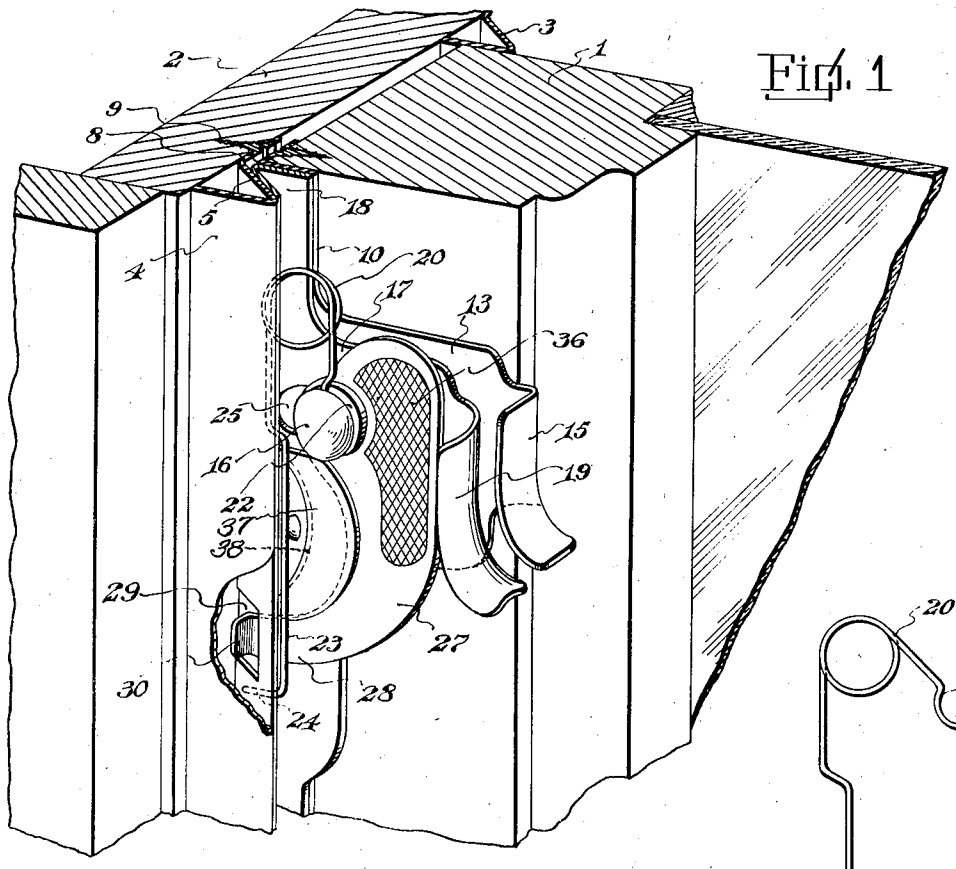
June 4, 1940. G. E. SRACK 2,203,184

SASH LOCK AND HOLDING DEVICE

Original Filed Dec. 18, 1937 2 Sheets-Sheet 1

Fig. 1



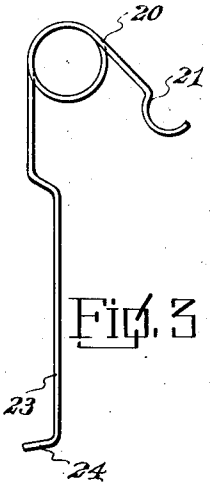


Fig. 3

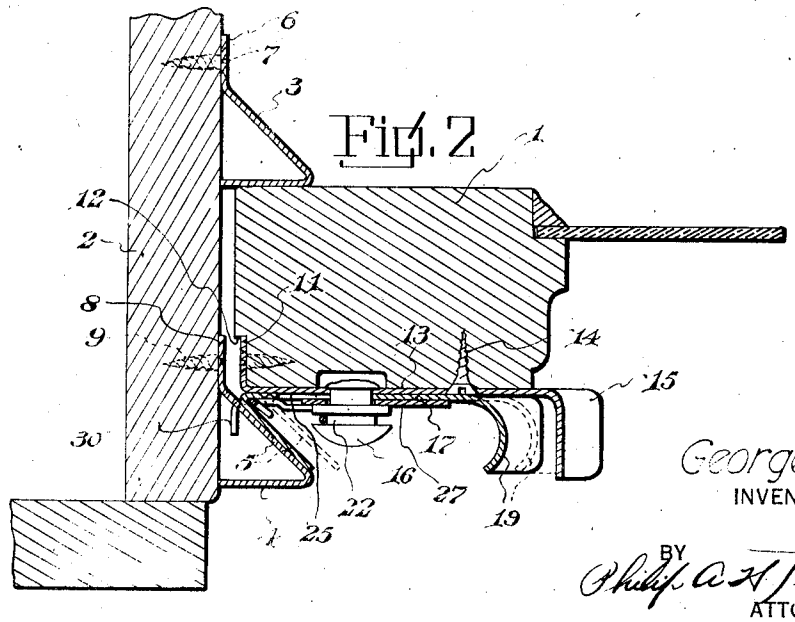


Fig. 2

George E. Srack
INVENTOR

BY Philip A. Sewell
ATTORNEY

June 4, 1940. G. E. SRACK 2,203,184

SASH LOCK AND HOLDING DEVICE

Original Filed Dec. 18, 1937 2 Sheets-Sheet 2

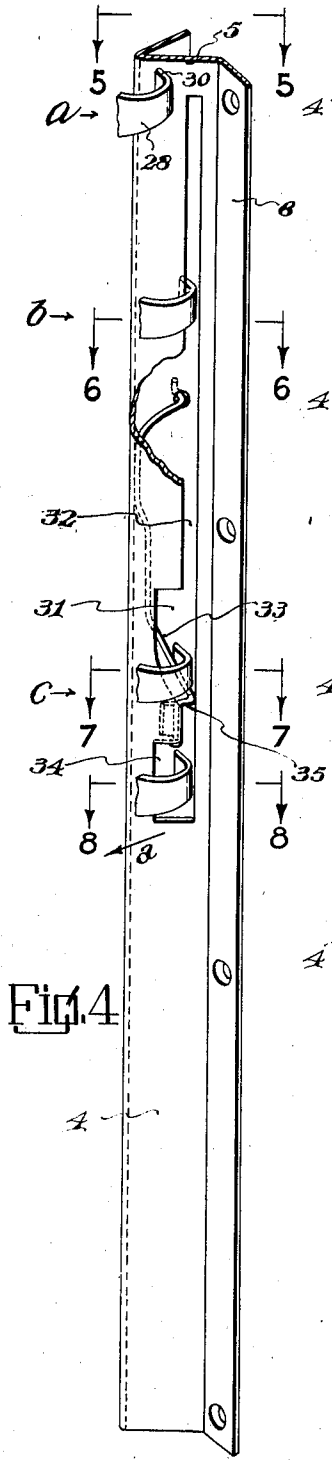


Fig. 4

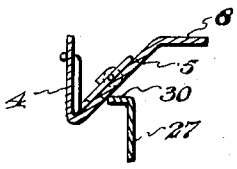


Fig. 5

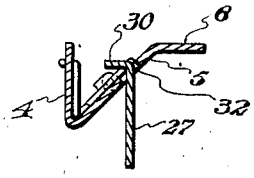


Fig. 6

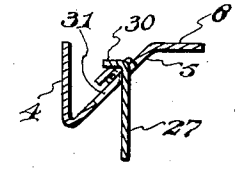


Fig. 7

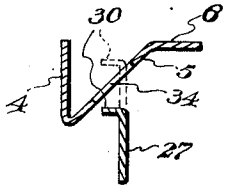


Fig. X

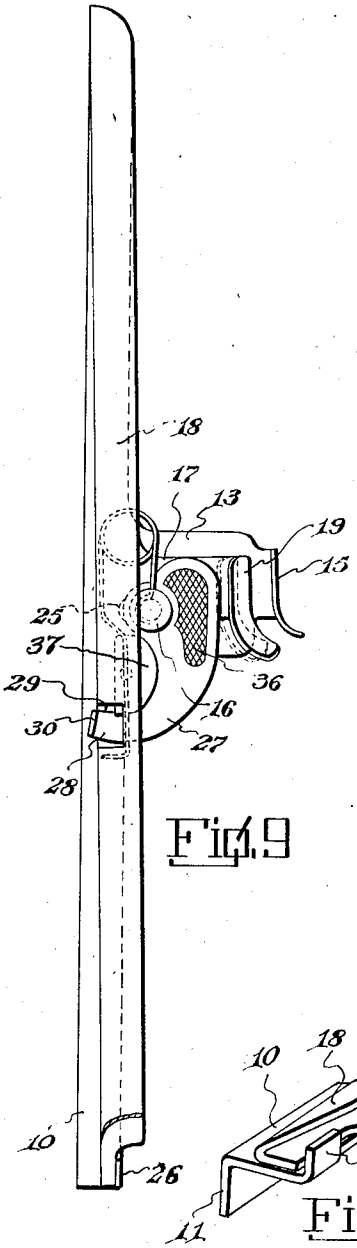


Fig. 9

Fig. 10

George E. Srack
INVENTOR

BY Philip H. Terrell
ATTORNEY

Patented June 4, 1940 2,203,184

UNITED STATES PATENT OFFICE

2,203,184

SASH LOCK AND HOLDING DEVICE

George E. Srack, Tulsa, Okla.

Application December 18, 1937, Serial No. 180,651
Renewed October 18, 1939

10 Claims. (Cl. 20—52)

The invention relates to sash locks and sash holding devices, and has for its object to provide a device of this character wherein a sash may be frictionally held at various elevations in close binding engagement with a parting strip or outside strip for excluding weather, the sash lock in closed position, or held in position where it will have a limited range of movement for ventilating purposes, and at the same time prevent unauthorized persons from entering a building through the window.

