

No. 619,780.

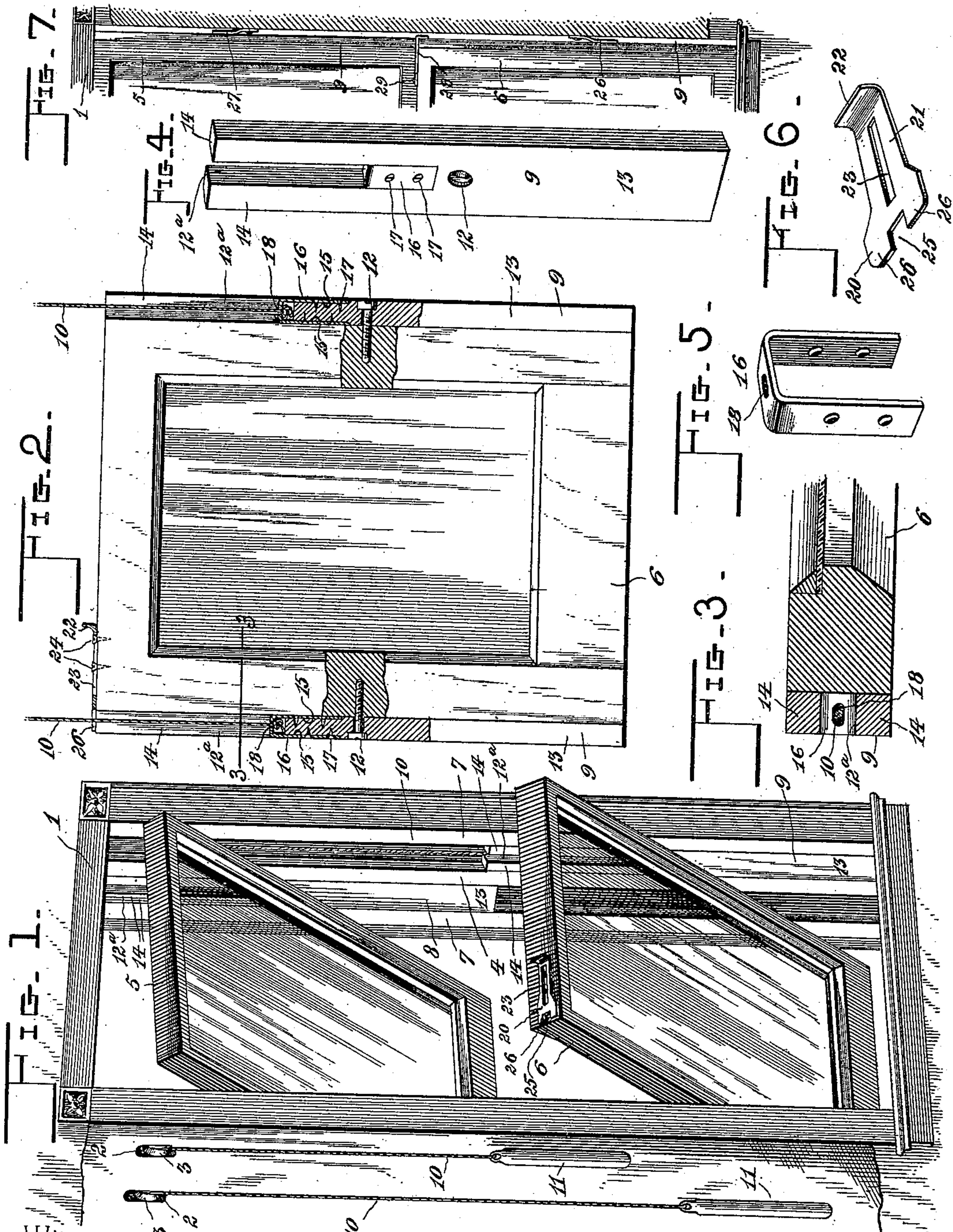
Patented Feb. 21, 1899.

W. W. NEWCOMB.

WINDOW SASH.

(Application filed May 18, 1898.)

(No Model.)



Witnesses

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# UNITED STATES PATENT OFFICE.

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## WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 619,780, dated February 21, 1899.

Application filed May 18, 1898. Serial No. 681,051. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. NEWCOMB, a citizen of the United States, residing at Bradfordsville, in the county of Marion and State of Kentucky, have invented a new and useful Window-Sash, of which the following is a specification.

