

Oct. 14, 1941.

H. A. KNAUFF
LATCHING DEVICE

2,258,617

Filed Oct. 21, 1939

Fig. 1.

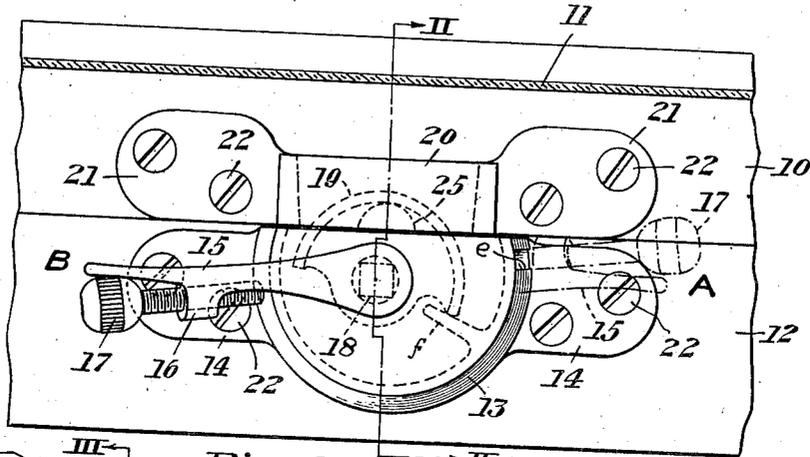


Fig. 2.

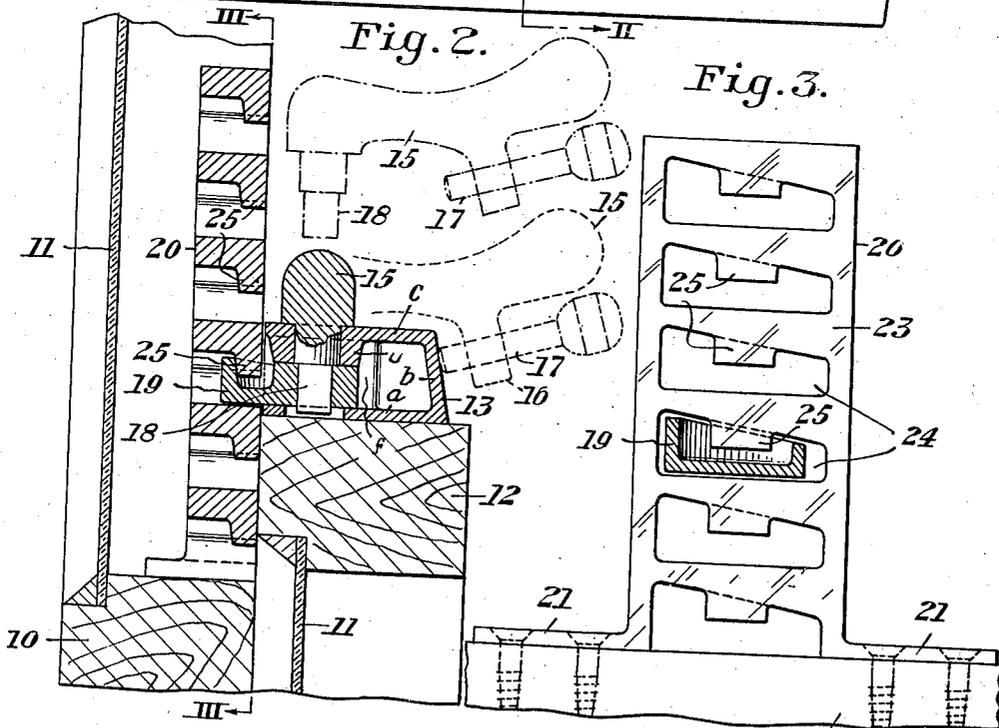


Fig. 3.

