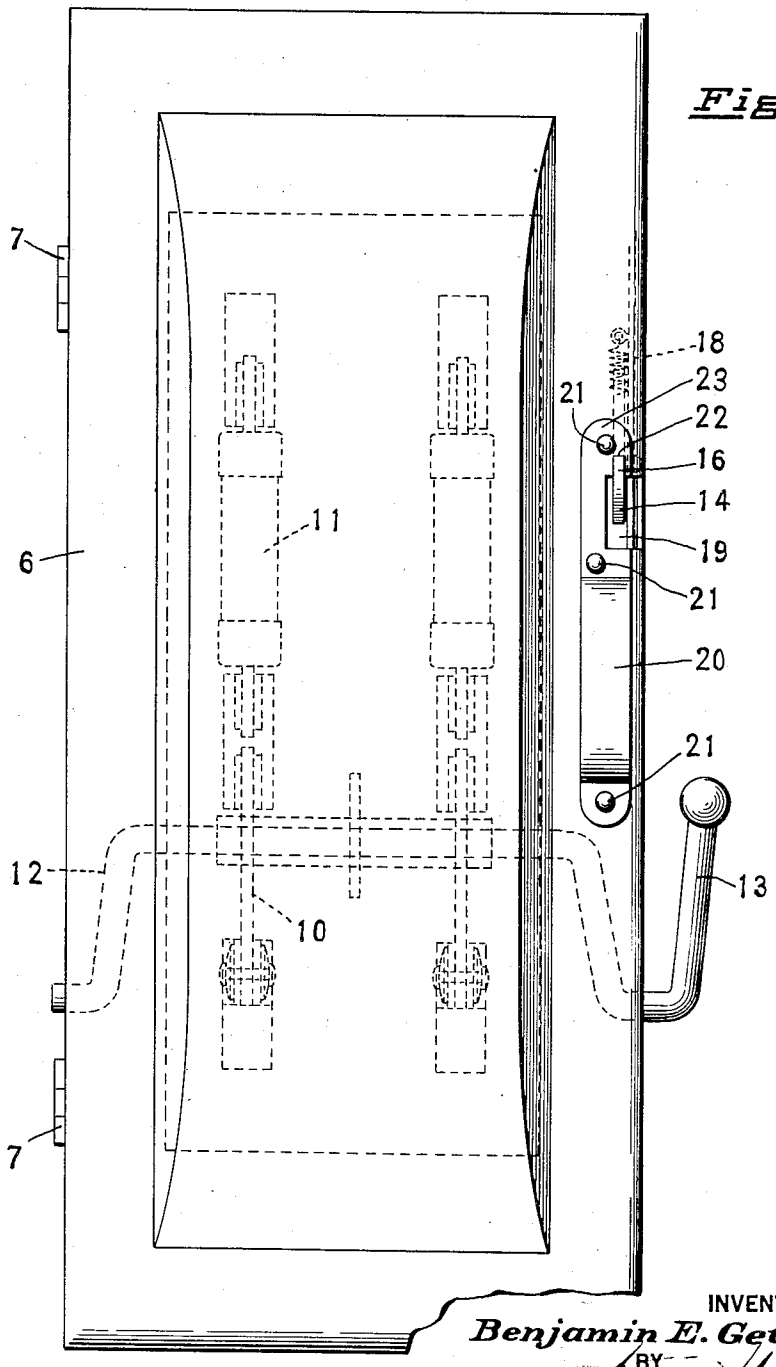
Aug. 21, 1928. 1,681,850

B. E. GETCHELL

LATCH FOR ELECTRIC SWITCH BOXES

Filed June 14, 1926 2 Sheets-Sheet 1

Fig. 1.



INVENTOR
Benjamin E. Getchell,
BY
ATTORNEY

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Fig. 2.

