

No. 712,600.

Patented Nov. 4, 1902.

H. R. SARGENT.  
SWITCHBOARD SOCKET.

(Application filed Mar. 5, 1901.)

(No Model.)

Fig. 1

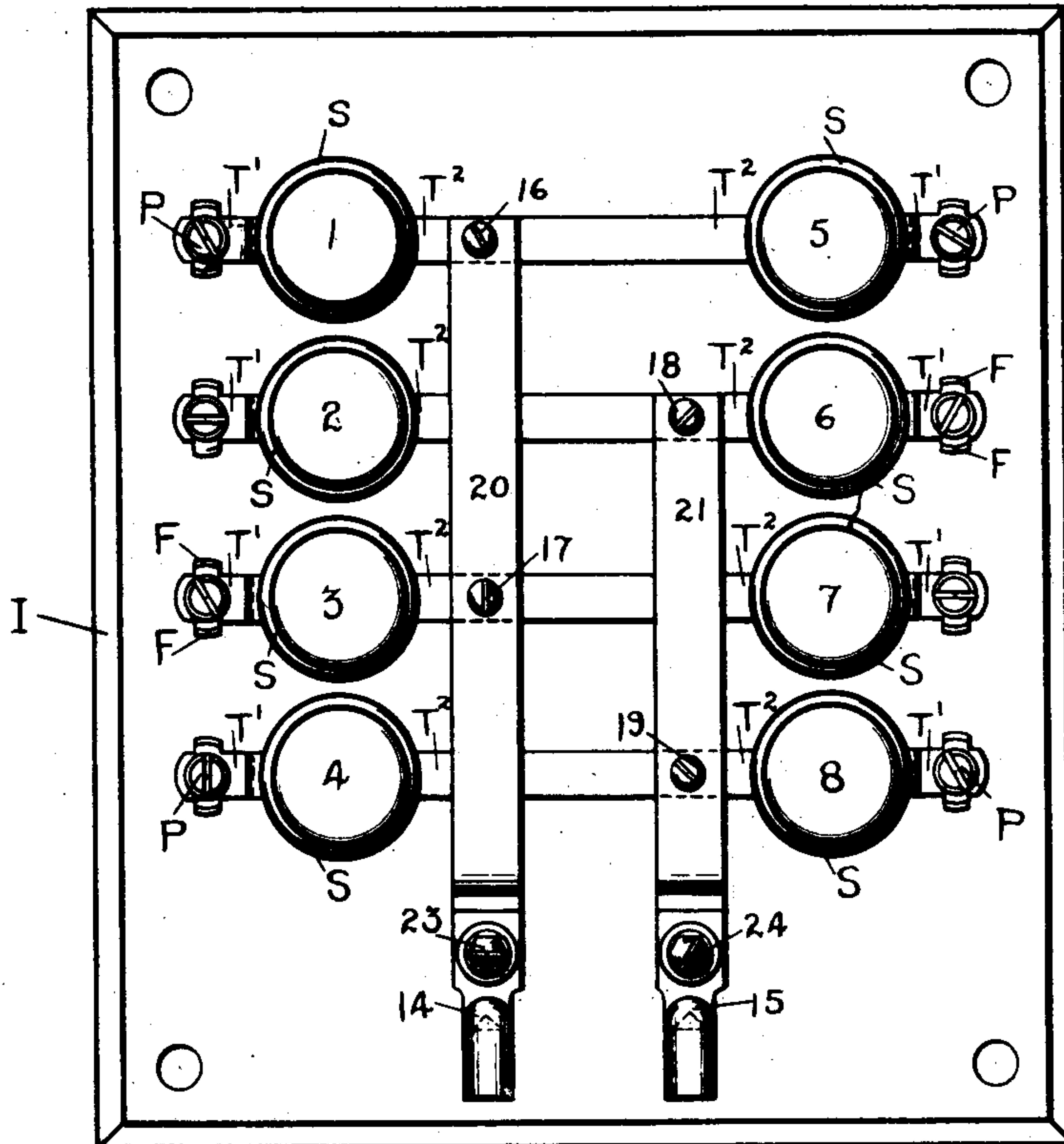


Fig. 3.

