Feb. 3, 1948. M. TYKESON 2,435,481

WINDOW SASH HOLDING DEVICE

Filed Jan. 18, 1945

Fig.1.

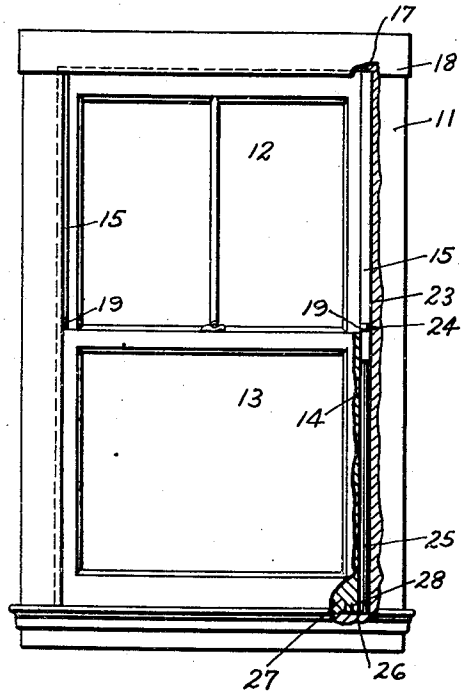


Fig.2.

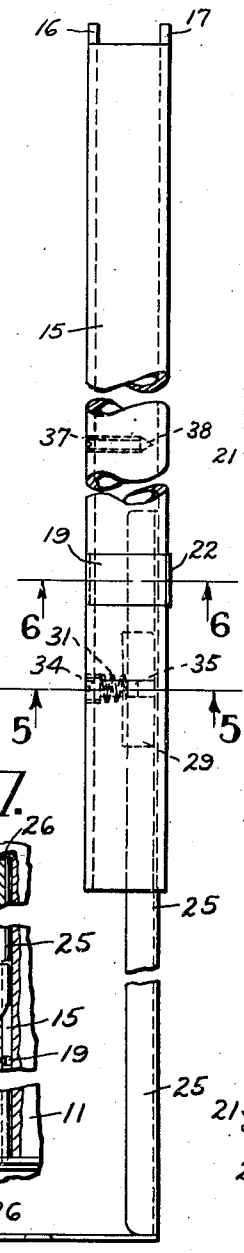


Fig.3.

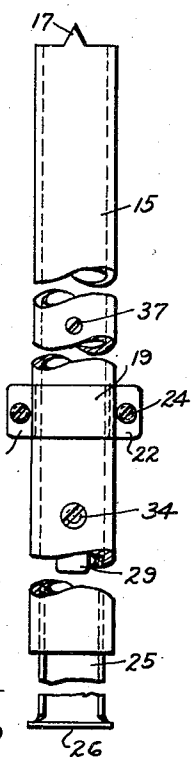


Fig.5.

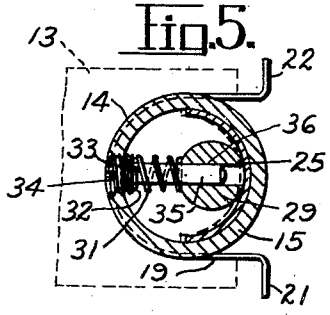


Fig.7.

Fig.4.

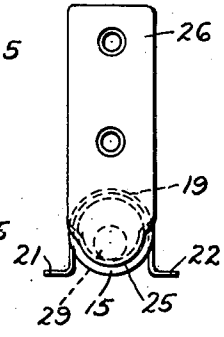
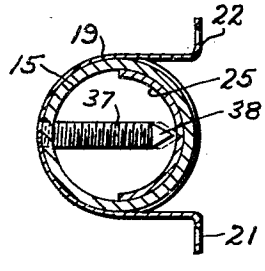


Fig.6.



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WINDOW SASH HOLDING DEVICE

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8 Claims. (Cl. 16—197)

1

This invention relates to window sash holding devices and more particularly to an improved form of such holding devices wherein structure is provided to retain the window sash in any of its opened positions without the use of cords or weights, to lock the window sash in any opened, or in a closed, position, and to guide the window sash in its opening and closing movements.

One of the objects of this invention is to provide a window sash holding device of such structure that it can be readily applied to new window sash, or installed in sash at present in use.

Another object is to provide in a window sash holding device means to guide the window sash during its movements and/or to form a practical weather-strip for the sides of the window frame with which it is used.