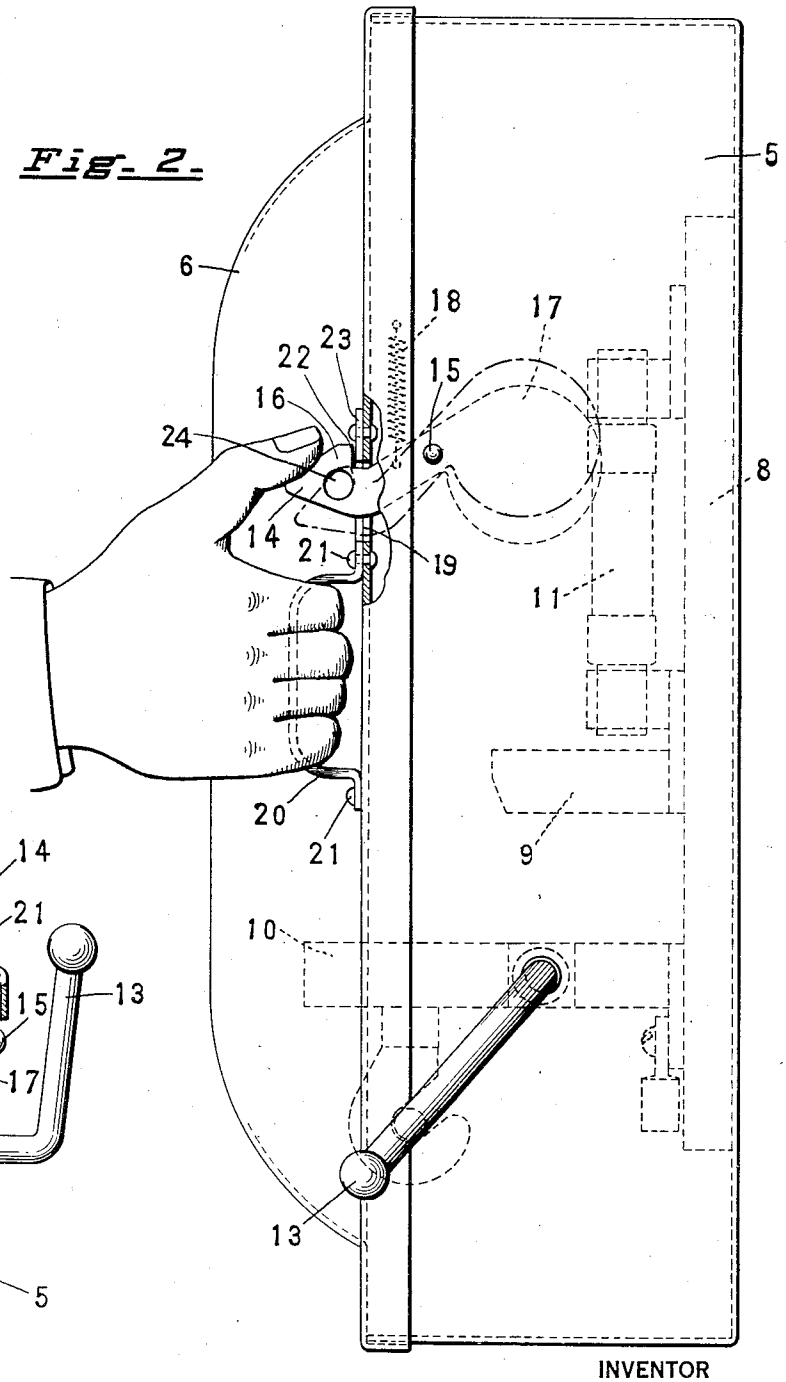
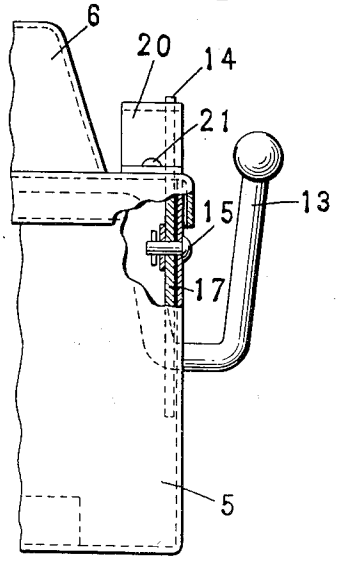


Fig. 3.



INVENTOR

Benjamin E. Getchell,

BY

ATTORNEY

Patented Aug. 21, 1928. 1,681,850

UNITED STATES PATENT OFFICE.

BENJAMIN E. GETCHELL, OF PLAINVILLE, CONNECTICUT, ASSIGNOR TO THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, OF PLAINVILLE, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LATCH FOR ELECTRIC-SWITCH BOXES.

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My invention relates to a construction involving the latch mechanism primarily intended for switch boxes of large size.

One object is to provide a simple, inexpensive and practical construction which will securely latch the box when it is closed and which can be readily released for the purpose of opening the box.

Another object is to provide a substantial and dependable latch which will securely hold the cover closed against all internal pressure such, for instance, as the blowing of the fuses or a short circuit in the box, which latter frequently causes such an explosion as to force the door violently open and thus endangers nearby persons as well as property.

Another object is to provide a substantial latch construction which may be depended upon to securely hold the cover closed even though the cover be loosely fitted to the box.

Another object is to provide a latch normally controlled by a spring but so proportioned and designed that it will effectually operate even though the spring becomes displaced or broken.

Another object is to re-inforce the comparatively thin metal of the cover so that it may be positively and securely latched.

In carrying out the invention in its preferred form, I provide a box having a hinged cover and a special handle and latch construction which is adapted to automatically latch the box when the cover is closed and in which the latch can be readily released in the act of grasping the handle for opening the box.

