Nov. 6, 1923. 1,473,325

J. F. SCHWER

SASH FASTENER

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Fig. 1.

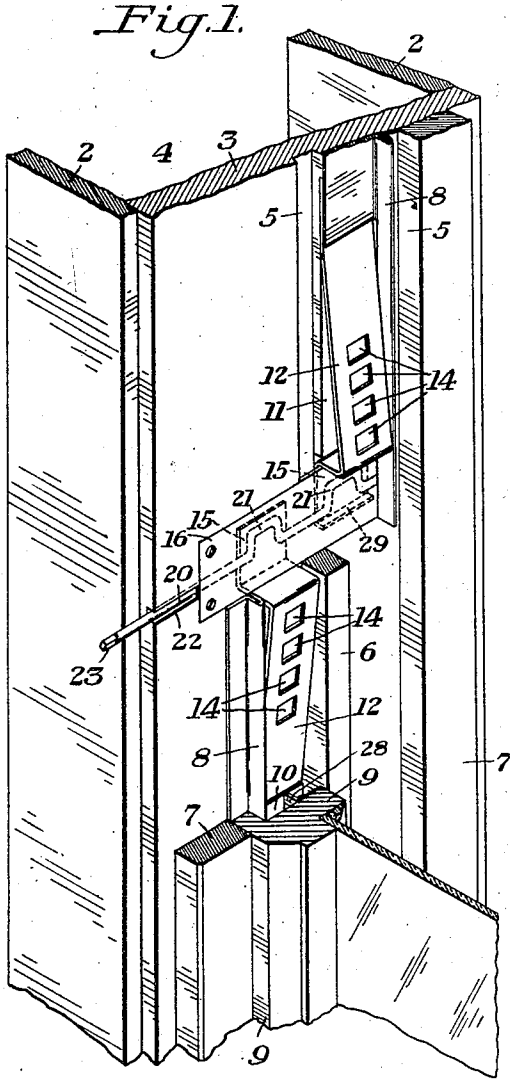


Fig. 2.

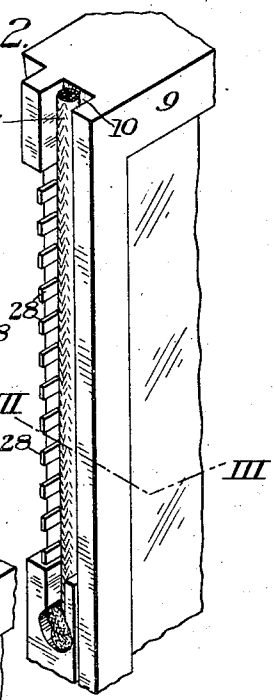


Fig. 3.

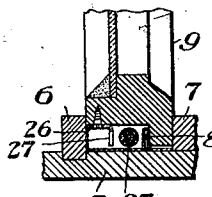


Fig. 4.

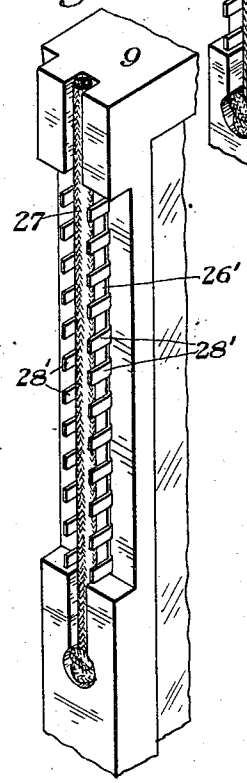


Fig. 5.

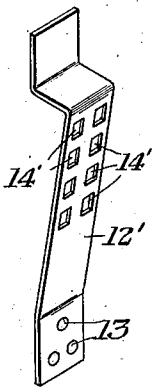
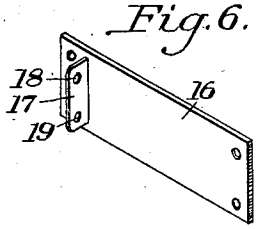


Fig. 6.



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Fig. 7.