A further object of this invention is to provide a window sash holding device which will be relatively inexpensive to manufacture, simple in construction, of pleasing appearance, compact, and very efficient and durable in use.

With the above and other objects in view, which will appear as the description proceeds, there has been illustrated in the accompanying drawings a form in which the features and principles of this invention may be conveniently and practically embodied.

In the drawings:

Figure 1 is a front elevation of a window, the sash of which has a holding device embodying the features and principles of this invention operatively associated therewith, a part of the sash and frame being shown cut-away to more clearly show the holding device at one side of the lower sash of the window;

Figure 2 is a broken front elevational view of the holding device shown in Figure 1;

Figure 3 is a side view of the same;

Figure 4 is a bottom view of the same;

Figure 5 is an enlarged cross-sectional view on the line 5—5 of Figure 2;

Figure 6 is an enlarged cross-sectional view on line 6—6 of Figure 2; and

Figure 7 is a view showing another arrangement of the device of this invention.

Referring to the drawings wherein like reference numerals designate like parts throughout the various views, the reference numeral 11 denotes a window frame in which upper and lower window sashes 12 and 13 respectively are adapted to be raised and lowered. The window sashes 12 and 13 are each provided with a groove 14 (see dotted lines in Figure 5) in each of their side edges, which grooves 14 may readily be made in

2

sash at present in use, and in new sash at the time of manufacture.

The sash holding device of this invention is adapted for use with window sash having a groove 14 in its edges and comprises an elongated tubular member 15, the diameter of which is of such size as to permit free movement of the sash thereon while being of sufficient snugness to prevent side movement of the sash. The tubular member 15 therefore is adapted to act as a window sash guide during its vertical movements in and out of closed position. The member 15 is provided with pointed members 16 and 17 to penetrate the cross-frame member 18 and hold the remote end of the tubular member 15 in place. A strap clamp 19 is provided to encircle the tubular member 15 adjacent its other end to retain this end in place. The strap clamp 19 is preferably set into the material of the member 15 so that the continuity of the surface of the member 15 will not be interrupted, and is provided with outstanding ears 21 and 22 which are adapted to rest upon the sides 23 of the window frame 11 and be secured thereto by screws 24.

The device also includes as a part thereof a strip of material or slide 25, arcuate in cross-section, which is disposed within the tubular member 15 in a telescoping relation therewith and adapted to slide therein against a portion of the inner periphery thereof. The radius of the arcuate shape of the strip of material 25 may be greater than the radius of the interior of the tubular member (see dotted lines in Figure 5), if desired, to obtain greater friction thereon when pressed thereagainst. An end 26 of the strip of material or slide 25 is flattened and bent at right angles to the remainder to form a base adapted to be seated against a cross frame member 27 of the respective window sash 12 or 13 and be secured thereto by screws 28, whereby the slide 25 will be supported in proper position relative to the member 15.

A friction imposing shoe 29, generally cylindrical in shape, is provided and disposed within the member 15 and in engagement with the inner surface of the arcuate strip or slide 25. The shoe 29 is urged against the strip 25 by a spring 31 which reacts between the shoe 29 and a shoulder 32 provided on a screw stud 33. The screw stud 33 has a threaded head 34, adapted to be screw-threaded in the wall of the tubular member 15, and a shank 35, extending from the head 34, through the spring 31, and into an opening 36 provided in the shoe 29. Adjustment of the screw head 34 will vary the spring tension of the spring

31 and thus vary the friction of the shoe 29 upon the strip 25 and the strip 25 upon the member 15. A pointed set screw 37 screw-threaded through the member 15 is provided to engage the strip, or slide, 25 to lock it in its axially adjusted position with respect to the member 15 when the pointed end 38 thereof is caused to slightly penetrate the material of the slide 25 (see dotted lines in Figure 6).

Operation

Assuming, for instance, that the lower window sash 13 of the drawing has had the device of this invention applied thereto in place of the usual weight, cords, and pulleys, the appearance will be as shown at the left in Figure 1, only the tubular member 15 and the strap clamp 19 showing. The sash 13 may now be raised in the usual manner whereby the arcuate strips or slides 25, being attached to the sash 13, slide upwardly in the tubular member 25 and are in frictional engagement therewith under the urge of the springs 31. As the window sash 13 is raised it is guided by the tubular member 15 riding in the groove 14 and by the slide 25 riding in the member 15. A smooth, easy and non-cramping sliding action is thus maintained while raising or lowering the sash due to either or both of these guiding features. The window sash will remain in any of its raised positions due to the counterbalancing action of the frictional engagement of the shoe 29 with the slide 25 and/or the frictional engagement of the slide 25 with the member 15, the necessary friction being obtained by adjustment of the screw stud 33 as above described. When in a desired raised position the sash may be locked by screwing in the pointed set screw 37 to prevent unauthorized manipulation of the window sash from the outside. It will be understood that the upper sash 12 may also have a similar device applied thereto at each of its side edges, the parts of the device being reversed to provide the advantages thereof to this sash.

