No. 684,974. Patented Oct. 22, 1901.

B. BENGTSSON.

WINDOW.

(Application filed Apr. 19, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

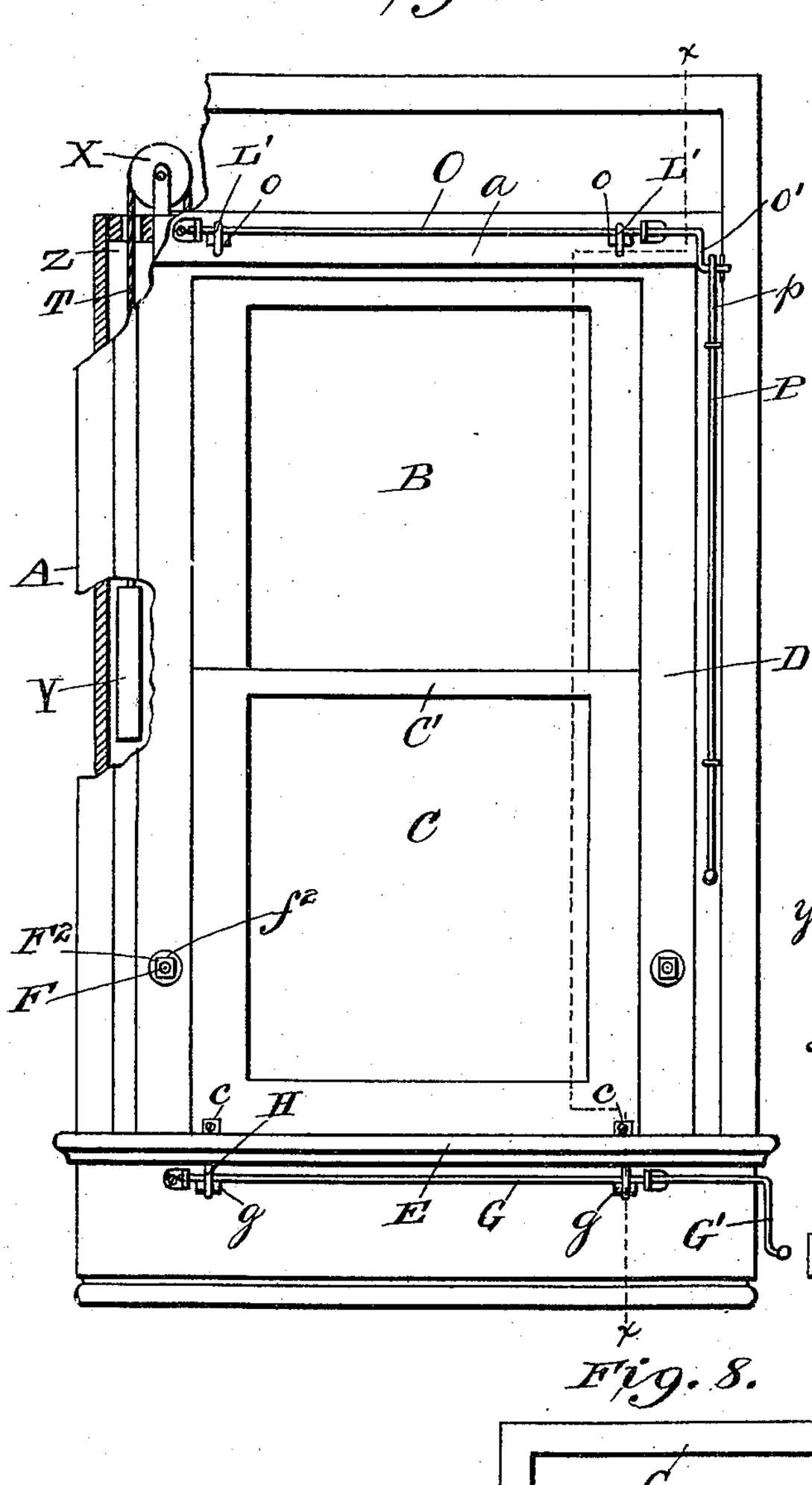


Fig. 6.