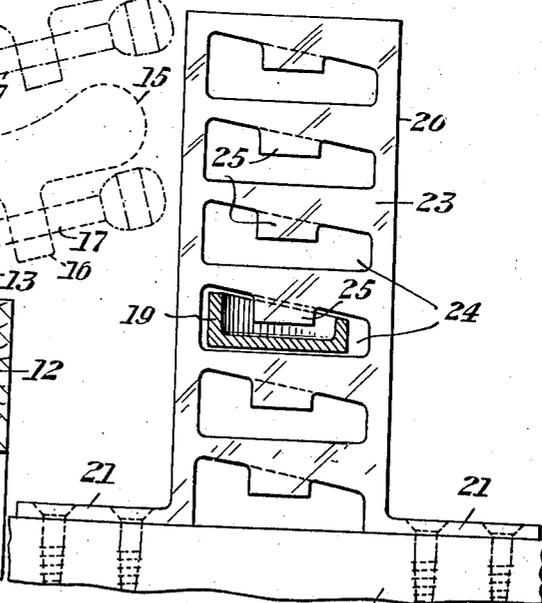


Fig. 4.

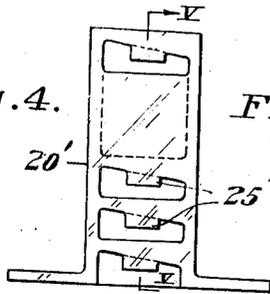
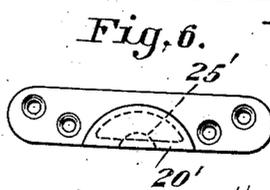


Fig. 5.



Fig. 6.



INVENTOR

Harry A. Knauff
By
Thomas C. Miller
his attorney

UNITED STATES PATENT OFFICE

2,258,617

LATCHING DEVICE

Harry A. Knauff, Pittsburgh, Pa.

Application October 21, 1939, Serial No. 300,645

1 Claim. (Cl. 292—241)

This invention relates to latching devices, and more particularly, to devices capable of maintaining a pair of members in more than one locked relationship.

The present invention is particularly useful for latching or locking window sash members in a closed as well as in a partially open relationship, although it may be used in any suitable association.

Previous to the present invention, no one to my knowledge has been able to provide a foolproof latching and keeper combination that will maintain a pair of window sash rails in various partially open relationships, while at the same time locking them in an effective manner from the standpoint of sneak-thieves.

It has been an object of my invention to provide a new and improved form of latching arrangement that will resist the efforts of sneak-thieves.

Another object has been to provide an improved form of latching keeper having more than one portion for receiving a latching element and in which such portions are preferably located in progression in a plane corresponding to the plane of movement of the window sash rails.

A further object has been to provide a latching arrangement that can be readily operated by the householder and that will hold a pair of members such as window sash rails in a number of different open but locked positions.

These and many other objects of my invention will appear to those skilled in the art from the following description, the drawing, and the appended claim.

In the drawing:

Figure 1 is a top plan view through a window assembly having associated therewith an embodiment of my invention;

Figure 2 is a vertical section taken along the lines II—II of Figure 1;

Figure 3 is a front view in elevation of a keeper device constructed in accordance with my invention taken along the line III—III of Figure 2;

Figures 4, 5, and 6 are views somewhat similar to Figures 3, 2, and 1, respectively, but showing a modified form of keeper.

In the embodiment of my invention selected for the purpose of illustration, I have shown a pair of inner and outer sash rail members 10 and 12, respectively, having suitable window panes 11. A latching device is mounted on the rail 12 by means of outwardly-projecting fastening feet or lugs 14 and suitable attaching means, such as screws 22.

Referring particularly to Figure 1, the unlocked position of the device is represented by the letter A, see the dotted line indications, and the extreme locked position by the letter B. The housing 13 of the device, as shown in Figure 2, is provided with an upwardly-inclined, vertically-extending, arcuate-shaped wall portion *b*, a base portion *a*, and a top wall portion *c*, having an inwardly and downwardly-depending bearing portion *d*. A latch element 19 is operably positioned between the bearing portion *d* and the bottom portion *a* in such a manner that it can only be removed through the side opening within which it operates. An operating arm 15 is provided with an annulus-like bearing portion adapted to be cooperatively mounted in bearing portion *d* of the housing. The arm 15 is also provided with a key, wrench flat, or stud portion 13 that fits within and receives the latching element 19. It will be noted that the arrangement can be disassembled by raising the arm 15 upwardly, as indicated by the dotted lines of Figure 2.

