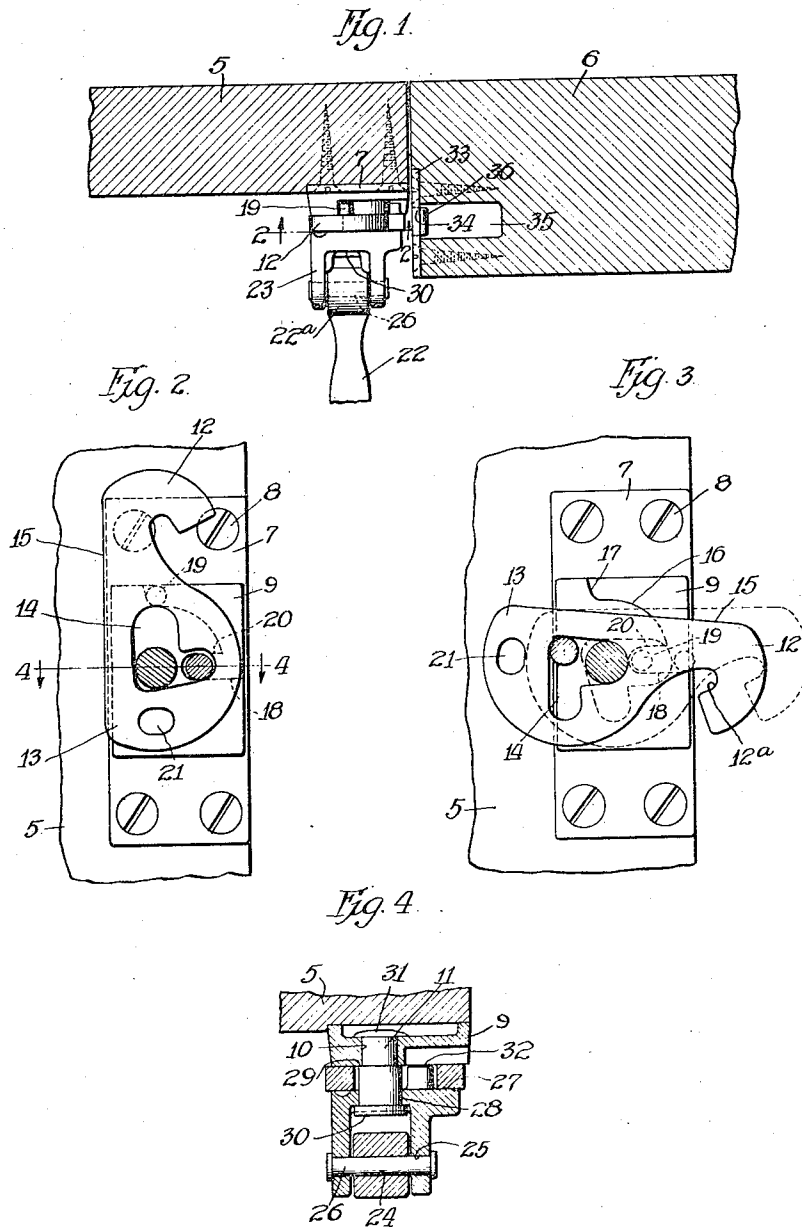


R. B. OLDER.
SLIDING DOOR BOLT.
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1,285,341.

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UNITED STATES PATENT OFFICE.

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SLIDING-DOOR BOLT.

1,285,341.

Specification of Letters Patent.

Patented Nov. 19, 1918.

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To all whom it may concern:

Be it known that I, ROY B. OLDER, a citizen of the United States, residing at Danville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Sliding-Door Bolts, of which the following is a specification.

My invention relates to means of fastenings for sliding doors, more particularly to a device for drawing sliding doors tightly together and locking the same in closed position. The construction of the preferred embodiment of my invention is strong, durable, simple to manufacture and to apply and by a novel mounting of the handle prevents the lock from jarring loose when subjected to shocks of any sort.