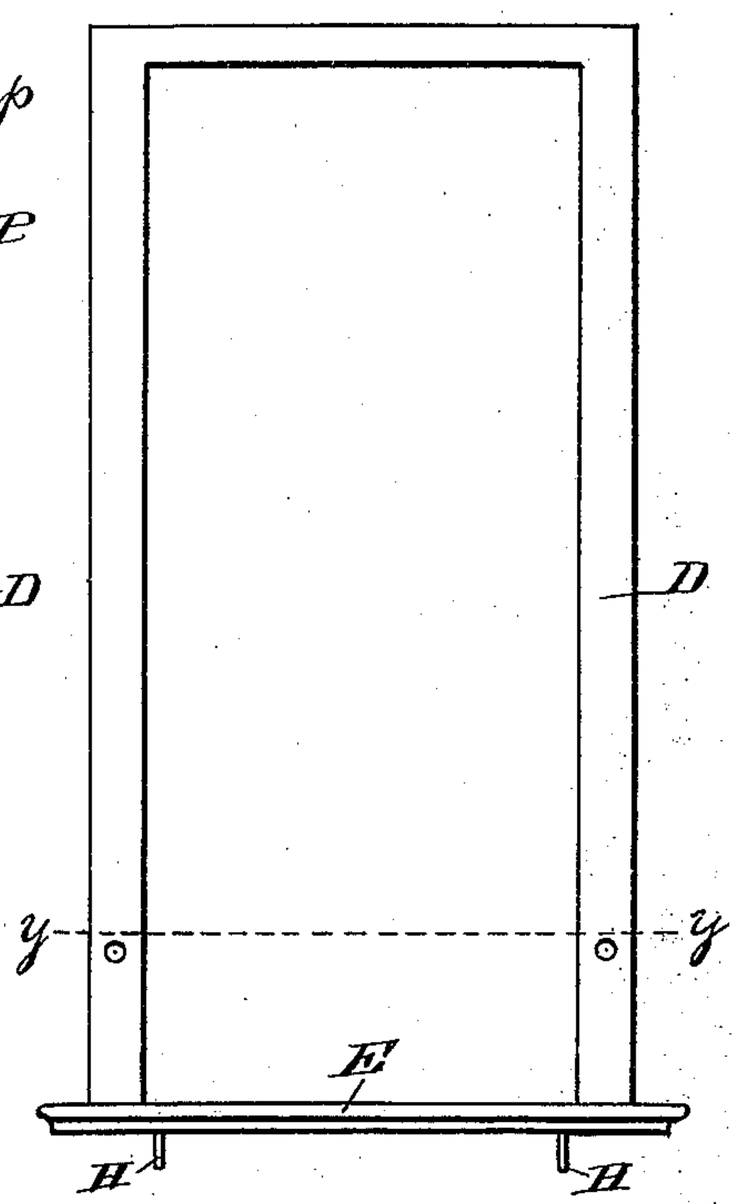


Fig. 7.

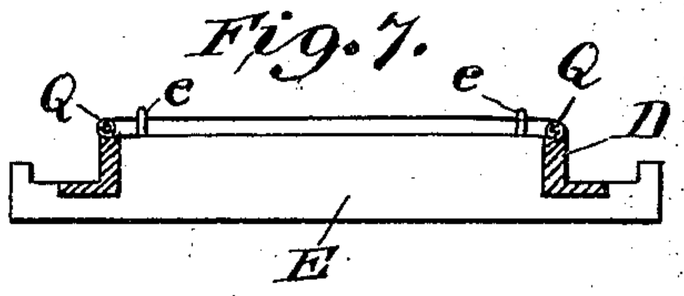
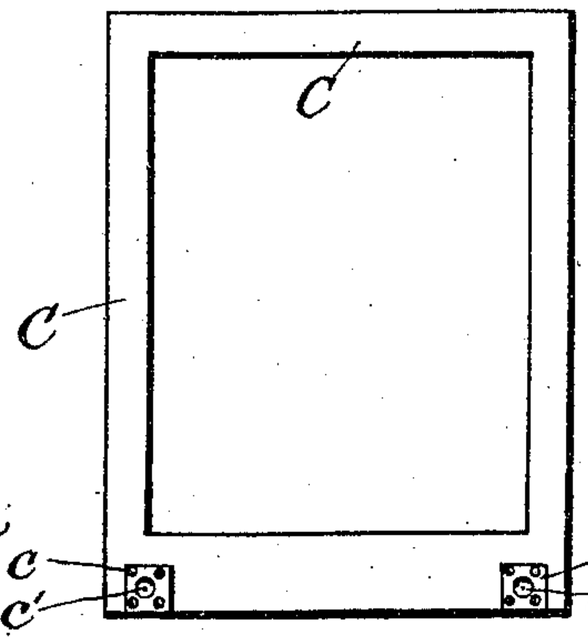


Fig. 8.



Witnesses
Jos. A. Blackwood
A. Ludwepl Jr.

Inventor
Bengt Bengtsson
by D. A. Gourick
Attorney

No. 684,974. Patented Oct. 22, 1901.