As shown in Figure 1, the arcuate wall portion *b* of the latching housing, preferably, gradually increases in radius from the pivot point of the arm 15 in a counter-clockwise direction, namely, from B to A. In this manner, a cam-like face is provided for increasing the holding action of the latching device. A thumb screw 17 is operably and adjustably mounted within a downwardly-depending and outwardly-extending offset-mount or lug portion 16 of the latch arm 15. It will appear that the inner end of the thumb screw or auxiliary latching device 17 will progressively increase its holding or wedging action as it moves from left to right (of Figure 1) along the portions of increased radius of the wall *b* (of the housing 13). As shown in Figure 1, I have provided an inwardly offset or depressed portion *e* in the wall *b* to receive the end of the nut 17 beyond the unlocked position A. In this manner, the latch may be secured in an unlocked position if so desired.

The keeper device 20 comprises a housing or body portion having a pair of oppositely-extending mounting flanges 21 suitably secured to the face of the window rail 10 by means such as screws 22. The body or housing portion 23 of the keeper extends vertically-upwardly in a plane substantially parallel to a plane of projection of the member upon which it is mounted and that is to be locked, or in other words, extends in the direction of movement of the sash members. The housing is provided with two or more progressively-located and spaced-apart latching por-

tions or openings 24 having inclined top edges substantially corresponding to the inclination of the top edges of the latch element 19 when it is in its fully locked relationship, see Figure 3. A lug 25 extends downwardly to cooperatively engage and latch with the latch element 19. The construction is preferably such that the combination will not unlock until the arm 15 is moved to practically a full 180° turn, as indicated from the position B to the position A.

The extreme locked position of the latch element 19 is controlled by a stop portion *f*, projecting inwardly, as shown in Figure 1, from the inner side wall portions of the housing 13. The holes for the mounting screws 22 are preferably staggered as shown to increase the holding action and strength of the assembly. The parts may be of metal, plastic or any other suitable material and may be cast, stamped, or formed in any other suitable manner.

In the embodiment of my invention shown in Figures 4 to 6, the back portions of the latch element 20' are closed off and rounded; this provides a substantially dust-proof, thief-proof, and easily cleaned structure. The arrangement prevents tampering from the back of the keeper and provides a rigid structure. It will be apparent to those skilled in the art that the location of the latching portions 24 can be suitably interpositioned and spaced to provide any desired locked relationship of the two sash members 10 and 12. It will also appear that a sneak-thief will encounter great difficulty in attempting to unlock the arrangement even when the windows are in open positions. The locked arrangement can be maintained regardless of whether the inner sash 12 is raised or the upper and outer sash 10 is lowered.

The upper and lower bounding portions *a* and *d* of the housing 13 prevent loosening the latched relationship of the latching element when a thief prys up against the screws 22. Also, a prying out of the operating arm 15 will still leave the element 19 in a locked relationship.

Although for the purpose of illustrating my invention, I have shown certain preferred arrangements, it will be apparent to those skilled in the art that many other suitable arrangements may be made without departing from the spirit and scope of the invention as indicated by the appended claim.

I claim:

In a fastening device adapted to be mounted on a pair of members to lock them in one of a plurality of alternate positions with respect to each other, a latch having a latch element and having a pair of oppositely-extending lateral flanges for mounting it on one of the pair of members, a keeper having a longitudinally-extending body portion and a pair of laterally-extending flanges for mounting it on the other member, said body portion having a planar side portion facing in the direction of the latch, said planar side portion extending from said mounting flanges of said keeper and providing a longitudinal side of the body portion of said keeper, said body portion having at least a pair of latch-receiving openings located in progression along said planar side portion, an upper opening of said pair being bounded on two of its sides in the direction of said longitudinal body portion and on its top and bottom sides by continuous portions of said keeper, a lower opening being bounded on at least two of its sides in the direction of said longitudinal body portion and on its top side by continuous portions of said keeper, the top sides of both openings having an inclined face portion and a depending locking lug, the bottom side of the upper opening being substantially on a lateral plane, so that the latch element of said latch can be securely held within the upper opening by continuous portions of said keeper in such a manner as to prevent an up or down movement of said latch element within said opening and such that the latch element can be securely held within the other opening of said pair.

HARRY A. KNAUFF.