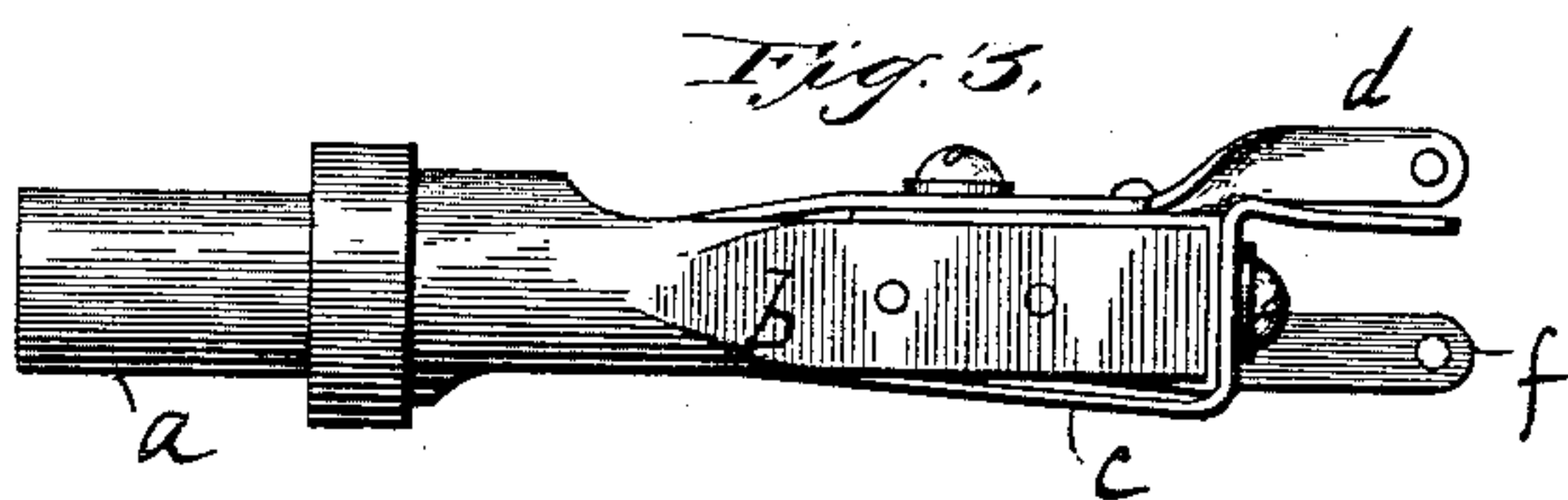
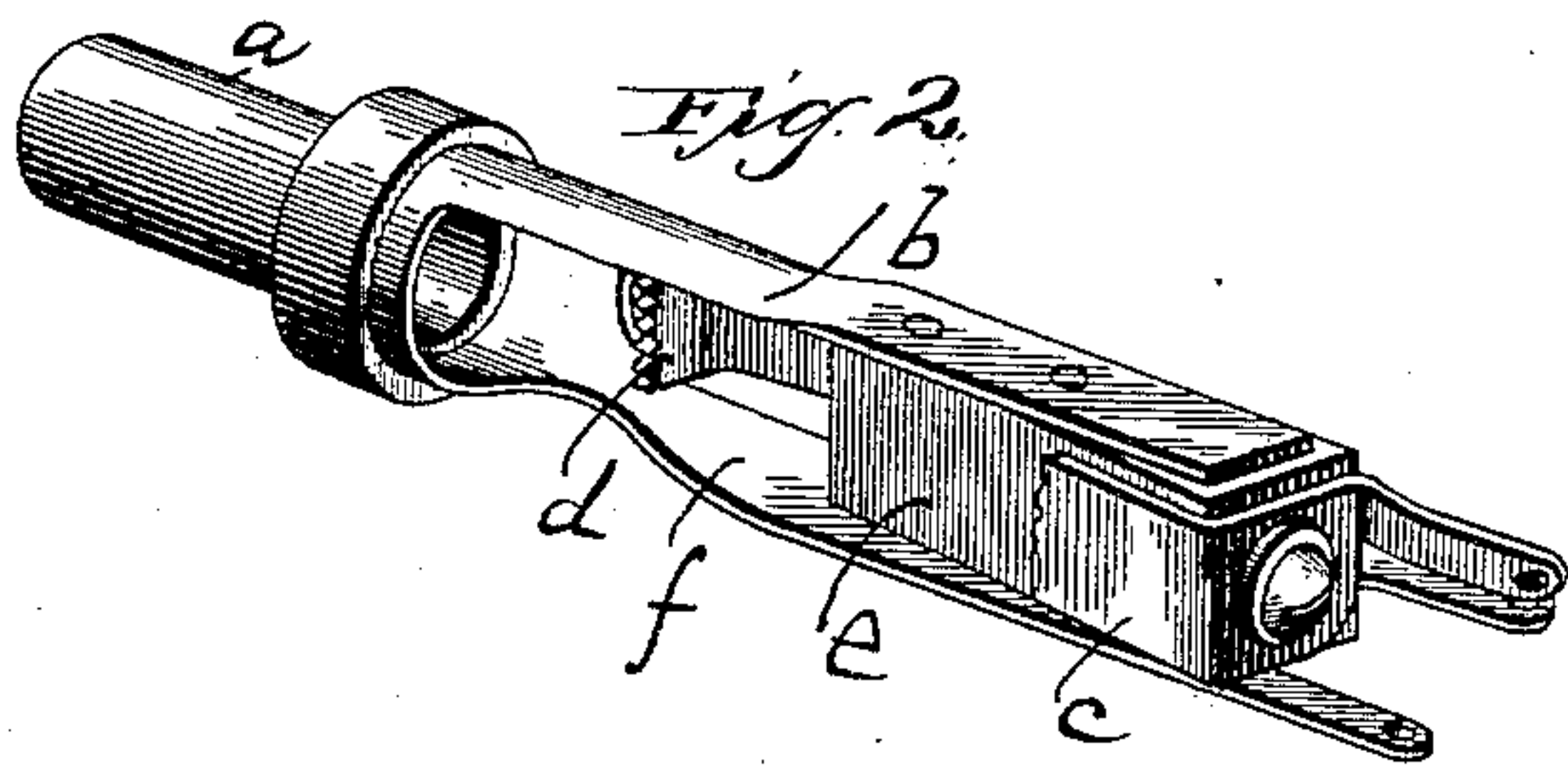
