

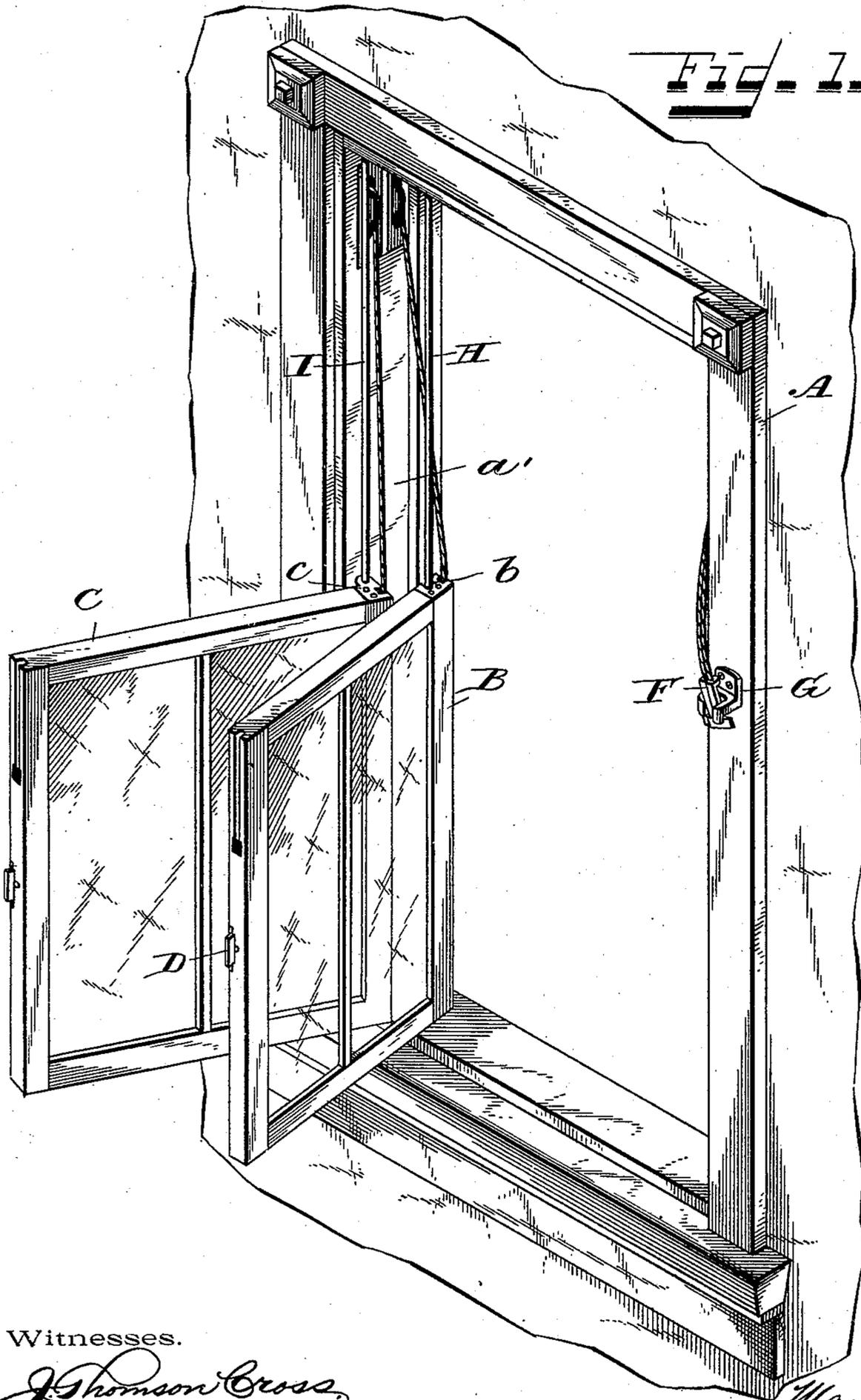
(No Model.)

3 Sheets—Sheet 1.

M. LESSER.  
WINDOW.

No. 572,551.

Patented Dec. 8, 1896.



Witnesses.

*Thomson Cross*  
*Henry Hottinger*

Inventor.

*Max Lesser*  
By *James H. Ramsey*  
Attorney.

(No Model.)

