

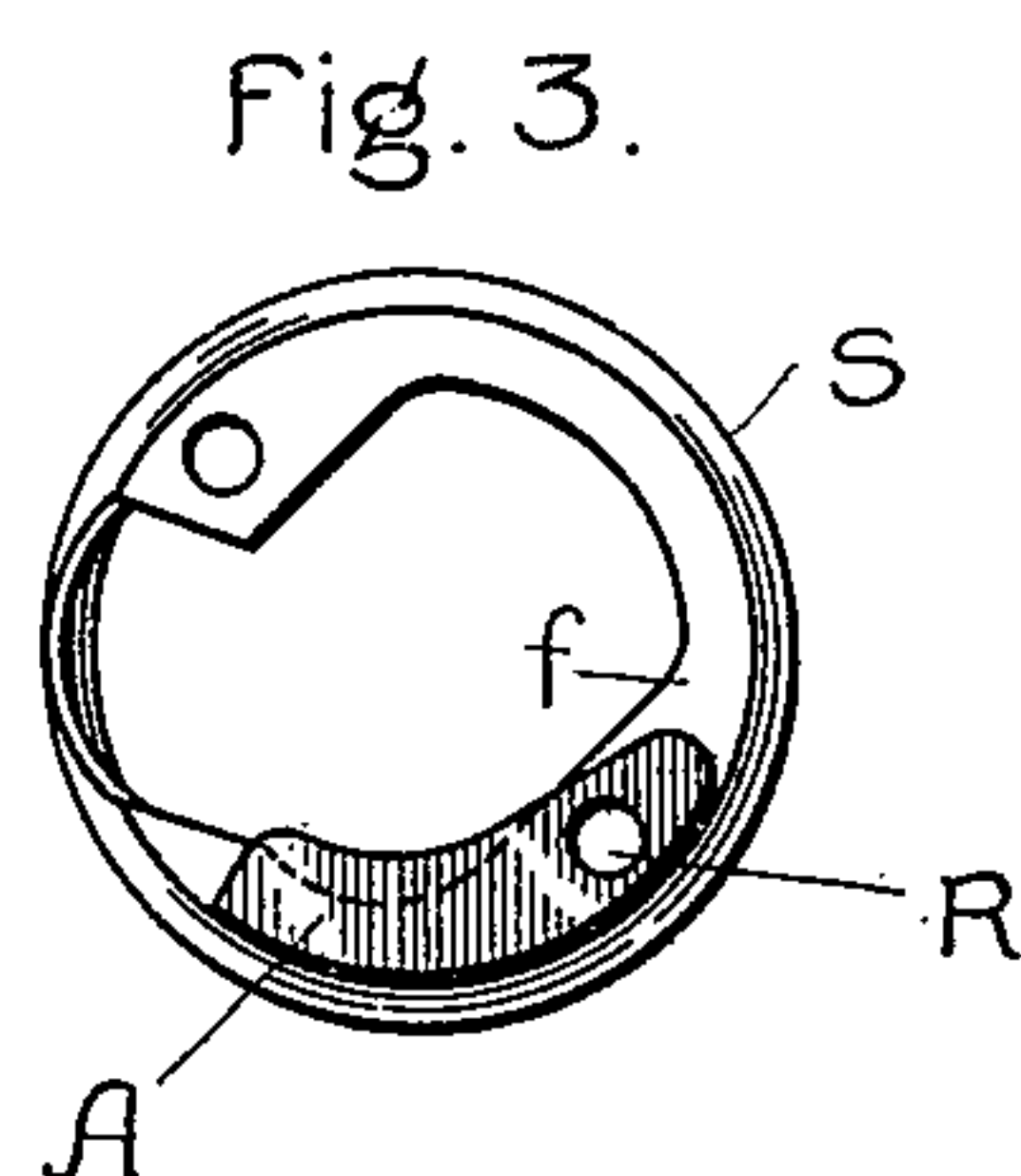
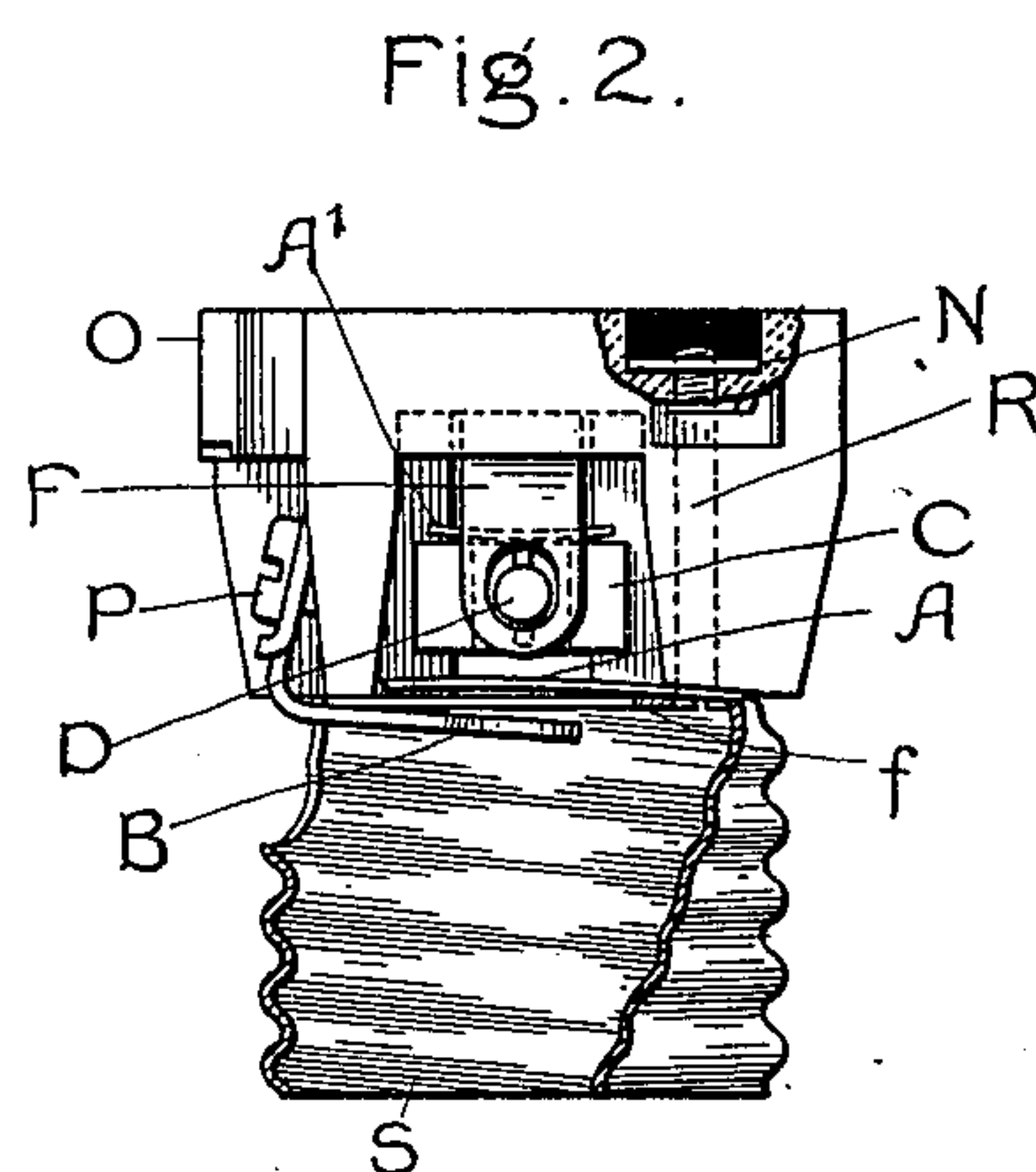