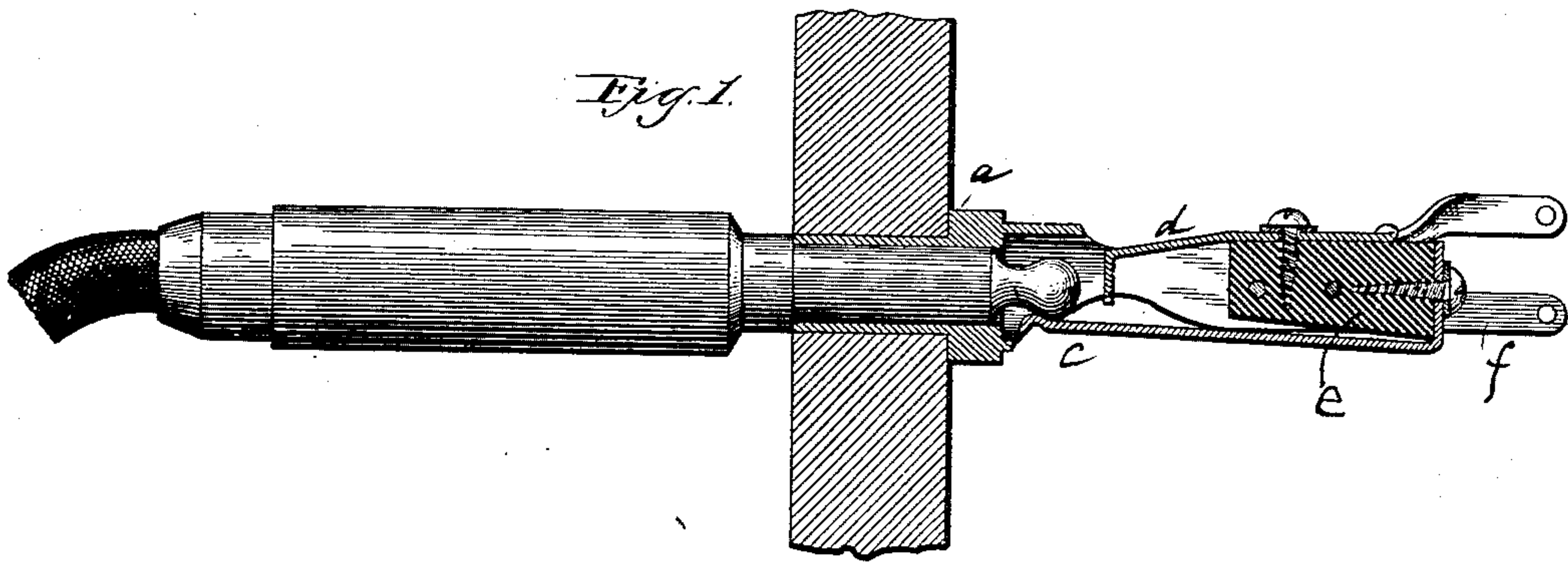