3 Sheets—Sheet 2.

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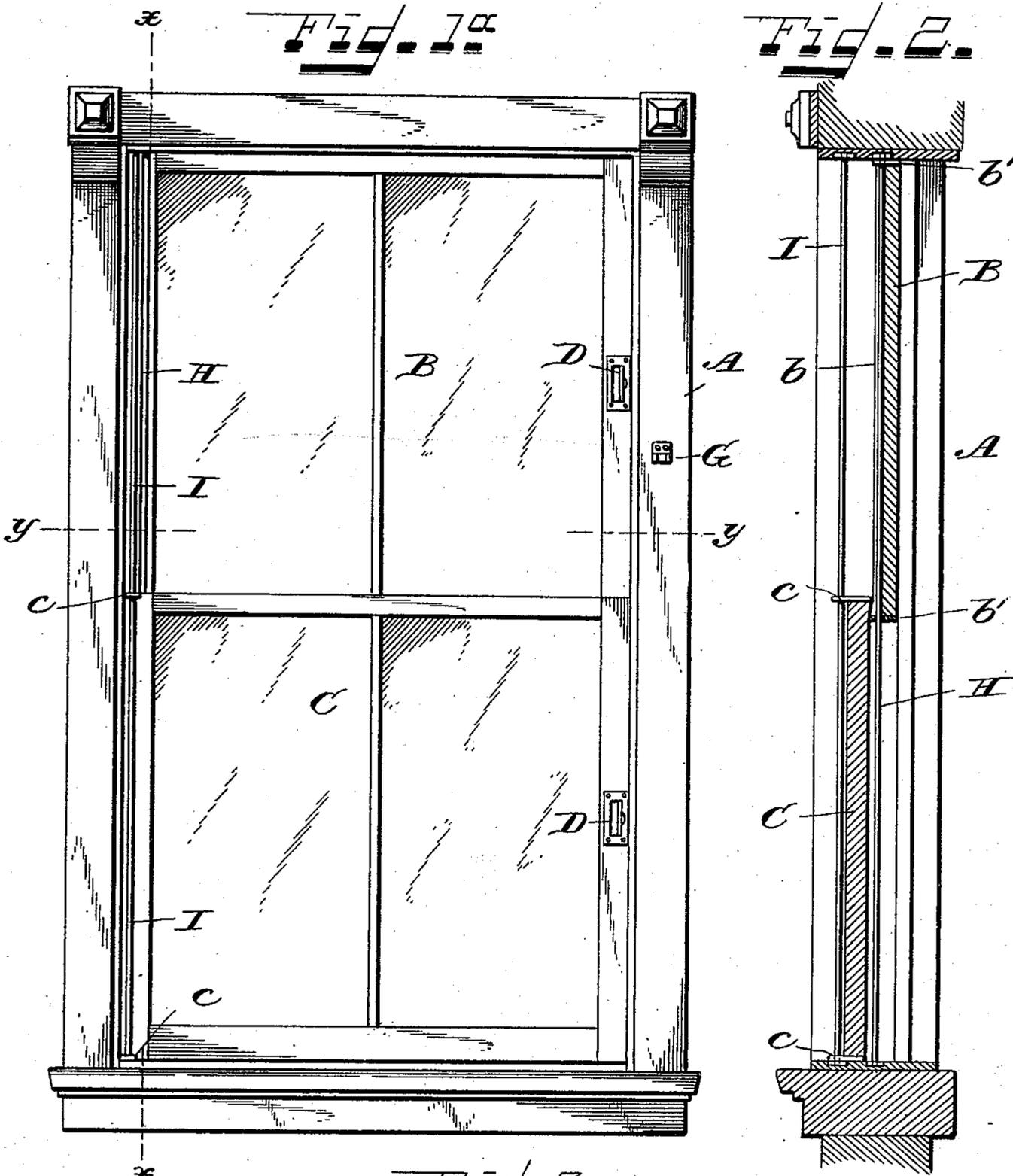
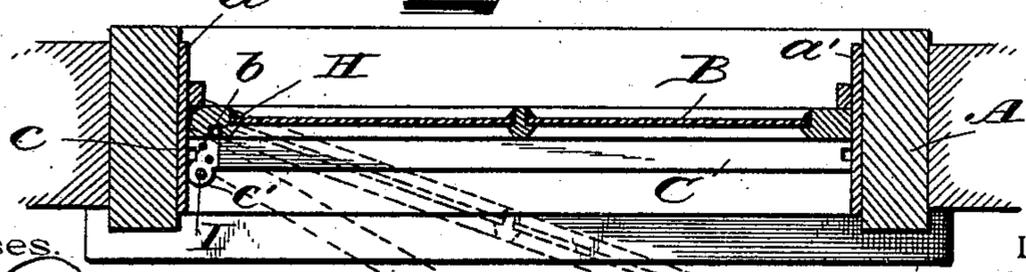


FIG. 3.



