

(No Model.)

C. E. SCRIBNER.
SWITCH BOARD.

No. 427,622.

Patented May 13, 1890.

Fig. 1.

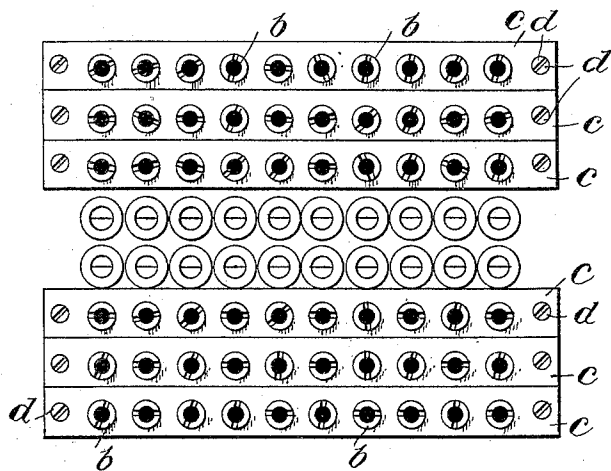


Fig. 2.

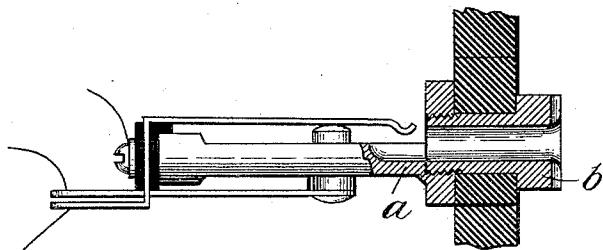
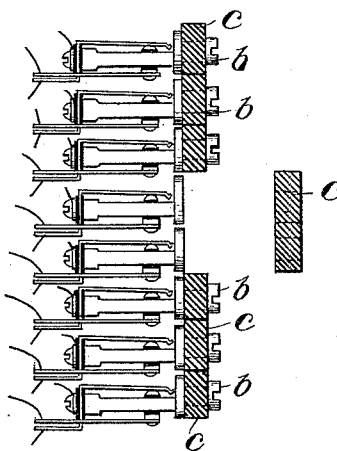


Fig. 3.

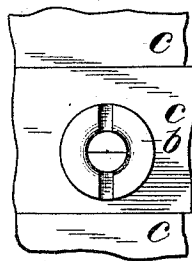


Fig. 4.

Witnesses.
Saml. B. Dover.
Leopold Stern.

Inventor.
Charles E. Scribner.
By George P. Baston.
Att'y.

UNITED STATES PATENT OFFICE.

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

SWITCH-BOARD.

SPECIFICATION forming part of Letters Patent No. 427,622, dated May 13, 1890.

Application filed July 16, 1886. Renewed February 24, 1890. Serial No. 341,401. (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 Telephone - Exchange Switches and Switch-Boards, (Case 110,) 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.

My invention relates to telephone-exchange switch-board apparatus. In the manufacture of telephone switch-boards it has been found necessary to bring as many switches within a given space as possible in order that the switch-boards may be brought within a small space, so that a large number of switches may be within reach of the operator. The switches must also be each separately and securely attached to the board, which may be of wood, rubber, or other suitable material. I have found it desirable to provide for unscrewing and replacing the switches from time to time, as may be required.

Heretofore spring-jack switches have been secured to the board in different ways. More recently a lug has been provided upon the tubular frame at a distance from the front end nearly equal to the thickness of the board upon which it is to be placed. The spring-jack has thus been secured to the rear of the board by a screw inserted in a hole provided in this laterally-projecting lug, the front end of the tube projecting nearly or quite through to the front of the board. Spring-jack switches thus attached to switch-boards are incidentally shown in several of my prior patents, among which I would mention Patent No. 330,066, of November 10, 1885. I would also mention Patent No. 292,866, of February 5, 1884, as showing the prior state of the art. In this latter patent the spring-jack is inserted through the hole in the board from the front and secured by a screw inserted from the front through the flange or lug provided upon the outer end of the tube. Each of these methods of attaching spring-jacks to switch-boards has been found objectionable on account of the space required

and the difficulty of removing the switches from the switch-board after the wires or cables have been connected with the switches at the rear of the board. These wires or cables, especially in the case of multiple switch-boards, are so numerous as to form a complete cover or net-work over the rear of the board, thus rendering the connection with the different switches inaccessible from the rear.

The object of my invention is, first, to bring the switches upon the switch-board within the smallest possible space, and, second, to make the spring-jack connections accessible from the front of the board, so that the spring-jacks may be got at for any purpose desired.

My invention consists in making the tubular frame of the spring-jack switch in two parts, the front portion consisting of a hollow screw and the rear portion being tapped out to correspond with the thread upon the hollow screw. A nut is thus formed upon the main or rear portion of the tube, which is tapped out deep enough to receive the hollow screw when inserted therein from the front of the switch-board.

My invention also consists in making the switch-board in separate sections, the different sections being removable from the front, as hereinafter described and claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my switch-board with two of the sections removed. Fig. 2 is a transverse vertical sectional view thereof and of the removed sections. Fig. 3 is a sectional view showing the spring-jack which I have invented in place upon the switch-board. Fig. 4 is a front elevation of the spring-jack shown in Fig. 3.

Like parts are indicated by similar letters of reference in the different figures.

In order to attach the spring-jack to the board, the rear portion *a* of the tube is placed behind one of the openings bored through the board. The hollow screw *b*, forming the front portion of the tube, is then screwed into the nut, as shown in Fig. 3. A slot is provided in the hollow screw *b*, as shown, so that it may be driven with a screw-driver.

As shown in Figs. 1 and 2, the front of the board consists of removable strips or sections *c c*, &c., which are secured to the frame-work of the switch-board by wood-screws or in any other suitable manner. Two of these sections are shown removed, and the rear portions *a* of the spring-jacks are thus brought to view and made accessible.

In order to remove a strip, it is only necessary to take out the hollow screws *b* of the spring-jacks of the strip and the wood-screws *d*, which hold the strip to the frame. Any strip *c* thus may be removed readily, so as to make any spring-jack or row of spring-jacks accessible.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the switch-board, of a spring-jack switch having a frame or tubular portion consisting of two parts, the rear portion being tapped out to form a nut and the front portion being in the form of a hollow screw corresponding to said nut, substantially as shown and described.

2. The combination, with removable strips *c c*, &c., of spring-jack switches mounted thereon, each switch consisting of two parts, the front portion being in the form of a hollow screw and the rear portion being tapped out to correspond with the thread provided upon said front portion, whereby any strip

may be removed and the spring-jacks of the strip made accessible, substantially as and for the purpose specified.

3. In a telephone switch-board, the combination, with the removable strips, of spring-jack switches secured upon the rear of said strips by screw devices inserted through the strips from the front, whereby any strip may be removed and any spring-jack or row of spring-jacks may be made accessible from the front of the board, substantially as shown and described.

4. The combination, in a spring-jack switch, of a tubular frame consisting of two parts, the front portion being in the form of a hollow screw and the rear portion being tapped out to correspond with a thread provided upon the front portion thereof, whereby the switch may be secured to the switch-board from the front and the connections of the spring-jack made accessible from the front, substantially as shown and described.

5. A strip of spring-jacks in which the front portion of the strip is removable, whereby access may be had to the contact-points from the front, substantially as described.

In witness whereof I hereunto subscribe my name this 8th day of July, A. D. 1886.

CHARLES E. SCRIBNER.

Witnesses:

GEORGE P. BARTON,
LEOPOLD STERN.