J. KELLY.

WINDOW-SASH HOLDER.

No. 188,375. Patented March 13, 1877.

Fig. 2.

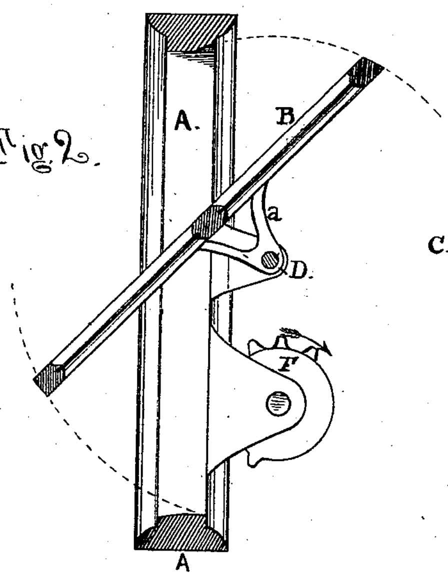


Fig. 1.

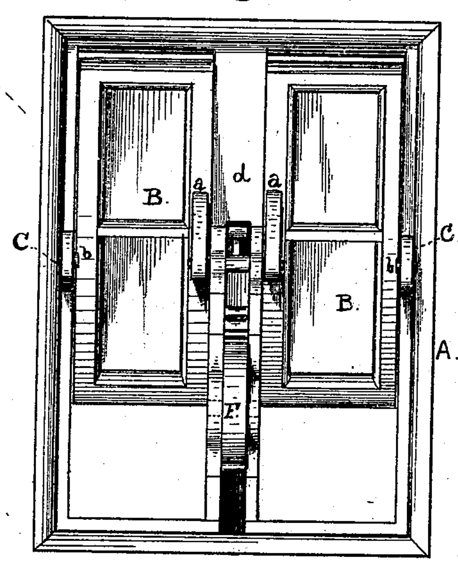
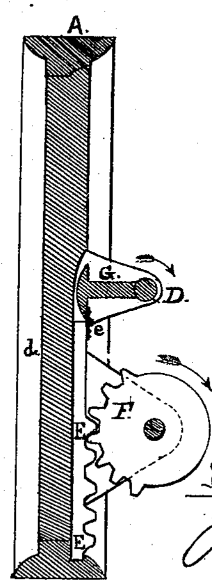


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES KELLY, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO MICHAEL DALTON, OF SAME PLACE.

IMPROVEMENT IN WINDOW-SASH HOLDERS.

Specification forming part of Letters Patent No. **188,375**, dated March 13, 1877; application filed February 2, 1877.

To all whom it may concern:

Be it known that I, JAMES KELLY, of San Francisco, State of California, have invented an Improved Window-Sash Holder and Operator, of which the following is a specification:

My invention relates to that class of window-fixtures used in connection with the sashes of swinging windows and ventilators to open and close them, and hold them in any position between these points.

It consists in the employment and arrangement of a sliding bar, provided with a rack on its lower end, and connected at the upper end to a rock-shaft, which is held in brackets upon the window-frame, the said rock-shaft being secured at the ends in a bracket secured to the window-sash, and the sliding bar being operated by a toothed disk or wheel, so that the movement of the sliding bar up or down will cause the rock-shaft to turn and move the window-sash upon its pivots.

The object of my invention is to produce a better means of opening and closing the sashes of swinging windows or ventilators, at whatever the distance from the floor they may be placed, without employing cords and pulleys, as will be fully described hereafter.

The accompanying drawing clearly shows the nature of my invention, and an application of it to a window having two swinging sashes.

Figure 1 is a front view of the window-frame and sashes, with both sashes partly open. Fig. 2 is a vertical section of the same. Fig. 3 is a vertical section through the mullion-stile.

A A represent the window-frame; B B, the two sashes, turning at one side on the pivots *b b* in the side brackets C C, and connected with the rock-shaft D by means of the brackets *a a*, that are secured to the sashes, and in which the ends of the rock-shaft are fixed.

E is a sliding bar, having a rack formed on its lower end, and moving in a groove in the mullion-stile *d*. Its rack is in line with the disk or segment-gear F, and the teeth of these two parts engage with each other, so that when the disk is turned the sliding bar will move up or down. The sliding bar E is connected, by a hinge-joint, *e*, at the upper end, to the head on the arm G of the rock-shaft, and any motion of the disk F causes a corresponding movement of the bar E, and the rock-shaft is turned in its bearings. This movement of the rock-shaft, consequently, moves the window-sashes B B upon their pivots, and opens or shuts the windows, or changes the size of the openings at the top and bottom, as shown in Figs. 1 and 2.

The length of the sliding bar E is governed by the height of the window or ventilator from the floor, or from the position where the disk or segment-wheel F can be operated, as the bar can be carried down any length from the window-sash to where the disk is placed.

This feature of my invention renders it of great utility and advantage in applying it to church-windows, ventilators, transoms, or the upper lights of large windows situated at a distance from the floor; and it is a great improvement over other means in use at the present time for the regulation of the openings required, as a positive connection is had with the sash, and it is readily and easily operated and held in any required position without the employment of cords and pulleys, springs, or other parts liable to derangement.

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

The combination of the sliding bar E, with a rack at its lower end, the toothed disk F, and the rock-shaft D, with its arm G, connected with the end of the bar E by the hinge-joint *e*, the whole arranged and connected with the sash, as described, and operating to form a sash holding and operating device for windows, ventilators, &c.

In witness whereof I have hereunto set my hand and seal this 6th day of July, A. D. 1875.

JAMES KELLY. [L. S.]

Witnesses:
C. W. M. SMITH,
SAM. S. MURFEY.