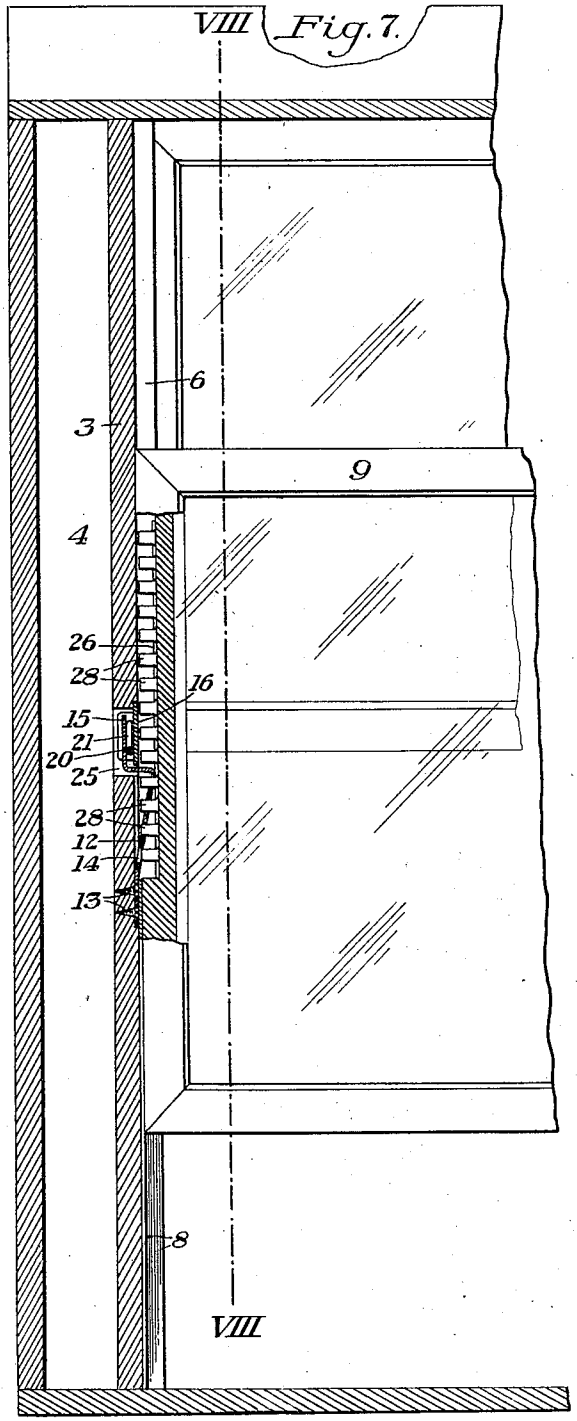
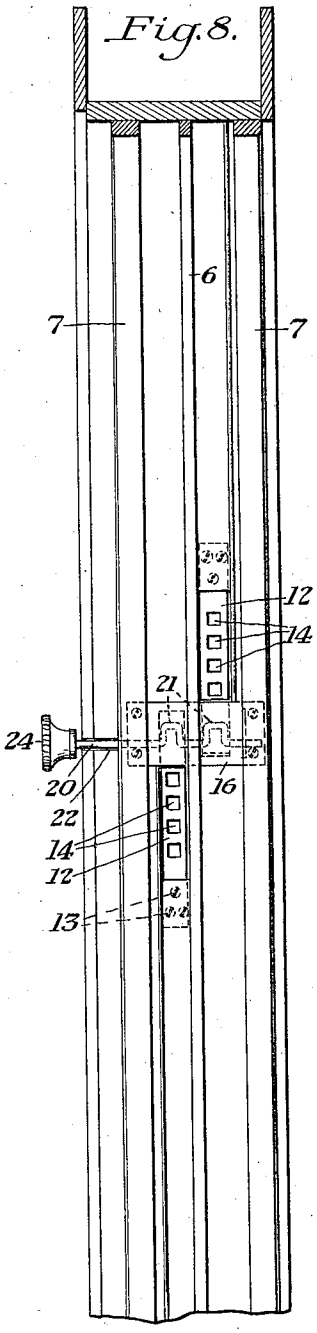


Fig. 8.



