June 21, 1938. E. B. WORKMAN 2,121,620

SWITCH BOX COVER FASTENER

Filed April 10, 1935

Fig. 1.

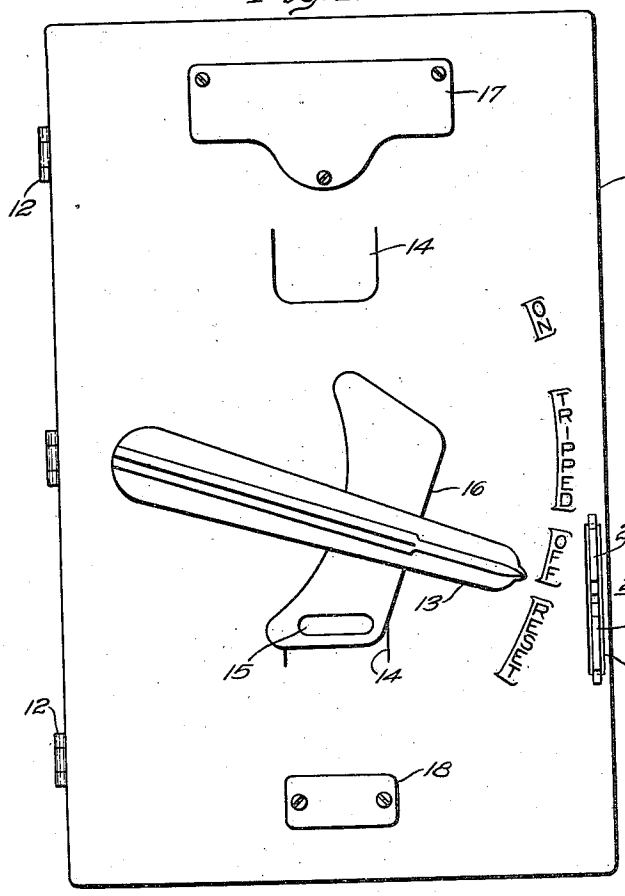


Fig. 2.

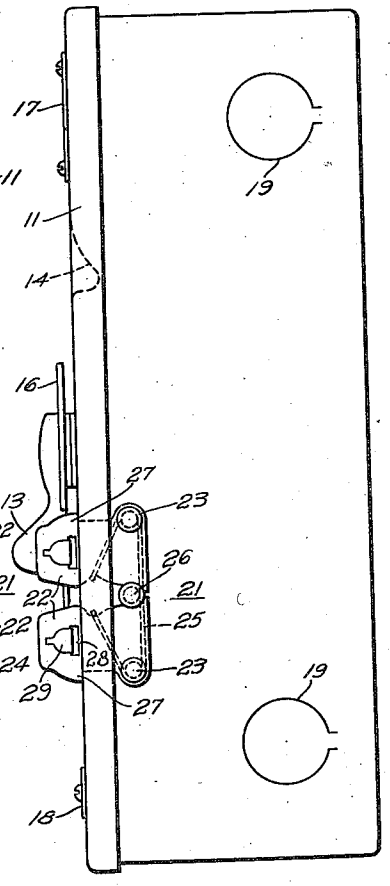


Fig. 3.

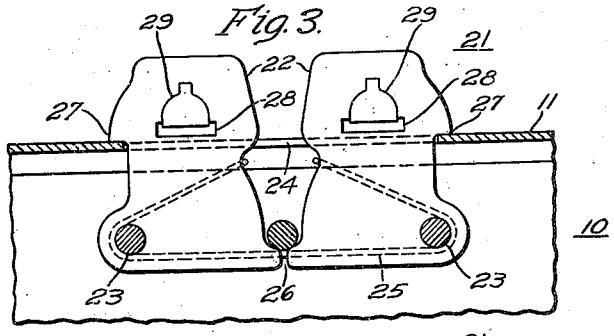


Fig. 4.

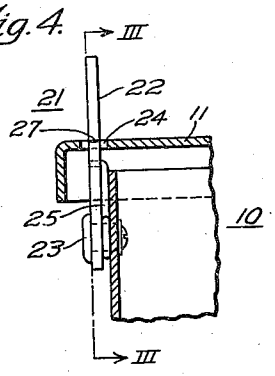
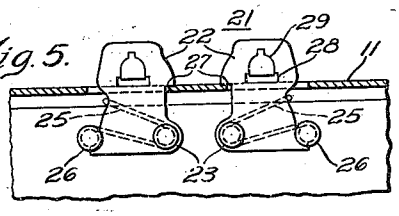


Fig. 5.



WITNESSES:

C. J. Weller.

H. E. Chilcott.

INVENTOR

Elden B. Workman.

BY

J. M. Crawford

ATTORNEY

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UNITED STATES PATENT OFFICE

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SWITCH BOX COVER FASTENER

Elden B. Workman, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., a corporation of Pennsylvania

Application April 10, 1935, Serial No. 15,579

1 Claim. (Cl. 292—31)

My invention relates, generally, to cabinets or boxes, and, more particularly, to safety latches for boxes suitable for enclosing automatic circuit breakers or safety switches, motor starting switches and the like.