Witnesses.

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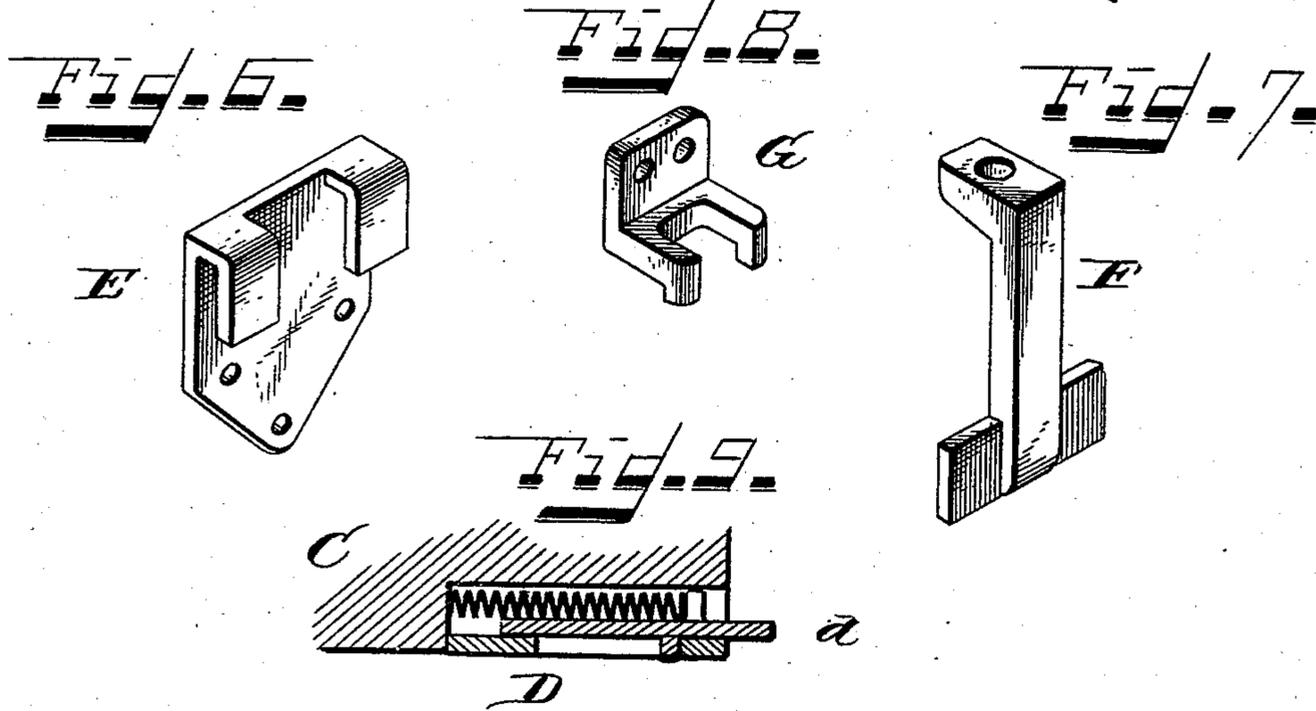
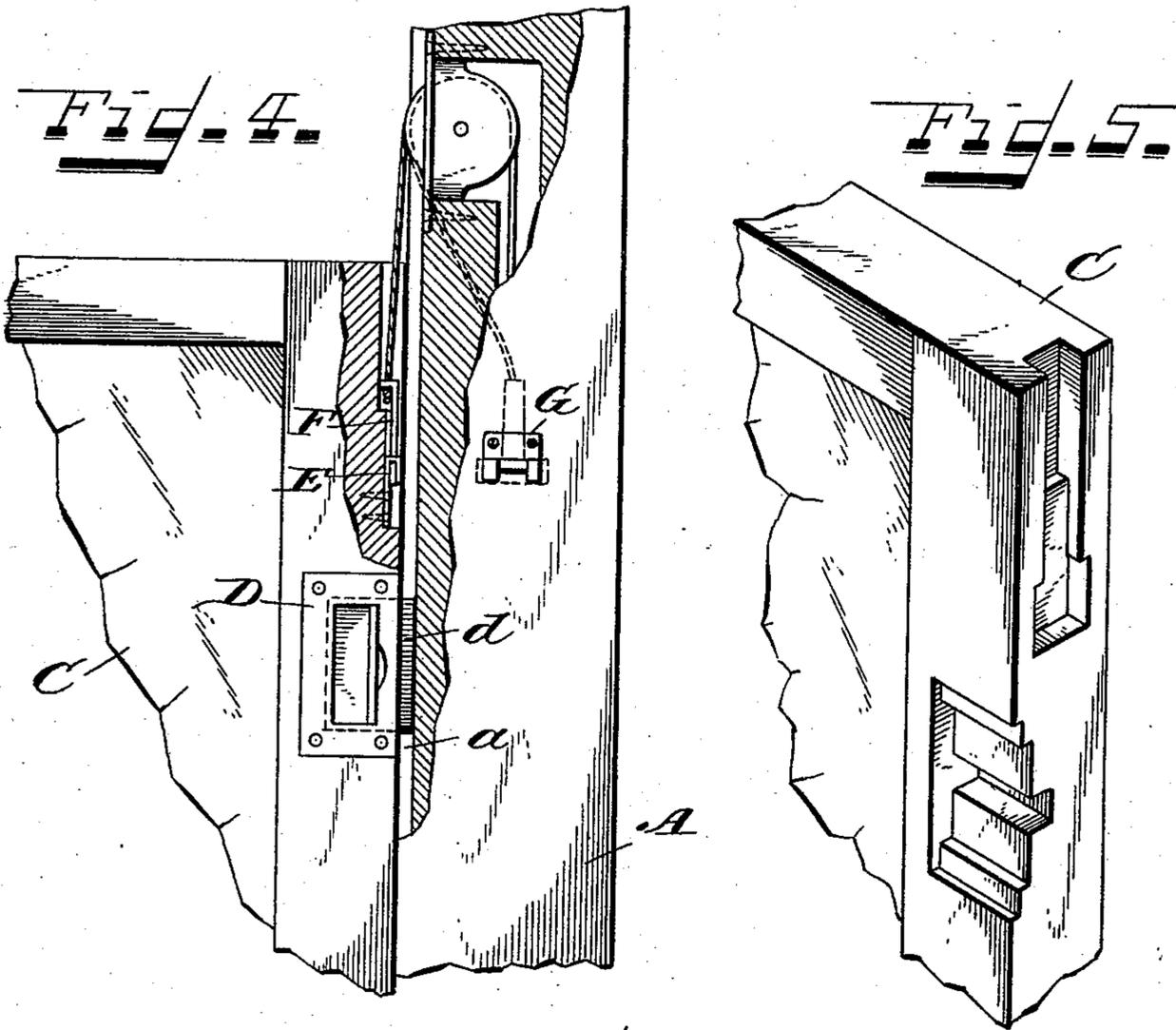
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*J. Thomson Cross*  
*Henry Hottinger*

