

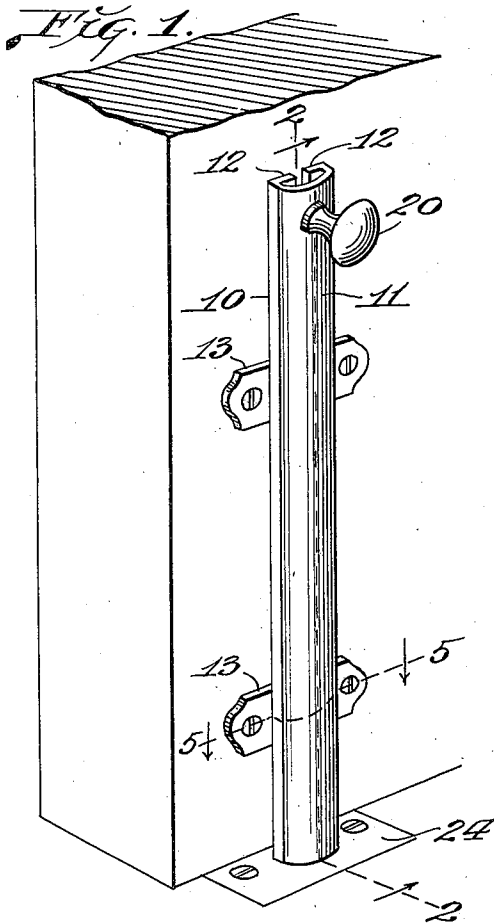
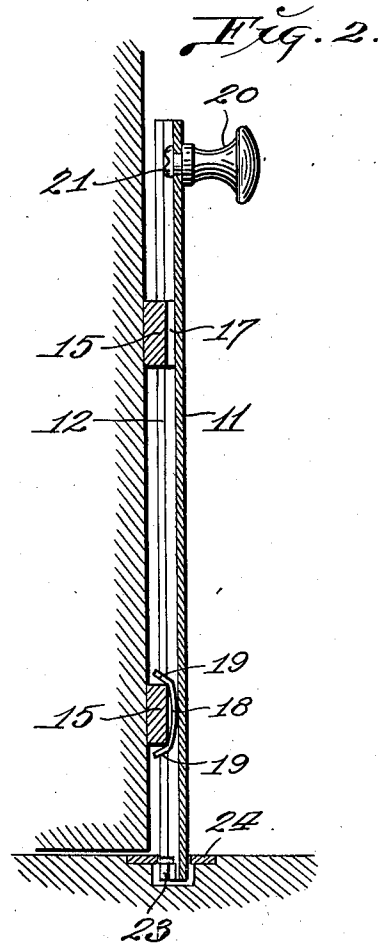
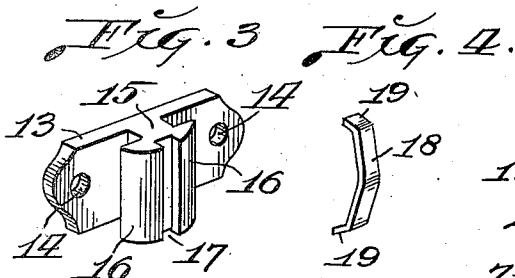
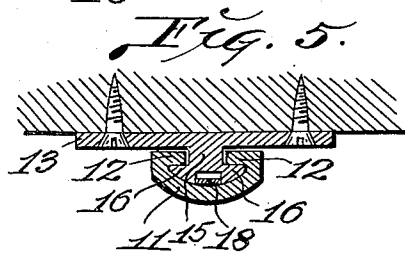
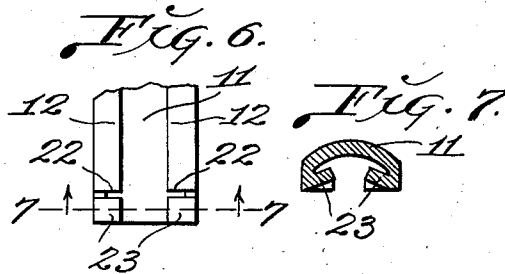
Nov. 30, 1937.

