(No Model.)

E. P. WARNER.

ELECTRIC SWITCH.

No. 486,241. Patented Nov. 15, 1892.

Fig. 1

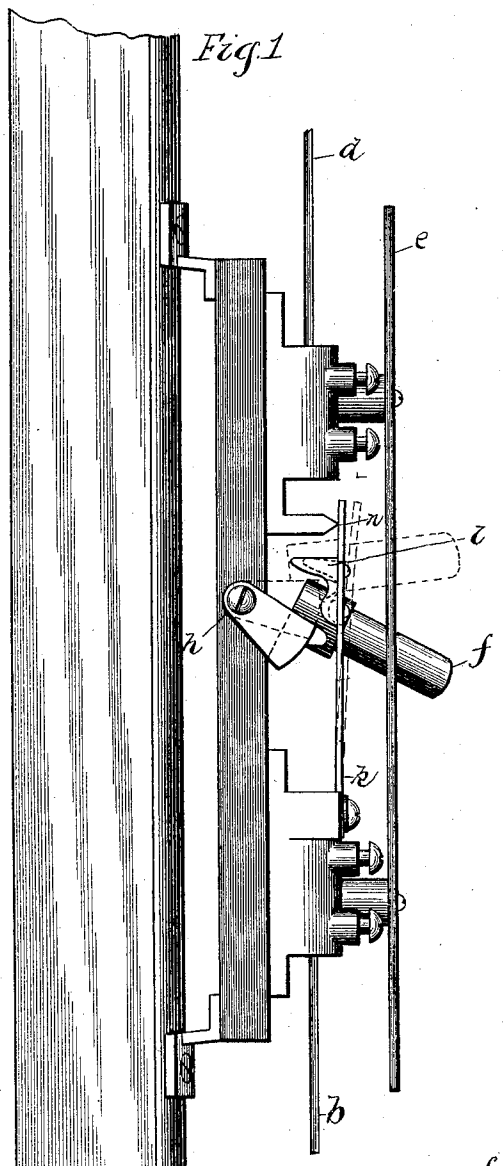


Fig. 2.

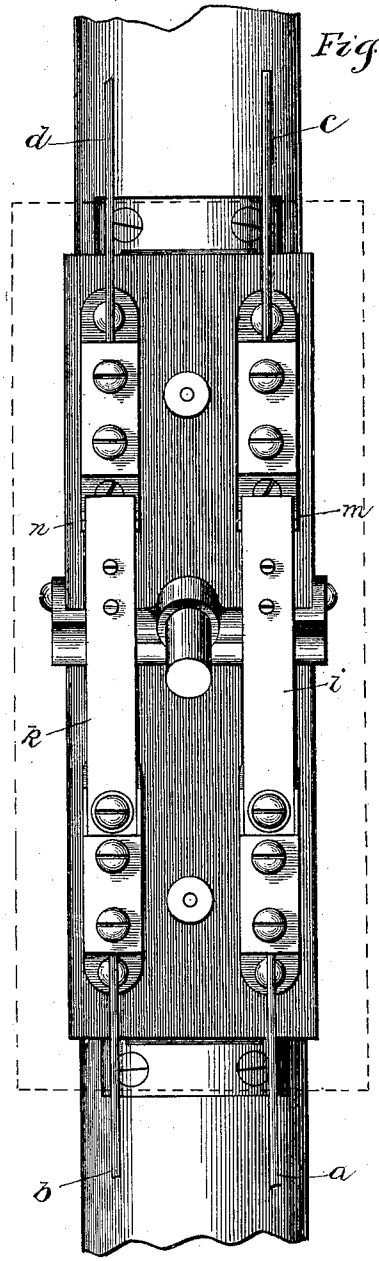
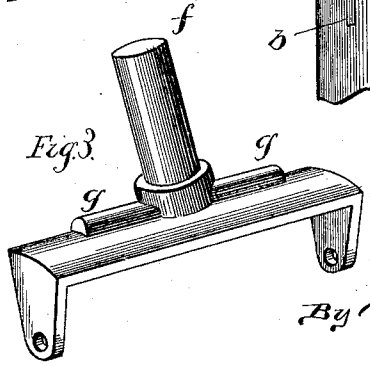


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ERNEST P. WARNER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WESTERN ELECTRIC COMPANY, OF SAME PLACE.

ELECTRIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 486,241, dated November 15, 1892.

Application filed February 16, 1891. Serial No. 381,699. (No model.)

To all whom it may concern:

Be it known that I, ERNEST P. WARNER, 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 Electric Switches, (Case No. 41,) 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 is specially designed for use in connection with arc-lighting circuits or circuits over which dangerous currents are sent. It is desirable that in all such circuits the switches should be so constructed that the operator cannot come in contact with any metallic portion that in itself may form part of the circuit or be connected therewith.

My switch herein described is provided with a shield of insulating material placed in front of the metallic parts of the switch, this shield being provided with a slot, through which the knob or handle of the rocker projects, this handle being also of insulating material.

My invention consists more particularly in the combination, with the rocker, of contact-springs against which the metallic portion of the rocker is adapted to be brought to form a medium of connection between the same, while upon the further movement of this rocker or cam the springs are lifted each from its normal contact, while the rocker is latched in position to hold the springs thus lifted, but electrically connected through the medium of the rocker.

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

Figure 1 is a side elevation of my switch. Fig. 2 is a front view thereof, the position of the vulcanite shield being indicated in dotted lines. Fig. 3 is a perspective view of the rocker.

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

We will consider the wires *a b* as connected with the different poles of the electric machine. The wires *c d* may be considered as the ends of a loop containing arc lamps or other translating devices. The shield *e* may be of vulcanite provided with a slot, through which the handle *f* of the rocker *g* projects, in order that the rocker may be moved back and forth upon its pivot *h*. When the rocker *g* is in the position shown, the wire *a* will be directly connected with wire *c* by the spring *i*, while the wire *b* will be directly connected with the wire *d* by the spring *k*, the rocker *g* being entirely disconnected from the circuit. The under side of each spring *i k* is formed as shown at *l*, Fig. 1—that is, on raising the handle *f* the rocker comes against the lower curved portion of the corresponding part of the springs *i k*. The touching of the rocker *g* to both the springs in this manner serves to electrically connect the springs together. Further upward movement of the handle *f* causes the rounded surface of the rocker *g* to press against the inwardly-projecting curved surfaces of the springs *i k*, thus acting as a wedge to lift the springs *i k* from their contacts *m n*. The rocker *g* finally rests in its seat or catch provided in the lower portion of the springs—that is, in the piece *l*, attached thereto. Thus when the handle *f* is raised the springs *i k* are lifted from their respective contacts *m n* and the rocker G is latched in position. The upper portion of the pieces *l*, projecting inwardly, as shown, serves to limit the upward movement, or stroke of the rocker. By simply throwing down the handle *f* the connections of circuits *a b* with wires *c d*, respectively, may be again established. A switch of the form shown may advantageously be placed in each lamp-post, so that any lamp may be entirely disconnected from the circuit when desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the rocker *g*, having the handle projecting through the shield *e*, of the springs *i k*, having their under surfaces opposite the rocker curved inwardly at the lower portion thereof and provided with a seat or catch, the contacts for said springs, and the circuits, whereby on raising said rocker the springs are first electrically connected together through the medium of the rocker and afterward lifted from their con-

tacts while the rocker is latched in position and its upward movement limited, substantially as and for the purpose specified.

2. In an electrical switch, the combination, with a rocker or cam, of two springs having their under surfaces opposite the rocker curved inwardly at the lower portion thereof and provided with a seat or catch, said springs being adapted to be raised or lifted from contacts at their free ends by the action of said rocker or cam, while at the same time the springs are thereby placed in electrical connection through the medium of the rocker, substantially as and for the purpose specified.

In witness whereof I hereunto subscribe my name this 12th day of January, A. D. 1891.

ERNEST P. WARNER.

Witnesses:

ELLA EDLER,

GEORGE L. CRAGG.