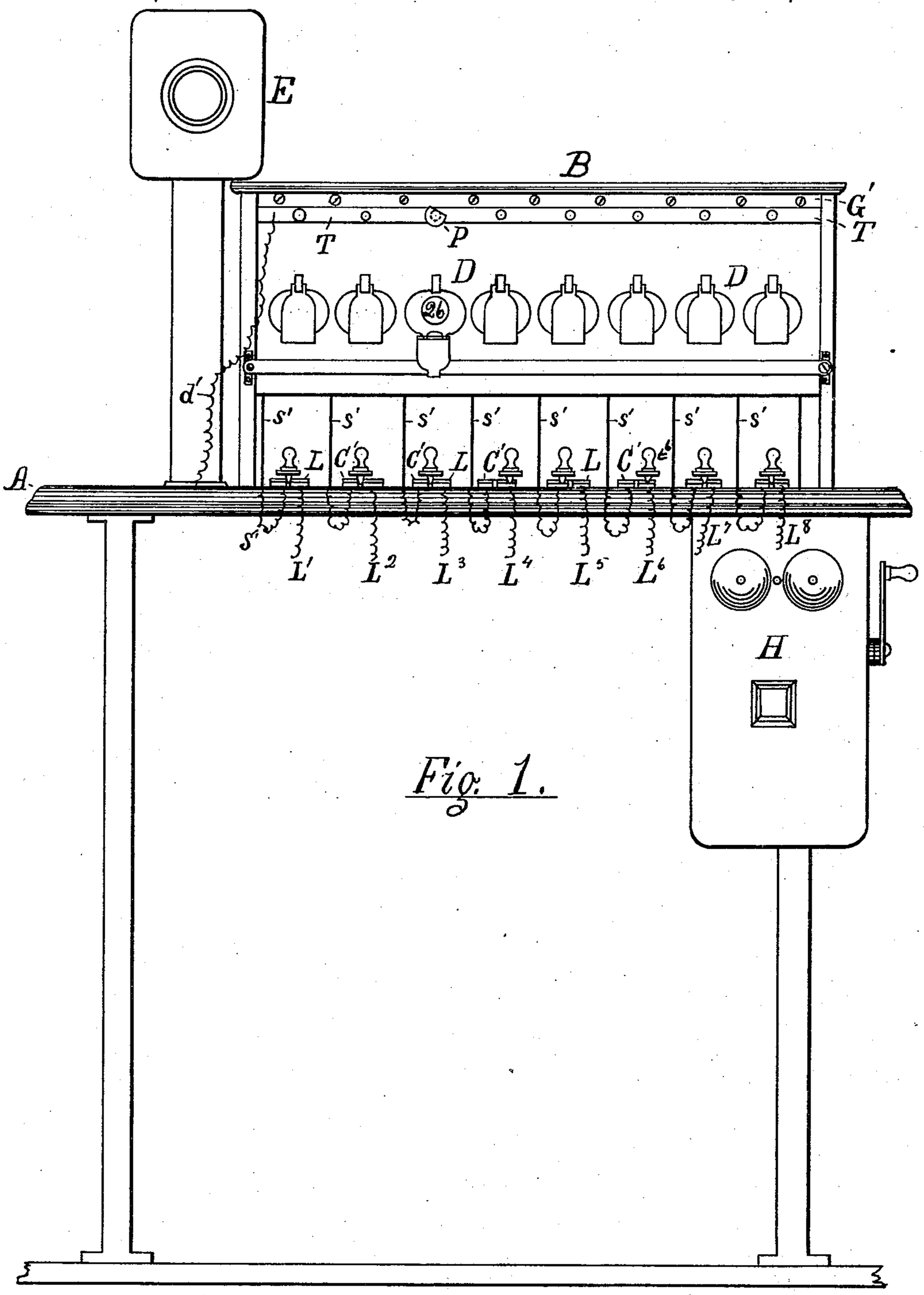

Fig. 1.

Attest
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Jabez Fearey, per
Thos. S. Crane, Atty.

