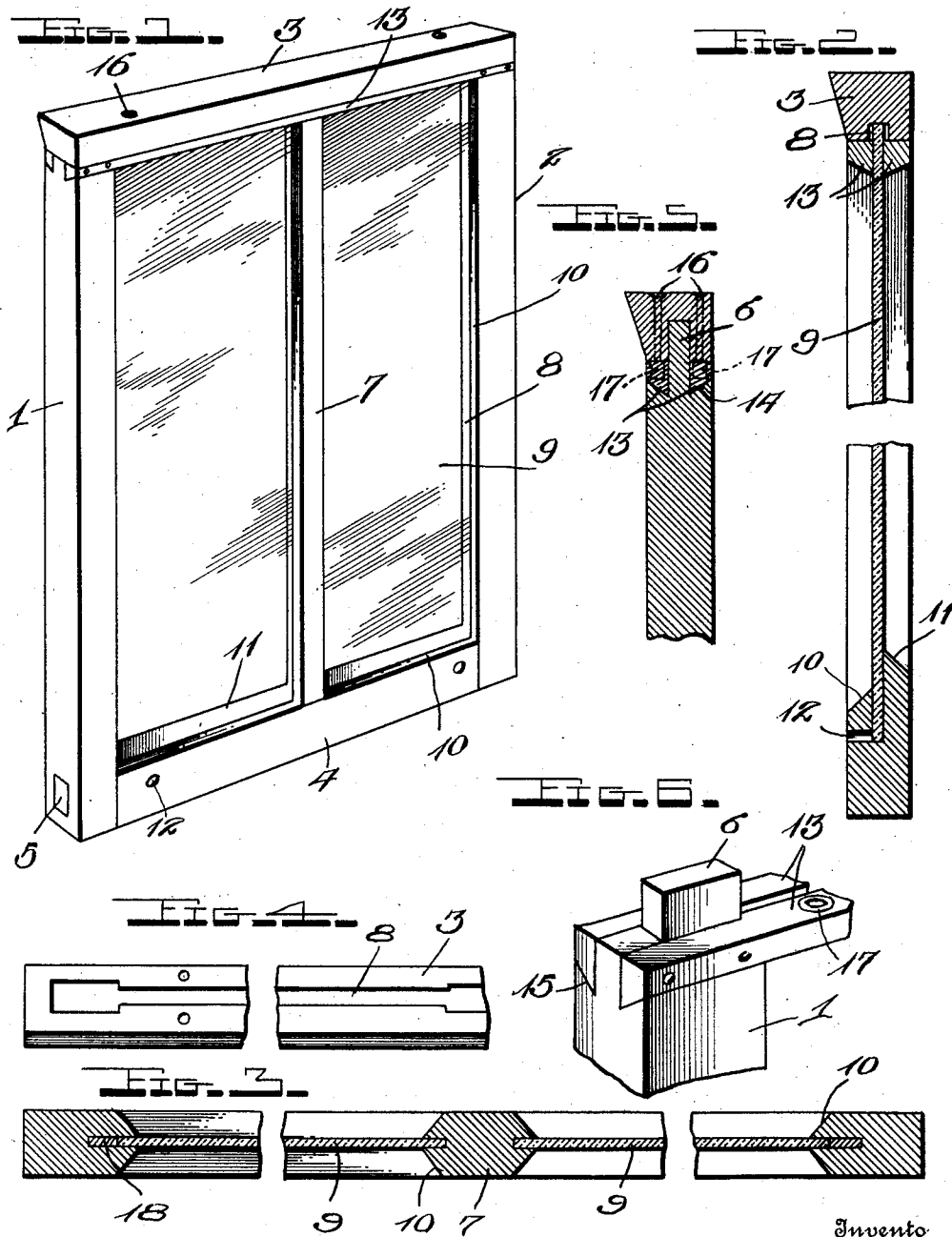


O. L. HUTTO.
WINDOW SASH.
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1,062,916.

Patented May 27, 1913.



Witnesses

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WINDOW-SASH.

1,062,916.

