

No. 771,239.

PATENTED OCT. 4, 1904.

E. L. GALE, SR.
ELECTRIC SWITCH.

APPLICATION FILED FEB. 8, 1904.

NO MODEL.

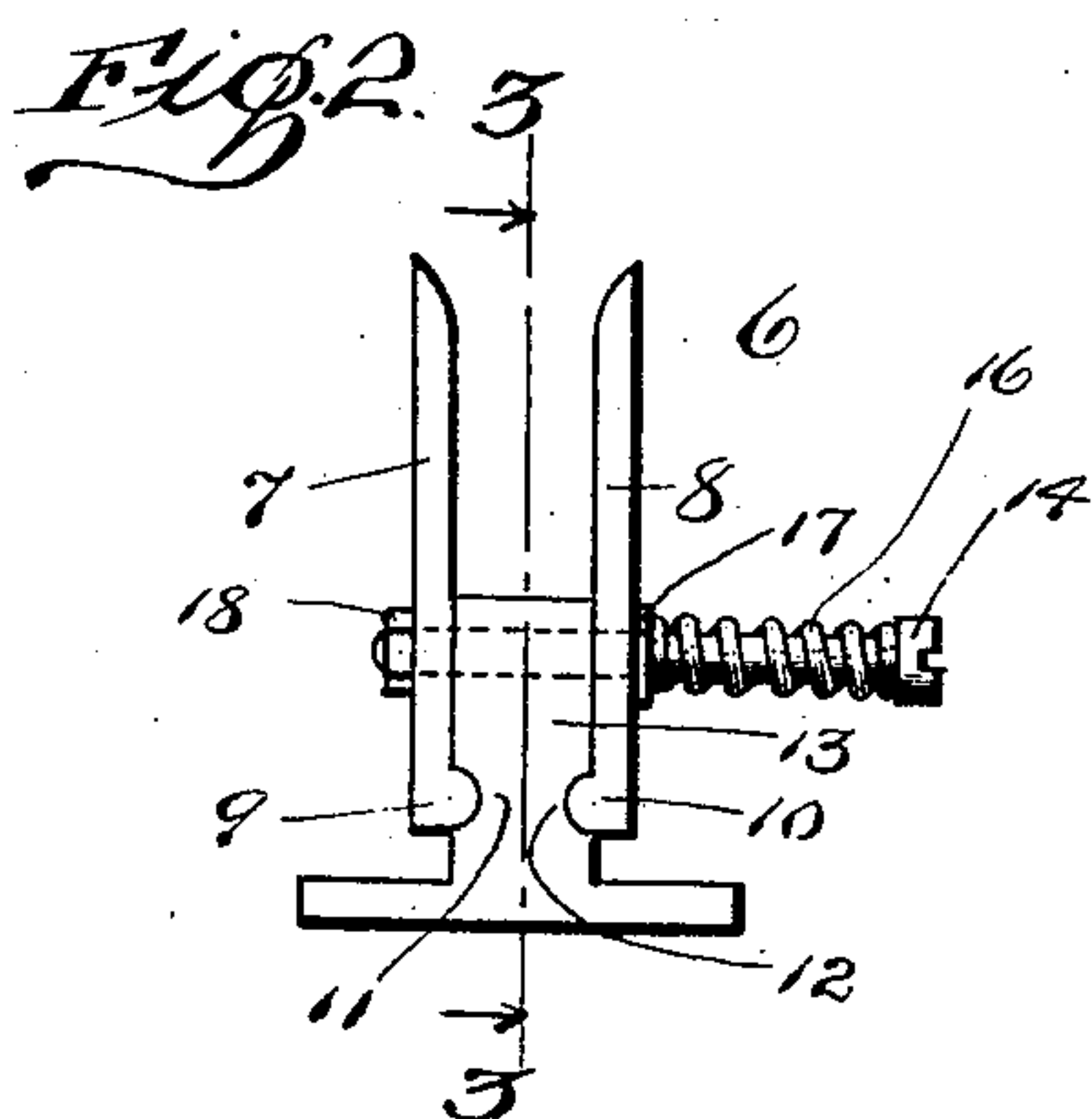
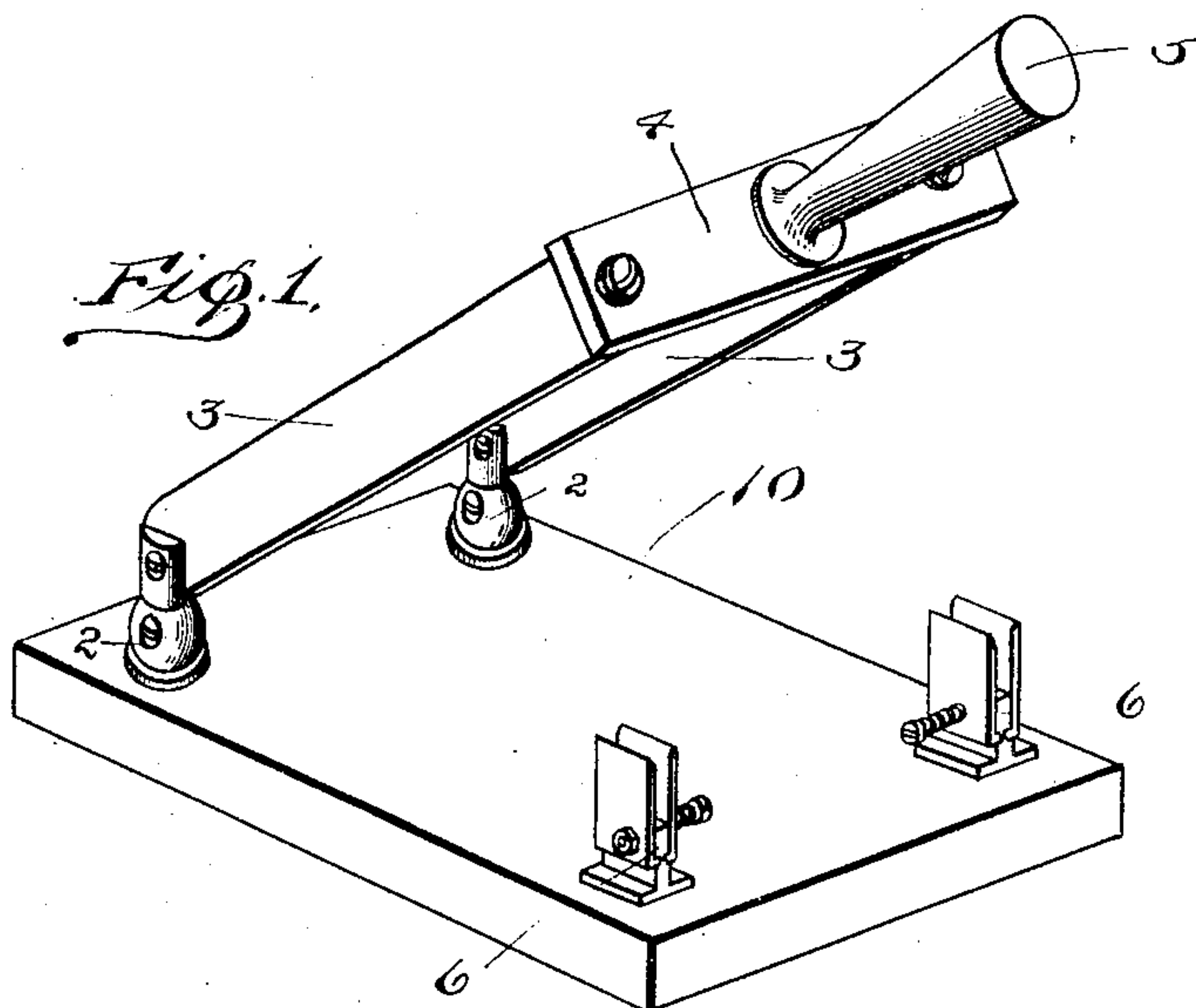


Fig. 3.