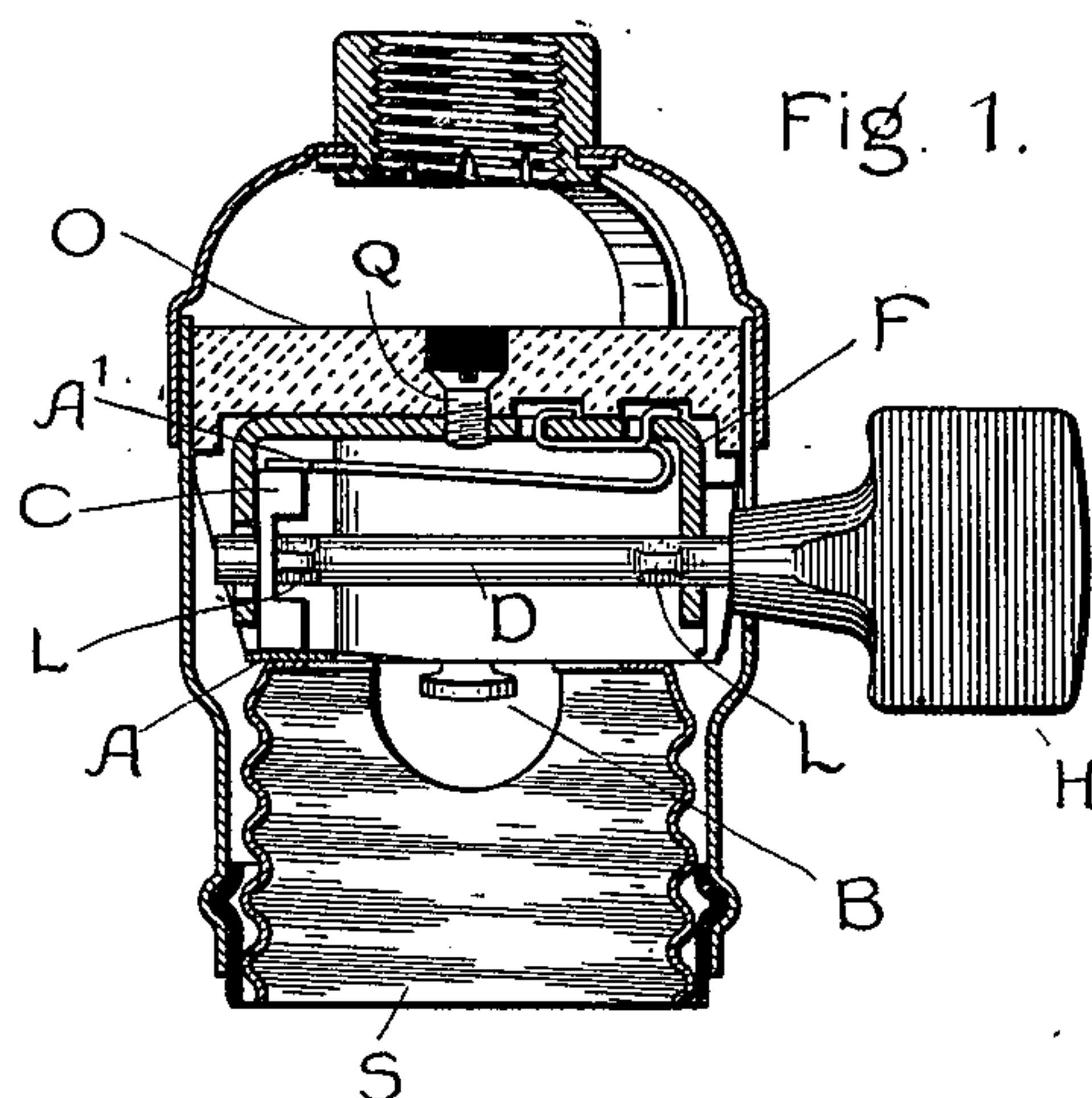
No. 645,984.