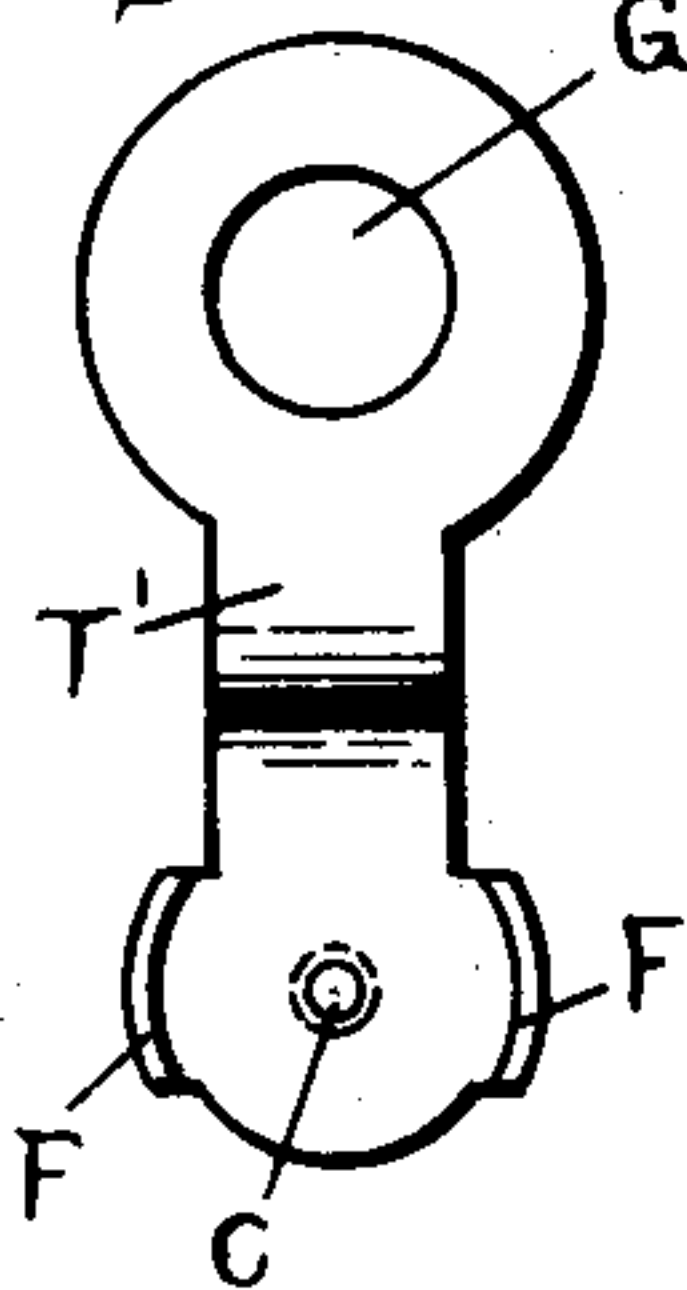


Fig. 2.

