No. 837,864.

PATENTED DEC. 4, 1906.

H. MOORMAN.

SASH FASTENER FOR CAR WINDOWS.

APPLICATION FILED JUNE 30, 1902.

Fig. 1.

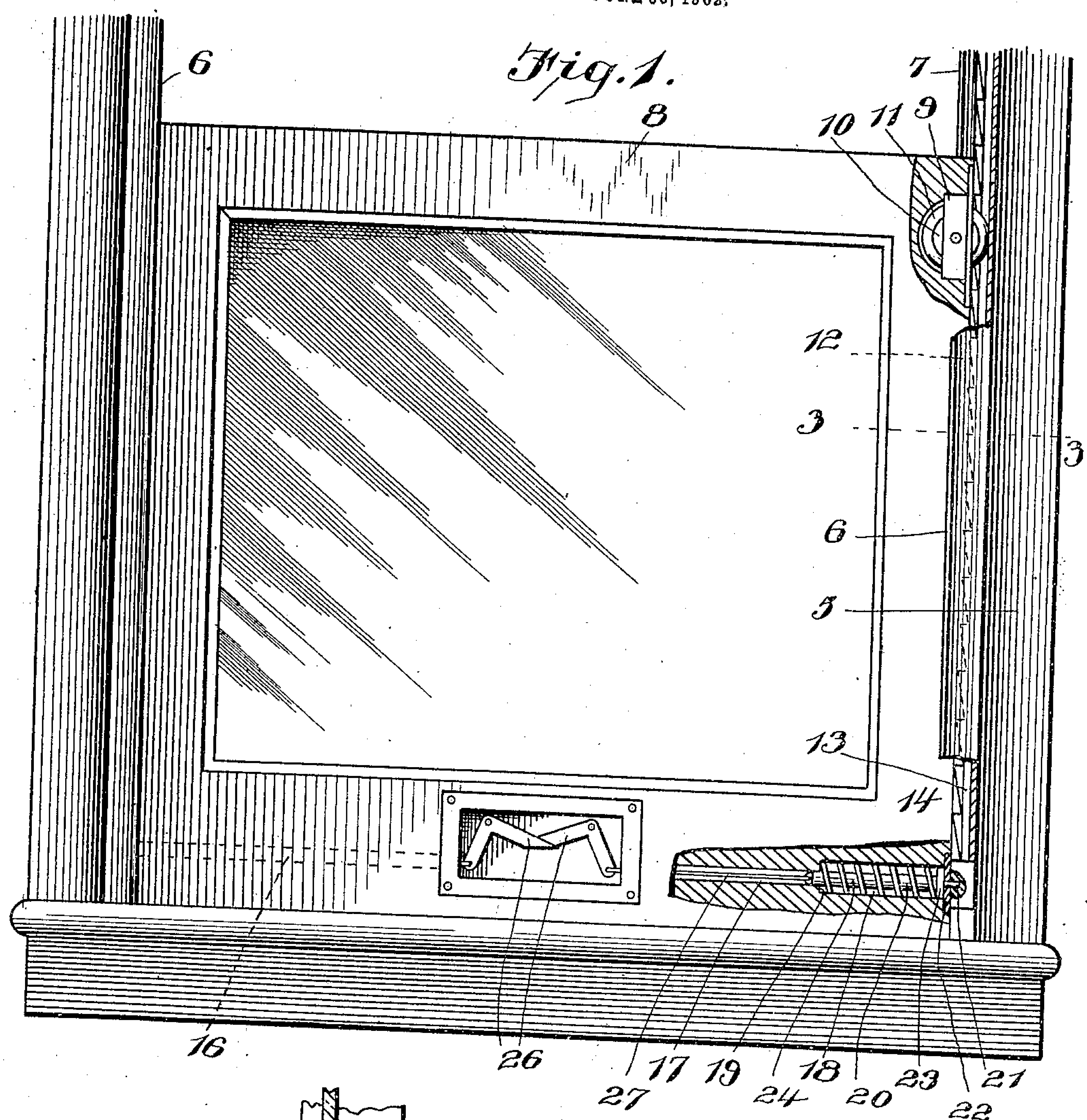


Fig. 2.