Patented Mar. 27, 1900.

J. C. TOURNIER.  
ELECTRICAL SWITCH.

Application filed Sept. 25, 1899.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

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GENERAL ELECTRIC COMPANY, OF NEW YORK.

## ELECTRICAL SWITCH.

SPECIFICATION forming part of Letters Patent No. 645,984, dated March 27, 1900.

Application filed September 25, 1899. Serial No. 731,537. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS CH. TOURNIER, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Electrical Switches, (Case No. 1,404,) of which the following is a specification.

This invention relates to means for making electrical contact, being applied particularly to incandescent electric-lamp sockets, but capable of use in other switches, and is an improvement on the type of socket-switch having an oblong contact-maker, a loosely-connected rotatable spindle therefor, and a spring-terminal for giving a snap action to the contact-maker.

It consists generally in providing means for permitting the contact-maker of the switch in a lamp-socket to move farther in the direction of the conductor which engages with the lamp-terminal after it has established electrical communication therewith. I have found also that the rubbing contact between a contact-maker and stationary conductor, both composed of the brass commonly used in such lamps, is not always satisfactory and that this fault can be remedied by interposing a small piece of a different metal, such as phosphor-bronze, as by attaching it to one of the contacts. Either of the contacts could be made entirely of the different metal, but this would cost more. In order to obtain this continued movement of the contact-maker, I cause it to make yielding contact with the conductor, and for this purpose I provide, for example, one construction consisting of a separate spring interposed between, as by securing it to, the conductors. Other equivalent mechanical structures can readily be designed. The material of which I propose to make this spring is phosphor-bronze, although a portion of the beneficial results of the invention would follow from the use of a brass spring.

