(No Model.)

2 Sheets—Sheet 1.

A. RUDOLPH.

WINDOW SASH.

No. 276,886. Patented May 1, 1883.

FIG. 1

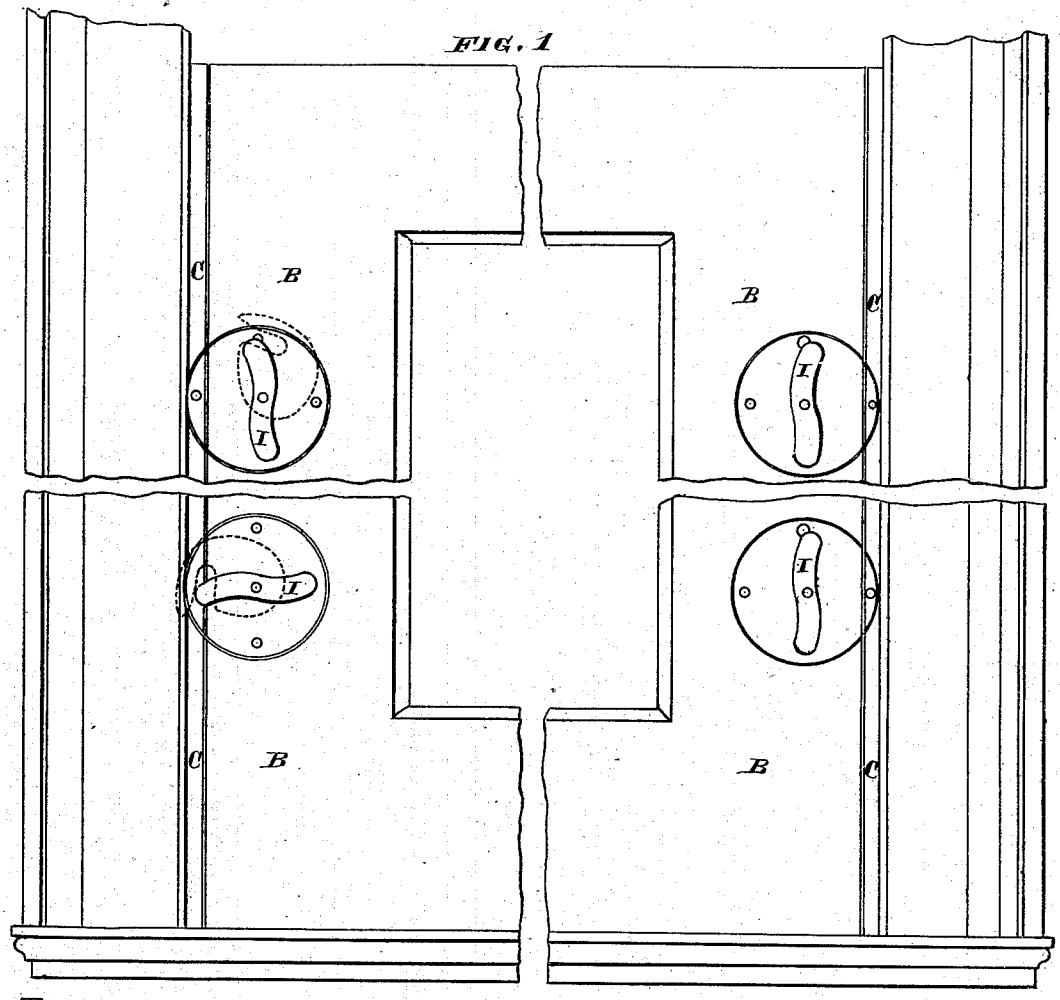
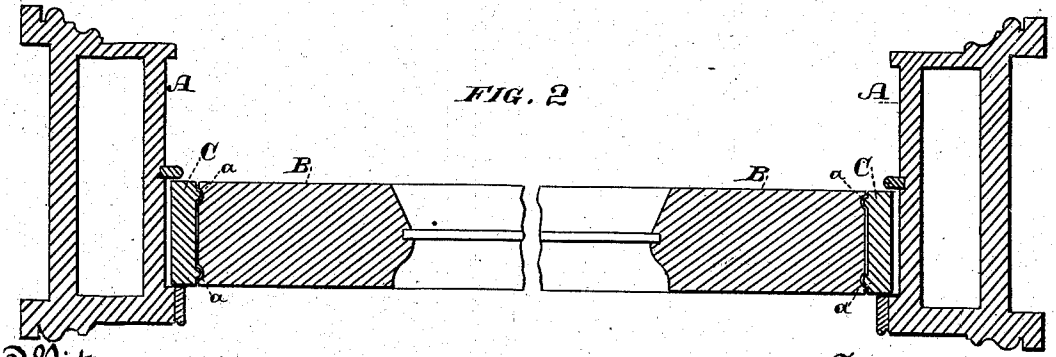


FIG. 2



Witnesses,
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J. Browne

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(No Model.)

