Dec. 2, 1952 D. H. KEELER 2,620,213

SURFACE BOLT

Filed Jan. 28, 1950

Fig. 1.

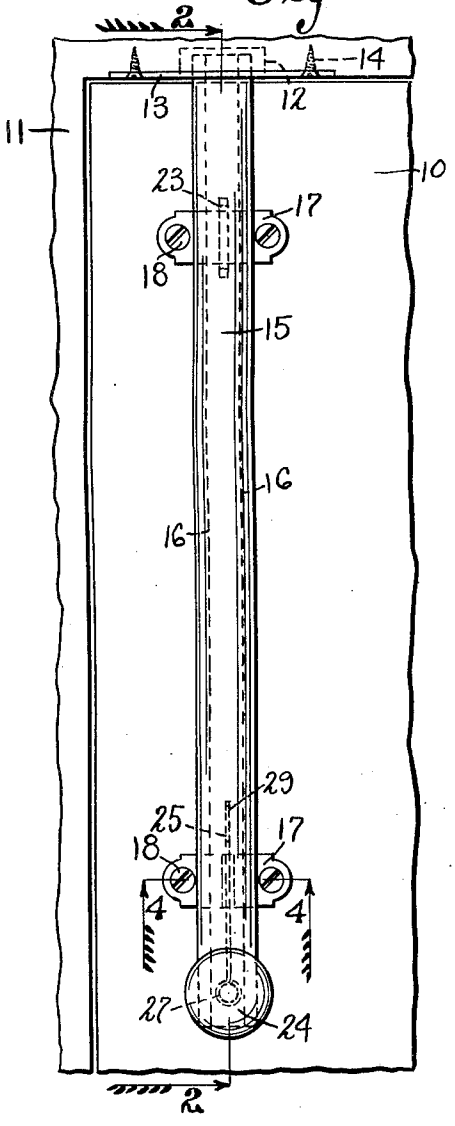


Fig. 2.

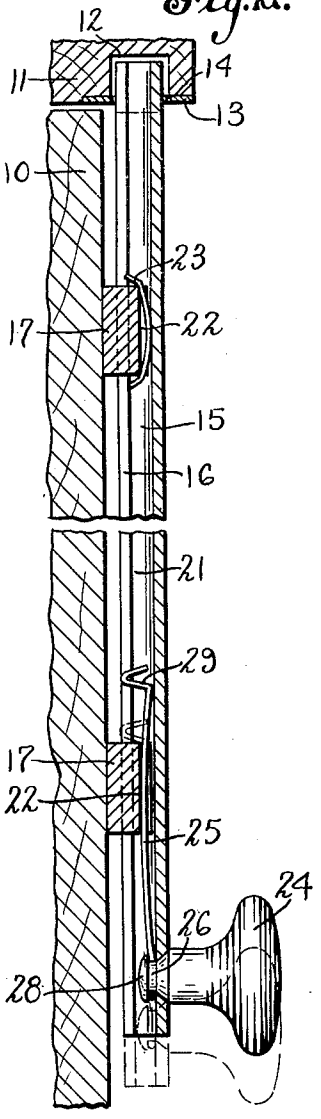


Fig. 3.

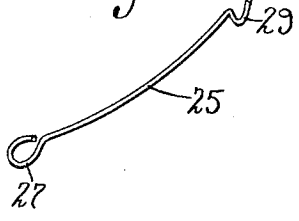
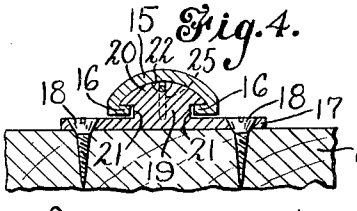


Fig. 4.



Inventor

Dwight H. Keeler

By

Rockwell & Bacholous

Attorneys

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SURFACE BOLT

Dwight H. Keeler, East Haven, Conn., assignor to The H. B. Ives Company, New Haven, Conn., a corporation of Connecticut

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3 Claims. (Cl. 292—147)

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This invention relates to surface bolts and more particularly to a sliding bolt adapted to be applied to the outer surface of a closure member, such as a door or window, the bolt being adapted to be moved so that its end portion projects over the edge of the closure member to which it is to be applied, into a keeper or strike plate so as to maintain the closure member in closed position.

A bolt of this character is commonly mounted in guides which are secured to the surface of the closure member, the bolt being slidable with respect to the guides. It is desirable that means be provided so that while the bolt may be readily moved from one position to another, it will nevertheless remain in the position to which it is moved even when mounted to move in a vertical direction, so that the bolt will remain either in its projected position or in its retracted position when moved to these positions.

Also as such a bolt is mounted upon the surface of the door or other closure member, it is desirable that it be of ornamental appearance, and to this end it is advantageous to provide guides or attaching members of such construction that they may be located at the rear of the body of the bolt. Also it is desirable to provide means for limiting the movement of the bolt with respect to the guides so as to assure that the bolt will not be entirely removed from the guides, particularly when retracted, and to this end definite stops are provided in the present structure to limit movement of the bolt with respect to one of the guides.

One object of the present invention is to provide a surface bolt of simple and inexpensive construction which will at the same time be of ornamental appearance and economical to manufacture.

A further object of the invention is to provide a surface bolt and guides or attaching means therefor such that the attaching means will be located at the rear of the bolt, and stops or abutment members will be provided to limit the sliding movement of the bolt with respect to the guides when the bolt is installed upon a door or other closure member.

