Oct. 23, 1934. L. G. JACOBSON 1,977,726

SLIDING CLOSURE

Filed Feb. 15, 1932

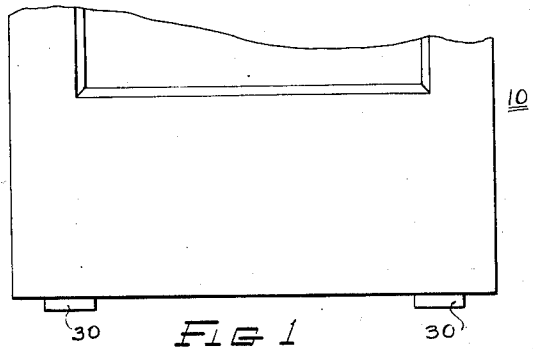


FIG 1

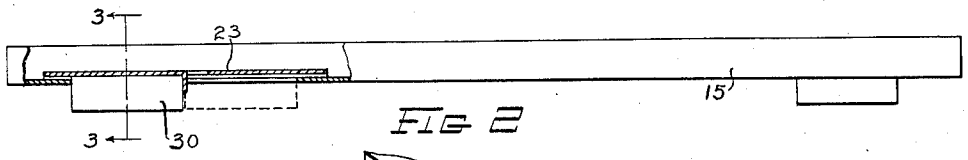


FIG 2

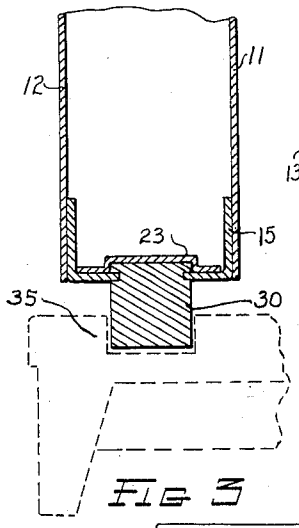


FIG 3

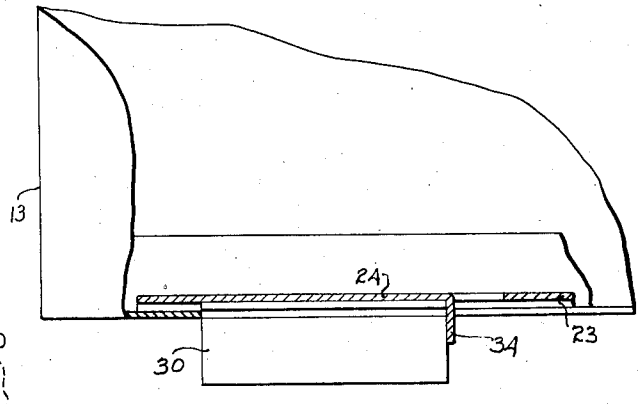


FIG 4

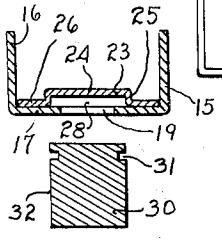


FIG 6

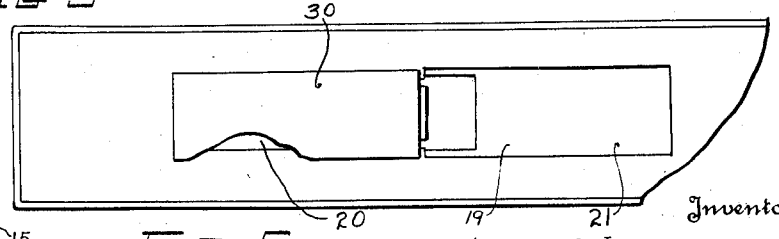


FIG 5

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SLIDING CLOSURE

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7 Claims. (Cl. 189—46)

This invention relates to an improvement in sliding closures and more particularly to guide means therefor.

Change and advancement in the construction and operation of sliding closures has necessitated the development of improved means for guiding the movement of a closure. In order to more clearly bring out the advantages of the present invention, the present practice employed in attaching guides or guide blocks to a closure is submitted. The majority of sliding closures terminate along the lower edge in a downwardly opening channel. Into this channel is fitted an inverted channel, which is preferably secured by bolts to the first channel in order to permit the subsequent removal therefrom. The inverted channel thus secured has attached to the base wall thereof, one or more guide blocks. These blocks are joined to the inverted channel by welding, riveting or bolting. It is highly important that the guide block attached to a closure be perfectly aligned with the closure and with the guideway formed in the sill of the enclosure in order to facilitate free operation of the closure, as well as prevent undue wear and noise. It has been found difficult to properly align the guide blocks with the closure through the method of attachment above described. Misalignment of the inverted channel or the block causes undue wear on the block and guideway necessitating early replacement. Since it is not expedient to return the closure to the factory for repairs another channel with guide blocks attached is made up and substituted for the one to which the worn blocks are attached. It is obvious as a result of such practice, considerable difficulty is encountered in obtaining proper performance from a sliding closure having guide means of this construction.

It is the purpose of the present invention to provide a closure having guide blocks which will give satisfactory service over a long period of time without repair or replacement and this, therefore, constitutes the principal object of the invention.

Another object of the invention lies in the provision of a removable guide means for a sliding closure.

A further object of the invention lies in the provision of a sliding closure having a common receiving means for variously formed guide blocks as well as for guide blocks formed from various materials.

A still further object of the invention lies in the provision of a closure and guide block, the construction of which is such as to reduce the cost and maintenance of a closure.