Inventor.  
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# UNITED STATES PATENT OFFICE.

MAX LESSER, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO HENRY  
HOTTINGER, OF SAME PLACE.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 572,551, dated December 8, 1896.

Application filed April 20, 1896. Serial No. 588,273. (No model.)

*To all whom it may concern:*

Be it known that I, MAX LESSER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Windows, of which the following is a specification.

My invention relates to novel means for adjusting, opening, and closing windows.

10 The object of my invention is to so construct a window as to permit of quick and easy access to both sides of each sash from the floor of the room and without the danger of going upon the outside of a building by opening the sash inwardly and adjusting them vertically.

15 My invention consists in the novel means of mounting the window-sash upon vertical rods, whereby the sash are adapted to be adjusted vertically and swung inwardly for convenience and safety in cleaning, painting, repairing, &c., the outside of a window and in other features of novelty set forth.

25 In the drawings, Figure 1 is a perspective view of a window as seen from the interior of a room, showing each sash mounted upon a vertical rod, both sash swung inwardly, and the upper sash lowered for convenient access to both sides thereof. Fig. 1<sup>a</sup> is a side elevation of a window when closed, showing my improvements applied thereto as seen from 30 the interior of a room. Fig. 2 is a vertical section taken on the line *xx* of Fig. 1<sup>a</sup>. Fig. 3 is a transverse section taken on the line *yy* of Fig. 1<sup>a</sup>, the sash being shown in an open position by dotted lines. Fig. 4 is an enlarged detail view of a portion of a frame and sash partly in section, so as to show the sash-cord, pulley, and connections with the sash, also the spring-lock and groove into 40 which the bolt of the lock fits. Fig. 5 is an enlarged detail perspective of a portion of a sash, showing the mortises for the reception of the cord-fastening devices and the lock. Fig. 6 is a perspective view of the hook forming a part of the cord-fastener. Fig. 7 is a perspective view of the slide to which one end of the sash-cord is secured and which is adapted to engage and be held by the hook shown in Fig. 6. Fig. 8 is a perspective view of the bracket 50 to which the sash-cord slides are hooked when

the window-sash are opened. Fig. 9 is a detail in cross-section of the spring-lock.