(No Model.)

W. R. PATTERSON.  
SPRING JACK SWITCH.

No. 464,519.

Patented Dec. 8, 1891.



Witnesses  
Wm. M. Schenck  
E. W. Hurdman

Inventor:  
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ATTY.



# UNITED STATES PATENT OFFICE.

WILLIAM R. PATTERSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN  
ELECTRIC COMPANY, OF SAME PLACE.

## SPRING-JACK SWITCH.

SPECIFICATION forming part of Letters Patent No. 464,519, dated December 8, 1891.

Application filed May 27, 1890. Serial No. 353,294. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. PATTERSON, 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 Spring-Jack Switches, (Case 86,) 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 spring-jack switches specially designed for use upon telephone-exchange switch-boards; and its object is to provide a construction which will prevent any impairment of the electrical connections resulting from accumulations of dust.

My invention consists in the construction of a metallic frame or tube, in combination with the contact spring or lever placed in a vertical plane within the frame, the parts being so arranged that the contacts shall be covered, while at the same time an aperture is provided below them for any dust to fall out that may perchance get within the switch. The frame consists of a socket having projections extending toward the rear of the switch-board, the projection above serving as the shield and the projection below preferably serving as the line connection. A block of insulation is held between the rear ends of these projections, the contact-lever being mounted on one side thereof and the contact-point, against which the lever is adjusted to normally rest, being mounted upon the other side of said block of insulating material. The contact-spring has its free end presented to the opening in the tube, so that when a plug is inserted—as, for example, an ordinary loop-plug—the lever will be lifted from its contact and closed to the tip of the plug, while the sleeve of the plug will be in contact with the socket or frame.

My invention will be readily understood by reference to the accompanying drawings, in which—

Figure 1 is a horizontal sectional view illustrative of a spring-jack embodying my invention with a loop-plug inserted therein. Fig. 2 is a perspective view of the switch removed

from the switch-board and the lever being broken away. Fig. 3 is a plan view thereof.

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

The metallic frame consists of the socket *a*, which is inserted in the switch-board, preferably from the rear, to form the plug-hole. The projection *b* forms the dust-shield above the contact of the spring *c* with the contact-piece *d*. It should be observed that the spring forming the lever is placed in a vertical plane instead of in a horizontal plane, as has been usual heretofore, and in position to rest against its opposing contact, which comes directly under the dust-shield, this lever and the piece forming its normal contact being mounted upon the block *e*, of insulating material, held between the projections *b* and *f* of the frame. It will be observed that the lower projection *f* is cut away under the contact between the lever and its opposing contact-piece to permit any dust that might perchance get within the switch to fall out. The connection between the frame and the wire is preferably made with the lower projection *f*, which is extended for this purpose.

In constructing the frame the front or tubular portion forming the socket may be turned out in a single piece, while the projections *b* and *f* may be stamped out in a single piece and bent in proper form and then inserted and soldered into the tube, as shown. Thus the frame, including the projections, is made to consist of an integral piece. The block of insulation is secured between these projections with the contact-piece and lever properly mounted thereon.

My spring-jack switch thus constructed is simple in construction and durable and not liable to be impaired by any accumulation of dust between the lever and contact-piece. Ordinarily the line coming in will be connected with the lever and the line out or the return portion of the line with the frame. When the loop-plug is inserted, the line in is opened at the contact and closed to the tip of the plug, while the sleeve of the plug makes connection with the frame, as is usual.

Having thus described my invention, I



claim as new and desire to secure by Letters Patent—

1. The combination, with the frame consisting of the tube provided with the projections forming an integral piece, of the block of insulating material placed between the projections, with the lever and its opposing contact-piece properly mounted thereon, the contact between said lever and contact-piece being shielded by the upper projection of the frame, substantially as and for the purpose specified.

2. The combination, with the frame consisting of the tube provided with the projections forming an integral piece, of the block of insulating material placed between the projections, with the lever and its opposing contact-piece properly mounted thereon, the contact between said lever and contact-piece being shielded by the upper projection of the frame,

and the lower projection being cut away to provide an aperture under said contact, substantially as and for the purpose specified.

3. A frame of the spring-jack switch having rearwardly-projecting metallic pieces supporting the block upon which the lever and contact-piece of the switch are mounted, the upper of said projecting metallic pieces being placed above the contact between the lever and its contact-piece to form a dust-shield, the lower projecting piece being cut away to form an aperture under the contact, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 22d day of May, A. D. 1890.

WILLIAM R. PATTERSON

Witnesses:

GEORGE P. BARTON,  
ELLA EDLER.