I am aware that many means have been devised for locking sliding doors and drawing the edges thereof into tight contact by a bodily movement of the hooking member. My invention belongs to the type of fastening device wherein the member or bolt which engages the keeper is adapted for bodily longitudinal movement and also for rotative movement about a pivot, the bolt member being mounted to be rotated into hooking engagement with the keeper or rotated out of engagement therewith. It is also adapted for longitudinal movement to engage the keeper and draw the edges of the doors together or for movement in the opposite direction for unlocking the doors. Among the various novel features of my invention is the provision of a handle pivoted to a head so as to lie in a vertically downward position when the bolt is unlocked as well as in locked position. Another object is to provide means in the movable bolt member whereby the same may be secured by a padlock or other suitable locking means when in hooking engagement with the keeper.

A further object is to provide a handle so associated with the moving bolt member as to move the bolt member entirely by circular motion of the handle and not have to move the bolt itself by hand or other means.

In the preferred form of bolt which I have chosen to illustrate,

Figure 1 is a horizontal section through a sliding door and the door jamb showing the bolt in unlocked position.

Fig. 2 is an elevation showing the keeper plate and the bolt, the latter being in unlocked position.

Fig. 3 is a view similar to Fig. 2 showing the position that the bolt assumes when moved bodily for engaging the keeper, and Fig. 4 is a section on line 4—4 of Fig. 2.

5 represents a sliding door which in the preferred form shown is adapted to slide against a jamb 6 although another sliding door might be substituted for the jamb 6 and the lock operated in the same manner as herein described. The preferred form of my lock comprises a base plate 7 mounted on the door 5 by screws 8 or other suitable means and having a raised central portion 9. The raised central portion 9 is provided with an aperture 10 through which pivot pin 11 of the handle extends. The bolt has a hooked member 12 and an enlarged body 13 with a cam portion 14 substantially L-shaped in the central portion of the enlarged part 13. The rear or back edge 15 of the bolt is adapted to lie substantially flush with the back edge of the keeper 7 when the bolt is in unlocked position. The front portion of the body 13 is of sufficient size as to not extend beyond the front edge of the base member 7 when in locked position nor to extend below the lower edge of the central raised portion 9. The central raised portion 9 is provided with an arcuate guide shoulder 16 terminating in stops 17 and 18, the under side of the bolt 12 being provided with a pin 19 adapted to ride on the slot 16 and abut the shoulders 17 and 18 to prevent further rotative movement of the bolt, as hereinafter described. The raised portion 9 is also provided with an inwardly directed slot 20 for cooperation with the shoulder 16 and reception of the pin 19. The rear portion of the body 13 is provided with an aperture 21 through which a pin, staple or other member may extend for the purpose of locking the bolt by a padlock.

The novel handle of my invention comprises a handle proper 22 and a head portion having jaws 23 adapted to embrace the end of the head portion 22 which end is enlarged at 22^a and provided with a central aperture 24 adapted to register with apertures 25 in the jaws 23, the portions being held together by a pin 26 suitably secured therein. The head is provided with a flattened surface 27, a portion of which is provided with an aperture 28 for the reception of the pivot pin 11 securing the head portion to the raised portion 9 of the base plate. In the form shown I have preferred to make

the pin 11 of different diameters the larger diameter extending through the aperture 28 in the head member of the handle and the smaller through the aperture 10 in the base 9, shoulders 29 being formed at the reduced diameter provided with a bearing about the periphery of the portion 10. The plate is provided with a head 30 and is held in place by peening the end thereof as at 31, or if desired, a nut may be applied thereto. A downwardly projecting pin 32 is formed with the face portion 27 of the head for engaging the cam 14 in the bolt 12. It will be observed that the pin 11 extends through the head portion of the handle member and the base plate, thus serving as a pivot, and the pin 32 becomes associated with the cam shaped recess serving to move the bolt member into unlocked position as shown in Fig. 2, the relative positions of the pins 32 and 11 being indicated in section or into locked position as shown in Fig. 3.

