

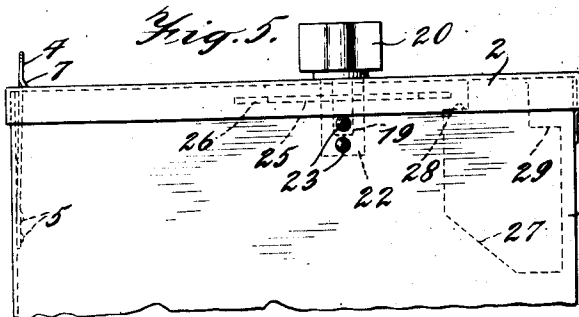
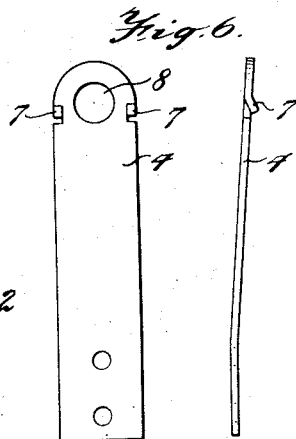
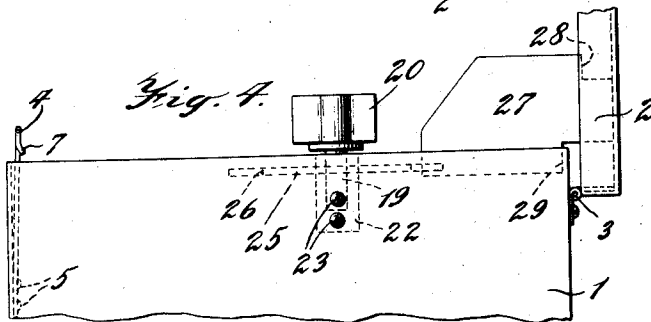
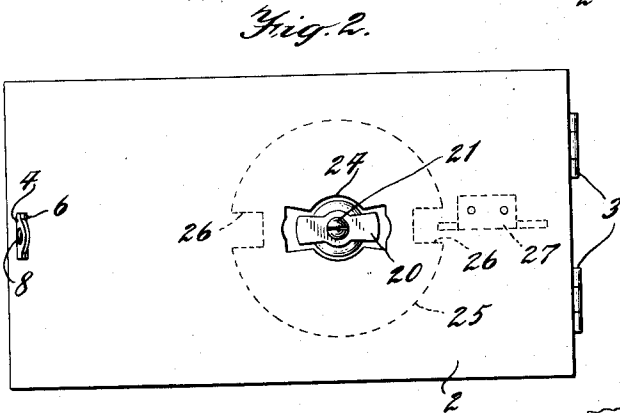
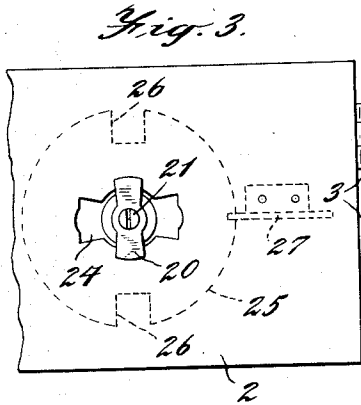
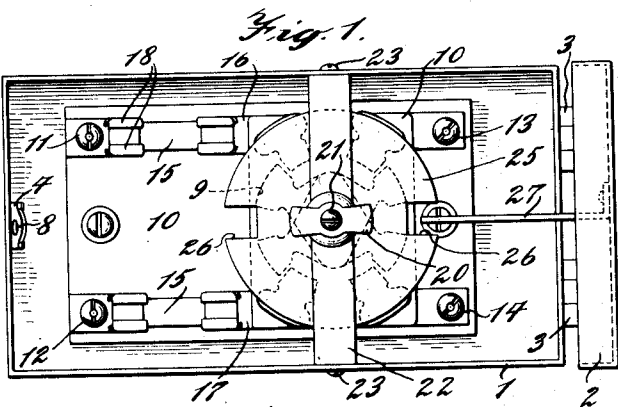
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C. L. EIDLITZ

SAFETY SWITCH AND FUSE BOX

Original Filed Aug. 14, 1919



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UNITED STATES PATENT OFFICE.

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SAFETY SWITCH AND FUSE BOX.

Original application filed August 14, 1919, Serial No. 317,515. Divided and this application filed June 17, 1921. Serial No. 478,263.