My invention relates to improvements in window-sashes of that class wherein vertically-movable shoes are provided for carrying each sash, which is hung or pivoted centrally to provide for swinging the same in a vertical plane and enable access to be obtained to either side of the frame or pane of the window for cleaning, painting, or repairing the sash.

One of the objects of my improvement is to provide an improved construction of the shoe and means for the attachment of the sash-cord by which a comparatively thin shoe may be used for carrying the sash and the parts readily and quickly assembled for service.

Another object of the improvement is to provide a novel construction of the latch or fastener for holding the sash against turning movement on its horizontal pivots, which latch permits the sash-cord to pass through the same and is constructed to engage with the divided or slotted upper end of the shoe. With these ends in view the invention consists in the peculiar construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand the invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view illustrating both of the sashes swung outward. Fig. 2 is a sectional elevation of one of the sashes in a vertical position within its pair of shoes and illustrating the means for attaching the cords to the shoes. Fig. 3 is a horizontal section, on the line 3 3 of Fig. 2 and on an enlarged scale, through one of the shoes and the sash-stile to which the shoe is connected. Fig. 4 is a detail perspective view of the shoe. Fig. 5 is a like view of the cord-attaching clip. Fig. 6 is a similar view of the fastener by which the sash is held against turning movement within the vertically-movable shoe. Fig. 7 is a

detail sectional elevation representing my improved sashes applied in operative relation to a portion of a window-casing and showing the pressure-springs by which the carrying-shoes are held against rattling within the casing.

Like numerals of reference denote like and corresponding parts in each of the several figures of the drawings.

1 designates the window-frame, which in its sides is provided with the slots 2, that accommodate the boxings or housings for the rollers 3, all of these parts being of the usual construction. Between the rollers are the parting-beads 4, that serve to separate the shoes for the upper and lower sashes 5 6, respectively, and parallel with the parting-beads are arranged the stop-beads 7, which serve, in connection with said parting-beads, as guides for the shoes of said sashes. The upper sash 5 is carried by a pair of shoes 8, while the lower sash is sustained by a similar pair of shoes 9. The shoes are equal in width to the sash-stiles, which are fitted snugly against said shoes, and the thickness of the shoes is somewhat in excess of the depth of the guide-channels formed by and between the parting and stop beads, so that the outer faces of the shoes may lie flush with the edges of the beads or protrude slightly beyond the same for the purpose of giving to the sashes sufficient clearance to turn in a vertical plane without coming in contact with the beads.

Each pair of shoes and the sash hung therein are balanced by means of the cords 10, which are attached to the shoes, as will presently appear, and extend over the rollers 3, and to the free ends of these sash-cords are attached the drop-weights 11, which are of sufficient thickness to counterpoise the sash and its pair of shoes. It will be understood that each sash is carried by a pair of shoes and that said shoes are fitted slidably in the channel between the beads to slide freely therein. The sash is hung or pivoted centrally, as at 12, to its pair of carrying-shoes, and these pivots 12 are arranged in horizontal positions, thus enabling the sash to swing in a vertical plane, whereby either side of the sash may be exposed to access by the operator for performing useful work thereon.



The shoes 8 and 9 are of novel construction, as shown more clearly by Fig. 4. Each shoe is slotted for a part of its length, as at 12<sup>a</sup>, to produce a solid lower end 13 and the parallel arms 14 at the upper end of the shoe. In the opposite faces of the solid part 13 of the shoe, adjacent to the lower terminal of the slot 12<sup>a</sup>, are provided the recesses 15, and thus a shoe is produced which is slotted for a part of its length, is solid for the remainder of its length, and is provided with recesses on the opposite faces of the solid portion.

I employ a clip 16, which is rigidly fastened to the recessed solid portion of the shoe and which serves as the means for attachment of the sash-cord to the shoe. This clip is of the yoke or inverted-U shaped form shown by Fig. 5 of the drawings, and this clip is fitted in the slotted part of the shoe, so as to straddle the end of the solid part thereof at the terminal of the slot. The legs of this clip are fitted in the recesses 15, so as to lie flush with the shoe, and the clip is firmly secured to the shoe by the nails or screws 17. The head of the clip is provided with a transverse perforation 18, through which is passed the end of the sash-cord, and this sash-cord is knotted within the clip, below the head thereof. In assembling the parts together the end of the sash-cord is slipped through the perforation in the head of the yoke and the cord is knotted. The yoke or clip is now fitted in the slotted part of the shoe to have its legs occupy the recesses 15, and the nail or screw is now passed through the clip and embedded in the shoe to firmly attach the parts together.

