

March 2, 1926.

1,575,469

E. WATERBURY

ELECTRIC SWITCH

Filed Jan. 27, 1923

Fig. 1.

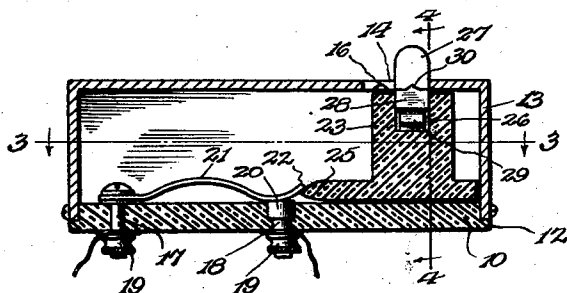


Fig. 2.

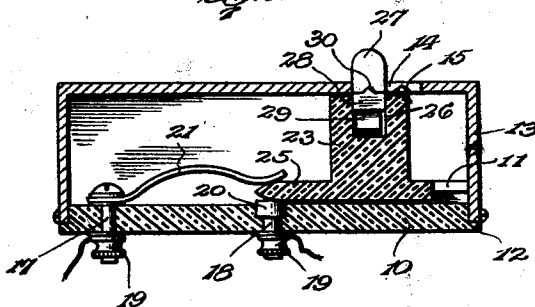


Fig. 3.

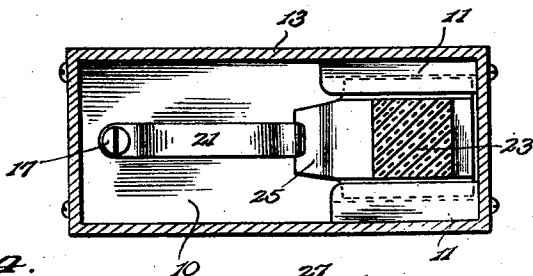


Fig. 4.

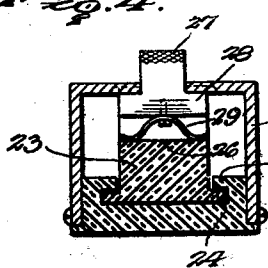


Fig. 5.

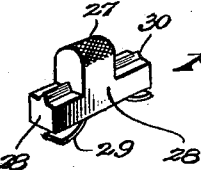
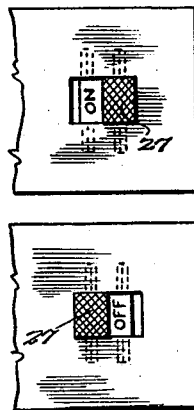


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDWIN WATERBURY, OF CALDWELL, NEW JERSEY.

ELECTRIC SWITCH.

Application filed January 27, 1923. Serial No. 615,250.

To all whom it may concern:

Be it known that I, EDWIN WATERBURY, a citizen of the United States, residing at Caldwell, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to an improved electric switch and seeks, as one of its principal objects, to provide a device of this character wherein the breaking of the circuit through the switch will be rendered more safe and sure than heretofore by the use of a member of insulating material which may be projected between cooperating contacts of the switch for separating said contacts and insulating the contacts with respect to each other.

The invention has as a further object to provide a switch wherein by employing a contact separating member of insulating material, as previously noted, an efficient switch of fewer parts than heretofore employed may be produced while it will also be possible to manufacture switches of a greater variety.

And the invention has a still further object to provide a switch wherein the separating member will be automatically locked at the end of its throw in opposite directions for maintaining the switch open or closed.

Other and incidental objects will appear hereinafter.

In the drawings:

Figure 1 is a longitudinal sectional view through my improved switch,

Figure 2 is a sectional view similar to Figure 1, but showing the switch open.

Figure 3 is a horizontal sectional view on the line 3—3 of Figure 1, looking in the direction of the arrows,

Figure 4 is a vertical sectional view on the line 4—4 of Figure 1, looking in the direction of the arrows,

Figure 5 is a detail perspective view of the catch button of the device, and

Figure 6 is a detail plan view showing the open and closed positions of the switch member.