B. BENGTSSON.

WINDOW.

(Application filed Apr. 19, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

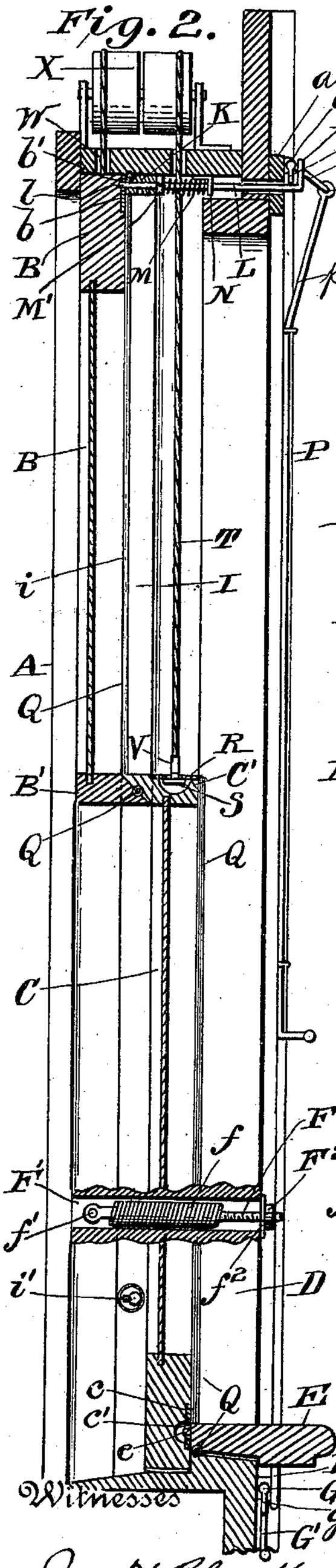


Fig. 3.

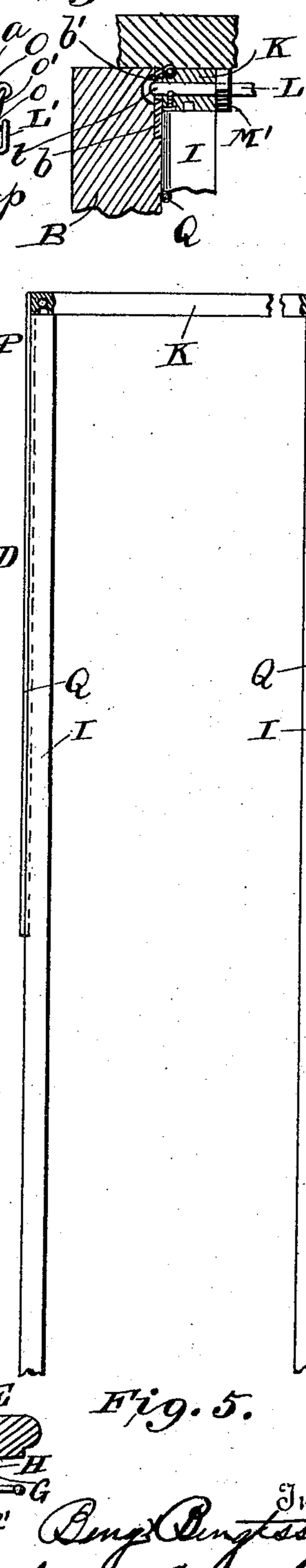


Fig. 4.

Fig. 9.

Fig. 10.

Fig. 5.

Witnesses

Jos. H. Blackwood

C. H. Randolph Jr.

Inventor

Bengt Bengtsson

by D. A. Gormick

Attorney

UNITED STATES PATENT OFFICE.

BENGT BENGTSSON, OF ST. JAMES, MINNESOTA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 684,974, dated October 22, 1901.

Application filed April 19, 1901. Serial No. 56,618. (No model.)

To all whom it may concern:

Be it known that I, BENGT BENGTSSON, a subject of the King of Sweden and Norway, residing at St. James, in the county of Watonwan and State of Minnesota, have invented certain new and useful Improvements in Windows, of which the following is a specification.

My invention relates to windows, and has for its object to provide a window that when the upper and lower sashes are closed they are held in a closed position at their tops and bottoms, respectively, and are made dust and weather proof by means of weather-stripping bearing directly against the sash and held in position by spring-pressure; that has means for releasing the fastenings at the top and bottom of the respective sashes and the weather-strips from engagement with the sashes, so they can be moved freely; means for returning the weather-strip to engagement with the sash, and thus hold the sash in any position when open, and means for fastening the sash when closed.