G. R. ADAMS

2,100,622

SURFACE BOLT

Filed Jan. 27, 1936



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## UNITED STATES PATENT OFFICE

2,100,622

## SURFACE BOLT

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1 Claim. (Cl. 292—145)

My invention relates to surface bolts of the type generally utilized for securing doors, casement windows, hinged panels and the like in closed position and the principal object of my invention is, to provide a surface bolt of relatively simple, strong, durable and inexpensive construction wherein the bolt member is mounted on supporting and guiding means that is disposed entirely within and to the rear of said bolt so that the complete structure when installed presents a smooth, finished exterior throughout its length.

Further objects of my invention are to improve upon and simplify the construction of the existing forms of surface bolts, to provide a construction that may be easily and conveniently adjusted so as to enable the throw or longitudinal movement of the bolt to be regulated and controlled, to provide simple and convenient means for holding the bolt in its elevated or unlatched position and further, to provide a device of the character referred to wherein the sliding bolt will not contact with and scratch the surface of the door or window to which it is applied.

A further object of my invention is, to provide a surface bolt with simple and efficient means located at its lower end for limiting the upward or outward movement of the bolt with respect to the strike in which the end of the bolt engages to hold the door or window in latched position.

With the foregoing and other objects in view my invention consists in certain novel features of construction and arrangements of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a perspective view of a surface bolt constructed in accordance with my invention and showing the same applied to a door or casement window.

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1.

Fig. 3 is a perspective view of one of the supporting guides for the sliding bolt.

Fig. 4 is a perspective view of a friction producing spring that is applied to the supporting guide.

Fig. 5 is an enlarged horizontal section taken on the line 5—5 of Fig. 1.

Fig. 6 is a rear elevational view of the lower portion of the bolt.

Fig. 7 is a horizontal section taken on line 7—7 of Fig. 6.

Referring by numerals to the accompanying drawing which illustrates a preferred embodiment

of my invention, 10 designates the body of the bolt which may be of any desired size and length, said bolt being substantially channel-shaped in cross section and comprising an outwardly curved front wall 11 and formed integral with and projecting inwardly toward each other from the edges of this front wall are flanges 12 occupying the same vertical plane and the inner edges of said flanges being spaced apart.

The supporting guides for the bolt, one of which is illustrated in Fig. 3, comprise plates such as 13, the ends of which are provided with apertures 14, for the reception of screws that secure the guides to the door or window and formed integral with the center of each plate, is a vertically disposed rib 15.

Formed integral with the forward side edges of rib 15, are laterally projecting flanges 16, the front faces of which are curved to correspond with the curvature of the inner surface of the front wall 11 of the bolt. Thus when the bolt is longitudinally applied to the guides, the inwardly presented flanges 12 on the sides of the bolt engage behind the flanges 16 of the guides, thereby providing an interengaging connection to hold the bolt in proper operative position upon the guides.

As a result of this mounting of the bolt on the guides, the entire front and side surfaces of the bolt are exposed and the absence of overlying or overlapping parts entirely eliminates the scratching or marring of the outer face of the bolt as a result of its sliding movement.

Formed in the front face of rib 15, between the flanges 16, is a vertically disposed groove or channel 17 and before the bolt is applied to the guide a narrow bow spring 18 is positioned in the groove 17, the ends 19 of said spring being bent rearwardly so as to overlie the ends of the rib 15 and thereby retain the spring against longitudinal movement.

When the bolt is applied to the guides, the intermediate portion of the spring 18 engages with a certain degree of pressure against the inner face of the front wall 11 of the bolt, thus providing sufficient friction to hold the bolt in elevated or unlatched position.

On the ordinary lengths of bolts, it is only necessary to provide one of the guides with a friction spring 18, but on the longer bolts both guides may be spring equipped.