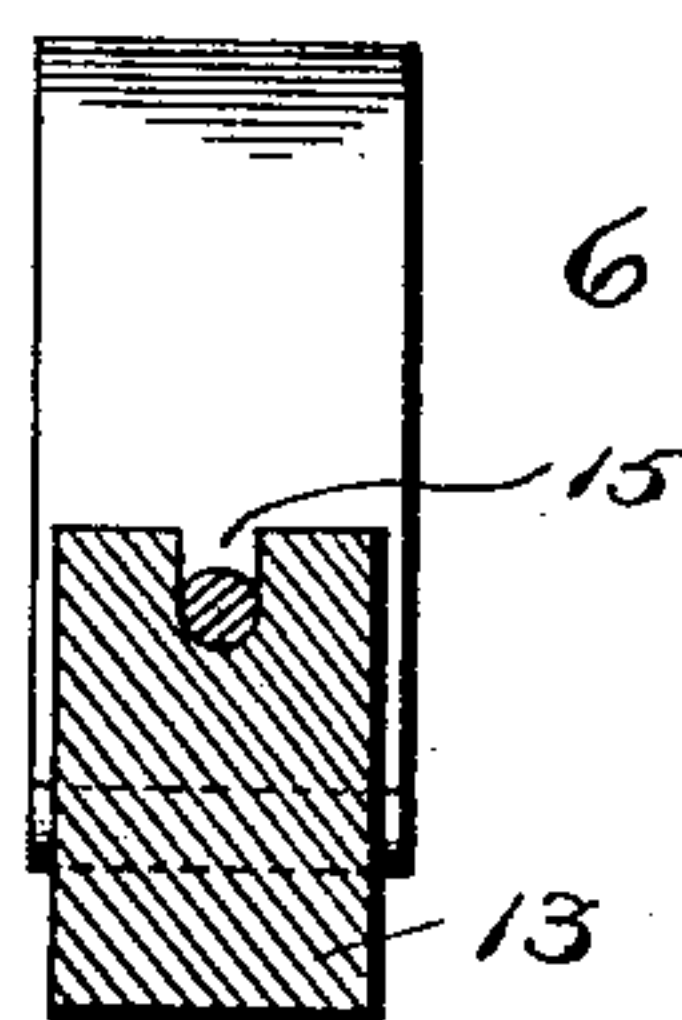


Fig. 4.