A further object of my invention is to provide means whereby any unskilled person may readily remove the window-sash for cleaning or painting or to provide a larger space for the passage of air during the summer months.

In the drawings, Figure 1 is a front view in elevation of my invention, partly broken away, the sash being closed. Fig. 2 is a cross-section on the line $x\,x$ of Fig. 1, partly broken away. Fig. 3 is a cross-section in elevation, showing the window partly open with the sash movably adjusted. Figs. 4 and 5 are detail views; Fig. 6, a front elevation of the movable front of the frame; Fig. 7, a cross-section of Fig. 6 on line $y\,y$; Fig. 8, a front view of the lower sash; Figs. 9 and 10, details of the means of fastening the sash-cords to the sash.

In the drawings, in which like letters of reference denote like parts throughout the several views, A represents the frame of a window, having the upper and lower sashes B and C. A portion of the front D of the frame, including the sill E, is loose from the frame A and is held in place by the bolts F and the cross-piece a on the frame A. The bolts F have springs f fastened to their ends, which are held in the sockets F′ in the frame A by the screws f'.

F^2 represents nuts screwed on the bolt F, and f^2 represents metal washers.

G is a bar mounted on the lower part of the frame A under the sill E, having a handle G′ and lugs g, which are adapted to bear against the studs H on the bottom of the sill E. On the side of the sill E toward the sash C are pins e. On the lower part of the sash C are fixed metal plates c, having holes c' over sockets in said sash, adapted to receive the pins e.

The middle beads I are mounted loosely in grooves i in the frame A by means of the screws i' and may be moved laterally.

K is the upper cross-bead, which is fastened to the beads I in any suitable manner, the means shown being a stud on the end of the bead I, fitting in a socket in the bead K.

L represents bolts fixed to the cross-bead K, having pins l toward the sash B. The bolts L extend outwardly through the cross-piece a and have their ends turned up, forming an angular head L′. M represents springs on said bolts L, bearing against a nut M′ and an angle-iron N on the frame A.

O represents a rod mounted on the cross-piece a, formed with lugs o, adapted to bear against the ends L′ of the bolts L and a crank o' at one end.

P is a rod mounted on the stationary front of the frame A in any suitable manner, its upper end p being bent slightly and having a hole p' in its end to receive the end of the crank o' on the rod O.

On the upper part of the sash B are fixed metal plates b, having holes b' over sockets in said sash which are adapted to receive the projections l on the bolts L.

On the inside of the lower part of the front D and the sill E toward the sash C, on the side of the beads I and K toward the sash B, and on the edge of the upper cross-piece C′ of the sash C, bearing against the lower cross-piece B′ of the sash B, is fitted rubber tubing Q, which acts as a weather-strip when the window is closed and operates to hold the sash in any position it may be placed, as hereinafter described.

On the top of each sash, near the sides, are

fixed metal plates R, which cover sockets S in the sash. The plates R are formed with a round hole *r* and a slot *r'*. Each rope T has fastened at its end a metal button U, having a shank *u*, by means of the sleeve V. To fasten the rope to the sash, the button U is inserted in the socket S through the hole *r* and the shank *u* pushed into the slot *r'*. The rope T passes from the sash upward through holes W over a pulley X to a weight Y, which is contained in a box Z on the side of the frame A.

It will be readily seen that the tension of the springs *f* and M may be regulated by the nuts F^2 and M', respectively.

The operation is as follows: The window being in the position shown in Fig. 1, to raise the lower sash turn the handle G' upward, thus causing the lugs *g* on the rod G to bear against the studs H and push the front D and sill E away from the sash C, causing the pins *e* to leave the holes *c'* in the plates *c*. When the sash is at the height desired, release the handle G' and the springs *f* will then cause the front D to return to its normal position by pulling on the bolts F, and the weather-strips Q on the sides of part D will hold the sash in any raised position. Whenever it is desired to raise or lower the lower sash, the same operation is repeated. When it is desired to lock the sash, the studs *e* enter the sockets *c'*, and thus hold the sash securely and prevent it being raised. To operate the upper sash, push up on the rod P. This will cause the crank *o'* to turn upward and the lugs *o* to bear against the angular heads L' of the bolts L and draw the weather-strips on the beads I and K away from the sash B and the pins *l* out of engagement with the holes *b'* in the metal plates *b*. The upper sash can then be moved at will and held in any desired position by releasing the rod P, when the springs M will cause the beads I and K to resume their normal position and lock the sash by causing the weather-strips to bear against the sash B. The same operation is repeated whenever it is desired to move the sash.