Referring now more particularly to the drawings, it will be seen that I employ a base block or panel 10 which is formed of suitable insulating material and upstanding from the block at one end thereof are longi-

tudinally directed channeled flanges 11 lying flush with the side edges of the block. Formed on the block at its edges is a bead or lip 12 and fitting over the block to rest upon said lip is a cover 13 which may be of metal or other suitable material, the cover being detachably connected to the block by screws or other appropriate fastening devices. Near one end thereof, the top wall of the cover is provided with a longitudinally directed slot 14 and formed in the cover at opposite sides of said slot are spaced pairs of notches which, for convenience, have been indicated at 15 and 16, respectively.

Extending through the block 10 are spaced terminals 17 and 18 carrying nuts 19 at the lower side of the block whereby circuit wires may be readily connected to said terminals. The terminal 18 is formed with a head 20 partially countersunk in the base block and mounted at one end upon the terminal 17 is a longitudinally bowed spring contact 21 normally engaged at its free end with the head 20 of the terminal 18, the head 20 being provided with a flat upper face against which the contact rests closing a circuit between the terminals. As will be observed, said contact is provided with an upwardly directed tip 22.

Fitting between the top wall of the cover 13 and the base block 10 is a switch member 23 provided at opposite sides thereof with flanges 24 fitting beneath the flanges 11 of the base block slidably connecting the switch member therewith and projecting from the switch member at the base thereof is a forwardly directed wedge shaped separating tongue 25. The switch member is preferably of suitable insulating material so that the tongue 25 is thus dielectric and formed in the upper end of said member is a transverse recess or slot 26. Mounted upon the member is an operating button or knob 27 projecting freely through the slot 14 in the top wall of the cover and provided with an oblong base 28 slidably fitting in the recess 26. Screwed or otherwise secured to the base of the knob is a bowed spring 29 bearing at its ends against the bottom wall of said recess pressing the button upwardly against the top wall of the cover and formed on the upper side of the base to flank the knob are oppositely disposed V-shaped ribs 30 adapted to fit in the pairs of notches 15 and 16 selectively. Thus, as shown in Figure 1, when the switch is closed,

the ribs 30 will rest within the pair of notches 15 for locking the switch member against movement, the tongue 25 of the switch member being withdrawn from between the free end of the spring contact 21 and the head of the terminal 18. To open the switch, the knob 27 is depressed, when the switch member may then be shifted forwardly for projecting the tongue 25 of said member between the head 20 and the free end of the spring contact, the tongue cooperating with the lip 22 of said contact for wedging the contact upwardly. Upon release of the knob, the ribs 30 will freely engage in the pair of notches 16, as shown in Figure 2, for locking the switch open, while the tongue will provide an insulating member between the terminal 18 and the spring contact. Suitably imposed upon the upper end of the member 23 in front of the knob 27 is the word On which will be visible through the slot 14 in the cover 13 when the switch is closed while in the rear of said knob the word Off is imposed upon the upper end of said member so as to be visible through said slot when the switch is open. It will accordingly be seen that I provide a particularly simple and efficient device for the purpose set forth and a switch adapted for a wide range of use.

Having thus described the invention, what is claimed as new is:

1. An electric switch including a base block having spaced upstanding flanges thereon, spaced terminals upon the block, a spring contact connected at one end to

one of said terminals and normally engaging at its free end with the other of said terminals closing a circuit therethrough, a switch member having a recess and provided with flanges engaging beneath said first mentioned flanges slidably connecting the member with the block, said member being formed with a tongue and being shiftable to project the tongue between the free end of said contact and said last mentioned terminal opening the switch, a cover upon the block having a slot therein and provided adjacent said slot with spaced notches, and a spring pressed operating knob mounted in said recess to project through said slot and provided with a rib to selectively engage in said notches locking the switch member at the end of its throw in opposite directions.

2. An electric switch including a base block, spaced terminals carried thereby, a contact normally closing a circuit through said terminals, a switch member slidably mounted upon the block and movable between the contact and one of said terminals for opening the switch, a cover carried by the block to house said member, said member being provided with a recess, an operating knob slidable in said recess and projecting through the cover, and a spring bearing between a wall of the recess and said knob yieldably pressing the knob against the cover for locking the switch member at the end of its throw in opposite directions.

In testimony whereof I affix my signature.
EDWIN WATERBURY. [L. S.]