A further object is to provide a bevelled inside strip carried by the window frame and an inwardly and outwardly movable spring actuated bevelled jamming strip carried by the sash and adapted to be jammed against the bevelled inside strip and the inner side of the sash for holding the sash frictionally and for forming a weather proof connection between the outer side of the sash and the outside or parting strip, according to the sash the device is applied to.

A further object is to provide a pivoted member on the sash and extending downwardly and terminating in a lip adapted to move by gravity through an opening in the jamming strip into engagement with the inner bevelled side of the inside strip and adapted to ride on the inside strip as the sash is moved upwardly and downwardly.

A further object is to provide the inner side of the inner strip with an elongated slot terminating at its lower end in an enlarged portion, through which the gravity actuated pivoted dog end passes so it will enter the elongated slot and limit the upward and downward movement of the sash for locking the sash against movement beyond its range of movement in the slot, for instance when ventilated.

A further object is to provide an enlarged portion to the extreme lower end of the ventilating slot, and into which the dog lip is received after passing a spring catch, thereby allowing the sash to be locked in closed position.

A further object is to mount the jamming strip slidably on a plate carried by the face of the sash as well as pivotally and to provide finger gripping members on the plate and the jamming strip member whereby the jamming strip may be moved out of jamming engagement against spring action.

A further object is to make the jamming strip V-shaped in cross section and to dispose an arm of the tensioning spring therein in the path of the lip of the pawl for providing the tensioning action and at the same time allowing the spring end to be moved out of the path of the gravity actuated pawl, so its lip will engage the outer side of the spring arm, thereby preventing the locking of the sash against movement when a person is working outside the window.

A further object is to pivotally and slidably mount the jamming strip on the sash carried plate so it will rockably coincide with the bevelled surface of the inside strip to facilitate the breaking of the jamming action and insuring a positive jamming action throughout its length.

A further object is to provide the lower end of the sash carried strip with a lug, which, upon extreme disengaging movement of the jamming strip, will engage the jamming strip and allow the jamming strip to assume a parallel relation to the sash strip upon disengagement.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawings, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings:

Figure 1 is a perspective view of a portion of a sash and window frame, showing the device applied thereto.