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To all whom it may concern:

Be it known that I, OSCAR L. HUTTO, a citizen of the United States, residing at Pelion, in the county of Lexington and State of South Carolina, have invented certain new and useful Improvements in Window-Sashes, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to new and useful improvements in means for retaining glass panes in window sashes and has for its object to provide an improved means for this purpose which will eliminate the use of 15 putty and other separate devices for retaining the panes in position.

A further object of the invention resides in providing channels in the top and bottom rails, the stiles and mullion of the sash to slidably receive therein the panes of glass and a 20 still further object resides in providing means for securely retaining the panes in position, whereby all rattling of the same will be prevented.

25 Another object of the invention resides in providing means in connection with the lower rail of the sash to prevent the entrance of water through the channels therein, and still another object of the invention resides 30 in forming pane retaining strips separate from the upper rail of the sash and mounting the same securely in the stiles thereof to form braces for the latter.

35 A further object of the invention resides in providing a device which is extremely simple and durable in construction, inexpensive to manufacture and one which will be very efficient and useful in operation.

40 With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

45 In the accompanying drawings forming a part of this application, Figure 1 is a perspective view of my improved sash removed from a window casing. Fig. 2 is a vertical section therethrough. Fig. 3 is a horizontal 50 section through the same. Fig. 4 is a fragmentary bottom plan view of the top rail removed. Fig. 5 is a fragmentary vertical section through one stile showing the man-

ner of securing the top rail thereto; and Fig. 6 is a fragmentary perspective view of one 55 stile with the top rail removed.

In describing my invention, I shall refer to the drawing in which similar reference characters designate corresponding parts 60 throughout the several views and in which—

1 and 2 indicate the stiles of my improved sash, while 3 and 4 are respectively the upper and lower rails thereof, said bottom rail being secured to the stiles by means of a mortise and tenon joint 5, while the top 65 rail is similarly secured to the stiles by means of a joint 6. In connection with the latter joint it will be noted that the tenons on the upper ends of the stiles extend from the inner side faces of the latter to points 70 adjacent the outer side faces thereof, thereby forming shoulders on the stiles and permitting the ends of the top rail to fit flush with the outer faces of said stiles, while the mortises of said top rails extend but a por- 75 tion of the way therethrough to be totally invisible when the top rail is properly positioned.

Mounted between the upper and lower rails 3 and 4, is the center rail or mullion 7 80 and the inner side edges of the stiles, top and bottom rails and both side edges of said mullion 7 are provided with the channels 8 to receive therein the transparent panes 9, preferably glass, said stiles, mullion and 85 bottom rails having the edges thereof beveled in opposite directions on opposite sides of said channels as shown at 10. The side edges of the stiles and mullion have the faces thereof on opposite sides of the channels 90 therein, beveled at the same angle and tending to converge, but the bottom rail, while having the faces of the inner edge thereof beveled at the same angle, has the portion on one side of the channel thereof disposed 95 higher than the other as shown at 11. This raised portion of the bottom rail is adapted to be disposed inwardly when the sash is properly positioned in the window frame and it will be seen that water contacting 100 with the panes 9 is not adapted to enter the structure within, through said channels 8 in which the panes are disposed. If, however, water should find its way into the channels of the lower or bottom rail 4, the same 105 will be drained therefrom through the outlet

channels 12 extending through said bottom rail and communicating with the channel therein.

As stated, the stiles, mullion and bottom rails have their side edges beveled, but the top rail 3, while being provided with a channel to receive the upper edges of the panes therein, has its inner side edges disposed flat and a pair of pane-retaining strips 13 are provided, which strips are secured to the side faces of the stiles 1 and 2 and are adapted to contact with the inner side face of the top rail 3. These pane-retaining strips have the bottom edges thereof beveled in opposite directions, as shown at 14, while the top edges of the same are flat so as to permit the flat inner edge of the top rail to rest thereon and in order to properly secure these strips to said stiles, 1 and 2, the latter are provided with cut-away portions on opposite faces thereof to provide shoulders 15 thereon, said shoulders being inclined or beveled coincident to the inclination of the lower edges of said strips. The space between the strips 13 is substantially equal to the width of the channels 8 in the rails so as to readily receive the panes 9 therethrough and from this fact, it will be understood that in order to properly support the ends of said strips in the cut-away portions of the stiles, shoulders (not shown) are necessarily provided, which shoulders abut the inner side edges of said stiles at the upper ends thereof. While not shown, it will be noted that in this particular instance, wherein a center rail 7 is provided, said strips 13 are provided with notches mid-way of their ends to encircle said mullion and fit snugly therearound, and while said strips act in the capacity of pane-retaining strips, the same are also used for the purpose of bracing the stiles 1 and 2, when the top rail 3 is removed. It will thus be seen that said strips perform a double function and the same are adapted to be permanently secured in the cut-away portions of said stiles in any manner desired.