Fig. 1 is a front view of an electric switch box embodying the preferred form of the improvements of my invention, one form of switch mechanism being indicated in dotted lines, the switch being in the closed circuit position.

Fig. 2 is a side view of the same showing the switch in the open circuit position, a part of the cover being broken away to show the latch mechanism.

Fig. 3 is a fragmentary end view and partial section showing the latch mechanism.

The box 5 and cover 6 may be made of any suitable material such as sheet steel and preferably having the cover hinged at 7—7 at one side.

The switch mechanism is ordinarily mounted on a base 8 suitably secured in the box. In the particular form shown, the switch has a stationary switch contact jaw 9 and a hinged member 10. It may also have a suitable protective fuse 11. The switch may be operated by means of a crank suitably pivoted in the box and connected to the hinged switch member 10 and provided with an external operating handle or lever 13. The details of the switch mechanism, however, are unimportant to the present invention.

The latch member 14 is pivoted at 15 to one side of the box beside a wall thereof. The outer end 16 of the latch is preferably angled to facilitate its cooperation with the cover. The inner end 17 is considerably heavier than the outer end of the lever so that the tendency of gravity is to raise the outer end. This preponderance of weight may be conveniently provided by simply making the latch out of sheet metal having a larger area in rear of the pivot 15 than in front of it. Such a latch, therefore, is comparatively thin and occupies but little space within the switch box. I also preferably provide a tension spring 18 which is secured to the wall of the box and the outer arm of the latch member 14 so that it tends to pull the latch member outwardly against a stop on the side wall of the box. The weight of the inner end 17, however, is sufficient to ordinarily keep the latch in its operative position even though the spring 18 should become broken or inoperative.

The cover of the box is provided with an opening 19 through which the end 16 of the latch member 14 is adapted to project.

The cover is provided with a handle 20 which may be secured to the cover of the box, for instance, by means of rivets 21—21. The shoulder 22 of the latch member is adapted to engage with the end or extension 23 on the handle member so that the cover is reinforced by the handle member at the point where the latch coacts with the cover to hold it closed. When the box is to be opened the handle 20 is grasped in a natural manner and the thumb used to press down upon the end 16 of the latch member so as to release it at the same time that the cover is opened by simply pulling on the grip portion of the handle. The cover may be closed by simply pressing it into the position shown in Fig. 2 during which operation the outer end of the latch will pro-

ject through the opening 19 and snap into place by gravity assisted by the spring 18. The outer end of the latch member may be provided with an opening 24 to accommodate a padlock or other locking or sealing means.

The covers of large switch boxes are sometimes difficult to open on account of the cover binding on the edge of the box. The handle construction I have shown serves to reinforce the cover and also enables the operator to grasp the handle in the most effective manner, using the strongest part of his hand and fingers, and to apply the opening force at the most efficient point.

I claim:

1. A latch construction for an electric switch box, said box having a cover hinged to said box and said cover having a latch opening, a handle member secured to said cover adjacent said opening and having a latch engaging extension, a latch member pivoted in said box, said latch having a shoulder for engaging with said handle extension when the cover is closed, and a counterweight extension and a spring for normally moving said latch.

2. A latch construction for an electric switch box including a hinged cover with a handle grip at one edge and a latch opening adjacent thereto, a counterweighted latch pivoted in said box and provided with a hooked end adapted to interlock with one edge of said opening when the cover is closed, and a spring for closing said latch.

3. A latching mechanism for an electric switch box having a cover hinged thereto and having a latch opening, said mechanism comprising a handle member secured adjacent said opening and having an extension reinforcing said opening, a latch member pivoted in said box and having a shoulder co-acting with said extension when said cover is closed and both spring means and gravitational means to ensure engagement of said shoulder with said extension.

4. A latch construction for an electric switch box, said box having a cover hingedly secured to said box, a handle grip secured to said cover and having a latch engaging extension, a latch member pivotally secured to said box, said latch member having a hook member for engaging the extension of said handle grip and a counterweighted portion for causing latching movement of said latch and spring means for normally operating said latch.

5. A latch construction for an electric switch box, said box having a flanged cover hinged to one edge of the box and said cover having a latch opening at the edge opposite the hinged edge, a handle having spaced ends secured to the cover adjacent one of its flanges, one of said ends being secured adjacent said latch opening and having a gripping portion extending substantially parallel with the edge of the cover and adapted to be grasped by the fingers of one hand, a latch pivoted to an inner side wall of the box and movable in a plane substantially parallel thereto and having a hooked end projecting through said opening when the cover is closed and having a thumb piece adapted to be engaged and retracted by depressing the thumb while the handle is grasped by the fingers of the same hand and means for automatically moving the latch to hold the cover when the hooked end of the latch projects through the opening in the cover.

BENJAMIN E. GETCHELL.