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F. SLADY

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SWITCH

Filed June 26, 1925

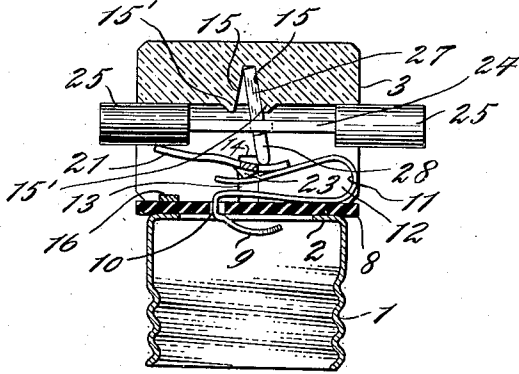


Fig. 1.

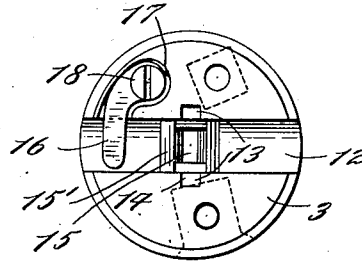


Fig. 3.

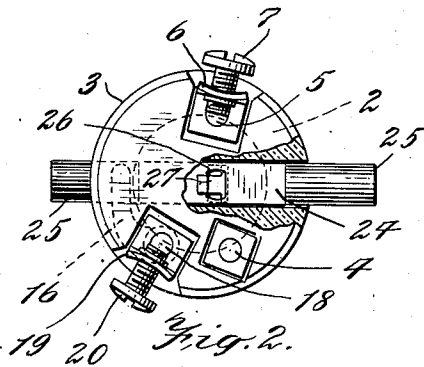


Fig. 2.

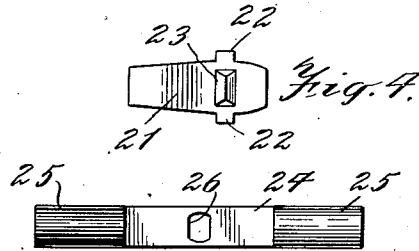


Fig. 4.



Fig. 5.

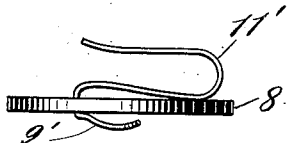


Fig. 7.

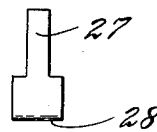


Fig. 6.

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## UNITED STATES PATENT OFFICE

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## SWITCH

Application filed June 26, 1925. Serial No. 39,835.

This invention relates to a switch that is especially suitable for electric light sockets. By this invention the circuit may be positively opened by a snap action which will avoid the formation of long arcs, and it may be positively closed. The switch is firmly held in opened or closed position without danger of accidental displacement by jars or vibration. The invention is illustrated in connection with a switch of this sort in which a push rod is moved longitudinally for operating the switch, and a spring serves both as a portion of an electric circuit and as a means to snap the switch into the respective positions.

The invention will be understood from the description in connection with the accompanying drawings, in which Fig. 1 is a vertical section through the device; Fig. 2 is a plan view, partly broken away; Fig. 3 is a view from the bottom of the switch head; Figs. 4, 5 and 6 show some of the details; and Fig. 7 shows a spring contact member.

In the drawings, reference character 1 indicates a screw shell of the usual sort, which is provided with an inwardly extending flange 2 at its upper end. The flange 2 is held to the head 3 of insulating material, such as porcelain, for example, by means of the bolts 4 and 5, the bolts passing through the flange 2 with their heads resting thereagainst, and with their screw-threaded ends passing through nuts or clips in the usual manner. The bolt 5 screws into the clip 6 that is located in a recess in the head 3, and this clip is provided with a binding screw 7 for connecting one side of an electric circuit to the bolt 5, and thence to the screw shell 1, as is well-known in this art.

A washer 8 of insulating material is interposed between the flange 2 of the screw shell 1 and the insulating head 3. The washer 8 carries a tip contact 9 for the center contact of the lamp, and this tip contact 9 passes through a hole 10 in the washer 8, the metal thereof being bent into a spring 11 on the upper side of the washer 8, for a purpose to be described. The head 3 is provided with a transverse slot 12, in each side wall of which is a longitudinal recess 13 terminating in an

abrupt shoulder 14. The head 3 is also provided in the upper wall of the slot 12 with a V-shaped hole 15, which is rectangular in cross section. Transverse ribs or rounded shoulders 15' extend across the slot 12 at the sides of the hole 15. A spring contact member 16 (Fig. 3) is seated in a recess 17 on the bottom face of the head 3, and a bolt 18 attaches this spring contact to a clip 19 seated in a recess in the head 3. The clip 19 is provided with a binding screw 20 for the other side of the electric circuit.