Still another object of the invention is to provide frictional means between the guides and the bolt so that the bolt will remain in the position to which it is moved and to employ one of these frictional members as an abutment to limit movement of the bolt in one direction with respect to the guide.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

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In the accompanying drawings:

Fig. 1 is a front elevational view of a surface bolt applied to the face of a closure member such as a door;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the stop spring employed between the bolt and one of the guides; and

Fig. 4 is a transverse sectional view on line 4—4 of Fig. 1.

To illustrate a preferred embodiment of my invention, I have shown in the drawings a closure member such as a door 10, the door being mounted in the frame 11. The frame may be recessed at 12, as shown in Fig. 2, to permit entrance of the end of the bolt in this recess, and below the recess a keeper or strike plate 13 is secured to the frame, this member having an opening 14 in which the projecting end of the bolt may be received.

The body of the bolt is shown at 15 and, as illustrated in Fig. 4, the bolt body is hollow and substantially channel-shaped in cross section, with its edges turned inwardly to provide oppositely facing flanges 16. It will be understood that the bolt may be of the size and length required for the particular use to which it is to be put.

The bolt may be secured to the door by two or more securing members or guide members, shown more particularly in Figs. 1 and 4. Each of these members comprises a base portion 17 adapted to be secured to the surface of the door by screws 18 and an outwardly-projecting centrally-disposed rib 19. This rib is provided with an enlarged head 20 having an arcuate outer surface so as to fit fairly snugly the interior of the bolt. Between the enlarged head 20 and the base 17 are provided channels 21 which slidably receive the flanges 16 upon the bolt. It is understood that the bolt as originally made is open at its ends so that the guides or securing members may be slidably assembled with the bolt, as shown in Figs. 2 and 4, in order that when the guides are attached to the door the bolt will be slidably mounted thereon.

The upper surface of the head 20 of each of the guides is provided with a groove or channel 22 and a bowed spring 23 is disposed in the channel of one guide (the upper one as shown in Fig. 2), which spring exerts friction upon the bolt tending to hold the latter in any position to which it is moved, but allowing it to be slidably moved with respect to the guide when desired.

Adjacent the inner end of the bolt a knob 24

is secured thereto which may be grasped by the operator to move the bolt to projected and retracted positions. A spring **25**, shown more especially in Fig. 3, is secured to the inner end portion or stem **26** of the knob **24**. This spring is provided with an eye **27**, through which the stem **26** extends, and the stem is riveted over at **28** so as to secure the spring in place and also secure the knob to the body of the bolt **15**.

As shown more especially in Fig. 2, this spring is of sufficient length to extend through the groove **22** of the adjacent guide or attaching member, and at its free end is bent upon itself, as shown at **29**, so as to provide a stop or abutment member which will not pass through the groove **22**, but will engage the head **20** of the guide and act as a stop to limit the movement of the bolt with respect to the guide in one direction, that is, in a downward direction as shown in the drawings.

Also the body of the spring **25** is slightly bowed as shown in Figs. 2 and 3, so that, while its ends engage the inner surface of the bolt **15**, the body portion engages the bottom of the groove **22** and serves to frictionally hold the bolt against movement with respect to the guide or attaching member.

As shown in Figs. 1 and 2 of the drawings, the door is closed and the bolt is in its projected position with its upper end portion engaged with the keeper **13**, so as to maintain the door in closed position. The bolt may be moved to retracted position by merely grasping the knob **24** and slidably moving the bolt with respect to the attaching guides. By exerting a downward force upon the knob **24**, the bolt may be moved to this retracted position, as shown in dotted lines in Fig. 2. In this position the abutment or stop member **29** on the spring **25** engages the head **20** of the adjacent attaching member and acts as a positive stop to limit the movement of the bolt in this direction.

It may sometimes occur that when the door is in open position, the bolt might be moved too far in the opposite direction, or in the direction to protract it. Such movement is limited by the engagement of the riveted portion **28** of the stem **26** of the knob **24** with a portion of the adjacent guide. It will be seen, therefore, that when the parts are assembled, as shown in Fig. 2, the movement of the bolt with respect to the lower guide is limited in both directions, and that the limiting members are disposed within the channel of the bolt so as not to be exposed when the bolt is applied to the door. Moreover, the spring **25** which acts as one of the limiting members also acts to frictionally hold the bolt in any position to which it is moved.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claims.

What I claim is:

1. A surface bolt comprising a bolt body channeled at its rear side, a guide member having a head portion entering said channel to mount the bolt for sliding movement, and a spring extended between said head and the bolt body to exert friction thereon, said spring being fixed at one end to said bolt and having an abutment at the other end to engage the head of the guide member and the intermediate portion of the spring frictionally engaging the guide member to hold the bolt in adjusted position.

2. A surface bolt comprising a bolt body channeled at its rear side, a guide member having a head portion entering said channel to mount the bolt for sliding movement, said head having a groove therein facing the bolt body, and a spring member secured at one end to the bolt and extending through said groove beyond said guide member, said spring having an abutment on its extended end to engage the guide member and act as a stop to limit relative movement of the bolt and guide member and the body of the spring being frictionally engaged with the wall of the groove in the guide member.

3. A surface bolt comprising a bolt body channeled at its rear side, a guide member having a head portion received in the channel to mount the bolt for sliding movement, said head having a groove therein facing the bolt body, a knob secured to the bolt body and having a stem extending through the wall thereof into the channel, a spring secured at one end to the stem of the knob within the channel of the bolt and extending through said groove beyond said guide member, said spring having an abutment on its extended end to engage the guide member and act as a stop to limit relative movement of the bolt with respect to the guide member in one direction, and the stem of said knob limiting relative movement of the bolt and guide member in the other direction.

DWIGHT H. KEELER.

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