July 7, 1931. R. H. OLLEY 1,812,896

SWITCH OPERATING MECHANISM

Filed Dec. 24, 1927

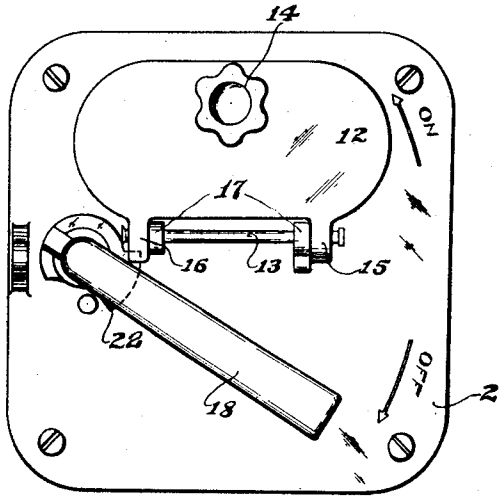


FIG. 1

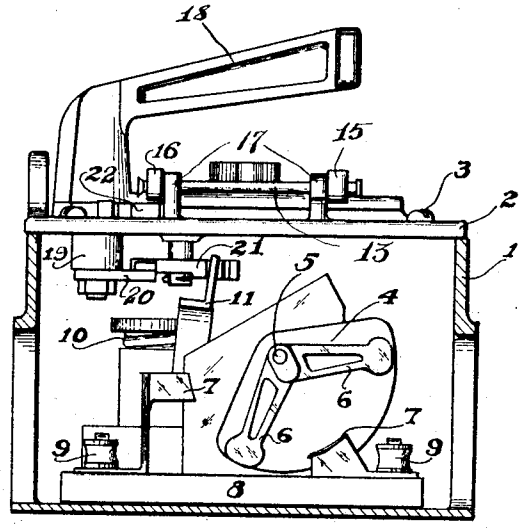


FIG. 2

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UNITED STATES PATENT OFFICE

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SWITCH OPERATING MECHANISM

Application filed December 24, 1927. Serial No. 242,357.

This invention relates to switch and fuse boxes and has for its object, a particularly simple and efficient means for preventing opening of the door to the fuse compartment of the box when the switch is "on" and also to prevent closing of the switch when the door is open.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a plan view of a switch box embodying my invention.

Figure 2 is a side elevation of parts seen in Figure 1, the switch box being shown in section.

1 designates the box having a removable cover 2 secured thereto in any suitable manner as by screws 3.

4 designates a switch member pivoted at 5 and having a conductor 6 movable into and out of engagement with contacts 7 on the base 8 of the switch, the contacts having binding devices 9 which are connected in an electric circuit protected by fuses as the fuse 10.

The switch is operated in any suitable manner as by an arm 11 which is actuated by the mechanism carried by the cover to be presently described. The cover is formed with a door 12 which is hinged at one edge at 13 to the cover, the door 12 being located over the fuses 10. The door is provided with a suitable handle 14.

As here shown, the door is provided with hinged leaves 15, 16 at its hinged edge, one of which as 16 extends beyond the axis of the door. The leaves 15, 16 lap the hinge leaves or lugs 17 on the upper surface of the box and the hinge pin 13 extends through these hinge leaves.

18 designates a switch operating handle mounted on a shaft 19 journalled in the cover near the hinge leaf 16, the shaft having an arm 20 at its inner end within the box which coacts with a suitable motion transmitting member 21 carried on the inner side of the cover and coacting with the arm 11 to throw it when the handle 18 is actuated. The handle 18 is provided with means movable into the path of one of the hinge leaves 16 or the portion thereof projecting beyond the axis of the door when the handle is moved to "on" position, the hinge leaf 16 or said projecting portion thereof being arranged to come into the path of said means when the door 12 is open and prevent the moving of the handle 18 to its "on" position when the door 12 is open.

As illustrated in the drawings, the means on the handle is a segment 22 movable under the adjacent hinge leaf 16 so as to prevent the movement of the door 12 about its axis, this segment being located so that when the switch handle is in "off" position and the door 12 opened, the hinge leaf 16 moves in front of the end of the segment and prevents the lever from being moved on its pivot toward "on" position.

Also, the lever 18 when in "on" position moves into a position crosswise of the door 12 and obstructs the opening of the door.

In operation, when the parts are in the position shown in Figure 1, the switch handle 18 can be swung to "on" position and in so doing, the segment 22 moves under the adjacent hinge leaf 16 and hence, prevents pivotal movement of the door 12, as the hinged leaf 16 during the opening movement would press against the upper side of the segment 22. When the door 12 is open, this hinge leaf 16 moves into upright position in front of the front end of the segment thus obstructing the operation of the lever 18 from "off" position.

What I claim is:

1. The combination of a switch and fuse box having a cover, of a door hinged to the cover, a switch operating lever carried by the cover and pivoted thereto on an axis extending at an angle to the cover and located at one end of the hinge of the door, the lever having means for interlocking with the door near the axis thereof to hold the door closed when the lever is in its position assumed when the switch is "on" and the door having means for locking the lever in its position as-

sumed when the switch is "off" and the door is open, said lever having an angularly extending handle movable into a position to overhang the door when the switch is on.

2. The combination of a switch and fuse box having a cover, of a door hinged to the cover and having a lug projecting beyond the hinge of the door, a switch operating lever mounted in the cover and movable about an axis located adjacent said lug in an axial direction to the hinge of the door, the lever having a projection movable between the lug of the door and the cover when the lever is operated into its position assumed when the switch is "on", thereby locking the door in closed position and said lug being movable into the path of said projection when the door is open and the lever is in its "off" position.

3. The combination of a switch and fuse box having a cover, of a door hinged to the cover and having a lug projecting beyond the hinge of the door, a switch operating lever mounted in the cover and movable about an axis located adjacent said lug in an axial direction to the hinge of the door, the lever having a projection movable between the lug of the door and the cover when the lever is operated into its position assumed when the switch is "on", thereby locking the door in closed position and said lug being movable into the path of said projection when the door is open and the lever is in its "off" position, the lever having an overhanging handle portion movable into a position obliquely across the door when the lever is in its "on" position.

4. A switch operating mechanism comprising a switch and fuse box having a cover, a door hinged at one edge to the cover, a switch operating lever pivoted to the cover on an axis extending at an angle to the cover and located adjacent one end of the hinge of the door, the lever having a projection for interlocking with the portion of the door hinge adjacent the lever when the lever is in "on" position to prevent opening of the door.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and in the State of New York, this 29th day of November, 1927.

RAYMOND H. OLLEY.