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UNITED STATES PATENT OFFICE.

JOSEPH F. SCHWER, OF PITTSBURGH, PENNSYLVANIA.

SASH FASTENER.

Application filed November 15, 1921. Serial No. 515,248.

To all whom it may concern:

Be it known that I, JOSEPH F. SCHWER, a citizen of the United States, residing in Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sash Fasteners, of which the following is a full, clear, and exact description.

The present invention relates to sash fasteners of the type adapted to hold both the upper and lower sashes in any one of a plurality of adjusted positions, and to prevent rattling of the sashes.

It has heretofore been proposed to construct sash fasteners comprising strips adapted to be secured to the upper and lower sashes, respectively, and provided with a series of projections so disposed that different projections were engaged according to the position of the sashes. Cooperating with such strips, as shown, for example, in the patent to Baker, No. 539,565, of May 21, 1895, may be spring members each having a single projection adapted to engage different ones of the first mentioned series of projections. Such constructions have, however, necessitated cutting away a considerable portion of the window frame to permit movement of the spring members to inoperative position. This requires a special frame construction, as the usual window frames are comparatively thin, to provide housings for the sash weights. By the present invention, there is provided a construction which obviates this objection.

Also, I am aware that it is old to provide spring members with locking perforations, but such constructions have not permitted a plurality of points of engagement at one time between each of the sash members and the spring members, such as may be obtained by the present invention.

A further object of the present invention is to provide a construction of the type referred to which is adaptable for use with windows having metallic weather strips such as ordinarily used.

The foregoing and other objects of the present invention, together with their attendant advantages, will be apparent as the invention becomes better understood by reference to the accompanying specification and drawings forming a part thereof, it being premised that changes may be made in the details of construction and manner of operation without departing from the scope of my invention.

Figure 1 is a perspective view of a portion of a window frame and a sash therein provided with a sash fastener constructed in accordance with the present invention;

Figure 2 is a perspective view of one edge of a sash having the locking member in position thereon;

Figure 3 is a transverse sectional view on the line III—III of Figure 2;

Figure 4 is a perspective view, corresponding to Figure 2, illustrating a slightly modified form of the present invention;

Figure 5 is a perspective view of the resilient locking member for use with the form of the invention illustrated in Figure 4;

Figure 6 is a perspective view of one of the bearing plates;

Figure 7 is a vertical sectional view through a portion of a window frame provided with a sash fastener constructed in accordance with the present invention, one of the sashes being partly broken away; and

Figure 8 is a vertical sectional view on the line VIII—VIII of Figure 7, the sashes being removed.

As shown in the accompanying drawings, a standard window frame comprises, on each side facing strips 2 and a connecting strip 3 forming a housing 4 for the sash weights. The strip 3 on each side of the window may be provided with a groove 5 for the reception of the usual parting bead 6 and with guide strips 7. In each of the spaces between the parting bead 6 and the guide strip 7, may be mounted metallic weather strips 8 of any standard construction. The sash frames 9, as illustrated in Figures 2 and 3 may be provided with grooves 10 for the reception of the weather strips.

In applying the present invention to a standard construction of this nature, a portion of one end of each of the weather strips 8 is cut away. The strip 3 adjacent such cut away portions is also slightly recessed, as indicated at 11, for the reception of resilient locking members 12 each having openings at one end for the reception of fastening means 13 for holding the same in position. From the point of attachment of the locking members to the frame, they are bent slightly in such manner that the normal tendency of the locking members is to lie in

the position illustrated in Figure 1. The intermediate portion of each of the resilient locking members 12 may be provided with a series of rectangular openings 14, and the free ends of the locking members are bent inwardly to provide cam engaging portions 15. The resilient locking members are mounted in position on the frame in such manner that the cam engaging portions 15 lie in a common transverse plane.

