

Dec. 2, 1930.

C. E. HANNY

1,783,711

SWITCH BOX LATCH AND SEAL

Filed May 14, 1929

Fig. 1.

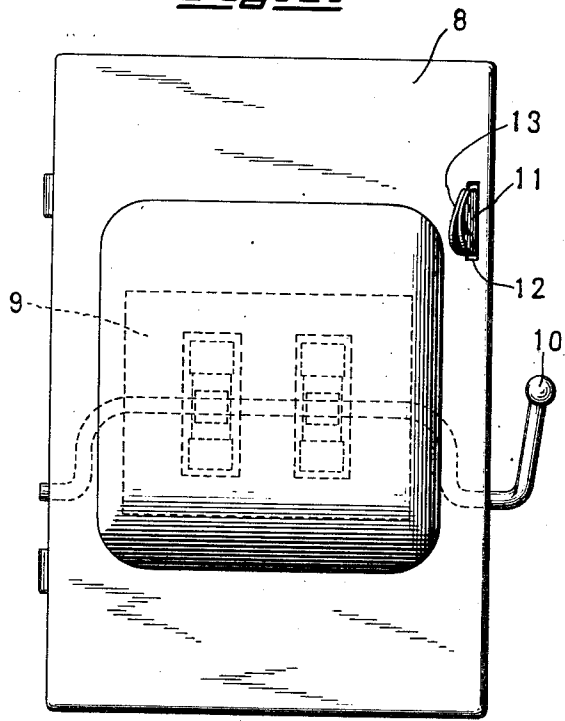


Fig. 2.

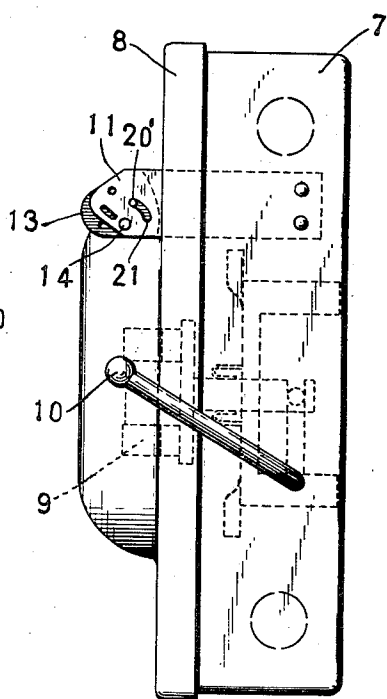


Fig. 3.

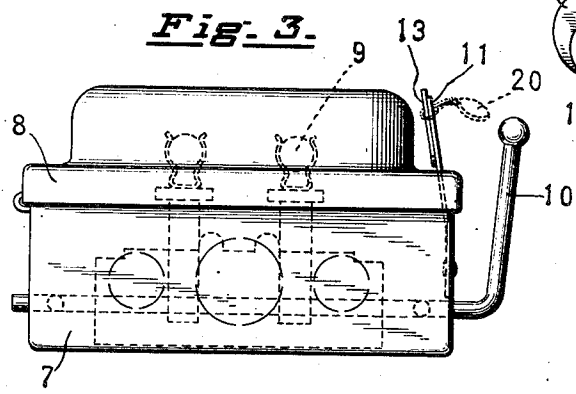


Fig. 4.

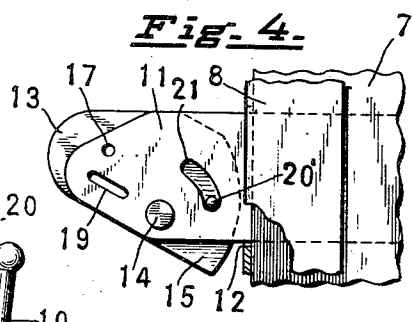
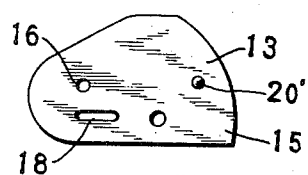


Fig. 5.



INVENTOR
Charles E. Hanny,
BY
[Signature]
ATTORNEY

UNITED STATES PATENT OFFICE

CHARLES E. HANNY, OF UNIONVILLE, CONNECTICUT, ASSIGNOR TO THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, OF PLAINVILLE, CONNECTICUT, A CORPORATION OF CONNECTICUT

SWITCH-BOX LATCH AND SEAL

Application filed May 14, 1929. Serial No. 362,923.