In devices of this class it is necessary to provide fasteners by which the sash is prevented from swinging in its carrying-shoes, and I have provided a novel construction of the fastener, which is shown more clearly by Fig. 6. The fastener consists of a single plate of metal having a broad head 20 at one end thereof, a narrow shank 21, arranged centrally with respect to the head, and a finger-piece 22 at one end of the shank, said finger-piece being formed by bending up the free end of the shank. In the shank of the fastener is provided a longitudinal slot 23, and the fastener is fitted to one face of the rail of the sash, so as to be projected over or across the divided or slotted end of the shoe. This fastener for the lower sash is arranged on the upper edge of the sash-rail, and it is slidably attached thereto by a screw or screws 24, which pass through the slot 23 and are embedded in the sash-rail, whereby the fastener may be moved horizontally on the sash-rail across the slotted end of one of the shoes, or it may be retracted within the edge of the sash-stile clear from engagement with the slotted end of the shoe to permit the sash to swing on its pivotal connection with the shoes. The headed end 20 of the fastener-plate is provided centrally with a notch 25, that serves to divide said enlarged end of the fastener and form the prongs 26, which are spaced apart

a distance equal to the arms 14 of the shoe and are adapted to bear upon the ends of the shoe-arms to give an extended bearing to the fastener upon the slotted shoe, and thus prevent the sash from turning on its horizontal pivotal connections with the pair of shoes by which it is carried vertically within the window-frame. The fastener for the upper sash is applied against the bottom face of the lower rail thereof, and when the lower sash is raised or turned to an inclined position in its shoes ready access may be obtained to said fastener for the upper sash.

In Fig. 7 of the drawings I have illustrated pressure-springs 26 and 27 as attached to the face of the window-casing, against which the slidable shoes 13 are adapted to travel. The lower pressure-spring 26 on each side of the window-casing is attached at its upper end to said casing and is deflected downwardly therefrom to have the shoe ride against the spring. The upper pressure-spring 27 on the same side of the casing has its lower end fastened to the casing, and its free part is inclined upwardly and laterally from the casing to adapt it to ride against the shoe on the upper sash. By arranging these two springs opposite to the shoes of the upper and lower sashes and inclining them in reverse directions the sashes and their shoes are adapted to travel within the window-casing with great freedom, and the springs press the shoes firmly into engagement with the sides of the sashes to make practically dust and wind proof joints between the shoes and sashes, thereby excluding the entrance of wind and dirt through the joint between the sash and its shoes and holding the parts from rattling. I may also employ a spring 28, which has a hinged connection, as at 29, to the upper edge of the lower sash, and this hinged spring 28 may be lowered to a horizontal position to have its free end engage with the upper extremity of the shoe 13, so as to draw the shoe firmly against one stile of the sash, and thus further increase the tightness of the joint between the sash and its shoe. This hinged spring 28 is used, preferably, in lieu of the slidable locking-plate shown by Fig. 6; but, if desired, the locking-plate may be used on one side of the sash, while the shoe-spring may be employed on the opposite side of the sash.

Having thus described the invention, what I claim is—

1. In a window-sash, the combination with a frame, of a pair of vertically-slidable shoes fitted to said frame and provided with slotted upper ends, U-shaped clips attached to the slotted parts of the shoes and spanning the slots, sash-cords attached to the clips, and a sash hung on horizontal pivots which are attached to the shoes, substantially as described.

2. In a window-sash, the combination with a frame, of a pair of vertically-slidable shoes fitted to said frame and provided with slotted upper ends and with recesses in their oppos-



ing faces and adjacent to the lower terminals of the slots therein, the inverted-U-shaped clips fitted in the slotted ends of the shoes and in the recesses thereof, the sash-cords attached to the clips and passing through the slotted ends of the shoes, and a sash pivoted to the shoes below the slots therein, substantially as described.

3. In a window-sash, the combination with a frame, of the vertically-movable shoes slotted at their upper ends, a sash pivoted horizontally to said shoes, a sash-cord attached to each shoe and passing through the slot therein, and a fastener fitted to an end rail of the sash, said fastener being provided with

an enlarged notched head adapted to embrace the sash-cord and to bear upon the slotted end of the shoe and also provided with a slotted shank through which are passed the fastening-screws that slidably confine the fastener on the sash-rail, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM W. NEWCOMB.

Witnesses:

D. O. BURK,

EMMIT MCBRIDE.