June 20, 1950 A. W. WEST 2,511,955

BURGLAR ALARM SWITCH

Filed Jan. 28, 1948

Fig. 1.

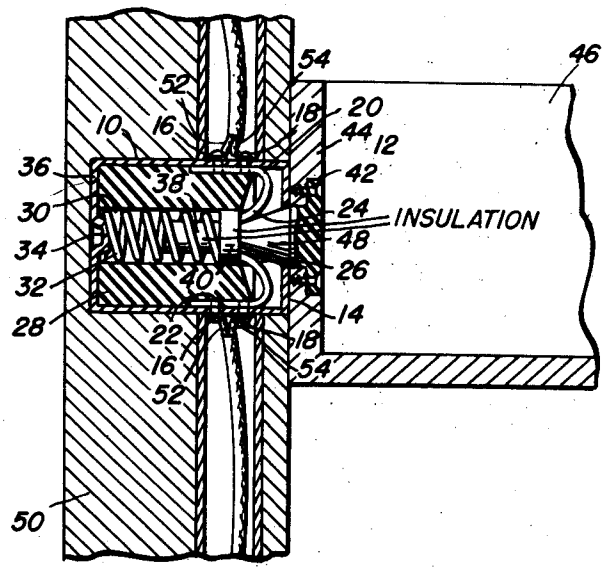
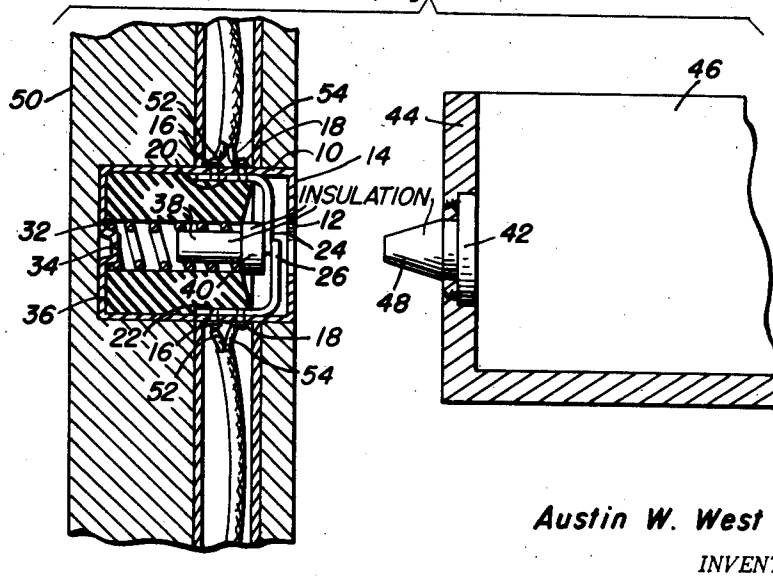


Fig. 2.



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BURGLAR ALARM SWITCH

Austin W. West, Dayton, Ohio

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1 Claim. (Cl. 200—54)

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This invention relates to new and useful improvements in electrical switches and the primary object of the present invention is to provide a burglar alarm switch.

Another important object of the present invention is to provide an electric switch mountable on a fixed structural element such as a door jamb, cabinet or the like which will be in a circuit-open position when the door, drawer or the like is in closed position and which will be actuated to a circuit-losing position as the door, drawer or the like is moved to an open position.

A further object of the present invention is to provide a burglar alarm switch that is extremely small and compact in structure and which may be quickly and readily applied to or removed from a structural element in a convenient manner to operate efficiently and which will automatically sound an alarm when tampered with.

A still further aim of the present invention is to provide a burglar alarm switch that is simple and practical in construction, strong and reliable in use, neat and attractive in appearance, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a fragmentary vertical sectional view of a cabinet structure having a drawer which is disposed in a closed position, and showing the present switch in a circuit-open position applied to the same,

Figure 2 is a similar view of Figure 1 showing the drawer in an open position and the present switch in a circuit-closed position.

Referring now to the drawings in detail, wherein, for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a substantially rectangular casing of any suitable conductive material having a guide opening 12 in its forward wall 14.

Secured by rivets or the like 16 and 18 to a pair of opposing walls of the casing 10 is a pair of angulated substantially V-shaped conductive fingers 20 and 22 having their free ends 24 and 26 frictionally engaging each other in a normal position, and such overlapping ends 24 and 26 register opposite the guide opening 12.

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Suitably fixed within the casing 10 is a non-conductive support block 28 having a central guide opening or bore 30 that aligns the guide opening 12 provided in the forward wall 14 of the casing 10.

Loosely positioned in the guide opening 30 is a preferably steel coil spring 32 one end of which frictionally engages an annular detent 34 punched inwardly from the rear wall 36 of the casing 10, and the other end of which frictionally embraces the reduced non-conductive stem portion 38 of a plunger 40 constructed of a non-conductive material. This plunger 40 is normally urged by the spring 32 into frictional engagement with the overlapped ends 24 and 26 of the conductive fingers 20 and 22.

The numeral 42 represents an annular base member which is recessed in and secured to the rear wall 44 of a movable structural element such as a cabinet or cash register drawer 46. A frusto-conical non-conductive element 48 rigidly carried by the base member projects outwardly from the rear wall 44 to extend through the guide opening 12 in the casing 10.

In practical use of the present invention, the casing 10 is removably secured to a fixed structural element 50 such as a cabinet structure and the rivets 16 and 18 are connected in any suitable manner to a pair of circuit wires 52 and 54 which lead from a source of current and which are connected to a suitable alarm, either sound, visual or both.

When the drawer 46 is in a closed position, the frusto-conical element 48 extends through the guide opening 12 into the casing to force the plunger 40 into the opening 30 and the ends 24 and 26 of the contact fingers 20 and 22 in spread apart relation, as shown best in Figure 1 of the drawings. In this position, the circuit will be in an open position and the alarm will not emit a sound or be energized. As the drawer 46 is pulled to an open position, the frusto-conical element 48 will disengage the free ends 24 and 26 of the conductive fingers 20 and 22 and the plunger 40, and the spring 32 will urge the free ends 24 and 26 of the conductive fingers into a circuit-closing position.

Obviously, the present switch is applicable for doors whereby the casing is applied to a door jamb and the element 48 applied to the door. Also, the present switch may be applied to any fixed structural element having a movable portion which will retain the element 48. It is further noted that the switch could be applied to any structural element with a suitable pressure

supplying object supporting the element 48 which will normally cause the switch to be open. When the pressure supplying object is removed from the switch or casing, the circuit will be closed and the alarm sounded.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claim.

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

In a switch including an insulated member having an opening therein, and a pair of conductive fingers supported on said member and having inner overlapping end portions, a nonconductive plunger slidably received in said opening, a spring urging the plunger against the inner end portion of one of said fingers to retain the inner end portions of said fingers in contact with each other, a casing for said member having an aperture therein in registry with the inner end portions of said fingers and the opening in said member, and means slidably received in said aperture for engaging and spreading the inner end portions of said fingers and for moving the plunger against action of said spring, the inner end portions of said fingers always contacting the plunger during movement of said plunger by said means.

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