

No. 616,223.

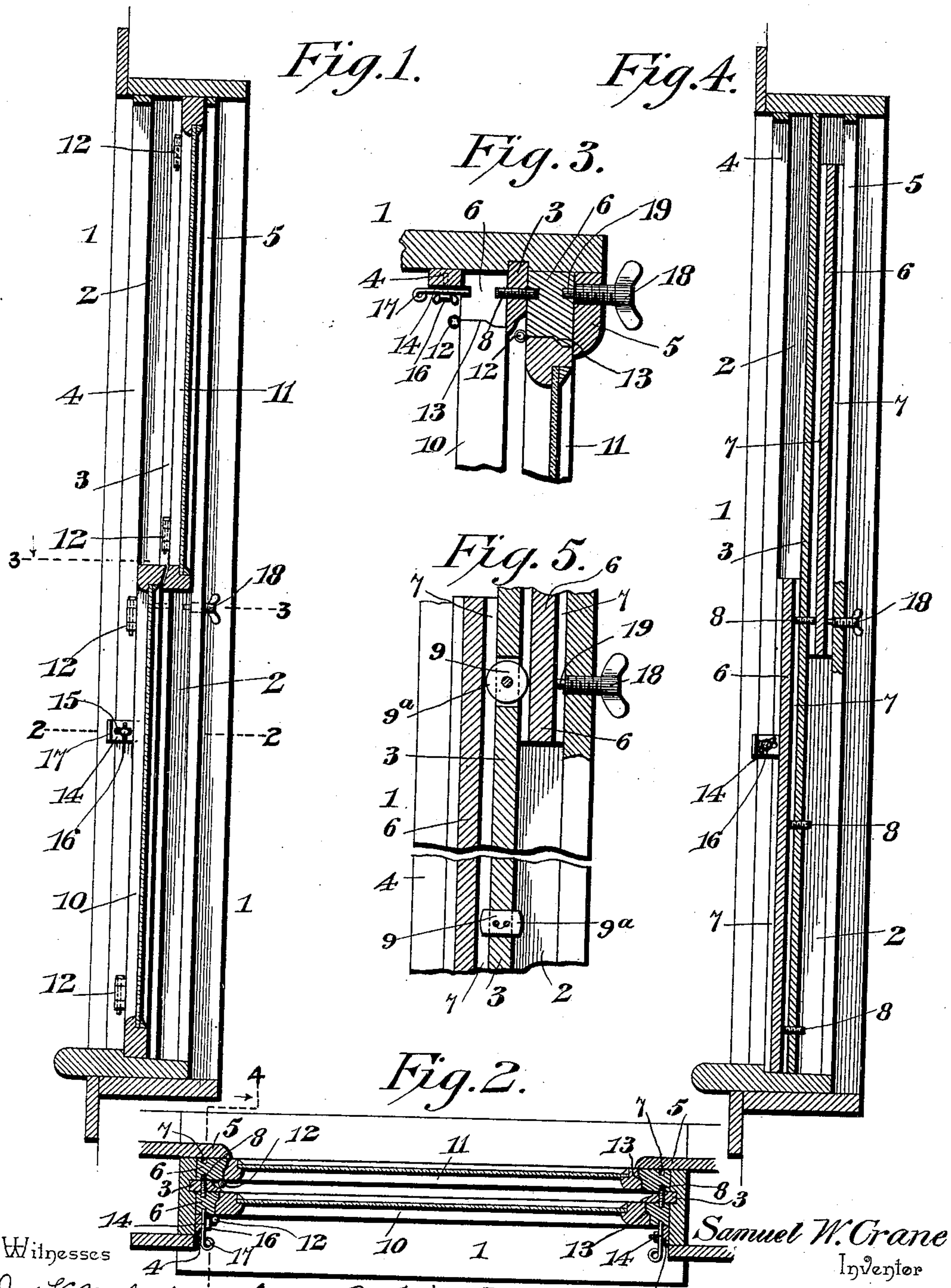
Patented Dec. 20, 1898.

S. W. CRANE.

WINDOW.

(Application filed June 23, 1898.)

(No Model.)



Witnesses
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WINDOW.

SPECIFICATION forming part of Letters Patent No. 616,223, dated December 20, 1898.