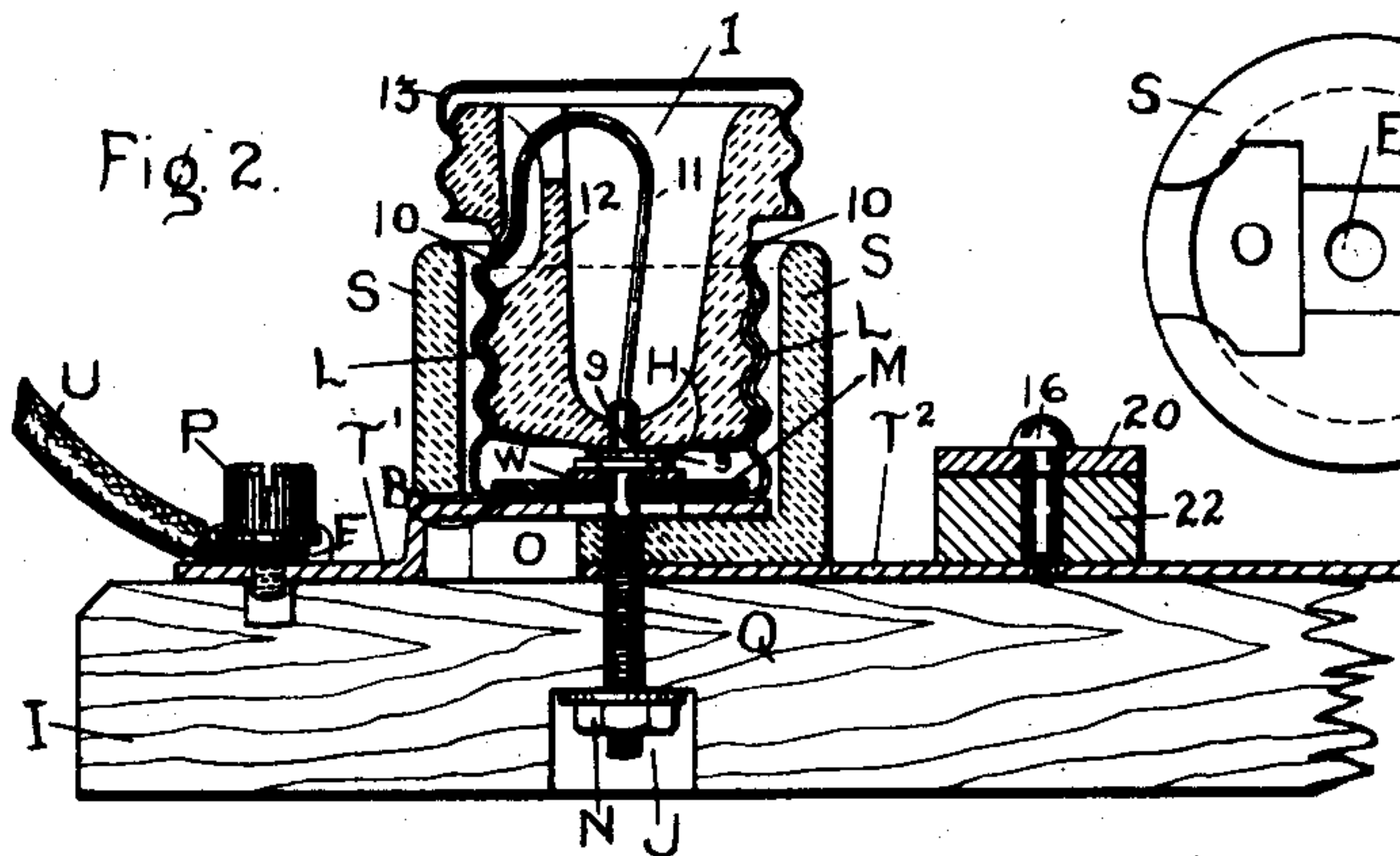
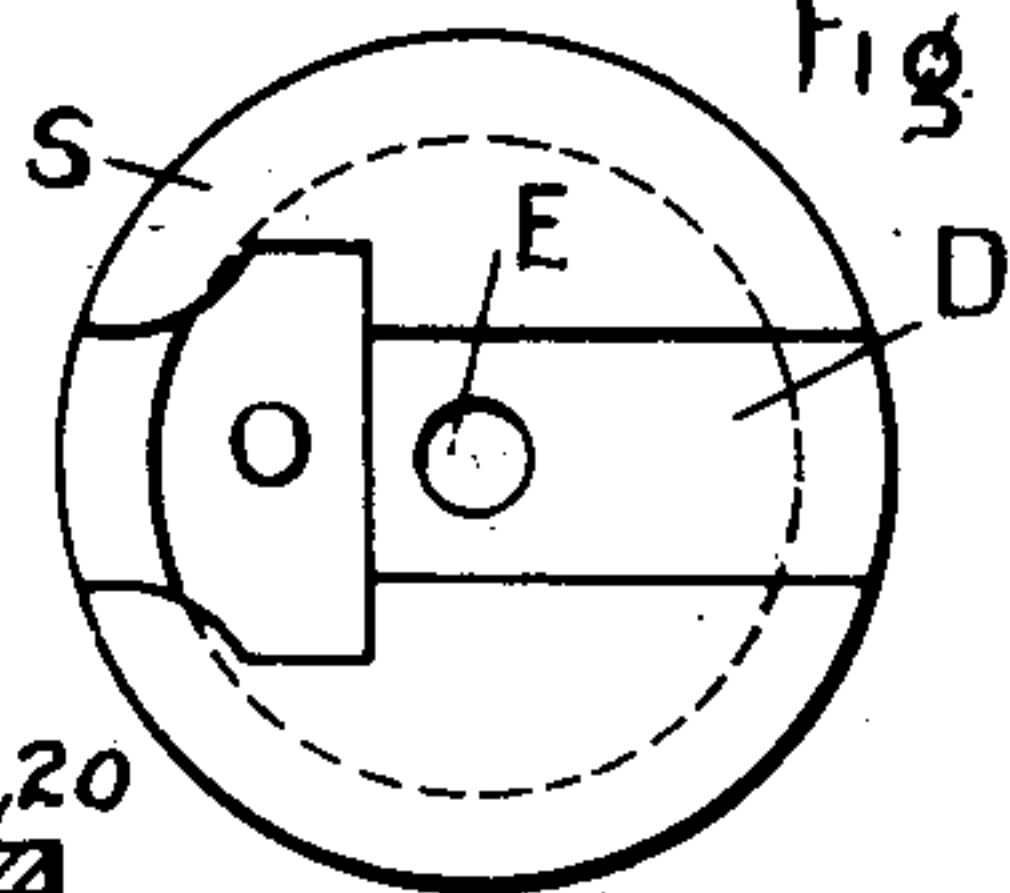