An object of my invention, generally stated, is to provide a latch for the cover of an enclosing cabinet which shall be simple and reliable in operation and which may be economically manufactured and installed.

A more specific object of my invention is to provide a latch which will positively engage the cover of an enclosing cabinet.

Another object of my invention is to provide a latch in which either a padlock or a seal or both may be inserted to prevent opening the cover of enclosing cabinet or box.

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

According to one embodiment of my invention, a pair of pivotally mounted latch members are disposed to engage the cover of a switch box. The latch members are biased in opposite directions by a spring in such a manner that shifting of the cover or distortion of the box cannot cause the cover to become unlatched. Each one of the latch members is provided with a rectangular opening for the insertion of a seal of the flat or ribbon type. A semi-circular knockout is provided above the rectangular opening in each latch member and contiguous thereto, which may be removed to permit the cover to be locked in the closed position with a padlock or similar locking device.

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 front elevation, of a switch box having a latching device constructed in accordance with my invention;

Fig. 2 is a view, in side elevation, of the switch box shown in Fig. 1;

Fig. 3 is a view, in section, taken along the line III—III of Fig. 4; and

Fig. 4 is a detail view of the latching device.

Referring to the drawing, the structure shown comprises a cabinet 10 having a cover or door 11, which may be mounted on one side of the cabinet by hinges 12 or secured to the cabinet in any other suitable manner which will permit the cover to be readily opened. The cabinet 10 may be of the type disclosed in the copending application of G. R. Runke and H. S. Gano, Serial No. 8,658 filed February 28, 1935, which is suitable for enclosing an automatic circuit breaker or safety switch, motor starting switch and the like. However, the latching device described herein may be utilized on a cabinet of any type having a cover member.

An operating handle 13 is provided on the cover 11 for actuating the circuit breaker or switch unit with the cover closed, as is fully described in the foregoing application. Depressed portions 14 are provided in the cover 11 to permit the handle 13 to be locked in either the "off" or the "on" position by means of a padlock which may be inserted through a slot 15 in a locking plate 16 which is secured to the handle 13. If it is desired to lock the handle in the "on" position, it is necessary to drill a hole in the upper portion of the locking plate 16 which will be over the upper depression 14 when the handle 13 is moved to the "on" position. The usual nameplates 17 and 18 are provided on the cover 11 and knockouts 19 are provided in the cabinet 10 to permit the necessary electrical connections to be made.

In order that the cover 11 will be so latched in the closed position that it cannot be opened accidently by the shifting of the cover or distortion of the box, a latching device 21 is mounted on the side of the box opposite the hinges 12 to positively engage the cover 11 when it is fully closed. The latching device comprises a pair of latch members 22 which are pivotally mounted on the side of the cabinet 10 by means of rivets 23. The cover 11 is provided with a slot 24 through which the latches 22 extend when the cover is in the closed position.

The latch members 22 are disposed in back-to-back relation and they are so shaped that they may be squeezed together to release the cover. A single spring 25 is provided for biasing the latch members in opposite directions to engage the cover 11. As shown, the spring 25 is disposed between the latch members 22 and the side of the cabinet 10 and it passes around the rivets 23 with one end hooked behind each one of the latch members. A common stop pin 26 is disposed in the side of the cabinet 10 between the two latch members to limit their travel when the cover is raised.

It will be noted that each latch is provided with a hook 27, the innermost portion of which is in vertical alinement with the center of the mounting rivet 23 when the hook 27 engages the cover 11, which insures that the latches will not

be released by an upward pull on the cover 11. Furthermore, it will be seen that a shifting of the cover relative to the box or a distortion of the box cannot cause the cover to be released, as at least one latch of the pair will engage the cover regardless of the distance the cover may be shifted.

In this manner, accidental opening of the cover is prevented, but the latch may be readily released by hand when desired. The latch members 22 are identical in structure and they may be cut or punched from sheet-metal, or other suitable material, and readily mounted on the cabinet by rivets or bolts, thereby providing a simple and inexpensive latching device.

In order that the cover 11 may be sealed shut, each latch member 22 is provided with a rectangular opening or slot 28 which will accommodate a flat or ribbon seal. A knockout 29 is also provided in each one of the latch members 22. As shown, each one of the knockouts is substantially semi-circular in shape and is disposed adjacent the top side of the slot 28. In case it is desired to lock the cover 11 in the closed position one of the knockouts may be removed, which will permit a padlock to be inserted through one of the latch members. If it is desired to use two different locks, both knockouts may be removed and a lock inserted in each latch, with a seal in one or both latches.

I do not desire to be restricted to the specific embodiments of my invention herein shown and described, since it is evident that they may be changed and modified without departing from the spirit and scope of my invention as defined in the appended claim.

I claim as my invention:

A latching device for a cabinet having a cover, comprising a pair of latch members pivotally mounted on the cabinet, each latch having a hook disposed to retain the cover in the closed position, the innermost portion of each hook being substantially in alinement with its pivotal support, and a single spring for biasing the latch members in opposite directions to engage the cover member, said spring being disposed around the pivotal supports for both latch members.

ELDEN B. WORKMAN.