There is illustrated in Figure 7 a reverse arrangement of the parts of the holder of this invention. In this arrangement the tubular member 15 is secured to the sash within the groove 14 therein and the arcuate slide 25 is attached to the frame and telescopes within the member 15. The action is the same as in the previously described arrangement but this arrangement has an added advantage that the tubular member 15 being disposed between the frame and the sash will tend to act as a weatherstrip therebetween.

While there has been shown and described herein one form in which the features and principles of this invention may be embodied in practice, it is to be understood that the same may be embodied in other specific forms without departing from the spirit and essential attributes thereof, and it is therefore desired that the present embodiment be considered in all respects as illustrated and not restrictive, reference being had to the claims rather than to the foregoing description to indicate the scope of the invention.

Having thus fully disclosed the invention, what is claimed as new and for which it is desired to secure Letters Patent is:

1. A holder for the sash of a window adapted to slide in a window frame, said sash having a groove in its side edge adjacent the frame, said holder comprising telescoping members, one of said members being attached to the frame and

entering the groove in the side edge of the sash to guide the sash in its sliding movements in the frame, and the other of said members being attached to the sash, said members being in frictional engagement, and means to vary the pressure of the one member against the other.

2. In a sash holder a tubular member, a slide member adapted to slide in said tubular member in frictional engagement therewith, a friction shoe disposed in and attached to said tubular member and engaging the slide member, and a spring acting against said shoe to press it against the slide member to press the slide member against the tubular member.

3. In a sash holder a tubular member, a slide member adapted to slide in said tubular member in frictional engagement therewith, a friction shoe disposed in and attached to said tubular member and engaging the slide member, a spring acting against said shoe to press it against the slide member to press the slide member against the tubular member, and means to vary the tension of said spring to vary the friction of the shoe on the slide member.

4. In combination with a closure which is slidable in a frame, said closure having a groove in its edge adjacent said frame, a tubular member substantially fitting the groove in the side edge of said closure and attached to said frame to guide said closure in its sliding movements therein, a slide member disposed in said tubular member in frictional engagement therewith, said slide member being attached to said closure, and means to vary the frictional engagement between said slide and tubular members.

5. In combination with a window sash which is slidable in a window frame, said sash having a groove in its side edge adjacent said frame, a tubular member substantially fitting the groove in the side edge of said sash, a slide member disposed in said tubular member in frictional engagement therewith, one of said members being attached to said frame and the other being attached to said sash, a shoe in said tubular member in engagement with said slide member to press it against said tubular member, and a spring acting against said shoe to press it against said slide.

6. In combination with a window sash which is slidable in a window frame, said sash having a groove in its side edge adjacent the said frame, a tubular member substantially fitting the groove in the side edge of said sash, a slide member disposed in said tubular member in frictional engagement therewith, one of said members being attached to said frame and the other being attached to said sash, a shoe in said tubular member in engagement with said slide member to press it against said tubular member, means to retain said shoe to said tubular member, and a spring reacting between said retaining means and said shoe to press the shoe against said slide.

7. In combination with a window sash which is slidable in a window frame, said sash having a groove in its side edge adjacent said frame, a tubular member substantially fitting the groove in the side edge of said sash, a slide member disposed in said tubular member in frictional engagement therewith, one of said members being attached to said frame and the other being attached to said sash, a shoe in said tubular member, a spring acting against said shoe to press it against said slide, and means to retain said shoe to said tubular member, said retaining means

being adapted upon rotation to vary the tension of said spring.

8. A holder for the sash of a window adapted to slide in a window frame, said sash having a groove in its side edge adjacent the frame, said holder comprising telescoping members, one of said members being attached to the frame and entering the groove in the side edge of the sash to guide the sash in its sliding movements in the frame, and the other of said members being attached to the sash, said members being in frictional engagement, and means to press one of said members against the other to cause the frictional engagement therebetween and which comprises a spring pressed shoe attached to and carried by one of the members and in engagement with the other member.

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