Fig. 4.



Witnesses:

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Inventor.

Howard R Sargent.  
by *Albert B. Davis*  
Att'y.



# UNITED STATES PATENT OFFICE.

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## SWITCHBOARD-SOCKET.

SPECIFICATION forming part of Letters Patent No. 712,600, dated November 4, 1902.

. Application filed March 5, 1901. Serial No. 49,677. (No model.)

*To all whom it may concern:*

Be it known that I, HOWARD R. SARGENT, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Switchboard-Sockets, (Case No. 1,726,) of which the following is a specification.

This invention relates to improvements in the construction of a panel or switchboard adapted for use in connection with plugs of the type having an exterior threaded-sleeve contact and a central end contact. Hitherto these plugs have been screwed directly into exposed threaded conductors mounted on the panel.

The particular object of the invention is to provide a structure whereby the common screw-threaded socket-sleeve can be utilized in connection with cabinet-panels for the reception of fuse-plugs of the type disclosed in the patent to Wirt, No. 576,710, February 9, 1897. However, it will be apparent that the structure hereinafter described is adapted also for the reception of incandescent-lamp bases of the common commercial form or of the Tournier standard attaching-plug.

Of the drawings, Figure 1 is a plan of a cabinet-panel embodying the invention. Fig. 2 is a vertical section of a portion of the same. Fig. 3 is a plan of a circuit-terminal, and Fig. 4 is a plan of an insulating-shell in an inverted position.

In Fig. 1 I represent a panel which is constructed of any suitable insulating material. 14 and 15 are common circuit-terminals provided with holes in their ends for the reception of leads and are secured to the panel by screws 23 24, by which the conductors 20 and 21 are secured to the panel. All the other parts of the apparatus are connected to the panel in accordance with this invention.

The numerals 1 to 8, inclusive, represent a number of fuse-plugs constructed in accordance with the patent to Wirt above mentioned. Each plug, as shown in Fig. 2, comprises an insulating-base 1, open at one end and provided with a cap 13. A center contact 9 is mounted on the outside of one end, and a threaded sleeve 10 surrounds the body of the plug. The center contact and sleeve

are connected by a fuse 11, which passes over an insulating-bridge 12.

In Fig. 1 branch circuits lead from the conductors or terminals 20 and 21 by the cross connections  $T^2$ . There are four branch circuits shown in this figure, and of each pair of plugs, such as 1 and 2, one is connected in each side of one of these circuits. The branches lead from binding-posts P, which are inserted in the terminals  $T'$ . (Shown in detail in Fig. 3.)