The shank or stem portion of a knob 20 is seated in an aperture formed through the wall of the bolt adjacent its upper end and the end of this shank or stem is riveted down against

the inner face of the wall of the bolt, thereby providing a lug or shoulder 21, which functions as a stop to engage the upper one of the guides and thereby holding the bolt against being moved  
5 off or disengaged from the supporting guides.

To limit the upward movement of the bolt on the guides, the flanges 12 just above the lower end of the bolt are slotted horizontally as designated by 22 and those portions 23 of the flanges  
10 below the slots are bent inwardly toward the front wall of the bolt as illustrated in Fig. 7, such procedure being carried out after the bolt has been mounted on the guides and as the lower end of the bolt when moved upwardly approaches the lower one of the guides, the inwardly bent portions of the flanges will engage the lower guides, thus preventing further upward movement of the bolt.

When the door or window to which my improved surface bolt is applied, is closed, said bolt is moved downward a short distance so that its lower end passes into the aperture in a conventional strike 24 and thus the equipped door or window is secured in closed position.

25 When the bolt is elevated to release the door or window, said bolt moves freely upward on its supporting guides and the friction produced by the spring 18 is sufficient to hold the bolt in its elevated or released position.

30 Obviously the supporting guides may be positioned upon the door or window so that the bolt may have any desired throw to engage the strike positioned in a window sill or floor and where the bolt is utilized on doors, the supporting guides may be regulated so as to permit the  
35 lower end of the bolt to move downwardly a sufficient distance below the lower edge of the door to engage in the strike even though the lower edge of said door is positioned a substantial distance above the surface of the floor for the accommodation of heavy or thick floor coverings.

The construction of my improved surface bolt is such that it may be easily and conveniently  
45 applied for use and the supporting guides may be applied to the door or window so as to accurately control the throw or longitudinal movement of the bolt. The mounting of the bolt is such that its movement does not scratch or mar  
50 the finish of the door or window to which it is applied and there is nothing to scratch or mar the external surface of the bolt as the same is moved from one position to the other.

55 It will be understood that where bolts of con-

siderable length are utilized, the same may be mounted on three or more of the guiding members and where such construction is employed it may be found necessary to equip two or more of the guides with the springs 18.

While I have shown the bolt as being provided with a curved front wall it will be understood that said bolt may be constructed with a flat or angular front face.

Inasmuch as the flanges 12 are positioned directly behind the flanges 16 on the guides and these flat faces are parallel with each other, the bolt is always retained for proper operation upon the guides and it is impossible for the bolt to be pulled directly outward so as to become dis-  
15 engaged from the guides.

Thus it will be seen that I have provided a surface bolt that is relatively simple in construction, inexpensive of manufacture and very effective in performing the functions for which  
20 it is intended.

It will be understood that minor changes in the size, form, and construction of the various parts of my improved surface bolt may be made and substituted for those herein shown and described without departing from the spirit of the invention, the scope of which is set forth in the appended claim.

I claim as my invention:

30 In a surface bolt, the combination with a pair of guides, a rib formed on the front face of each guide, flanges projecting laterally from the free edge of said rib so that the same is substantially T-shaped in cross section, a substantially channel-shaped bolt mounted for sliding movement on said guides, flanges project-  
35 ing inwardly from the side edges of said bolt for engagement behind the laterally projecting portions of the T-shaped ribs on said guides, the front face of each rib being provided with a longitudinally disposed groove, a resilient member positioned in the groove in one of said ribs and bearing against the inner face of said bolt, a knob secured to one end of said bolt, the inner  
45 end of which knob provides a shoulder to engage the adjacent guide and limit the movement of the bolt in one direction on said guides and portions of the flanges at the end of the bolt opposite the end that carries the knob being pressed  
50 forwardly toward the front wall of the bolt to provide stops for engagement with the adjacent guide to limit the movement of the bolt in another direction.

GEORGE R. ADAMS. 55