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1.

Figure 3 is a view in elevation of the torsion spring.

Figure 4 is a perspective view of the inside strip, showing the different positions the locking pawl assumes during the manipulation of the sash.

Figure 5 is a horizontal sectional view through the inside strip on line 5—5 of Figure 4.

Figure 6 is a horizontal sectional view taken on line 6—6 of Figure 4.

Figure 7 is a horizontal sectional view taken on line 7—7 of Figure 4, and showing the dog at the start of the locking operation.

Figure 8 is a horizontal sectional view taken on line 8—8 of Figure 4, and showing the locking dog in sash locking position.

Figure 9 is a view in elevation of the jamming strip and the sash carried strip, showing the jamming strip in partial retracted position whereby upon further movement it will be tilted to parallel relation to the sash strip.

Figure 10 is a detail perspective view of the lower ends of the sash strip and jamming strip shown in Figure 9.

Referring to the drawings, the numeral 1 designates the side rail of a conventional form of window sash, and 2 the side of a window frame. Although the device is applied to the upper and lower sash and to both sides thereof, it will only be described in connection with one side of one of the sash.

The sash is slidably and loosely mounted between the parting strip 3, which is formed from sheet material and is V-shaped as clearly shown

in Figure 2, and the bevelled inside strip 4, which is V-shaped in cross section and has its bevelled side 5 inclined inwardly at an acute angle to the sash. The parting strip 3 is provided with a flange 6, which is secured to the window frame by means of screws 7. The inside strip 4 is provided with a flange 8, which is secured to the window frame by means of screws 9 and the sash is adapted to be moved upwardly and downwardly between the parting and outside strips.

Secured rigidly to the inner face of the sash stile 1 is a stile strip 10 having a vertical flange 11 in a rabbet 12 in the side of the stile. Stile strip 10 is provided with an extension plate 13, which is secured to the stile face by means of screws 14. This plate 13 is rigidly held and provided with a finger engaging member 15. Plate 13 is provided with a lug 16, on which is pivotally and rockably mounted the extension plate 17 formed integral with the V-shaped jamming strip 18. It will be noted that when the operator grasps the finger engaging members 15 and 19, and forces them towards each other, the jamming strip 18 will be pulled out of jamming engagement between the stile strip 10 and the portion 5 of the outside strip, thereby allowing the sash to be moved upwardly or downwardly. The jamming strip 18 is normally forced towards the inside strip by means of a looped torsion spring 20, one arm 21 of which engages the outer side of the headed lug 16 in the annular channel 22 thereof, and the other arm extends downwardly within the chamber of the jamming strip 18 and is designated by the numeral 23. Arm 23 terminates in an angularly disposed arm 24, which engages in the bottom of the chamber of the jamming strip. Plate 17 is provided with an elongated aperture 25, thereby allowing inward and outward movement thereof under the influence of the spring, or when the operator grasps the finger engaging members 15 and 19 for a sash moving operation. It will be noted that when the jamming strip is in jammed position, as shown in Figure 2, the stile 1 will be forced into close engagement with the inner side of the parting strip 3, and the jamming strip will be in close engagement with the outside strip, thereby forming a holding means for holding the sash at various elevations and also a weather proof connection between the parts.

It will be noted that the finger engaging members 15 and 19 are below the pivotal point and upon a sash releasing operation the lower end of the jamming strip 18 will be first pulled out of jamming position, thereby allowing the easy manipulation of the jamming strip. This is clear as shown in Figures 9 and 10. As the pressure on the finger engaging members 15 and 19 continues, the lower end of the jamming strip 18 will engage the lug 26 carried by the lower end of the stile strip 10 and stop the outward movement of the lower end of the jamming strip and at which time the upper end of the jamming strip will be progressively released, hence it will be seen that a minimum amount of exertion will be necessary to release the jamming strip.