The invention will now be understood by reference to Figs. 2, 3, and 4. A shell S of insulating material, open at its upper end for the reception of the plug, is mounted on the panel I. Looking at the bottom of this shell in Fig. 4 it may be seen that it is provided with an opening O, partly at the side and partly at the bottom. This opening is for the terminal  $T'$ . (Shown in Fig. 3.) A groove D is formed in the bottom of the shell, and this groove fits the terminal  $T^2$ . A hole E extends through the bottom of the shell, and, as seen in Fig. 2, the threaded bolt Q passes through this hole and a screw-threaded opening in the terminal  $T^2$  to hold the parts together and make good contact with the terminal  $T^2$ . Figs. 2 and 3 disclose the peculiar shape of the terminal  $T'$ . One end is provided with a threaded opening C for the reception of the binding-post P and is also provided with lugs F to retain the branch lead U in place beneath the binding-post. The other end of the terminal  $T'$  is ring-shaped, having a central opening G. The binding-post end of the terminal  $T'$  is dropped through the hole O before the shell S is placed upon the panel I. The ring end then rests upon the inside of the bottom of the shell. The threaded-sleeve contact L, provided with the usual flange B, is then mounted on the ring, and on this flange is placed a disk M of insulating material, such as mica. A nut N is then inserted in the countersunk hole J in the bottom of the panel, and a bolt Q, provided with a head H, serving as the center contact and having a washer W beneath it, is inserted through the disk M, the bottom of the shell S, the hole G in the terminal  $T'$ , and the panel I to engage with the nut N and lock the parts together. It will be noted that by



this bolt Q the sleeve S and the terminals T' and T<sup>2</sup> are secured to the panel and the sleeve L, insulation M, washer W, and center contact H are secured to the terminal T'. The  
 5 plug I can now be inserted in the shell S to engage with the threaded sleeve L as readily as in an ordinary socket.

The chief advantage of this construction is the protection by the insulating-sleeve S of  
 10 the threaded-sleeve contact L. As above described, the plug has hitherto been screwed into an exposed terminal. A further and important feature is that parts standard for various other apparatus can be utilized for this  
 15 apparatus, whereby a great saving in cost of production is obtained.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a panel or switch-  
 20 board, of an insulating-shell open at the top and having an opening partly in the side and partly in the bottom, a circuit-terminal mounted on the panel, extending through said opening, and resting on the inside of the bot-  
 25 tom of the shell, a threaded contact-sleeve mounted on said terminal inside said shell, and a single bolt passing through said parts to hold them in position on the panel or switch-  
 30 board, the head of said bolt constituting the other contact.

2. The combination with a panel or switch-  
 board, of an insulating-shell open at the top and having an opening partly in the side and partly in the bottom, a ring-terminal mount-  
 35 ed on the inside of the bottom of the shell and extending outside the shell upon the panel, a threaded-sleeve contact mounted on said ring-terminal inside the shell, and a  
 40 single bolt passing through said parts to hold them in position on the panel or switchboard, the head of said bolt constituting the other contact.

3. In combination with a panel or switch-  
 board, of an insulating-shell mounted there-  
 45 on, said shell being open at the top, having a central opening through the bottom, and having a groove D on the outside surface of the bottom, a circuit-terminal mounted on the panel and extending in said groove, a

center contact mounted inside of said shell, 50  
 and a bolt extending from said center contact through said hole and engaging said circuit-terminal.

4. The combination with a panel or switch-  
 board, of an insulating-shell mounted there- 55  
 on, said shell being open at the top and having a central opening through the bottom, a circuit-terminal mounted on the panel, a center contact mounted inside the shell, and a  
 60 bolt extending from said contact through the hole in the shell, through said circuit-terminal, and through the panel, to hold the parts together upon said panel or switchboard.

5. The combination with a panel or switch-  
 board, of an insulating-shell mounted there- 65  
 on, said shell being open at the top and having an opening partly in the side and partly in the bottom, a circuit-terminal mounted on the panel, extending through said opening, and resting on the inside of the bottom of the 70  
 shell, a threaded contact-sleeve mounted on the terminal in the shell, a disk of insulating material mounted on the bottom of said sleeve, a second circuit-terminal mounted on the panel beneath the shell, a center contact 75  
 mounted on the insulating-disk, and a bolt extending from said center contact and passing through the insulating-disk, through both circuit-terminals, but making contact only  
 80 with the second terminal, and through the bottom of the shell, to complete the circuit and hold the parts together upon said panel or switchboard.

6. The combination with a plug having a threaded-sleeve contact and a central end 85  
 contact, of a panel or switchboard provided with circuit-terminals, a shell of insulating material detachably mounted on the panel, a threaded-sleeve contact mounted inside the sleeve and connected to one panel-terminal, 90  
 and a center contact mounted inside the shell and connected to the other panel-terminal.

In witness whereof I have hereunto set my hand this 28th day of February, 1901.

HOWARD R. SARGENT.

Witnesses:

BENJAMIN B. HULL,

MARGARET E. WOOLLEY.