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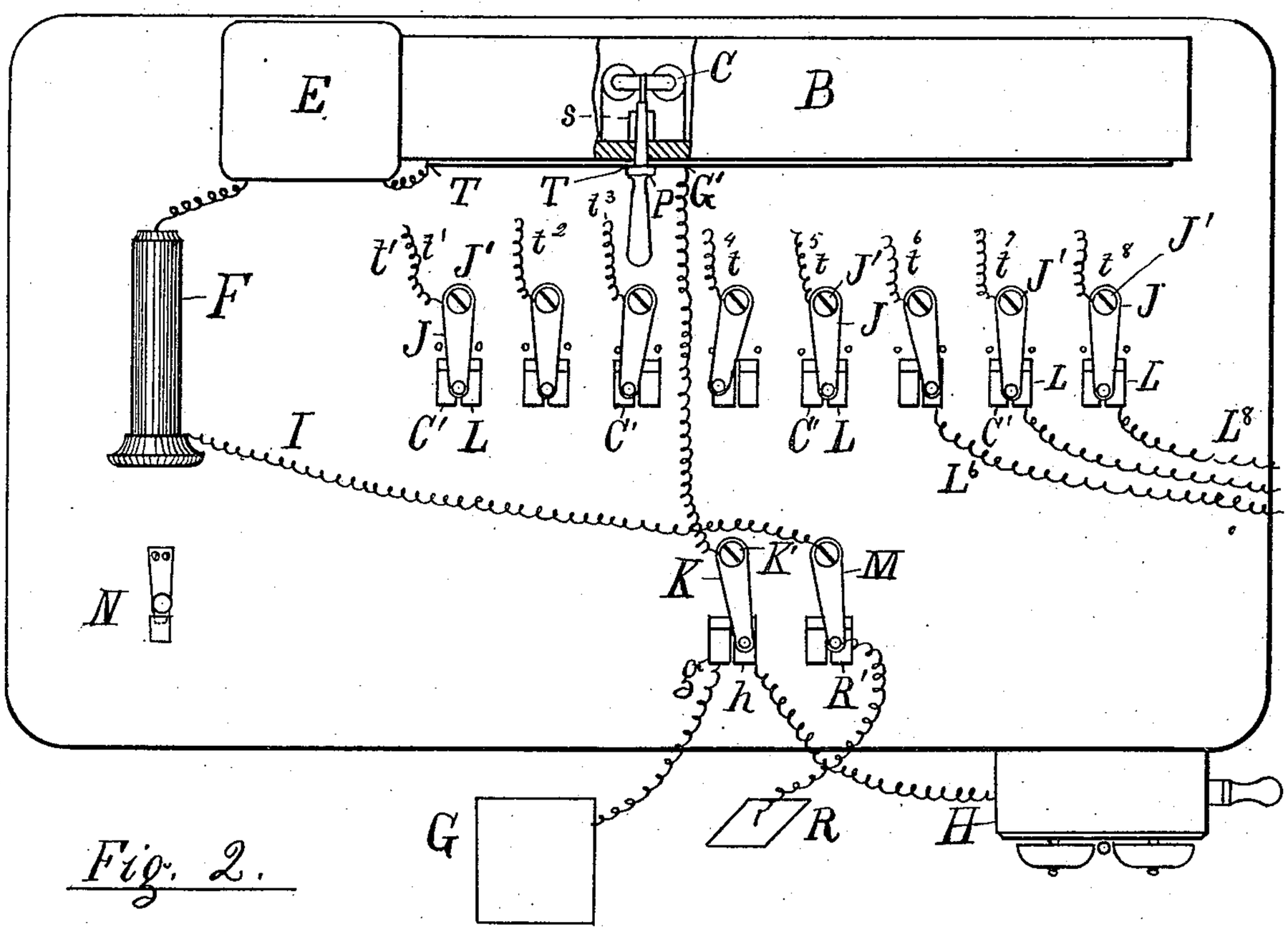

Fig. 2.