In the jamb 6 or sliding door, a keeper plate 33 is sunk, the keeper being provided with an aperture 34 to receive the head end 12 of the bolt. The door is recessed at 35 to provide a proper aperture for the end of the bolt. If desired the lower ends of the keeper may be provided with a lip conforming to the contour of the hook 12^a of the hook end 12, the purpose being to afford a tight closing and a firm gripping.

The operation of the device is as follows:

When unlocked the parts assume the position shown in Figs. 1 and 2, the bolt 12 being substantially vertical and the handle 22 extending downwardly. The door 5 is then moved against the member 6 and the handle 22 turned to move the bolt 12 into the position shown by dotted lines in Fig. 3, in which position the ends enter the aperture 34 in the bolt and 35 in the door and overlies the lip 36. When moved to this position the pin 19 is against shoulder 18. Further rotation of the handle will move the bolt backwardly into the full lines shown in Fig. 3, as the engagement of the pin 19 with shoulder 18 prevents further rotative movement of the bolt, so the motion becomes translation, the pin 19 then riding in the slot 20, the movement of the bolt being brought about by the pin 32 cooperating with the cam 14, in which position the member 12^a will be in tight engagement with the lip 34, thus drawing the door tightly against the jamb 6, or the two doors tightly together, in which position the pins 32 and 11 will be in the positions shown in section in Fig. 3. To move the bolt 12 from the position shown in Fig. 2 to that shown in Fig. 3 the head of the handle member is moved through an angle of substantially 180° and because of the pivotal connection between the handle 22 and the head member, the handle 22 will extend downwardly when the bolt is in locked or un-

locked engagement with the keeper, thus preventing unlocking or accidentally locking by jarring or other causes, as the downward position of the handle 22 cannot be changed except by manual movement. It will be observed that when the pin 32 is in the unlocked and also in the locked position it lies beyond the horizontal axis of the pin 11 thus serving as an additional means for preventing movement of the bolt. It will be observed that no portion of the bolt proper except the hook end projects beyond the front edge of the casing and when in unlocked position beyond the rear edge of the casing. It will also be observed that the movement of the bolt is brought about entirely by the handle. I also provide means for securing the bolt in locked position by padlock or similar locking device.

I claim:

1. A sliding door lock comprising in combination a keeper plate for attachment to one of said members, a locking member for attachment to the other member, the locking member comprising a base portion, a bolt mounted thereon for swinging and longitudinal movement with respect thereto, a handle having a head in cam engagement with said bolt adapted to move said bolt into unlocked position and to move same to engage said keeper and draw the two members into tightly closed locking position, said handle being pivotally connected to said head whereby to extend downwardly when said bolt is in locked or unlocked position, and means for locking said bolt in hooking engagement with said keeper, substantially as described.
2. A sliding door lock comprising in combination a keeper plate attached to one of said parts, a locking member attached to the other of said parts, said member having a base, a hook mounted thereon adapted to engage the keeper, a handle having a head for a cam engagement with said hook and adapted to move said hook into locking and unlocking engagement with said keeper, said handle having pivotal connection with said head, and adapted to prevent movement of said hook when in locking or open position, substantially as described.
3. A sliding door lock, in combination, a keeper plate adapted for attachment to one of said parts, a locking member adapted for attachment to the other of said parts, said member having a base, a hook mounted thereon to engage the keeper, the hook being adapted for swinging and longitudinal movement, a handle therefor, said handle being in engagement with said hook whereby when the hook is in open or closed position, said handle depends vertically from the axis of the turning movement of said handle for preventing movement of the hook.
4. A sliding door lock, in combination, a

keeper plate adapted for attachment to one of said parts, a locking member adapted for attachment to the other of said parts, said member having a base, a hook adapted for swinging and longitudinal movement and adapted to engage said keeper, a head in engagement with said hook for actuating same, a handle pivoted on said head whereby when it rests in open or closed position said handle depends vertically from the axis of the turning movement of said handle for preventing movement of the hook. 10

Signed at Danville, State of Illinois, this 30 day of July, A. D., 1917.

ROY B. OLDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."