My invention is adapted to be applied to windows now in common use with very slight modifications. I have illustrated them in connection with windows provided with counterpoise weights and cords secured thereto, said cords running over pulleys near the tops of the pulley-stiles and attached to the window-sash.

60 The vertical rods *H* and *I* are preferably secured firmly by suitable fastenings in the top and bottom of the window-frame near one side of the window.

Both the upper and lower sash are constructed like ordinary sash, except that on the inner side of one of the upright portions of each sash *B* and *C* a spring-lock *D* is secured, said lock having a bolt or tongue *d*, taking into a vertical groove *a* in the stile *A* of the window-frame.

75 The top portions of each sash above the lock are mortised to receive hook *E*. (Illustrated by Fig. 6.) This hook is preferably secured permanently in the edge of the sash, and when the window is closed the slide *F* (shown by Fig. 7) fits into and engages with this hook and connects the window-sash on one side to the cord, pulley, and weight, as clearly illustrated in Fig. 4. When the window is opened, the slide is released and attached to the bracket *G*, as shown by dotted lines in Fig. 4. The cords connecting the weights and sash on the side of the window adjacent to the vertical rods are attached in any desired way.

85 The upper sash *B* is preferably provided with a vertical groove *b*, upon the inner side of the upright portion of the sash next to the vertical rod *H*, large enough to permit said rod to take loosely into it. This groove is made in order to allow the upper and lower sash to fit closely together. Plates *b'* are preferably secured in the top and bottom portion of the sash flush therewith, said plates extending over the ends of the groove and having holes opposite the ends of said groove through which rod *B* passes, thus permitting the sash to move vertically and swing horizontally thereon in the arc of a circle.

The inner sash *C* is preferably provided at 100

the top and bottom with plates *c*, which are set flush with the sash, said plates having extensions *c'*, provided with holes through which the vertical rod I passes. These extensions  
 5 *c'* dispense with the necessity of cutting a groove in the lower sash and permit the sash to be swung farther into the room, which at the same time allows the outer sash also to be brought farther into the room.

10 It will be observed from the foregoing that the upper and lower sash B and C are hung upon the vertical rods H and I, respectively, on one side of the window and on the other each sash is held in place by a spring-lock  
 15 having a wide tongue, which takes into and is adapted to slide up and down a groove in the stile *a* and holds the sash in place while it is being raised and lowered, and holds the sash in place at all other times except when  
 20 the sash is opened and swung inwardly, as above described.

The operation of a window provided with my improvements is simple and easy, being substantially as follows: open the spring-lock  
 25 by pressing the shoulder of the bolt away from the window-frame and then pull the lower sash inwardly until it swings entirely open, as shown in Fig. 1. This permits of ready and convenient access to the exterior of the  
 30 window-sash. The upper sash is opened in the same way and drawn downwardly and in-

wardly to the position shown in Fig. 1, so that it can also be conveniently reached on both sides. As before explained, after the lock has been released from the frame and the  
 35 sash drawn slightly inwardly the slide F is released from engagement with hook E and attached to bracket G until it is desired to again close the window, when it is again engaged with hook E.  
 40

I claim—

1. In a window, the combination of the frame, vertical rods mounted therein, movable sash mounted thereon, the upper sash being grooved to allow the outer vertical rod  
 45 to take loosely into said groove to permit the upper and lower sash to fit snugly together and thereby dispense with the usual parting-strip, substantially as described.

2. The combination in a window, of the  
 50 frame, vertical rods, movable sash, each having a claw-hook secured thereto, a T-shaped slide attached to the cord connecting the counterpoise-weight thereto, said slide being adapted to engage with said claw-hook or be  
 55 released therefrom and attached to bracket, as desired, substantially as shown and described.

MAX LESSER.

Witnesses:

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 HENRY HOTTINGER.