Other and further objects of the invention will be more clearly understood from a consideration of the following specification which is taken in conjunction with the accompanying drawing, and in which

Fig. 1 is a fragmentary front elevation of a sliding closure and guide blocks constructed in accordance with this invention;

Fig. 2 is a side elevation of a channel which closes the bottom edge of the closure, parts being broken away to show the location of one of the guide blocks;

Fig. 3 is an enlarged vertical sectional view, taken substantially on the line 3—3 of Figure 2 and shows the method of attaching the block to the closure channel;

Fig. 4 is an enlarged fragmentary side view of the closure, showing the location of the channel and guide block;

Fig. 5 is a bottom plan view of a portion of the closure and the guide block; and

Fig. 6 is an exploded view of the closure channel and guide block.

Referring to the drawing, the reference numeral 10 is employed to designate a sliding closure which is comprised in part of spaced side walls 11 and 12 and end walls 13. The upper portion of the closure, means of support, etc., forming no part of this invention are neither shown or described.

Mounted between the walls 11 and 12 of the closure is an upwardly opening channel member 15, having side walls 16 connected by a base wall 17. The channel member is inserted into the space between walls 11 and 12 and engaged therewith along flanges 16 in any suitable manner as by welding. Formed in the base wall 17 of the channel member 15 is one or more openings 19. Each opening consists of connected slots 20 and 21 of substantially the same length, slot 20 being somewhat narrower than slot 21, the purpose of which will subsequently be set forth.

Mounted on the inner face of the base wall 17 of the channel 15 is a shallow reversely disposed channel member 23, having a base wall 24, and side walls 25 which terminate in flanges 26. Flanges 26 engage the wall 17, and are secured thereto in any suitable manner as by welding. The height of the side walls 25 is such as to provide a pocket 28 between the base walls 17 and 24 of channel members 15 and 23 respectively. This pocket is open and access thereto is gained

through the opening 19 in the base wall 17. As will be noted in Figure 2, the channel member 23 extends beyond the ends of the opening 19, thus closing off the interior of the closure and at the same time providing a base wall against which the guide block is positioned.

The guide block 30, formed from any material suitable for this purpose, is adapted to be engaged with the bottom of the closure. The block is provided with outwardly opening grooves 31 which are disposed on opposite vertical faces 32 of the block. These grooves extend the full length of the block and are preferably adjacent the top. In fact that portion of the block between the top and the edge of the groove is of a height substantially equal to that of the depth of the pocket 28. The width of the grooves is substantially equal to the thickness of the metal in the base wall 17 of the channel member 15. The width and length of the block is slightly less than that of the slot 21 and in consequence the block is inserted in this slot. However, since the slot 20 is narrower than slot 21, the walls which define the edges of the narrower slot must engage the grooves 31 of the block, when the block is moved into slot 20. It is contemplated that that portion of the block which lies within the pocket 28 will closely engage the walls of the pocket and necessitate driving the block into place. When the block has been thus positioned, a flange 34, formed from the base wall 24 of the channel member 23, is bent downwardly to engage the block and prevent movement thereof into the slot 21 from which it could be freely removed.

It will be noted that absolute alignment of the block with the closure can be had provided the grooves 31 and the slots 20 and 21 are properly disposed. When the guide blocks become worn and are loose in the guideway, generally indicated at 35, they must be replaced. This is easily accomplished by bending the flange 34 to a horizontal position, forcing the guide from the slot 20 into slot 21 from which it will be readily removable and substituting a new block therefor. When the new block has been forced into position, flange 34 may be again bent downwardly to lock the block in place.

In some installations of sliding closures, it is a prerequisite that the closure be silent in operation, almost without regard for its useful service. Under such circumstances, fiber or other noiseless blocks may replace the usual metal block. However, since blocks of softer material have less wear resistance, it is necessary that a means such as disclosed in the above specification be provided by which to facilitate the removal and replacement of worn guide blocks without the usually attendant trouble or bother of providing a substitute channel member with guide blocks attached or of returning the closure to the factory for repairs.

Although applicant has shown and described but one modification of his invention, it will be apparent to those skilled in the art that other modifications or adaptations may be made without departing from the spirit and scope of the invention as set forth in the hereunto annexed claims.

Having thus set forth my invention what I claim as new and for which I desire protection by Letters Patent is:

1. In a sliding closure, a channel member forming part of and closing the bottom of said closure, the base wall of said channel member having an opening, a guide block projecting into said opening and means on said block interengaged with the walls of said opening.

2. In a sliding closure, a pair of reversely disposed channel members forming a pocket, the base wall of one of said members having an opening, a guide block projecting into said pocket and engaged with the walls of said opening.

3. In a sliding closure, a channel member forming part of and closing the bottom of said closure, the base wall of said channel member having an opening, a second channel member in said first channel member, said channel members together forming a pocket, a guide block projecting into said pocket and interfitting with the walls of said opening.

4. In a sliding closure, a channel member forming part of and closing the bottom of said closure, one wall of said channel member having connecting slots, a guide block adapted to be received in one of said slots and movable to engage the walls of the other of said slots.

5. In a sliding closure, a channel member forming part of and closing the bottom of said closure, one wall of said channel member having connecting slots, a guide block adapted to be received in one of said slots and movable to engage the walls of the other of said slots, and means preventing disengagement of said guide from said last mentioned slot.

6. In a sliding closure, a channel member forming part of and closing the bottom of said closure, one wall of said channel member having connecting slots, a guide block having reversely disposed grooves, said block being received in one of said slots and moved to engage the walls of the other of said slots with said grooves.

7. In a sliding closure, a channel member forming part of and closing the bottom of said closure, one wall of said channel member having an opening, a guide block insertable into and interengageable with the walls of said opening, and means preventing movement and disengagement of said block from said opening walls during reciprocation of said closure.

LUDWIG G. JACOBSON.