A switch member 21 (Figs. 1 and 4) is provided with a lateral extension 22 on each edge. The switch 21 has a rib or projection 23 on its lower side alined with the projections 22, and the rounded outer edge of this rib 23 bears against the spring 11. A push rod or bar 24 (Figs. 1 and 5) extends transversely through the slot 12. This push rod is provided with rounded ends 25 of insulating material and its intermediate portion is preferably made of flat metal having a hole 26 therethrough. A T-shaped member 27 has a rectangular shaped shank and a cross head 28, the shank 27 extending into the hole 15 in the head 3, and the cross head 28 resting upon the top side of the switch member 21, as most clearly shown in Fig. 1.

In the particular form of the spring contact member shown in Fig. 7, the contact portion 9' is adapted to contact with the center contact of the lamp, and the curved portion 11' terminates in a straight portion which is adapted to press against the rib or projection 23 on the lower side of the switch 21.

The operation is as follows: When the parts are in the position indicated in Fig. 1, the switch is open, and the rod 24 may be pushed toward the left to close the switch. This causes the member 27, whose shank extends into the hole 15 and is prevented from turning axially therein, to tilt toward the left with its cross head 28 sliding upon the top side of the switch member 21. The projections 22 extending into the recesses 13 prevent the switch member 21 from moving longitudinally, but permit the same to turn upon these extensions 22 which serve as a pivot therefor. As soon as this cross head 28 passes

to the left beyond a point opposite the rib 23, the spring 11 pushing upwardly on this rib 23 causes the left hand end of the switch member 21 to be thrown downwardly into contact with the contact member 16, thus closing the circuit from the clip 19 through bolt 18, contact member 16, switch member 21, spring 11 to the center contact 9, the remainder of the circuit being through the lamp and screw shell 1, as usual. When it is desired to open the circuit, the push rod 24 is pushed to the right, whereupon the cross head 28 passes to the right of a point opposite the rib 23, thus causing the spring 11 to throw the switch member 21 into the position indicated in Fig. 1. The walls of the opening 15 are not made sufficiently flaring to permit the push rod 24 to carry the member 27 to either side a sufficient distance to permit the push rod 24 to be entirely withdrawn.

I claim:

1. In a switch, the combination of a switch member, spring means for pressing against one side of said member, and operating means longitudinally movable with respect to said switch member to opposite sides of the point where said spring means presses.

2. In a switch, the combination of a switch member, means for pressing against one side of said member, and operating means slidable along the other side of said switch member to each side of said pressing means.

3. In a switch, the combination of a switch member, a spring pressing against one side of said member, and operating means longitudinally movable with respect to said switch member to each side of said spring.

4. In a switch, the combination of a switch member provided with a projection thereon, spring means for pressing against said projection, and operating means longitudinally movable with respect to said switch member.

5. In a switch, the combination of a switch member fulcrumed intermediate its ends, means to prevent said member from moving longitudinally, spring means for pressing against one side of said member, and operating means longitudinally movable with respect to said switch member to opposite sides of the point where said spring means presses.

6. In a switch, the combination of a switch member, spring means for pressing against one side of said member, and longitudinally movable means to operate said switch member, said last named means being movable to opposite sides of the point where said spring means presses.

7. In a switch, the combination of a fulcrumed switch member free at both ends, means for pressing against one side of said member, and means longitudinally movable to opposite sides of the fulcrumed point to operate said switch member, said movable means comprising a pivoted member.

8. In a switch, the combination of a switch member, means for pressing against one side of said member, and means longitudinally movable to opposite sides of the point where said first means presses to operate said switch member, said movable means comprising a member pivoted at one of its ends.

9. In a switch, the combination of a switch member, means for pressing against one side of said member, and means longitudinally movable to opposite sides of the point where said first means presses to operate said switch member, said movable means comprising a pivoted member and a transverse bar.

10. In a switch, the combination of a switch member free at both ends, means for pressing against one side of said member, and means longitudinally movable to opposite sides of the point where said first means presses to operate said switch member, said movable means comprising a pivoted member, and an insulating head in which said switch member and said pivoted member are housed.

11. In a switch, the combination of a switch member having a projection on one face thereof, said switch member having both ends free, means for pressing on the other face thereof at either side of said projection, and means to prevent longitudinal displacement of said switch member.

12. In a switch, a flat elongated switch member having projections on its edges and a projection on one face in line with said first named projections, and means for pressing on the other face of said switch member at either side of said last named projection.

13. In a switch, a flat elongated switch member having projections on its edges and a projection on one face in line with said first named projections, and means for pressing on the other face of said switch member at either side of said last named projection, said means comprising a member pivoted at one end with its other end in engagement with the face of said switch member.

14. In a switch, a flat elongated switch member having projections on its edges and a projection on one face in line with said first named projections, resilient means pressing against said projection, and means for pressing on the other face of said switch member at either side of said last named projection.

15. In a switch, a switch member having a fulcrum, a spring bearing against said fulcrum, and a pressure member bearing against said switch member on the side opposite said fulcrum and movable across said fulcrum.

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