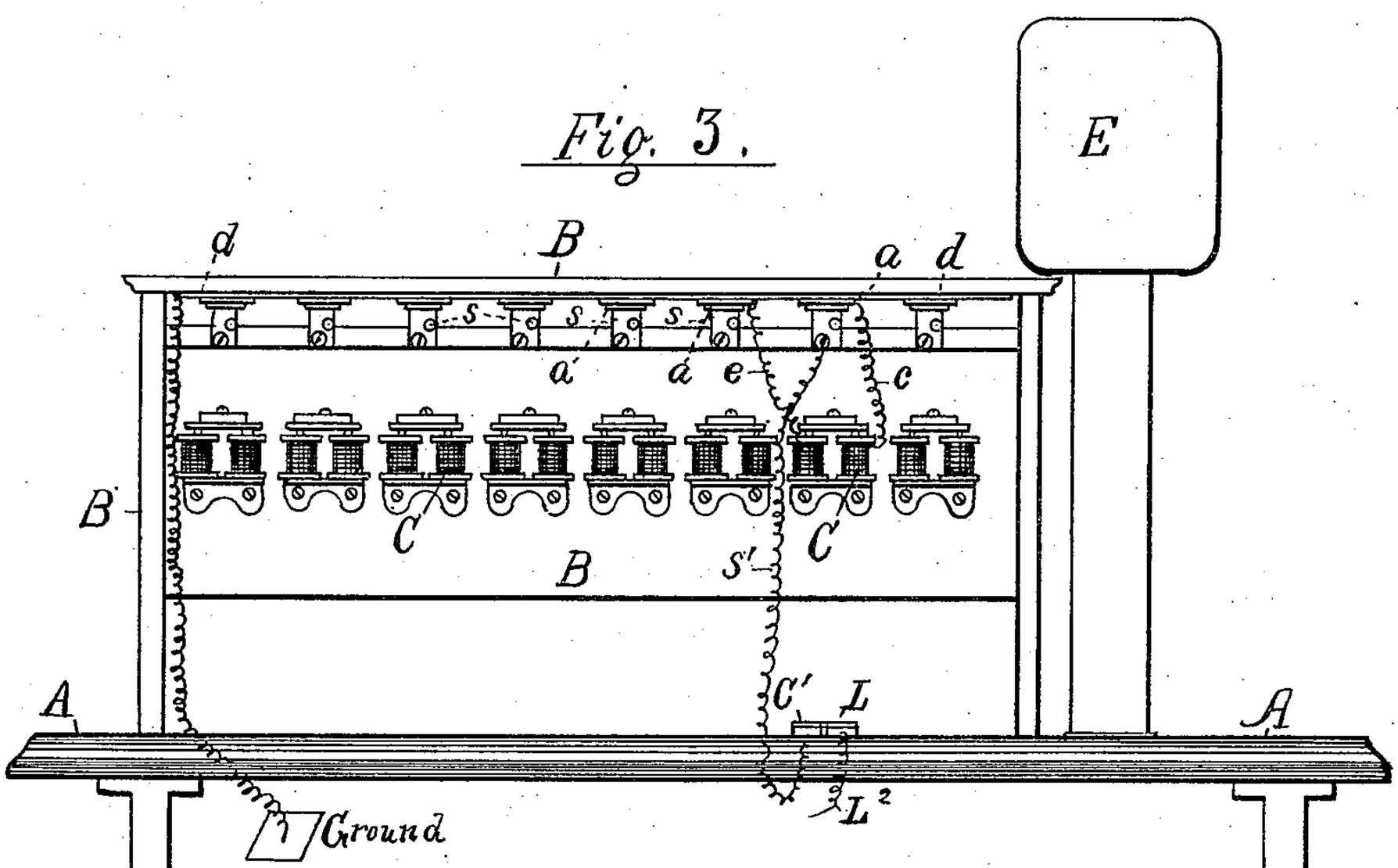

Fig. 3.

Attest.

H. J. Thebeath.

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Thos. S. Crane, Atty.

UNITED STATES PATENT OFFICE.

JABEZ FEAREY, OF NEWARK, NEW JERSEY.

TRUNK-TABLE FOR TELEPHONE-EXCHANGES.

SPECIFICATION forming part of Letters Patent No. 306,818, dated October 21, 1884.

Application filed April 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, JABEZ FEAREY, a citizen of the United States, residing in Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Trunk-Tables for Telephone-Exchanges, fully described and represented in the following specication and the accompanying drawings, forming a part of the same.