My invention relates particularly to electric switches of the enclosed type. The main object is to provide a simple, inexpensive and practical means for latching the cover of a switch box in its closed position but permitting it to be opened by the usual manual operation of the latch. Another object is to provide a latch of this character with means for sealing it in position so as to prevent access to the interior of the switch.

Another object of my invention is to provide a form of spring latch for engaging one side edge of a slot in the box cover with a snap engagement in the usual manner but which latch is further provided with a separately operable and manually movable auxiliary member for engaging an edge of the slot at one of its ends in so secure a manner as to positively resist any unlatching tendency that might be caused by the violent explosion of a fuse within the box.

Another object is to provide a latch of the preceding description in which the members of the latch are provided with registering perforations for receiving the loop of a seal or locking member in such a manner that the security of the sealing means is in no way dependent upon the relative fitting of the slot and the latch and so that no strain whatever can be transmitted to the sealing means by the blowing of a fuse within the box or by any ordinary attempt to open the cover while the sealing means is in place.

Another object is to provide a spring latch with an auxiliary latch having such a configuration and such a limited operating movement that in any of its positions, it will not obstruct or prevent the full closing movement of the box cover.

Another object is to provide a construction of this character which can be readily set in position to be sealed.

Another object is to provide a construction of this character in which the cover of the box can be closed regardless of the position of the latch.

In its simplest form the invention contemplates the employment of a spring strip having one of its ends secured to the body of the box and its other end adapted to project

through a slot near the edge of the cover in the usual way. This spring strip has hinged or pivoted to it a latch member which is ordinarily adapted to engage the cover at the edge of the slot and which member is also adapted to be swung on its pivot so as to engage the cover at one end of the slot and prevent the opening of the cover, in which latter position the latch member may be sealed to prevent unauthorized access to the interior of the box.

Fig. 1 is a front view of a construction embodying my invention, the cover of the box being closed and latched but not sealed.

Fig. 2 is a side view of the same.

Fig. 3 is an end view of the same and showing a seal in dotted lines.

Fig. 4 is an enlarged side view showing a latch in position to be sealed.

Fig. 5 is a detail view of the latch member.

The box 7 and cover 8 are typical of constructions of this character, the cover being preferably hinged in the usual manner at one edge of the box.

The switch construction 9 may be of any suitable character and preferably provided with an external operating handle 10.

A spring strip 11 has its inner end suitably secured to the box by welding, riveting or otherwise and its other end is adapted to extend through the slot 12 in the cover adjacent one flange of the cover.

The latch member 13 is hinged or pivoted at 14 to the spring strip 11 so that it may be swung in a vertical plane substantially parallel with the sides of the slot 12. When the parts are in the position shown in Figs. 1 and 2 the inner end of the latch member stands in line with the left hand edge of the slot 12 so that the cover is held closed. To open the cover it is simply necessary to press the spring strip 11 and the catch member 13 to the right as shown in Fig. 1, whereupon the latch member is freed from the edge of the cover and the cover may be opened in the usual way.

The latch member is provided with a toe 15 which is adapted to be swung into position as shown in Fig. 4 where the toe stands in line with the cover at the lower end of the slot 12 so that the cover can not be opened.

The latch member may be readily swung into this position from the position of Fig 2 by simply pressing upwardly on the outer end of the latch member until the edges of the latch member and the strip 11 are flush as shown in Fig. 4. The latch member 13 and strip 11 are provided with perforations 16 and 17 respectively which are adapted to be brought into register to receive the loop of a sealing wire, or other sealing means of any suitable character. The members may be provided with slots such as 18 and 19 to receive a relatively wide or flat sealing strip. I have illustrated a conventional seal 20 as applied in the position of Fig. 3.

When the latch member is unsealed it can be readily moved to the position of Fig. 2 from the position of Fig. 4 by simply pressing down on the outer end of the latch member 13 until it is flush with the edge of the spring strip 11, as shown in Fig. 2.