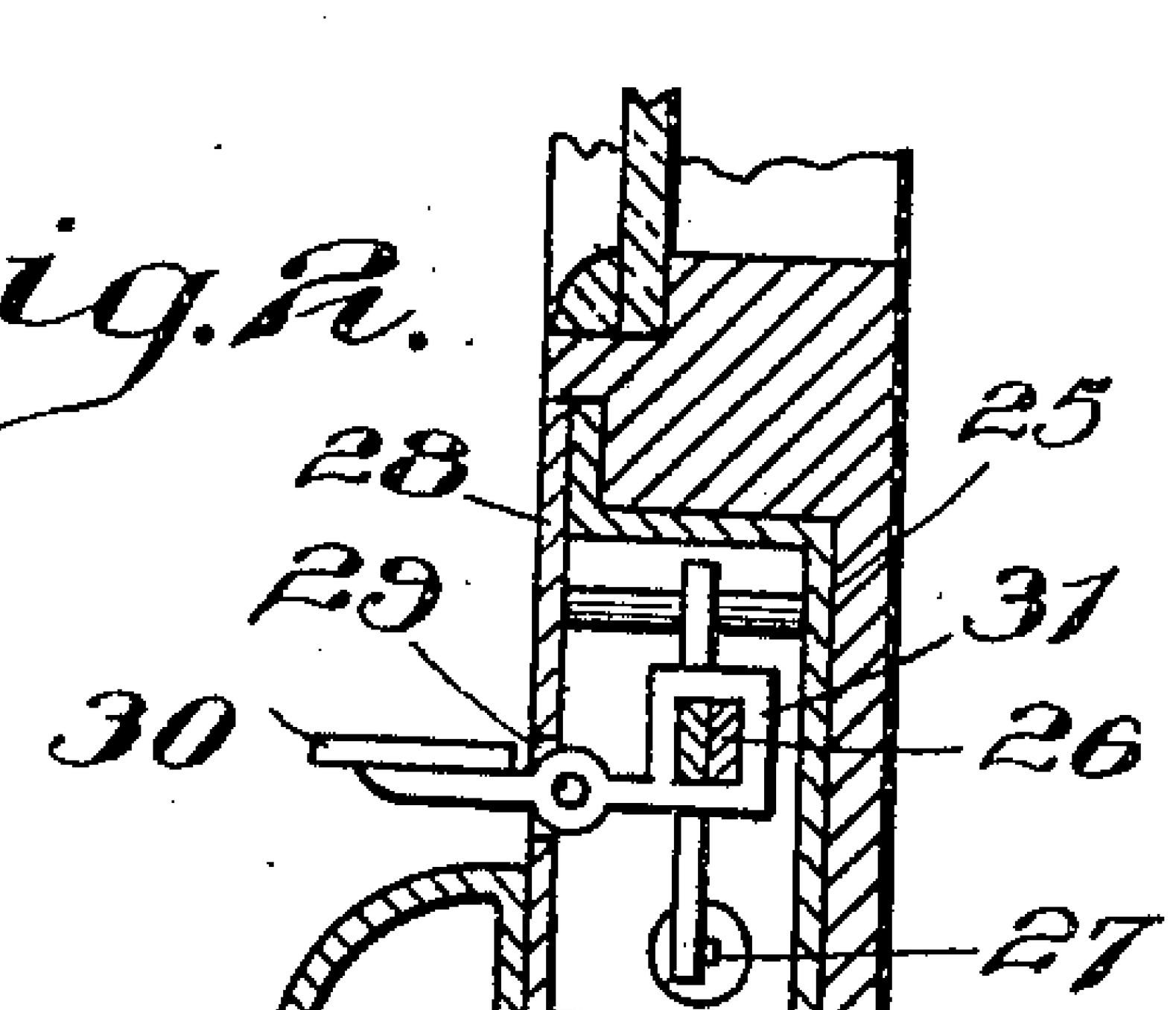