To remove the sash from the frame, remove the nuts F^2 from the bolts F. The part D can then be removed. Unfasten the sash-cords from the lower sash C and take out the sash. Remove the beads I by unscrewing the screws *i'*, lower the upper sash B, unfasten the sash-cords, and the sash can be removed. The buttons U prevent the end of the sash-cords going any farther than the holes W.

Having thus described my invention, what I claim is—

1. In a window, the front of the frame movably secured, studs on the sill attached to said movable front, and means, bearing against said studs, for operating said front, substantially as shown and described.

2. In a window, the front of the frame movably secured, a rod journaled on the casing under said movable front, lugs on said rod, and the lower part of said movable front so constructed as to be operated by said lugs, substantially as shown and described.

3. In a window, the front of the frame movably secured, studs on the sill attached to said movable front, means for opening said movable front, and a spring-actuated bolt for returning the front to its closed position, substantially as shown and described.

4. In a window, the front of the frame movably secured, studs on the sill attached to said movable front, and a spring mounted in each side of the casing of the window and attached to said movable front for closing it, substantially as shown and described.

5. In a window, the front of the frame movably secured, studs on the sill attached to said movable front, means for opening said movable front adapted to bear against said studs, and a spring mounted in the casing at each side of said movable front having a screw-threaded bolt at its end to receive a nut to fasten the spring to the frame, substantially as shown and described.

6. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, and means for operating said bolts, as and for the purpose described.

7. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, a spring on each bolt bearing against an angle-iron secured to the frame, a nut on the bolt bearing against said spring, and means for operating said bolts, substantially as shown and described.

8. In a window, the front of the frame movably secured, studs on the bottom of the sill, a rod on the lower part of the frame, lugs on said rod to engage said studs, pins on the side of the sill toward the sash and sockets in the lower sash to receive said pins, substantially as shown and described.

9. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, an angular head on said bolts, a rod on the frame of the window, lugs on said rod, means for operating said rod, pins on the cross-bead toward the upper sash and sockets in said sash to receive said pins, substantially as shown and described.

10. In a window the front of the frame movably secured, pins on the inner edge of the sill, sockets in the lower part of the lower sash to receive said pins, and means attached to the bottom of the sill and journaled to the frame for operating said movable front, substantially as shown and described.

11. In a window, the middle beads movably secured, bolts fastened to the cross-bead and projecting through the front of the frame, said bolts penetrating said cross-bead forming pins on the edge toward the upper sash, sockets in the upper sash to receive the ends of the bolts, and means attached to said frame

for swinging said pins away from engagement with said sockets, substantially as shown and described.

12. In a window, the front of the frame movably secured, studs on the bottom of the sill, a rod journaled on the lower part of the frame, lugs on said rod to engage said studs and a spring mounted in the casing at each side of said movable front having a screw-threaded bolt at its end to receive a nut to fasten the spring to said movable front, substantially as shown and described.

13. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, a spring on each bolt bearing against an angle-iron on the frame, a rod journaled on the frame, lugs on said rod, and means for operating said rod, substantially as shown and described.

14. In a window, the front of the frame movably secured, studs on the bottom of the sill, a rod journaled on the lower part of the frame, lugs on said rod to engage said studs, pins on the inner edge of said sill, sockets in the lower sash to receive said pins, and a spring mounted in the casing at each side of said movable front having a screw-threaded bolt at its end to receive a nut to fasten the spring to said movable front, substantially as shown and described.

15. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, said bolts penetrating said cross-beads, sockets in the upper sash to receive the ends of said bolts, an angular head on said bolts, a spring on each bolt bearing against an angle-iron on the frame, a rod journaled on the frame, lugs on said rod, and means for operating said rod, substantially as shown and described.

16. In a window, the middle beads movably secured, bolts fastened to the cross-bead projecting through the front of the frame, an angular head on each bolt, a rod journaled to the frame, lugs on said rod, a crank on the end of the rod, and a rod on the side of the casing, mounted to slide vertically, fastened to said crank substantially as shown and described.

17. In a window, the front of the frame movably secured, studs on the bottom of said front, a rod journaled on the lower part of the casing, lugs on said rod, and a crank on the end of the rod, substantially as shown and described.

18. In a window, the combination of the front of the frame movably secured, studs on the sill attached to said movable front, means bearing against said studs for operating said front, the middle beads movably secured, bolts fastened to the cross-bead of the frame, means for operating said bolts, and weather-strips on the beads and sill adapted to bear against the window-sash, substantially as shown and described.

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

BENGT BENGTSSON.

Witnesses:

W. S. HAMMOND,

CARL J. SWENDSEN.