In the drawings, Figure 1 is a longitudinal section of a socket embodying my invention; Fig. 2, an elevation with the supporting-cap and casing removed, and Fig. 3 a plan of Fig. 2.

A is a spring-conductor of a different metal

from the brass lamp-retaining sleeve S or other conductor making contact with a lamp-terminal when the lamp is in the socket, and the best material of which to make the spring I have found to be phosphor-bronze. The function of the spring A may be obtained by various modes of construction; but it is shown here as a separate strip secured to the flange of the sleeve S by a screw R in one end, which extends through the porcelain base O and is held by a nut N to secure the sleeve S to the base. The base O serves as a support for the switch-member frame F, which is secured to the base by the screw Q. The spring A is so arranged that it will not be killed by the other parts, but that the desired degree of its resilient quality is utilized. In the case shown the free end extends over the cavity in the base which contains the contact-maker C to normally leave a space between itself and the flange of the sleeve S. The socket-terminal B is connected to line at the binding-post P and engages with the other lamp-terminal when the lamp is in the socket.

Adapted to engage with the spring A is an oblong switch-piece or contact-maker C, which is mounted for a few degrees of lost motion upon the rotatable spindle D, the latter being provided with the insulating-handle H and the retaining-lugs L. A second spring A', preferably also of phosphor-bronze, suitably secured to a frame F, bears against the contact-maker C on the side opposite to the spring A, and these two springs operate jointly on the contact-maker. The spring A' is connected to line at a suitable binding-post, and when the spindle is rotated it will be depressed by the oblong contact-maker C, which will then make contact with the spring A, which spring will then share with A' the resistance offered by the rotating oblong block, and the spring A will also afford a good rubbing contact.

When the spindle is turned to open the switch, the lost motion of the block, with the force of the springs A and A', gives it a snap disconnecting movement.

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

1. In a socket for an electric lamp, the combination with an insulating-support, of a



- yielding line-terminal mounted thereon, a  
conducting lamp-retainer secured to said  
support and adapted to conduct current to  
the lamp, a contact-maker mounted within  
5 the insulating-support and adapted to engage  
with said line-terminal, and means whereby  
said contact-maker can establish electrical  
communication with said lamp-retainer, and  
then move forward toward the latter.
- 10 2. A socket, which comprises an insulating-  
support, a screw-threaded conducting-sleeve  
secured to said support, a contact maker and  
breaker, and a strip of different metal from  
that of the sleeve and contact-maker, which  
15 is secured between said sleeve and said sup-  
port.
3. In an electric-lamp socket, the combina-  
tion with a contact-maker, of a conducting-  
spring adapted to be engaged by said contact-  
20 maker, and an unyielding conductor adapted  
to engage with a lamp-terminal and with said  
spring-contact, and to serve as an abutment  
for the spring-contact when the latter is en-  
gaged by the contact-maker.
- 25 4. In a lamp-socket, the combination with  
a rigid conductor adapted to make contact  
with a lamp-terminal, of a conducting-spring,  
and a contact-maker adapted to cause the said  
spring to abut against said conductor.
- 30 5. In an electric-lamp socket, the combina-  
tion with an insulating-support carrying a  
conductor adapted to support a lamp and en-  
gage a terminal thereof, of a contact-maker,  
and a conducting-piece composed of a mate-

rial different from that of the contact-maker 35  
and secured between the said insulating-sup-  
port and the said conductor.

6. In a socket for an electric lamp, the com-  
bination with an insulating-support, of a  
screw-threaded conducting-sleeve having a 40  
flange by which it is secured to said support,  
said sleeve being adapted to receive a screw-  
threaded lamp-base, a contact-maker mount-  
ed within said support, and means whereby  
said contact-maker can move toward the 45  
flange of said sleeve after it has established  
electrical communication with said sleeve.

7. In a socket for an electric lamp, the com-  
bination with an insulating-support, of a con-  
ducting lamp-retainer secured thereto, a con- 50  
tact-maker, and a yielding conductor secured  
between the said insulating-support and said  
lamp-retainer.

8. In a socket for an electric lamp, the com-  
bination with a rigid conductor adapted to en- 55  
gage with a lamp-terminal, of a separate con-  
ducting-spring secured to said conductor, and  
a contact-maker adapted to cause said spring  
to abut against said conductor, whereby said  
spring is compressed between the conductor 60  
and contact-maker.

In witness whereof I have hereunto set my  
hand this 18th day of September, 1899.

JULIUS CH. TOURNIER.

Witnesses:

BENJAMIN B. HULL,  
GENEVIEVE HAYNES.