At substantially its intermediate portion, the parting bead on one side of the frame is cut away and the strip 3 is recessed to receive a bearing plate 16. Adjacent one end, the bearing plate 16 is provided with an inwardly extending portion 17 having upper and lower openings 18 and 19 formed therein. The bearing plate 16 is mounted in position in such manner as to overlie the cam engaging portions 15 of the resilient locking members, and carries an actuating member 20 having cams 21 formed therein in such manner as to engage the cam engaging portions 15 when the parts are in position. One end of the actuating member 20 is mounted in one or the other of the bearing openings 18 or 19, depending upon which side of the window frame has the locking device secured thereto, and the opposite end thereof projects outwardly beyond the facing strips 2 through a groove 22. At its extreme outer end it may be provided with a squared portion 23 adapted to receive a detachable actuating knob or key 24 for rotating the same. The strip 3 may be provided with openings 25 immediately underlying the cam engaging portions 15 to permit movement thereof inwardly when the actuating member 20 is turned to move the resilient locking members to inoperative position, in which they extend substantially parallel to the weather strips 8.

For cooperation with the openings 14 in the resilient locking members 12, there is mounted on one edge of each of the sash frames an angular locking member 26 secured thereto in any desired manner, preferably with one portion extending under the sash rope 27. These members are in turn provided with a series of equally spaced projections 28 adapted to extend through the openings 14 when the locking members 12 are in operative position.

With such a construction, when it is desired to adjust either or both of the sashes to an intermediate position for purposes of ventilation, the knob 24 will be applied to the actuating member 23 and it will be turned to move the locking members 12 to inoperative position as before described. At this time, the sashes may be adjusted as desired. Thereafter, the locking members 12 will be released, whereby the openings 14 will engage a plurality of the projections 28 on the locking members 26, as clearly shown in Figure 7, preventing any further unauthorized movement of the sashes.

Preferably at least one of each pair of locking members 12 has its extreme end bent outwardly to form a stop 29 to prevent turning the actuating member 20 more than 90°. At this time, the pressure of the resilient locking members is exerted substantially in line with the cam portions 21, whereby the resilient locking members are held in their inoperative position. By providing a bearing plate 16 with upper and lower bearings 18 and 19, as described, it will be apparent that the bearing plate may be reversed and the actuating member changed from one bearing to the other, according to which side of the window carries the locking device. This permits the position of all of the parts of the lock to be readily reversed, and adapts the construction to use under a large variety of conditions.

The removable knob 24 is very desirable in case the fastener is used in sanitariums or the like, in which it is undesirable to have the setting of the windows tampered with by any of the patients.

In window constructions where the metallic weather strip is not utilized, there may be substituted for the locking members 26, substantially U-shaped locking members 26′ having a double row of projections 28′, and the resilient locking members 12′ may likewise be provided with two rows of openings 14′. Such a construction insures even greater rigidity.

The advantages of the present invention arise from the provision of a sash fastener adapted to provide a plurality of points of locking engagement between the frame and the sashes.

Further advantages arise from the provision of the removable actuating knob, and from the reversible bearing plate whereby the fastener may be used with a large variety of window frame constructions.

I claim:

1. In a sash fastener adaptable for use with sashes cooperating with a weather strip, the combination with a window frame and the sashes movable vertically therein, of a locking member angular in cross section secured to one edge of each of the sashes whereby a portion thereof underlies the ends of one of the sash ropes connected to each of said sashes, said members each having a plurality of projections thereon extending outwardly substantially flush with the edges of the sash bodies, said sash bodies each having a groove therein at one side of said members for receiving weather strips, a pair of oppositely disposed resilient locking members each having one end secured to the frame, said frame being recessed to receive the same, and said resilient members each having a plurality of locking openings

adapted to receive the projections on said first mentioned locking members, and means for moving said resilient members to inoperative position, substantially as described.

2. In a sash fastener adaptable for use with sashes cooperating with a weather strip, the combination with a window frame and the sashes movable vertically therein, of a locking member angular in cross section secured to one edge of each of the sashes whereby a portion thereof underlies the ends of one of the sash ropes connected to each of said sashes, said members each having a plurality of projections thereon extending outwardly substantially flush with the edges of the sash bodies, said sash bodies each having a groove therein at one side of said members for receiving weather strips, a pair of oppositely disposed resilient locking members each having one end secured to the frame, said frame being recessed to receive the same, and said resilient members each having a plurality of locking openings adapted to receive the projections on said first mentioned locking members, the free ends of said resilient members being adapted to normally spring outwardly to bring said openings into operative engagement with said projections, and means for overcoming the spring action of said members for moving the same to inoperative position, substantially as described.