As stated above, the top rail 3 is provided with a channel 8 similar to the channels in the stiles to receive therein, the upper edges of the panes 9 and in order to securely retain said panes in position in the sash and at the same time secure said top rail against any possible disengagement of the mortise and tenon joint between the same and said stile, a pair of screws 16 are extended through said top rail adjacent the ends thereof to be engaged with internally threaded bushings or the like 17 mounted in the pane retaining strips 13. When properly engaged with the bushings 17, the heads of the screws 16 are counter-sunk in the upper face of the top rail 3 and in order to further aid in the snug fitting of the rails in the sash and to prevent rattling of the

same therein, strips of felt, rubber or other similar material 18 may be disposed in the channels of said stiles 1 and 2 and also in the other rails, if found necessary.

In practice, assuming that the sash is properly set up and mounted in the window frame, should it be found necessary to insert a new pane of glass, it will only be necessary to raise or lower the sash to such a point as will enable the operator to readily remove the top rail 3. The removing of this rail may be readily accomplished by first removing the screws 16 and then forcing or pulling upwardly upon the top rail 3 to disengage the mortise and tenon joint 6. After removing the top rail 3 of the sash, the broken pane of glass may be removed and a new pane readily inserted in its place without removing the strips 13 whatsoever, whereupon said top rail may again be positioned effectively and the screws 16 turned into their engaging positions to securely retain said top rail and the panes in position. In this manner, it will be seen that the replacing of a new pane of glass in a window constructed according to my invention will be a very simple matter and it will still further be seen that in view of the disposing of the inner beveled portion of the lower rail at a greater height than the outer beveled portion thereof, and by providing drain openings in the lower rail rain will be prevented from entering through the channel of said lower rail.

It is a well known fact that many difficulties have been experienced in the usual manner of applying glass to window frames by the customary methods of securing the same by putty and other separate securing devices, but it will be seen that the means which I have invented for retaining the panes in the sash, will obviate these many difficulties and effectively retain said panes in position therein.

From the foregoing it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects of the invention and while I have particularly described the elements most well adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described this invention, what I claim is:—

1. A window sash including a bottom rail and stiles secured thereto, said rail and stiles being provided on their adjoining edges with pane-receiving grooves, a pane seated in said grooves, the stiles being provided at their upper ends with upwardly projecting tenons, a top rail formed with recesses designed to receive said tenons and of a depth

in proportion to the tenons sufficient to hold the top rail spaced from the main portions of the stiles, the said stiles being formed on opposite sides of each tenon with inwardly beveled recesses, and removable sash-retaining strips seated in said recesses on opposite sides of said tenons and having beveled lower faces at their ends corresponding to the bevel of the recesses, said strips being interposed between the top rail and main portions of the stiles.

2. A sash of the character described, including a bottom rail and stiles secured thereto, said rail and stiles being formed on their adjoining edges with pane-receiving grooves, panes seated in said grooves, each of said stiles being provided at its upper end with an upwardly projecting tenon and

with recesses on opposite sides of said tenons, a top rail formed in its lower face and at its ends with recesses adapted to receive said tenons, removable sash-retaining strips seated in the recesses of the stiles on opposite sides of the tenons and interposed between the main portions of the stiles and the top rail and engaged by the latter, fastening devices securing the sash-retaining strips to the stiles and other fastening devices securing the top rail to the respective sash-retaining strips.

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

OSCAR L. HUTTO.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."