At times it is desirable to adjust sash for ventilating purposes, but in positions whereby unauthorized persons can not pass through the window, usually a range of adjustment is desired according to weather conditions. It is also desirable to provide means for locking the window closed, so unauthorized persons can not raise the same. To accomplish these results a gravity actuated pivoted dog 27 is mounted on the lug 16, and it will be noted by referring to Figures 1 and 2 that the pivotal point of the lug is to the outer side thereof so its weight, under the influence of gravity, will normally swing the downwardly and outwardly extending arm 28 thereof outwardly and into the chamber of the jamming strip 18, which jamming strip is provided with an aperture 29 in its angularly disposed portion, and through which the arm passes with its lip 30 in sliding engagement with the angularly disposed side 5 of the outside strip. The position is better shown at *a* in Figure 4 and in the sectional view of Figure 5. As the sash is moved upwardly and downwardly the lip 30 rides on the portion 5.

When it is desired to adjust the window for ventilating purposes the sash is moved downwardly, reference being had to Figure 4, until the lip 30 reaches the recess 31 and at which time the gravity actuated pawl 27 swings outwardly so the lip 30 will pass through the recess 31 and into the vertically elongated ventilating slot 32, and then the sash can be moved upwardly to the desired adjustment, for instance as shown by the lip position *b*, Figure 4. It will be noted there is a wide range of adjustment for ventilating purposes, however this slot is preferably of a length whereby in all positions thereof, it will prevent a person from entering the window above or below the sash.

When it is desired to positively lock the window in a closed position the lip 30 is moved downwardly after it enters the recess 31 as clearly shown at *c*, then upon further downward movement of the sash, the lip will pass the shouldered spring 33 and enter the locking notch 34 and be held against upward or downward movement therein by the spring shoulder 35 and by the bottom of the recess, however the downward movement would be extremely limited, as the sash is in closed position. It will be noted that when the sash is in closed position, the recesses 34 of the inside strip and the recess 29 in the jamming strip will be in registry and at an outward and inward inclined angle, therefore it will only be necessary for the operator to force the finger engaging member 19 towards the finger engaging member 15 to release the jamming strip and move the lip through said registering apertures, and at which time the sash can be moved upwardly or downwardly. When the window is unlocked, the operator manually moves the locking pawl 27 outwardly pivotally by placing his knuckle on the knurled portion 36 thereof and imparting a movement to the pawl. This movement is illustrated in Figure 8 in dotted and full lines.

Pawl 27 is always gravity actuated except when it is manually moved for an unlocking position from the ventilating slot 32 or the locking recess 34, therefore it will be seen that means should be provided for preventing the sash from automatically locking under certain conditions, for instance when the windows are being washed from the outside. To accomplish this result, it will be noted that the spring arm 23 is inwardly offset as clearly shown in Figure 1, and it can be easily flexed outwardly out of the path of the lip 30 by the finger of the operator so the lip will be disposed on the opposite side of the arm 23, and said arm will hold the pawl from automatically locking during the movement of the sash upwardly or downwardly under the above conditions. After the window washing operation, the parts are restored to their position as shown in Figure 1.

From the above it will be seen that a sash fas-

tening and holding device is provided which may be easily manipulated, the sash adjusted for ventilating purposes and the sash positively locked when desired. By providing the jamming strip a weather proof connection is provided which will form a seal on the inside of the sash, as well as force the outer side of the sash into close binding engagement with the parting strip for sealing at this point. It will also be seen that upon release of the device, the sash will be relatively loose between the strips thereby allowing the sash to be easily manipulated, and by the bevelled engagement of parts any wear will be taken up by the device.

It will be noted that when the operator grasps the finger engaging members 15 and 19 between the thumb and forefinger, the knuckle of the forefinger may be placed in engagement with the knurled portion 36 of the pawl 27 for pivotally moving said pawl outwardly and releasing the same, therefore it will be seen that the operator can easily manipulate the pawls of sash holding devices at opposite sides of the sash. The knuckle engaging knurl 36 does not extend a material distance from the outer face of the pawl 27, hence it will be seen that when the window is adjusted for ventilating purposes, an instrument can not be used by an unauthorized person to disengage the pawl when the pawl lip is moved downwardly to the recess 31.