3. In a sash fastener adaptable for use with sashes cooperating with a weather strip, the combination with a window frame and the sashes movable vertically therein, of a locking member angular in cross section secured to one edge of each of the sashes whereby a portion thereof underlies the ends of one of the sash ropes connected to each of said sashes, said members each having a plurality of projections thereon extending outwardly substantially flush with the edges of the sash bodies, said sash bodies each having a grove therein at one side of said members for receiving weather strips, a pair of oppositely disposed resilient locking members each having one end secured to the frame, said frame being recessed to receive the same, and said resilient members each having a plurality of locking openings adapted to receive the projections on said first mentioned locking members, the free ends of said resilient members being adapted to normally spring outwardly to bring said openings into operative engagement with said projections, and having their free ends bent to provide cam engaging portions lying in the same transverse plane, and an actuating member having cam portions cooperating with said cam engaging portions for moving the resilient members to inoperative position, substantially as described.

4. In a sash fastener adaptable for use with sashes cooperating with a weather strip, the combination with a window frame and the sashes movable vertically therein, of a locking member angular in cross section secured to one edge of each of the sashes whereby a portion thereof underlies the ends of one of the sash ropes connected to each of said sashes, said members each having a plurality of projections thereon extending outwardly substantially flush with the edges of the sash bodies, said sash bodies each having a groove therein at one side of said members for receiving weather strips, a pair of oppositely disposed resilient members each having a plurality of locking openings adapted to receive the projections on said first mentioned locking members, the free ends of said resilient members being adapted to normally spring outwardly to bring said openings into operative engagement with said projections, and having their free ends bent to provide cam engaging portions lying in the same transverse plane, and an actuating member having cam portions cooperating with said cam engaging portions for moving the resilient members to inoperative position, one of said cam engaging portions having means formed thereon for limiting the movement of said actuating member, substantially as described.

5. In a sash fastener, the combination with the window frame and the sashes movable vertically therein, of a locking member secured to one edge of each of the sashes whereby a portion thereof underlies one end of the rope for said sash, said members each having a plurality of projections thereon extending outwardly at one side of said rope, a pair of oppositely disposed resilient locking members each having one end secured to the frame and adapted to normally spring outwardly therefrom, said resilient members having a plurality of openings therein adapted to receive the projections on said first mentioned locking members, and means for moving said resilient locking members to inoperative position, substantially as described.

6. In a sash fastener, the combination with the window frame and the sashes movable vertically therein, of a locking member secured to one edge of each of the sashes whereby a portion thereof underlies one end of the rope for said sash, said members each having a plurality of projections thereon extending outwardly at one side of said rope, a pair of oppositely disposed resilient locking members each having one end secured to the frame and adapted to normally spring outwardly therefrom, said resilient members having a plurality of openings therein adapted to receive the projections on said first mentioned locking members, and means for moving said resilient locking members to inoperative position, said means having a removable operating means preventing un-

authorized operation of the lock, substantially as described.

7. In a sash fastener, the combination with the window frame and the sashes movable vertically therein, of a locking member secured to one edge of each of the sashes whereby a portion thereof underlies one end of the rope for said sash, said members each having a plurality of projections thereon extending outwardly at one side of said rope, a pair of oppositely disposed resilient locking members each having one end secured to the frame and adapted to normally spring outwardly therefrom, said resilient members having a plurality of openings therein adapted to receive the projections on said first mentioned locking members, a bearing plate overlying the free ends of said resilient locking members, said plate having a plurality of bearings carried thereby, and means cooperating with either of said bearings for moving the resilient locking members to inoperative position, substantially as described.

In testimony whereof I have hereunto set my hand.

JOSEPH F. SCHWER.