Application filed June 23, 1898. Serial No. 684,273. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. CRANE, a citizen of the United States, residing at Lafayette, in the county of Tippecanoe and State of Indiana, have invented a new and useful Window, of which the following is a specification.

This invention relates to windows, and more especially to the sashes thereof; and it has for its object to provide a new and useful way of mounting the sliding sashes within a window-frame, whereby such sashes may be readily swung inward within the room for washing or other purposes without entire removal from the frame, while at the same time they are capable of being completely taken out of the window-frame without removing the stop or parting strips, as is usually required in removing the ordinary sashes of a window.

The invention also contemplates a construction which can be applied to old window-frames and sashes, so as to convert the same into a hinged window, and, further, to provide improved means for guiding the sliding bars carrying the hinged sashes, as well as for locking such bars within the sash-grooves to prevent their displacement when the sashes are swung open.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a vertical longitudinal sectional view of a window-frame and its sashes constructed in accordance with this invention. Fig. 2 is a cross-sectional view on the line 2 2 of Fig. 1 with the upper sash in its lowered position and engaging the guide and retaining projections on the parting-strips. Fig. 3 is a detail cross-sectional view on the line 3 3 of Fig. 1, showing the combined locking and retaining screws for the upper sash. Fig. 4 is a vertical sectional view on the line 4 4 of Fig. 2. Fig. 5 is a detail sectional view in the same plane as the view shown in Fig. 4, illustrating a modification of the retaining projections for the sliding supporting-bars for the hinged sashes.

Referring to the accompanying drawings,

the numeral 1 designates an ordinary window-frame provided at the opposite vertical sides thereof with the usual parallel sash-grooves 2, formed between the intermediate vertical parting-strips 3 and the inner and outer stop-strips 4 and 5, respectively, which are fitted to the window-frame in the usual manner. In the present invention the sash-grooves 2 receive for sliding movement therein the straight vertically-sliding sash-supporting bars 6, having in their opposite faces the vertical longitudinal guide-grooves 7, the guide-grooves 7 in the faces of the bars 6, next to the parting-strips 3, being adapted to receive and engage a series of spaced retaining projections 8, fitted to the parting-strips 3 and projecting beyond both sides thereof, so as to engage the grooves of the bar 6 for both sashes and thereby provide for properly retaining such bars in place when being slid up and down, as will be readily understood.

The retaining projections 8 are preferably screws inserted in the parting-strips 3 and having their heads projecting beyond the sides of the latter, so as to engage in the grooves 7 of the bars 6; but in place of the screws 8 there may be employed retaining-plates 9, countersunk in the edges of the parting-strips 3 and of a greater width than the latter, so as to have their side edges project beyond the sides of the parting-strips and form retaining projections for the sliding bars 6 in the same manner as the screws 8. This modification of the retaining projections is plainly illustrated in Fig. 5 of the drawings, and it will of course be understood that any form of retaining projection that could be employed in the same way as the screws 8 and the plates 9 might be substituted therefor without departing from the principle or principles of the invention.

The pair of sliding supporting-bars 6 working in the inner sash-grooves form supports for the inner sash 10 and the other outer pair of said bars 6 form a support for the outer or upper sash 11, and each of these sashes is hinged at one side edge to one of the bars 6 by means of separable hinges 12, thereby leaving the other edge of the sash free to swing inward within the room when it is desired to open the sash for washing or other

purposes, and the free swinging edge of each sash is held closed against one of the sash-supporting bars 6 by means of any suitable fastening device; but since no claim is made herein to any particular fastening for securing the free sides of the sashes to the supporting-bars 6 the same is not illustrated.

Both of the sashes 10 and 11 are hinged at the same side to their supporting-bars, so that the same can be swung inwardly within the room, and the meeting faces or edges of the sashes and said bars 6 have registering rabbets 13 to form perfectly weather-tight joints, while the outer stop-strips 5 of the window-frame are sufficiently wide to overlap the joints between the upper sash 11 and its supporting-bars 6, thereby protecting the joints from the weather.