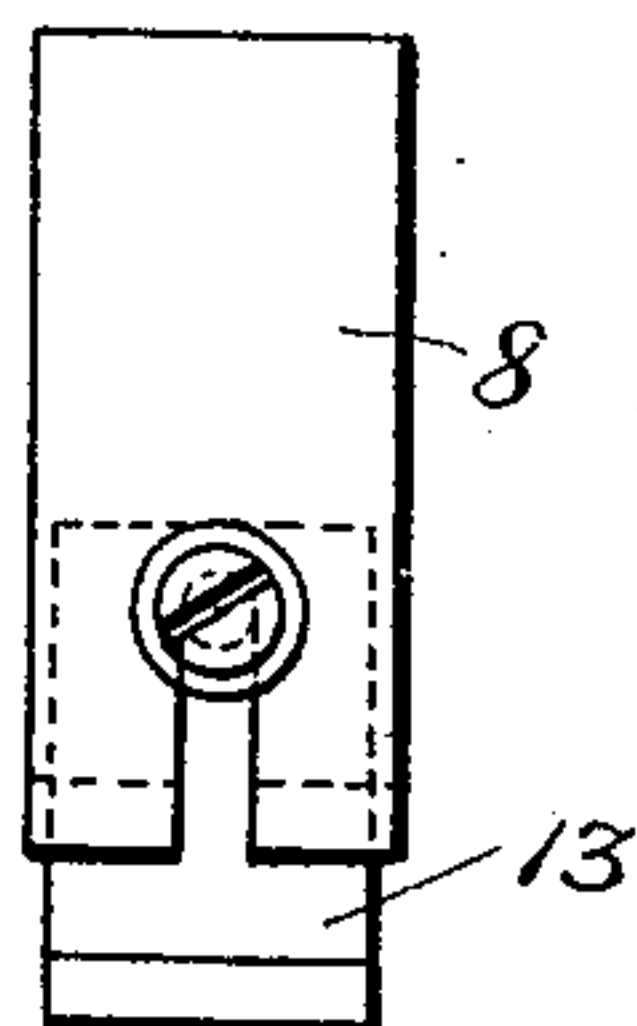
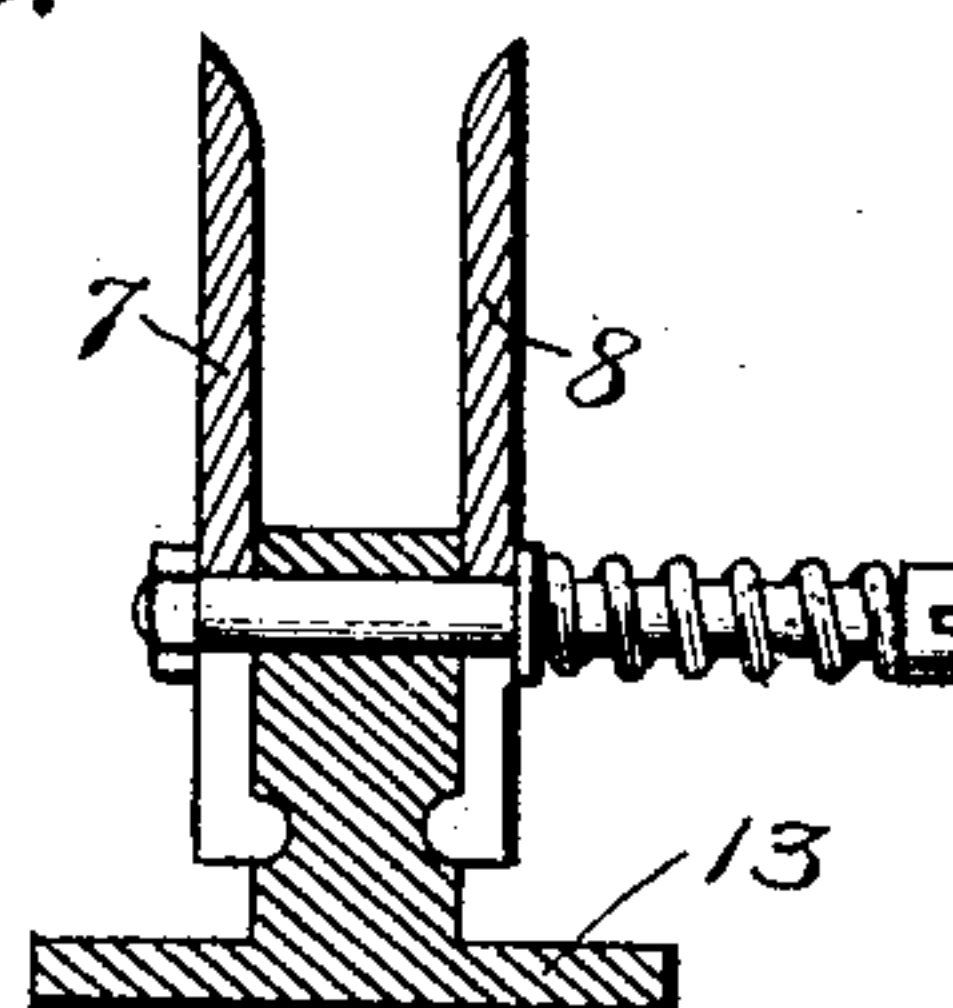


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

ERNEST L. GALE, SR., OF YONKERS, NEW YORK.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 771,239, dated October 4, 1904.

Application filed February 8, 1904. Serial No. 192,611. (No model.)

