June 1, 1943. J. W. SAMZELIUS 2,320,952

SWITCH CABINET

Filed Nov. 26, 1941

Fig. 1.

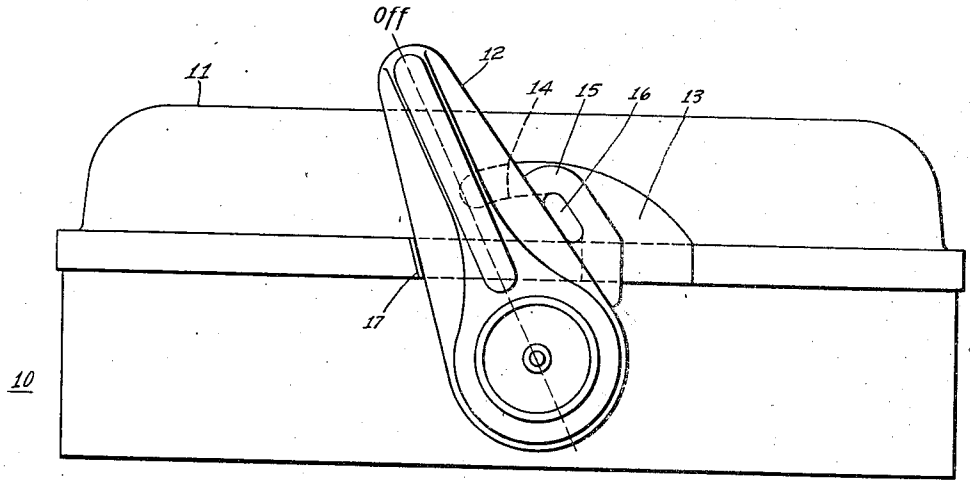
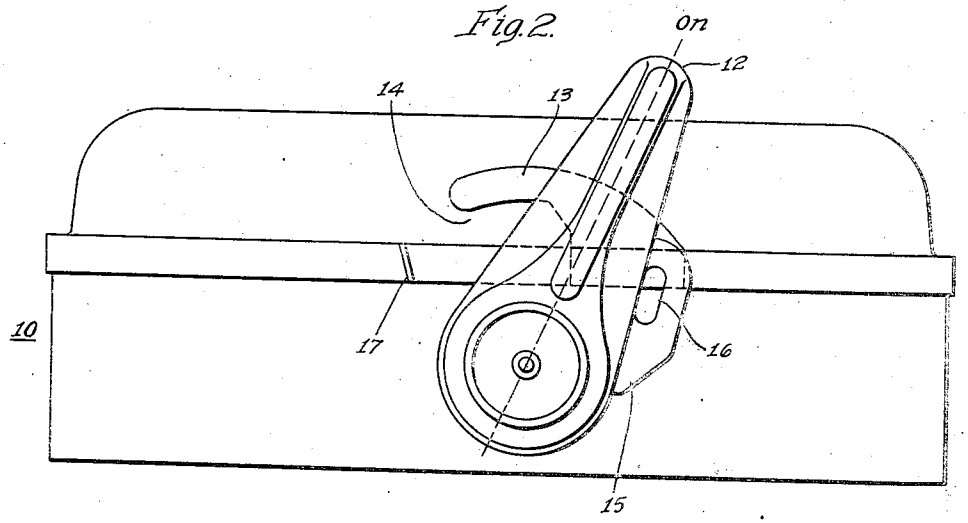


Fig. 2.



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SWITCH CABINET

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5 Claims. (Cl. 200—42)

My invention relates, generally, to cabinets and, more particularly, to cabinets or boxes suitable for enclosing electric switches of the type commonly known as safety switches.

In order to protect the maintenance men of industrial and other plants against electric shock, it is desirable to make provision for padlocking certain of the switches in a plant in the "off" or open position. Thus, when a maintenance man desires to work on the line or machine controlled by a particular switch, he can lock the switch in the open position and be assured that no one will be able to close the switch while he is working on the line or machine. It is also desirable that the switch be so constructed that it is impossible to fasten a padlock on the cabinet while the switch is in the "on" or closed position, in order to prevent the accidental or willful locking of the switch in the closed position.

An object of my invention, generally stated, is to provide a switch cabinet which shall be simple and efficient in operation and which may be economically manufactured and installed.

A more specific object of my invention is to provide a simple and effective means for locking an enclosed electric switch in a predetermined position.

Another object of my invention is to prevent the locking of an enclosed electric switch in any position other than a preselected position.

Other objects of my invention will be explained fully hereinafter or will be apparent to those skilled in the art.

In accordance with my invention, a locking plate having an open slot therein is so disposed on a switch cabinet that a padlock may be fastened in an opening provided in the switch handle to engage the closed end of the slot to lock the switch in the open position. Since only the open end of the slot is exposed when the switch is closed, there is no danger of any one fastening a lock on the switch while it is closed.

