

(No Model.)

W. J. SCHULTZ.
ELECTRIC SWITCH.

No. 486,987.

Patented Nov. 29, 1892.

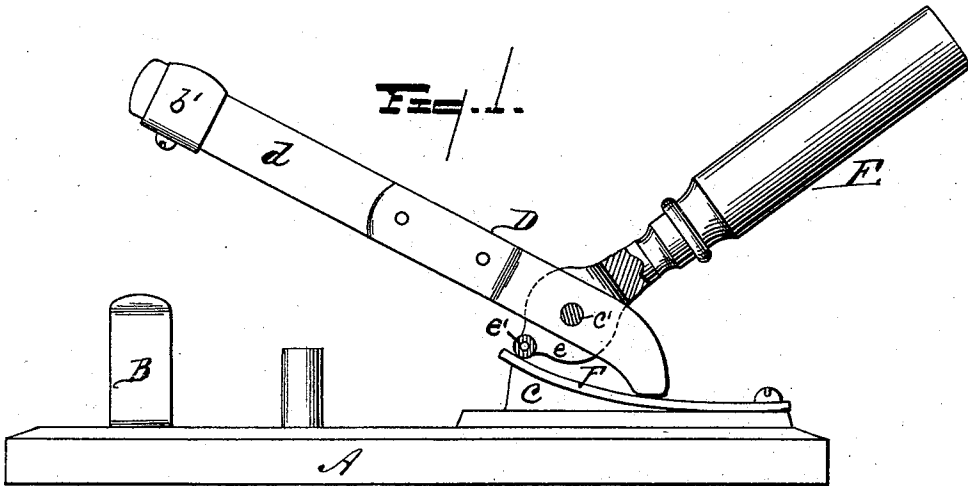
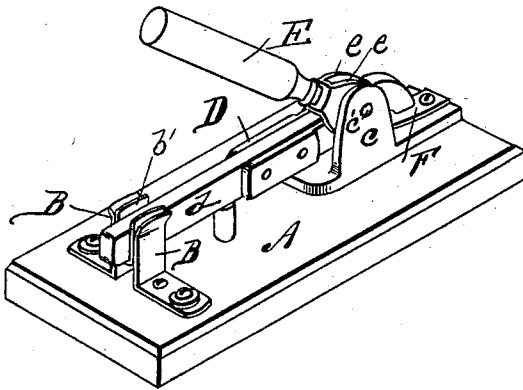


Fig. 2.



WITNESSES

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ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 486,987, dated November 29, 1892.

Application filed June 27, 1892. Serial No. 433,156. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. SCHULTZ, a citizen of the United States, residing at Detroit, county of Wayne, and State of Michigan, have invented a certain new and useful Improvement in Electric Switches; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to electric switches; and it consists in improved means for applying the action of the spring to the operating-lever, whereby the lever may be thrown in opposite directions by the action of the same spring, and thereby make and break the circuit by the action of the same spring.

I am aware that switches have been provided with single springs adapted to make and break the circuit, but not in the simple and inexpensive form shown herein. In the improved switch shown herein I apply the action of the spring to the lever in the direction of its pivot and employ a roller supported in the lever, adapted to receive the action of the spring and to reduce the friction of the lever on the spring.

In the drawings, Figure 1 is a sectional view of the switch. Fig. 2 is a perspective view.

In the drawings, A represents the switch-board; B B, the spring-terminals forming the poles of the switch; C, the frame of the switch, provided with the standards c c.

Pivoted between the standards c c is the brush-holder D, having the insulated portion d, to the outer end of which is attached the spring-brush b'.

E is the operating-lever of the switch, bifurcated at e e and pivoted to the pins e' on the opposite sides of the brush-holder D, so that the operating-lever swings on its pivot over the brush-holder and embraces it. Below the pivot of the brush-holder and between the bifurcated portion is mounted the roller e'.

Secured to the frame portion C is the spring F. This spring operates against the roller e' and presses against the lever in the direction of its pivot. At one position of the lever the force of the spring is directly toward the pivot, and its force does not tend to

drive the lever in either direction; but as the lever is moved to the right or left of this position the action of the spring is to force the lever to the right or left, as the case may be, so that the one spring operates to throw the lever in either direction when started over the central point.

The bifurcated portion of the operating-lever is made of sufficient depth to clear the brush-holder when the operating-lever is in its central position, but as it is thrown over by the force of the spring it is driven against the brush-holder and forces the end carrying the brush either up or down independent of the person operating the switch.

In Fig. 2 the parts are shown in the position occupied when the circuit is closed, the spring-brush being shown as forced between the poles. In Fig. 1 the parts are shown in the position occupied with the circuit open and the brush thrown out of contact by the spring F.

The operation of the device inclosing the circuit is by forcing the operating-lever E from the position shown in Fig. 1 to a position to the left of the vertical, when as soon as the lever passes over the central point the spring will act on the roller, throwing the lever over with the force of the spring against the brush lever or holder, forcing it quickly into contact with the poles. To break the circuit, the operation is just the reverse, and the brush holder or lever is lifted out of contact quickly by the action of the spring F, as before described.

What I claim is—

1. In an electric switch, the combination of the brush-holder D, the bifurcated handle E, having a common pivot with said brush-holder, said handle adapted to depress said brush-holder at one extremity of its movement and to elevate the same at the other extremity of its movement by a striking contact therewith, and the spring F, adapted to force said lever in either direction, whereby the same is caused to strike said brush-holder and make and break the contact quickly, substantially as described.

2. In an electric switch, the combination of the terminals B, the brush-holder D, provided with brushes b', the handle E, said handle adapted to strike said brush-holder at one

extremity of its movement and force the said
brush into contact with said terminals and to
strike said brush-holder at the opposite ex-
tremity and break said contact, and a spring
5 adapted to throw said handle in both direc-
tions, substantially as and for the purposes
described.

In testimony whereof I sign this specifica-
tion in the presence of two witnesses.

WILLIAM J. SCHULTZ.

Witnesses:

CHARLES H. FISK,
MILLIE COLLVER.