2 Sheets—Sheet 2.

A. RUDOLPH.

WINDOW SASH.

No. 276,886. Patented May 1, 1883.

FIG. 3.

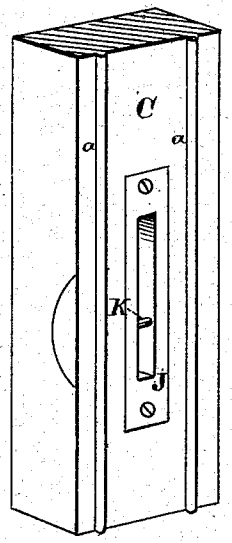


FIG. 4.

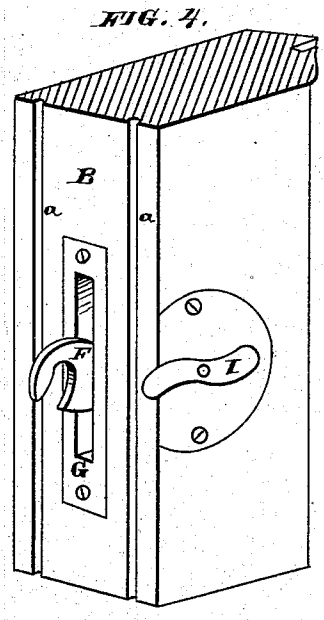


FIG. 5.

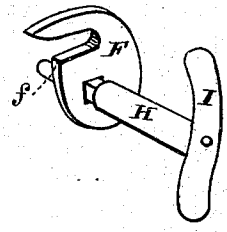


FIG. 6

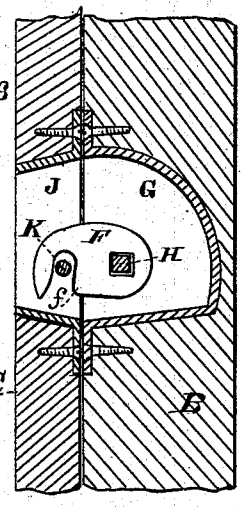


FIG. 7.

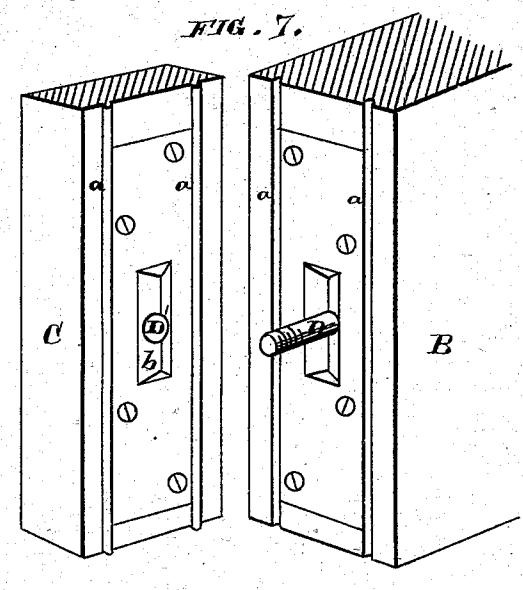
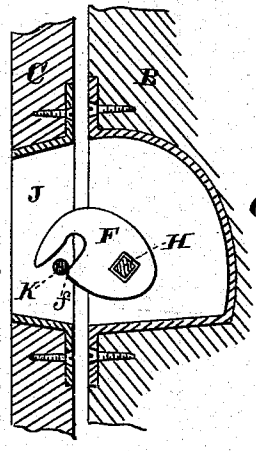


FIG. 8.



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UNITED STATES PATENT OFFICE.

ALEXANDER RUDOLPH, OF SAN FRANCISCO, CAL., ASSIGNOR OF TWO-THIRDS TO JOSEPH A. BECSEY AND THOMAS J. WELSH, OF SAME PLACE.

WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 276,886, dated May 1, 1883.

Application filed November 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER RUDOLPH, of the city and county of San Francisco, State of California, have invented an Improved Window-Sash; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain improvements in window-sashes; and it consists of a sash pivoted at each side to a guide-piece, these guide-pieces fitting into grooves in the frame, so as to run up and down, and the pivots allowing the sash to be turned, and in combination with these a series of hooks or clasps, by which the sash and guide-pieces are drawn closely together to exclude air, and are supported by the heel of the clasps when unlocked.

It also consists of a peculiar beveled projecting plate upon one side and a corresponding socket upon the other, where the pivot-pins unite the sashes to the guide-pieces, which serve to force the sashes away from the guide-pieces when they are turned, and thus concentrate all friction to a point about the pivot-pins.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1, Sheet 1, is a front view of a portion of the window sashes and frames broken and drawn together to show my invention. Fig. 2, Sheet 1, is a similar transverse section. Fig. 3, Sheet 2, shows a guide-piece with socket and pin; Fig. 4, the corresponding sash and locking-hook. Fig. 5 shows the hook separately. Fig. 6 shows the sash and guide-piece locked together. Fig. 7 shows the edges of the guide-piece and the sash with the pivot-pin and the beveled projection and socket. Fig. 8 shows the separation of the guide-piece from the sash by the action of the hooks against the pin.

A A are the sides of the window-frame, and B are the window-sashes, which are made enough narrower than the spaces in which they are to slide to admit the guide-pieces C to lie between the sash and the frame. The guide-pieces and the corresponding meeting edges of the sash are tongued and grooved longitudinally, as at *a a*, so that when drawn close together these tongues and grooves serve to exclude air. The sashes are provided at the center of their opposite edges with pivot-pins D, which turn in corresponding socket, D′, in the faces of the guides C.

In order to separate the sashes from the guides when the sashes are turned upon their pivots, I employ projecting beveled blocks *b*, in which the sockets D′ are formed, and corresponding depressions around the pivot-pins D; or the position of these may be reversed. Their operation will then be as follows: When the sash stands parallel with the guides the projections *b* fit into the corresponding depressions, and the sashes fit closely against the guides, the tongues and grooves *a a* also fitting. When the sash is turned the action of the projecting bevel-piece *b* will be to force the sash away from the guides, and throw them so far apart as to disengage the tongues and grooves, thus leaving the sash free to turn upon its pivots, while at the same time there will be sufficient friction at this point about the pivots to hold the sash in any position desired.

In order to draw the sashes and guide-pieces closely together when they are in line with each other, I employ peculiar clasps or hooks, F, which lie within a grooved plate, G, in the edge of the sash, and have shafts H extending out to the sides of the sashes, as shown. These shafts have thumb-pieces I upon their outer ends, corresponding with the position of the hook inside, so that when fastened these thumb-pieces stand transversely and when unclasped they stand vertically. The guides C have sockets J, corresponding with the hooks F, and pins K across them. When the sashes are in such position that the hooks stand opposite the pins K they may be turned so as to engage the hooks, and their peculiar shape will cause them to draw the guides closely against the sash, and thus close the space between them tight and prevent any entrance of air, as well as locking them together, so that when the sash is to be raised in the usual way the two guides move together with the sash as one piece. When the pieces I are turned to unlatch the clasps the lower portions or heels, *f*, will strike the pins K, and will force the sashes and guides apart at these points, so that they are free to act independently.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a window, the sash B and the independent guide-pieces C, with the pivot-pin D and corresponding socket, D′, whereby the sash may be turned within the guides, in combination with the projection or beveled piece *b* and the corresponding depression, by which the sash and guide-pieces are forced apart when the sash is turned, substantially as herein described.

2. In a window, and in combination with the sash B and the independent guide-pieces C, to which it is pivoted, the hooks or clasps F, with their shafts H and thumb-pieces I, and the corresponding sockets, J, with the pins K, substantially as herein described.

3. The guide-pieces C, having the sockets J and pins K, in combination with the hooks or clasps F, turning upon shafts H on the sash, and having the projections *f* upon the lower corners, so that when the hooks are turned back and unlocked these projections will strike the pins K and force the sashes and guide-strips apart, substantially as herein described.

In witness whereof I hereunto set my hand.

ALEX. RUDOLPH.

Witnesses:
S. H. NOURSE,
H. B. APPLEWHAITE.