This invention consists in certain constructions for facilitating the connection of various trunk lines with the several subscribers of a telephone-exchange, and it includes, first, a construction for connecting the trunk line alternately with an annunciator and a subscriber by a single fixed switch; secondly, a construction for cutting out the trunk-table and its annunciator, transmitter, receiver, and generator by the same switch that connects the trunk line with the subscriber; thirdly, a construction for connecting either a power-generator, a pole-changer, or a hand magneto elecric machine situated upon the trunk-table with the subscriber's line by a single switch. Any or all of these constructions may be used upon my improved trunk-table, and they may be used with or without the plugging-strip patented to me November 29, 1881, as No. 250,140, and shown herein as the means of connecting the different circuits of the subscribers with the receiver and generator.

In the drawings, Figure 1 is a front elevation of a trunk-table embodying all the constructive features specified. Fig. 2 is a plan of the table-top, showing the several switches and their connections, and Fig. 3 is a rear view of the annunciator-connections.

A is the table-top; B, a frame carrying the annunciators of the trunk lines, eight of which are represented as connected in the table illustrated; C, the annunciator-magnets; D, the drops; E, the transmitter; F, the receiver; G, a generator or pole-changer operated by power; H, a hand magneto-electric generator, and N an automatic cut-off for throwing the receiver out of the talking-circuit, as described by me in a patent application filed. Eight switch-levers, J, are shown secured upon the table and arranged to connect the trunk lines t' t^2 t^3 t^4 t^5 t^6 t^7 t^8 with either the annunciators C D, or to the subscribers' lines by means of the connections L′ L² L³, &c., to certain plugging-strips in the central switch-board.

K is a switch for connecting the subscribers' or trunk lines with either the pole-changer G or the magnetic machine H.

M is a switch for cutting off the ground-connection from the transmitter and receiver when using the generator in the same circuit, to avoid loss of the current, as claimed by me in my patent application No. 112,168. Each of the trunk switches consists of a lever, J, pivoted upon a screw, J′, to which the trunk lines t' t^2 t^3, &c., are electrically connected, and operates in contact with either of two blocks, C′ and L, the former being connected with the annunciator-magnets C and the latter with the connections L′ L², &c., to the strips in the central switch-board. The switch K is of similar construction, its pivot K′ being connected to a generator-strip, G′, arranged over the drops, as described in my Patent No. 250,140, and the blocks *g* and *h*, connecting, respectively, with the generator G and magnetic machine H. The switch M serves merely to break the connection from the transmitter and receiver to the ground when using the generator, one of its blocks, R′, having an electrical connection to the ground at R. A connection, *s*′, runs from each block C′ to the spring *s*, employed to make an automatic contact with a plate, *a*, from which the circuit is extended by wires *c* to the magnet C, and thence to the ground-strip *d* by wires *e*. When the switch J is on the block C′, the trunk line connected with such switch is in connection with the ground through its appropriate annunciator, and the trunk line can therefore signal the operator at the trunk-table by sending a current to operate the drop. Over the drops is shown a transmitter plugging-strip, T, arranged to operate as described in my Patent No. 250,140, so that the operator, when thus called, may plug into such strip and connect either the transmitter or generator with the connected trunk line—as, for instance, the line t^3, the switch of which, J, is shown connected with the block C′, as required, to lead the current to the spring *s*, with which the plug connects. The plug is shown at P in Fig. 2, where the top of the frame B is broken away to show the magnet and spring, and serves to connect the spring

with the transmitter-strip, and also with the generator-strip G′ when a collar formed on the plug is turned against such strip, as indicated at P in Fig. 1. The transmitter-strip is connected with the ground at R by the connection I through the transmitter E and receiver F, and is cut off from the ground when using the generator by the switch M, as described above.