In case the latch member has been moved to the sealing position when the cover is open, it will cause no inconvenience because when the cover is closed the outer end of the latch member 13 will slide through the slot 12 and the lower edge of the slot will automatically engage the outer inclined edge of the toe 15 of the latch member and move the latch member automatically to the position of Fig. 2.

The movement of the latch 13 on the pivot 14 may be limited by a boss 20' on the latch which projects into a slot 21 in the supporting strip 11 so as to prevent the latch from being displaced and interfering with the closing of the cover.

According to this invention it will be seen that in the position shown in Fig. 2, the latch member cooperates with the spring strip to function as an ordinary spring latch but when the latch member is moved to the position shown in Fig. 4, it takes up all the strain of the cover and no strain can be brought to bear upon the sealing wire. It is clear therefore that even in the case of the blowing of a fuse, which sometimes severely strains a switch box, there is no danger of the sealing wire being broken.

By arranging the latch member and spring strip 11, as herein shown and described, a seal is held securely and there is no possibility of the sealing wire being wriggled out of place or through the slot in the cover so as to permit unauthorized access to the interior of the switch box.

It will be understood of course that changes in detail might be made without departing from the spirit and scope of the invention.

I claim:

1. A switch box having a cover hinged to one edge, a latch strip secured to one side wall of the box, the cover having a slot to receive said latch strip, a latch member pivoted to the outer end of said strip and adapted to be rotarily moved so as to engage one edge

of said slot to prevent the opening of the cover, and means for sealing said latch member in said engaging position to prevent release of said cover.

2. A switch box having a cover hinged thereto, a spring strip secured to said box, said cover having a slot to receive one end of said strip, a latch member pivoted to said strip and adapted to engage one side of said slot to hold the cover closed, said plate and latch member being adapted to be released from latching engagement by lateral movement and said latch member having one end adapted to be rotarily moved so as to engage one edge of said slot and means for securing said latch member in the latter position.

3. A switch box including a hinged cover provided with a slot, a spring strip secured to said box and disposed in alignment with said slot, said strip being adapted to extend externally of said cover when the latter is closed, a latch member pivotally mounted on said strip, said latch member being adapted to be moved so as to engage the edge of said slot at either one side or one end of said slot to prevent opening of the cover.

4. A switch box including a hinged cover, a spring strip secured to said box, said cover having a slot to receive one end of the strip, a latch member pivotally mounted on said strip, said strip and said latch being adapted to be moved to one position to prevent the opening movement of said cover, and said latch being adapted to be moved independently of said strip to another position to prevent the opening of said cover.

5. A switch box including a hinged cover, a spring strip secured to said box, said cover having a slot to receive one end of the strip, a latch member pivotally mounted on said strip, said strip and said latch being adapted to be moved to one position in the path of opening movement of said cover and said latch being adapted to be moved independently of said strip to another position to prevent the opening of said cover, and means for locking said latch and strip in said latter position.

6. A switch box including a hinged cover having a slot, a spring strip secured to said box and adapted to extend through said slot, a latch member mounted on said strip, and adapted to engage one side of said slot, and said latch being movable into position to engage one end of said slot to prevent the opening of the cover and means for securing said latch in said latter position.

7. A switch box including a hinged cover having a slot, a spring strip secured to one wall of said box and movable toward and away from said wall and a latch member mounted on said spring strip and movable independently of said strip in a direction substantially parallel to said wall, and adapted to engage the outer surface of said cover ad-

jacent one end of said slot to prevent the opening of the cover.

8. A switch box including a hinged cover, a spring strip secured to said box, said cover having a slot to receive one end of the strip, a
5 latch member pivotally mounted on said strip, said strip and said latch being adapted to engage said cover to prevent the opening movement of said cover, and said latch being
10 adapted to be moved independently of said strip to another relative position to prevent the opening of said cover, said strip and said latch each having seal-receiving perforations adapted to align when the latch is moved to
15 cover-engaging position.

9. A latch for holding a slotted cover member in closed position on a box and comprising a spring strip, a latch member supported by said strip and adapted to be moved so
20 that the latching edge thereof extends beyond the side edge of said spring strip, said strip and latch each having perforations adapted to align when the latch is moved to said extended position.

25 CHARLES E. HANNY.

30

35

40

45

50

55

60

65