To all whom it may concern:

Be it known that I, CHARLES L. EIDLITZ, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Safety Switch and Fuse Boxes, of which the following is a full, clear, and exact description.

My invention relates to safety switch and fuse boxes and has for an object to provide a device of this kind which will prevent the door of the box from being opened until, and only when the switch is in "off" position and prevent operation of the switch to "on" position while the cover is in its open or partially open position.

A further object is to provide a device of this character which is simple and reliable, and of low cost of production.

Other objects will appear as the description proceeds.

The invention comprises among other things, the provision of a slotted member, moving with the switch button and cooperating with a part carried by the cover to lock the switch against actuation when the cover is in open position and permit such operation when the cover is in closed position.

This application is a division of my application Serial No. 317,515, filed Aug. 14, 1919.

In the drawings:

Fig. 1, is a plan view of one embodiment of my invention, the cover being shown in opened position and the switch in "off" position;

Fig. 2 is also a plan view, but with the cover in closed position, the locking disc on the switch and the tongue on the cover being shown in dotted lines;

Fig. 3 is a view similar to Fig. 2, but with the switch shown in a different position;

Fig. 4 is a partial side view of the device with the cover in raised or opened position;

Fig. 5 is a view similar to Fig. 4, but with the cover in closed position;

Fig. 6 shows the catch in detail and detached from the box.

The switch and fuse plugs are carried in a casing 1, having a cover 2 hinged thereto by any suitable means as at 3. The cover is held in closed position by a catch 4, shown in

detail in Fig. 6. The catch 4, which is fastened to the box in any suitable manner as by rivets 6, passes through a slot 6 in the cover and engages and holds the cover closed by means of struck out portions 7, the resiliency of the catch causing it to normally hold the cover closed and permitting it to yield to release the cover. The catch has a hole 8 in its upper or projecting end, to accommodate locking means, if desired.

The switch 9, as illustrated, is of the rotary type and is preferably also of the double pole type, having the double cross contact arms in different planes. The switch is carried on an insulating base 10, which also carries the binding posts 11, 12, 13 and 14, and fuse plugs 15. The wires entering the box are connected to binding posts 13 and 14, and the wires leaving the box are connected to binding posts 11 and 12. The fuse plugs 15 are shown here as of the self contained or protected type, but may be of any suitable kind, and connect binding posts 11 and 12 with the switch poles by means of contacts 16 and 17, the other switch poles being connected to binding posts 13 and 14. The fuse plugs are held in place yieldingly by the spring clips 18, thus permitting ready removal or renewal.

The switch stem 19 carries the usual operating button 20, held thereon by a screw 21, and the stem has a bearing at its upper end in the flat traverse bar 22, held within and across the box by screws 23. The cover 2 has a slot 24 therein, which may be similar in shape to, but slightly larger than the button, and which is so placed in the cover that the button passes thru it when the cover is moved to open or closed positions with the switch off.

The stem also carries thereon a locking disc 25 having two diametrically opposed slots 26 in its periphery, the diametrical axis connecting the slots being in the same vertical plane with that of the major length of the button, as shown in Figs. 1 and 2 for example. The cover 2 carries a locking tongue 27 on its underside, adapted to co-act with the disc 25 and slots 26. The tongue 27 is so shaped and placed on the cover, that when the cover is in closed position (Fig. 5) the tongue is clear of the slot 26 in the disc 25 and the switch can be freely operated. As soon as the cover is slightly

raised, the corner 28 of the tongue engages in the slot and locks the switch in "off" position if the switch is in that position and if the switch is not in "off" position, neither of the slots will be in register with the tongue, and the corner 28 will engage under the disc and prevent further opening of the cover. When the switch is in the "off" position with one of the slots registering with the tongue, and the cover is raised, the corner 29 will engage against the rear wall of the box and limit the opening movement of the cover, and the tongue, will, during the opening movement, remain within the slot and lock the switch against movement while the cover remains opened for any substantial distance.

Assuming the device with the cover closed, as in Fig. 5, the button 20 can be manipulated at will to open and close the switch. The engagement of the shoulder 28 of the tongue 27 against the under face of the disc 25 will lock the cover closed until the switch has been operated to "off" or current interrupting position, in which position of the switch the notch 26 will provide clearance for the tongue 27 and thus release the cover for an opening movement. The cover can then be opened and immediately, through entry of tongue 27 into one of the slots 26, the switch is locked against further actuation until the cover is again closed. It will thus be seen that since the switch must of necessity always be in the "off" position whenever the cover is not closed, there is no danger of electrical shock to the person renewing fuses or working in the box.