The wires L′ L², &c., connect the blocks L permanently each with a special strip in the central-office switch-board, such strip being therefore known as associated with a certain trunk line, and the connections with local subscribers being all plugged thereon when called. To illustrate, the trunk-lines, t' t^2 &c., may be connected with New York, Brooklyn, Yonkers, Paterson, Jersey City, Belleville, Orange, and Bloomfield, the telephone-exchange being located in Newark, New Jersey, and a strip in the central-exchange switch-board being devoted to each of these trunk lines and connected with the several blocks L by the lines L′ L², &c. In Fig. 1 the third drop is shown down, indicating that Yonkers has signaled the exchange or central office, and that the strip appropriated to such line is No. 26, as marked on the drop. In Figs. 1 and 2 the plug P is shown inserted in the strip T over such drop, thus connecting the transmitter and receiver with Yonkers, while the switch-lever J remains upon the block C′, and enabling the trunk-table operator to communicate with such place at pleasure until he has learned which local subscriber is wanted. When he has had such local subscriber connected (by plugging) with the strip No. 26, he sets the switch M off of the block R′, to prevent the generator-current going to the ground at R, and rings up such subscriber by connecting the generator G or the magnets H with the strip G′ by the switch K. The pole-changer used to ring the subscribers' bells furnishes a suitable current for short lines like the local subscribers, and such current is therefore thrown into said line by setting the switch K on the block g and turning the plug P so that its collar (shown in Fig. 1) touches the generator-strip G′. When the subscriber is thus notified, a direct connection is established between the trunk line and the connection to the central switch-board by moving the lever J to the block L, as shown at the trunk line t^6 in Fig. 1, the same being thus connected with the wire L⁶ without the circuit passing through any of the other fixtures upon the table. The single switch J thus serves, without the use of the plugs and flexible electrical connections often used heretofore, to connect a given trunk line either with the annunciator, the receiver, transmitter, or the strip in the central switch-board, when a connection may be made to any given subscriber, the same switch also serving to cut the trunk-table and all its attachments out of the circuit when the subscriber is once connected with the trunk line. Such construction dispenses with every loose or flexible conductor about the table and greatly simplifies the entire construction and use of the whole apparatus for connecting such trunk lines with the local subscribers.

When a given trunk line is called by a local subscriber and it is necessary to signal through one of the trunk lines, I have found that it was necessary to employ a current of greater strength than that furnished for local purposes, and I therefore provide a hand magneto-electric generator upon the trunk-table, one capable of furnishing such stronger current, and construct the switch K to connect with either generator at pleasure. As shown in Fig. 2, the switch is connected with the block h and magneto H, and the current from the magneto is thus thrown into the generator-strip G and into the trunk line by the plug P, spring s, and connection s', to the switch J and trunk line t^6.

It will be seen from the above that the construction includes a series of trunk-switches, each electrically connected to a separate annunciator and strip in the central switch-board, and that the annunciators and strips require to be similarly numbered and the switches J arranged in such relation to the drops upon the trunk-table as to operate in connection with the one nearest to it, as shown in Fig. 1. Only one of the switches J and its connections to the annunciator are shown in Fig. 2, as the drawings would be needlessly confused by exhibiting all the connections, their nature being precisely the same for each annunciator and its designated switch. For the same reason the connections to the receiver and transmitter are not fully shown, as their nature is well understood, and the connections to a transmitter cut-out, N, such as is claimed in my application No. 112,168, are omitted for a similar reason.

Having thus described the nature and operation of my invention, it will be seen that it may be applied to a trunk-table having any desired construction for the receiver, transmitter, and annunciators, provided the electrical connections are made to the same from the switches J and K, in the manner herein described. I do not, therefore, limit myself to any particular construction for such parts of the apparatus as have been previously known; but

I claim the combination and arrangement of such switches as follows:

1. The combination, with the series of switch-levers J, connected with the series of trunk lines t' t^2 to t^8, of the blocks C′, connected with the series of annunciators by the wires s', and the blocks L, connected with the central switch-board by wires L′ L², &c., the whole arranged and operated substantially as shown and described.

2. The combination, with a trunk-table having a receiver and transmitter electrically connected, as described, of the series of annunciators C D, the series of switch-levers J, connected with the series of trunk-lines t' t^2 to t^8, the levers being connected with the se-

ries of annunciators by the blocks C', and with a series of numbered strips in a central switch-board by the blocks L, the whole arranged and operated substantially as herein shown and described.

3. The combination, with a trunk-table having a receiver, transmitter, and series of annunciators electrically connected, as described, of trunk-switches J, connecting the trunk lines with the annunciators and with the central switch-board, as desired, and a switch, K, connected with the several lines through the series of switches J, as described, and the blocks *g* and *h*, connected, respectively, with a power-generator or pole-changer, and with a hand magneto-electric generator upon the trunk-table, the whole operating substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JABEZ FEAREY.

Witnesses:
OBA WOODRUFF,
WILLIAM I. HUNT.