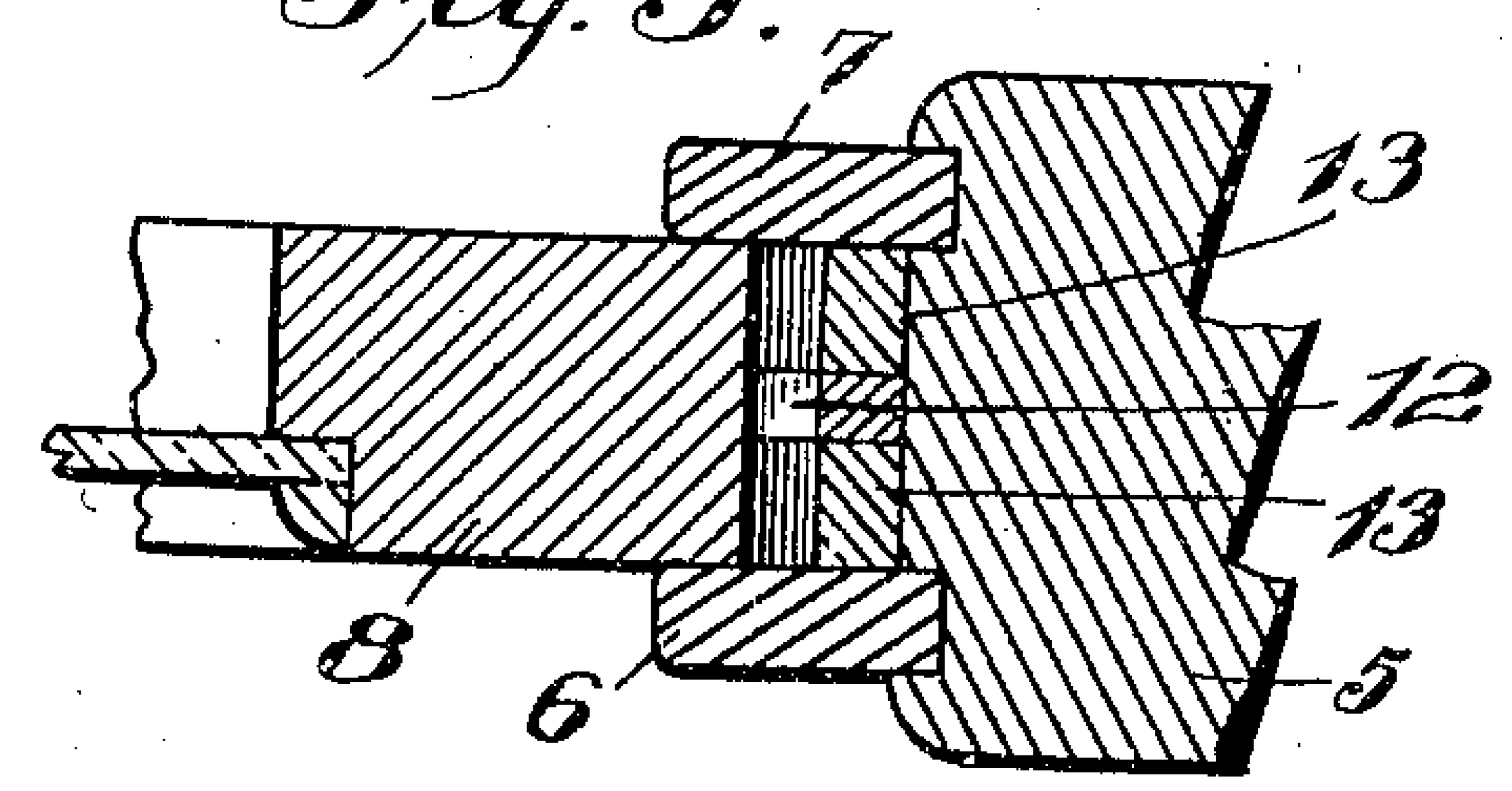