The retaining projections 8 are only shown extended from opposite sides of the parting-strips 3, and while similar projections may be arranged on the inner and outer stop-strips 4 and 5 this is not necessary in view of the combined locking and retaining devices employed in connection with the upper and lower sashes, and the combined locking and retaining devices used in connection with the lower or inner sash are in the form of flat metal plates 14, sliding in countersinks formed in the inner stop-strips 4 and provided with longitudinally-disposed slots 15, receiving thumb-screws 16, entering the inner stop-strips 4 and providing means for fastening the plates 14 in their adjusted positions. A pair of the plates 14 is employed, respectively, at opposite sides of the window-frame, and said plates are provided at their outer ends with finger-flanges 17, while their inner ends are adapted to project into and engage the guide-grooves 7 in the faces of the bars 6 next to the inner stop-strips 4. It will therefore be seen that the plates 14 by loosely engaging the grooves 7 in one side of the inner pair of bars 6 cooperate with the projections 8 to hold such bars in place, and when the sash 10 is swung open on its hinges the plates 14 may be forced tightly into the adjacent grooves 7 of the bars 6 and secured by the screws 16, so as to act in the capacity of locks to prevent displacement of the bars 6 by the sash-weights until the sash is again closed.

The functions of the combined retaining and locking plates 14 are performed in connection with the upper or outer sash by the combined locking and retaining screws 18, mounted in the outer stop-strips 5 at a point intermediate the top and bottom of the window-frame. The said screws 18 are provided at their inner ends with short pin extensions 19, which by loosely engaging the guide-grooves 7 in the outer faces of the outer pair of supporting-bars 6 cooperate with the projections 8 to retain such bars in place; but when the upper sash is lowered and swung open a tightening of the screws 18 serves to lock the outer pair of bars 6 in place, and thereby prevents displacement thereof by the

sash-weights in the same manner as the plates 14 prevent displacement of the lower or inner sash. The retaining-plates 14, the screws 18, and also the projections 8 on the parting-strips are arranged in a plane below the horizontal center of the window-frame, or, in other words, within the lower half of the window-frame, so that by raising the sashes and their supporting-bars within the upper half of the window-frame the sashes can be swung on their hinges, thereby permitting a removal of the sliding supporting-bars 6 without removing the stop or parting strips of the window-frame. Furthermore, it will be observed that by reason of connecting the sashes with their supporting-bars by means of separable hinges such sashes can be lifted out of the window-frames without disturbing said bars.

The many advantages of the herein-described construction will readily appear to those skilled in the art without further description, and it will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination of a window-frame having on the walls of its sash-grooves retaining projections, all of such projections lying within the lower half of the window-frame, inner and outer pairs of sliding sash-supporting bars working in the sash-grooves and provided with longitudinal guide-grooves receiving said projections, and the sashes, each sash fitting between a pair of said bars and connected to one of the latter by separable hinges, substantially as set forth.

2. The combination of a window-frame and the sash-grooves thereof, a series of retaining projections fitted to the parting-strips and projecting from both sides thereof, inner and outer pairs of sliding sash-supporting bars working in the sash-grooves and provided in opposite sides with longitudinal guide-grooves, the guide-grooves next to the parting-strips receiving the retaining projections thereon, the upper and lower hinged sashes respectively carried by the outer and inner pairs of sliding bars, and combined locking and retaining devices for the upper and lower sashes, each combined locking and retaining device having its inner end projecting into the grooves of the supporting-bars next to the stop-strips, substantially as set forth.

3. The combination of a window-frame and the sash-grooves thereof, retaining projections fitted to the parting-strips, sliding sash-supporting bars provided in opposite sides with longitudinal guide-grooves, the guide-grooves next to the parting-strips receiving the retaining projections thereon, the hinged sash, and adjustable plates arranged at opposite sides of the window-frame and adapted

to have a retaining and locking engagement with the grooves of the supporting-bars next to the stop-strips, substantially as set forth.

4. The combination of a window-frame and the sash-grooves thereof, retaining projections fitted to the parting-strips, sliding sash-supporting bars provided in opposite sides with longitudinal guide-grooves, the guide-grooves next to the parting-strips receiving said retaining projections, the hinged sash, combined retaining and locking plates slidably mounted on the window-frame at oppo-

site sides thereof and adapted to have their inner ends engage the grooves of the supporting-bars next to the stop-strips, and fastening means for said plates, substantially as set forth. 15

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

SAMUEL W. CRANE.

Witnesses:

FLORENCE V. RAYNOR,
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