I claim:

1. In a safety switch and fuse box, the combination of a casing and a cover therefor, a switch within the casing and having an operating member projecting thru the cover when the cover is in closed position, the member and opening through which it projects being so shaped as to permit the cover to be opened, a locking member carried by the operating member, means carried by the cover and co-acting with said locking member to permit the cover to be opened when the switch is in the "off" position and prevent it when in other positions.

2. In a safety switch and fuse box, the combination of a casing and cover therefor, a rotary snap switch within the casing and having an operating member projecting thru the cover when the cover is in closed position, the member and opening through which it projects being so shaped as to permit the cover to be opened, a locking member carried by the operating member, means carried by the cover and co-acting with said locking member to permit the cover to be opened when the switch is in the "off" position and prevent it when in other positions, said co-acting member and means also lock-

ing the switch against movement whenever the cover is away from closed position.

3. In a safety switch and fuse box the combination of a casing, and a cover therefor, a switch within the casing and having a rotary operating member projecting through the cover when the cover is in closed position, the member and opening through which it projects being shaped to permit the cover to be opened, a locking member connected to move with the operating member, means carried by the cover and coacting with said locking member to permit the cover to be opened when the operating member is in one position, and prevent it when in other positions.

4. In a safety switch and fuse box the combination of a casing, and a cover therefor, a switch within the casing and having a rotary operating member projecting through the cover when the cover is in closed position, the member and opening through which it projects being so shaped as to permit the cover to be opened, a locking member connected to move with the operating member, means carried by the cover and co-acting with said locking member to permit the cover to be opened when the operating member is in the "off" position, and prevent it when in other positions, said locking member and means also locking the switch against movement whenever the cover is away from closed position.

5. In a safety switch and fuse box the combination of a casing, a cover for said casing, a rotary snap switch within said casing, a rotary disc movable with the switch, means carried by the cover depending into the interior of the casing and co-acting with the disc to lock the cover in closed position when the switch is in one position and release it when in another position, and also lock the switch against movement whenever the cover is away from its closed position.

6. In a safety switch and fuse box, the combination of a casing, a cover for said casing, a rotary snap switch within said casing, a rotary disc movable with the switch, a tongue carried by the cover depending into the casing and co-acting with the under face of the disc to lock the cover in closed position when the switch is in one position and release it when in another position.

7. In a safety switch and fuse box, the combination of a casing, a cover for said casing, a rotary snap switch within said casing, a rotary disc movable with the switch and located within the casing, said disc having slots in its periphery, a tongue carried by the cover extending into the casing and positioned to pass through the slots and having a notch through which the disc moves in rotation to permit opening of the

cover when the switch is in one position, and to engage the under face of the disc and prevent opening of the cover when the switch is in all other positions.

5 8. In a safety switch and fuse box, the combination of a casing, a cover for said casing, a rotary snap switch within said casing, a rotary disc movable with the switch and located within the casing, said
10 disc having slots in its periphery, a tongue carried by the cover extending into the casing and positioned to pass thru the slots, when the switch is in one position and having a notch through which the disc moves in
15 rotation to permit opening of the cover and by moving into one of the slots acting to lock the switch against further actuation while the cover is away from closed position, and to engage the under face of the
20 disc and prevent opening of the cover when the switch is in all other positions.

9. In a safety switch and fuse box, the combination of a casing having fuse elements and a rotary switch therein, a cover

for the casing, a disc rotatable with the 25 switch, said disc having a slot in its periphery, a tongue carried by the cover and extending into the casing, said tongue having an offset portion normally extending beneath the disc and by its engagement against 30 the under face of the disc preventing an opening movement of the cover, said disc being disposed with respect to the switch so as to bring the slot into alignment with the offset portion of the tongue and release the 35 cover for an opening movement when the switch is in "off" position, the tongue when the cover is released and moved to open position passing into the slot to lock the switch against movement while the cover is 40 away from its closed position, the disc being shifted to carry the slot out of alignment with the offset portion of the tongue when the cover is closed and the switch is operated to the "on" position. 45

In witness whereof, I hereunto subscribe my signature.

CHAS. L. EIDLITZ.