To all whom it may concern:

Be it known that I, ERNEST L. GALE, Sr., a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented new and useful Improvements in Electric Switches, of which the following is a specification.

My invention relates to improvements in electric switches; and its object is to provide a switch which may be opened even though its contacts be fused together by being subjected to an overload or destructive arcing.

Referring to the drawings, Figure 1 is a perspective view of a switch embodying my invention. Fig. 2 is an enlarged view showing in elevation one of the switch-contacts. Fig. 3 is a sectional view on the line 3 3 of Fig. 2. Fig. 4 is a side elevation showing a modification of my invention. Fig. 5 is a sectional view of the same, taken at right angles to Fig. 4.

Similar figures of reference designate corresponding parts in the several figures.

Referring now to Fig. 1, 10 represents the base of a double-pole switch, made of some insulating material, such as slate, and upon which the several parts are attached. 2 represents standards in which the contact-blades or moving members 3 are hinged. These contact-blades are fastened at the other end by some insulating material 4, which carries a handle 5, by means of which the contact-blades 3 may be moved. 6 designates stationary contacts which engage the contact-blades 3 when they are moved into the closed position.

I will now describe the construction of the contacts 6, which embody my invention. Referring to Fig. 2, it will be seen that the contact 6 comprises two contact-clips 7 and 8, which are similar in form. They are made of copper or other conducting material. The upper edges of these clips are beveled, so that the contact-blades 3 may readily enter between them. At the other end of the clips are provided ridges or raised portions 9 and 10, which are intended to fit into corresponding depressions 11 and 12 in the support 13. The clips are held normally in the position shown in Fig. 2 by means of a spring 16, held by a bolt 14, which passes through holes in the contact-clips and a slot 15 in the support

13. The spring 16 not only serves the purpose of holding the clips in the position shown and to permit of the clips adjusting themselves against the contact-blade 3 when the latter is between them, but should a contact-blade adhere or stick fast to either one or both of the clips a forcible opening of the switch would tend to pull the raised portions of the clips out of engagement with the depressions 11 and 12, and the clips still being engaged by the contact-blade would be carried by it away from the support 13, and thus break all electrical connection between the contact-blade and the support 13. So it will be seen that the ridges 9 and 10, together with the depressions 11 and 12 and the spring 16, hold the clips in place during the usual operation of the switch, but will allow them to be pulled off from their supports when there is an abnormal strain upon them.

In the modification shown in Figs. 4 and 5 the contacts are constructed in a similar way to that just described. In this case there is a hole instead of a slot in the support 13 for receiving the bolt which holds the clips together, and slots are provided in the clips 7 and 8 to enable them to be pulled off from the support 13 and the bolt which normally holds them together.

In using a switch of the general type herein shown there is more or less arcing at the contacts. This may cause the contact-blades to become welded to the contact-clips. This also happens from other causes. If such welding has taken place, it becomes impossible to open the switch even though it may be of the greatest importance to open it quickly. A switch made according to my invention overcomes this difficulty.

I have shown two constructions, but do not wish to limit myself to them, as other constructions may be used without departing from the spirit of my invention. My invention may also be applied to other types of switches than that herein shown—for example, those having abutting contacts or those having sliding contacts.

Having described my invention, what I claim is—

1. In an electric switch the combination of

a movable contact and a stationary contact, the movable contact being adapted to be moved into and out of contact with the stationary contact, and a yielding support for the stationary
5 contact which will hold the latter under usual conditions but will release it when it is subjected to an abnormal strain.

2. In an electric switch the combination of a movable contact and a stationary contact
10 comprising a support and contact-clips yieldingly held to the support, the movable contact being adapted to be moved into and out of contact with said clips, means which will

hold the clips to the support during the usual operation of the switch but will release them 15 if the clips are stuck to the movable contact at the time the latter is moved away from the support.

In testimony whereof I have signed my name to this specification in the presence of two sub- 20 scribing witnesses.

ERNEST L. GALE, SR.

Witnesses:

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ADRIAN M. POTTER.