Fig. 3.



Witnesses

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SASH-FASTENER FOR CAR-WINDOWS.

No. 837,864. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed June 30, 1902. Serial No. 113,794.

To all whom it may concern:

Be it known that I, HARRY MOORMAN, a citizen of the United States, residing at Jamestown, in the county of Greene, State of Ohio, have invented certain new and useful Improvements in Sash-Fasteners for Car-Windows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to car-windows; and it has for its object to provide a construction by means of which the window may be locked in its lowered position and supported at different elevations and in which the unlocking means will be so arranged as to permit of its operation while the operator applies pressure to the sash to raise it.

A further object of the invention is to provide a construction comprising a minimum number of parts so combined as to insure easy action at all times.

An additional object of the invention is to provide means for preventing rattling of the window-sash at all times.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a view showing the lower portion of a window frame and sash, portions of the frame and sash being shown in section to clearly illustrate the arrangement of the mechanism. Fig. 2 is a vertical section through the lift and illustrating the finger-lever and its connection with the angular rock-levers. Fig. 3 is a section on line 3 3 of Fig. 1.

Referring now to the drawings, there is shown a window-frame 5, having the usual beads 6 and 7, between which is slidably mounted the window-sash 8 for movement vertically into closed and open positions, the sash being raised to its closed position.

In the side edges of the sash 8 are secured the casings 9, in which are journaled wheels 10, having rubber tires 11, these wheels or rollers being disposed with their peripheries in contact with the window-casing between the beads 6 and 7 to hold the sash yieldably against lateral movement and prevent rattling thereof. As the sash is raised and lowered the rollers run between the beads.

In the inner faces of the sides of the casing 5 between the beads 6 and 7 are disposed racks 12, having their teeth directed upwardly, and these racks are not so wide as the interspace between the beads 6 and 7, so that tracks 13 are provided at opposite sides of the racks and against which the rollers run when the sash is lowered, it being noted that the rollers lie below the upper ends of the racks when the sash is closed. By this arrangement the rollers are effective at all points of their vertical bodily movement. At the lower ends of the racks 12 are sockets 14, which may be termed "locking-sockets," inasmuch as they are engaged by the bolts to lock the sash in lowered position.

Transversely of the lower rail 15 of the sash are formed passages 16 and 17, the outer ends of which are increased in diameter to receive the bolt-receiving sockets 18 and the shoulders 19, and in each of these sockets 18 is disposed a bolt 20. Each bolt 20 has its outer end reduced, as shown at 21, and passes through the plate 22, that covers the outer end of the socket, and on the bolt adjacent to this reduced outer end is a flange 23, against which rests one end of a helical spring 24, which encircles the bolt and bears at its opposite end against the shoulder 19. The springs 24 act to hold the bolts normally and yieldably with their minor ends projected through the plates 22.

To withdraw the bolts into their sockets, a metal casing 25 is let into the inner face of the bottom rail 15 of the sash, and within this casing are pivoted the angular rock-levers 26, the upper ends of which extend laterally and overlap, while the lower ends project downwardly and are connected with the bolts by means of the wires or rods 27. The overlapping end portions are beveled upwardly from their lower edges toward their ends. In the cover-plate 28 of the casing 25 is a slot 29, in which is pivoted a finger-lever 30, having a loop 31 at its inner end within the casing and through which loop are engaged the overlapping ends of the angular rock-levers. When the outer end of the finger-lever is depressed, the loop end thereof is raised and raises the engaged ends of the rock-levers to move the lower ends toward each other and actuate the rods 27 to retract the bolts. The loop 31 when the finger-lever is depressed bears against the beveled portions of the rock-levers 26. Upon the cover-plate 28, directly below the finger-lever 30, is a lift 32, of hook shape, for engagement by the forefinger of the operator, the finger-lever being in position for engage-

ment and operation by the thumb of the operator.

When the sash is lowered to its limit, the bolts engage the sockets 14 and act to lock the sash in closed position. When the sash is to be raised to open the window, the lift 33 is grasped and the thumb depresses the lever 30, so that the bolts are withdrawn from the socket, the thumb holding the bolts withdrawn while the window is being raised, or the bolts may be permitted to drag over the teeth of the rack. When the sash is raised to the proper height, the thumb-lever is released, and the bolts engage the rack and hold the sash elevated. When the sash is to be lowered, the lever 30 is depressed and the bolts are drawn from the rack, so that the sash may be moved downwardly.

What is claimed is—

The combination with a window-casing and a sliding sash mounted therein, of the bolts 27 mounted in the bottom rail of the sash, the rack-bar 13 carried by the casing, the angle-levers 26 pivoted in the lower rail of the sash, and pivotally connected at the ends of one of their arms with the corresponding bolts 27, said angle-levers being beveled at the ends of their other arms, the finger-lever 30 pivoted in the lower rail of the sash and having the loop 31 at its inner end for the reception of the beveled ends of the angle-levers 26 which beveled ends lie side by side in said loop, the said finger-lever 30 being movable in a plane at right angles to the plane of the angle-levers.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY MOORMAN.

Witnesses:
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H. K. LAIRD.