To further prevent an unauthorized person from manipulating the pawls 27 when the sash is in ventilating position, the plate 17 is provided with a chambered guard 37, into the chamber 38 of which the inner side of the pawl 27 extends and is disposed in a manner whereby it would be impossible for an unauthorized person to utilize a pair of hooks, connected by a contractible member, for instance a rubber band, to place the hooks over the pawl arms and allow the contractible member to pull the pawls and their lips out of the apertures 31 at the bottom of the ventilating position.

The invention having been set forth what is claimed as new and useful is:

1. The combination with a sash stile, an inside strip adjacent the stile, a window frame side to which the inside strip is anchored, the inner side of the inside strip being bevelled and at an acute angle to the stile, of a wedge shaped jamming strip between the stile and inside strip and adapted to be jammed between the bevelled side of the inside strip and the stile of a gravity actuated pawl pivotally mounted at a fixed point, spring means for normally forcing the jamming strip to jammed position, said pawl cooperating with recesses in the inside strip through the jamming strip for limiting the movement of the stile.

2. The combination with a sash stile, a window frame, of means for holding said stile in various vertical positions, said means comprising a bevelled inside strip adjacent the stile, a V-shaped jamming strip interposed between the stile and outside strip, spring means carried by the stile and cooperating with the jamming strip for normally forcing the same to jamming position and means adapted to be grasped by the operator for moving the jamming strip from jammed position against the spring action a stile strip anchored to the stile, an extension plate carried by the stile strip, a finger engaging member carried by the extension plate, an extension plate carried by the jamming strip and slidably and rockably connected to the stile extension plate and a finger engaging member carried by the jamming strip plate and disposed adjacent the finger engaging member of the stile plate.

3. A sash holding and locking device comprising a bevelled channeled inside strip carried by a window frame adjacent the stile of a sash and having its bevelled side at an acute angle to the stile, a V-shaped jamming strip interposed between the outside strip and the stile, spring means for normally forcing said jamming strip between the stile and inside strip, a gravity actuated locking pawl, said gravity actuated locking pawl having a downwardly and outwardly extending arm engaging the bevelled surface of the outside strip through an aperture in one side of the jamming strip, said bevelled side of the outside strip having recesses in the bevelled side thereof and through which the free end of the gravity actuated pawl passes when they register with the aperture in the jamming strip.

4. A device as set forth in claim 3 including a pivot lug fixed to the sash, an extension plate carried by the jamming strip, said extension plate being pivotally and slidably mounted on the lug, said locking pawl being pivotally mounted on said lug.

5. A device as set forth in claim 3 including an extension plate carried by the jamming strip, a finger engaging member carried by the extension plate, a stile strip carried by the stile, an extension plate carried by the stile strip, a finger engaging member carried by the last named plate and disposed adjacent the finger engaging member of the jamming strip plate, said jamming strip plate having an elongated aperture, a fixed lug carried by the stile plate and extending through said elongated aperture, said locking pawl being pivotally mounted on said lug.

6. A device as set forth in claim 3 wherein the inner bevelled side of the outside strip is provided with recesses, some of which are in the path of the aperture in the jamming strip and others out of the path of the jamming strip.

7. A device as set forth in claim 3 including a vertically elongated ventilating slot out of the path of the pawl and recesses in one side of said slot in the path of the pawl, for allowing the pawl to enter the slot.

8. A device as set forth in claim 3 including a locking recess in the outside strip for the reception of the pawl, a ventilating slot in the outside strip and having a recess for the reception of the pawl and spring means past which the pawl end cams from the ventilating slot recess to the locking recess.

9. A device as set forth in claim 3 including means carried by the stile and cooperating with the jamming strip to one side of its center for tilting the jamming strip progressively to vertical position during a releasing operation.

10. A device as set forth in claim 3 including a chambered member in the chamber of which the outer side of the pawl is housed and in which the pawl oscillates.

GEORGE E. SRACK.