For a fuller understanding of the nature and objects of my invention, reference may be had to the following detailed description, taken in conjunction with the accompanying drawing in which:

Figure 1 is a view, in said elevation, of a switch cabinet embodying my invention and showing the switch handle in the "off" position; and

Fig. 2 is a view, similar to Fig. 1, with the switch handle in the "on" position.

Referring to the drawing, the structure shown therein comprises a cabinet 10 having a cover 11. The cabinet 10 is preferably formed of sheet steel and is of a type suitable for enclosing an electric switch having an operating handle 12 disposed exteriorly of the cabinet for actuating the contact members of the switch from the "off" or open position to the "on" or closed position and vice versa.

As explained hereinbefore, it is desirable that the cabinet 10 and the handle 12 be so constructed that the switch can be locked in the "off" position. Furthermore, in order to preclude the possibility of the switch being accidently locked in the "on" position, the locking device should be so constructed that it is impossible to fasten a padlock on the cabinet when the switch handle is in the "on" position.

In order to meet the foregoing requirements, I have devised a locking device comprising a locking plate 13 secured to the cover 11 and having an open slot 14 so disposed that a padlock (not shown) may be inserted between the handle and the closed end of the slot 14 when the switch is open. Thus, the plate 13 and the lock prevent the switch from being closed. When the switch is closed, the open end of the slot 14 is exposed and a lock cannot be fastened on the cabinet.

In order to prevent the possibility of the handle 12 being forced past the padlock, a locking bracket 15, having an opening 16 therein, is secured to the handle 12. When a padlock is inserted through the opening 16 and the slot 14, the handle is positively locked in the "off" position. If desired, the opening 16 may be provided in the handle instead of in the bracket 15, in which case the bracket 15 may be omitted from the structure.

As shown in Fig. 2, the opening 16 is obstructed by the cabinet when the handle is in the "on" position. Since the open end of the slot 14 is now exposed, it is not possible to fasten a padlock on the switch when it is closed. Thus, the present structure meets the foregoing requirements of providing a means for locking the switch in the "off" position and precluding the possibility of it being locked in the "on" position.

In order to provide a stop for the handle to limit its travel when thrown to the "off" position, an ear 17 may be bent upwardly from the plate 13 to engage one side of the handle. In this manner, the handle 12 is prevented from being actuated farther off than is necessary for the insertion of the padlocks. It will be noted

that the opening 16 may be made sufficiently large to permit more than one lock being utilized at the same time. Thus, if two persons are going to work on the circuit controlled by the switch, each can fasten his lock on the switch and be assured that the switch cannot be closed until he removes his own lock.

From the foregoing description, it is apparent that I have provided a locking device for an enclosed switch which is simple in construction and positive in operation. Furthermore, the switch handle and the locking device may be easily manufactured and they are attractive in appearance, thereby improving the overall appearance of the cabinet.

Since numerous changes may be made in the above-described construction and different embodiments of the invention may be made without departing from the spirit and scope thereof, it is intended that all matter contained in the foregoing description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim as my invention:

1. In an enclosed electric switch, in combination, a switch cabinet, a switch operating handle, and a locking plate secured to the cabinet, said locking plate having an open slot therein for receiving a lock for retaining the switch handle in a predetermined position, the open end of said slot being obstructed by said handle when it is in said predetermined position.

2. In an enclosed electric switch, in combination, a switch cabinet, a switch operating handle, and a locking plate secured to the cabinet, said locking plate having an open slot therein for receiving a lock for retaining the switch handle in a predetermined position, the open end of said slot being obstructed when the handle is in said predetermined position and unobstructed when the handle is in another predetermined position.

3. In an enclosed electric switch, in combination, a switch cabinet, a switch operating handle, and a locking plate secured to the cabinet, said locking plate having an open slot therein for receiving a lock for retaining the switch handle in the "off" position, the open end of said slot being obstructed by said handle when it is in the "off" position and unobstructed when the handle is in the "on" position.

4. In an enclosed electric switch, in combination, a switch cabinet, a switch operating handle having an opening therein, and a locking plate secured to the cabinet, said locking plate having an open slot therein cooperating with the opening in the handle in receiving a lock for retaining the switch handle in a predetermined position, the open end of said slot being unobstructed when said handle is in another predetermined position.

5. In an enclosed electric switch, in combination, a switch cabinet, a switch operating handle having an opening therein, and a locking plate secured to the cabinet, said locking plate having an open slot therein cooperating with the opening in the handle in receiving a lock for retaining the switch handle in a predetermined position, the opening in said handle being obstructed when the handle is not in said predetermined position.

JOHN W. SAMZELIUS.