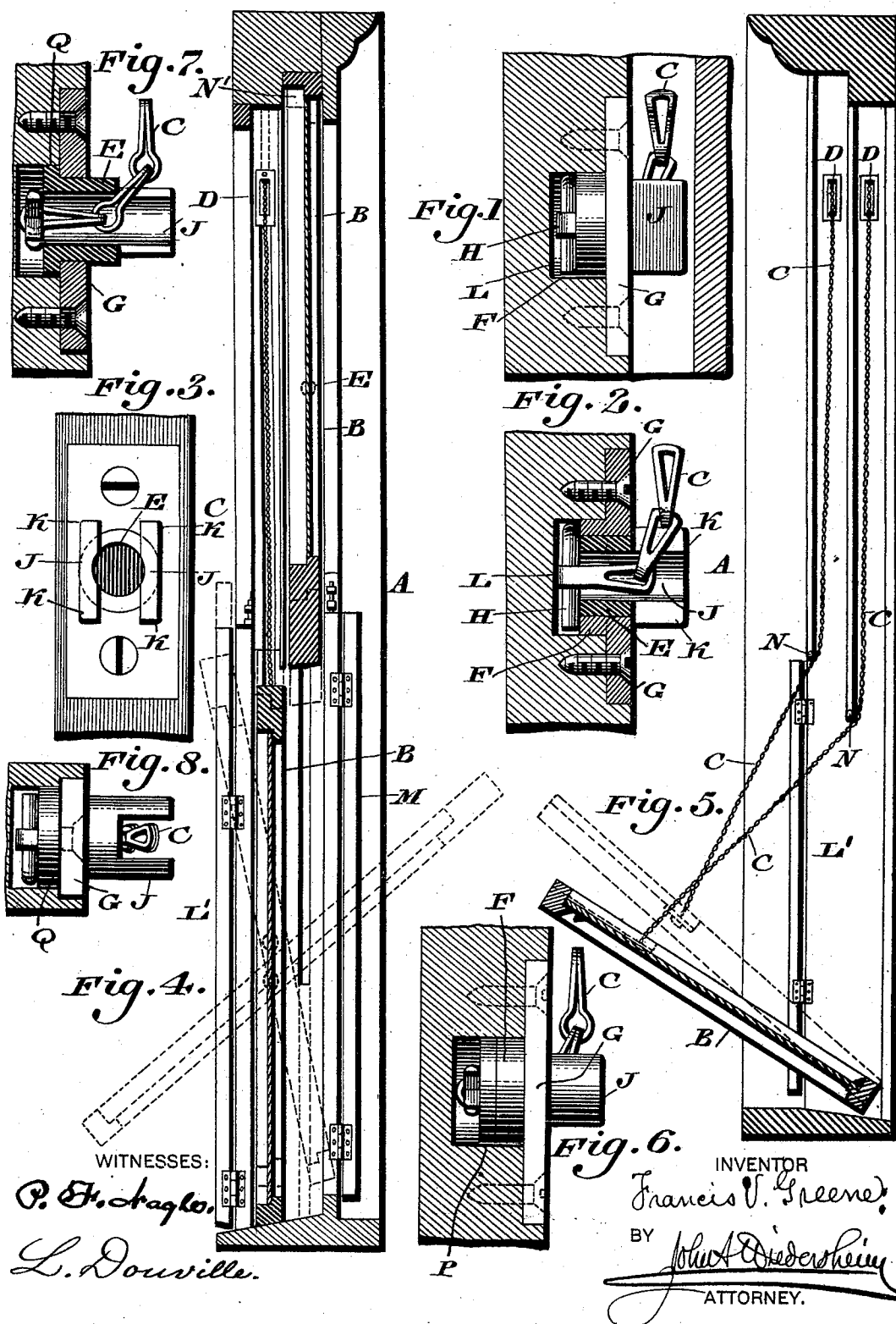


(No Model.)

F. V. GREENE.  
WINDOW.

No. 581,280.

Patented Apr. 27, 1897.



# UNITED STATES PATENT OFFICE.

FRANCIS V. GREENE, OF PHILADELPHIA, PENNSYLVANIA.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 581,280, dated April 27, 1897.

Application filed February 11, 1896. Serial No. 578,847. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS V. GREENE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Windows, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an improvement in windows whose sashes are adapted to be rotated for purposes of cleansing, glazing, repairs, &c.

The invention consists of novel means whereby the journals or gudgeons of the sashes may be readily fitted or removed from the window-frame.

Figure 1 represents a side elevation of the portion of a window embodying my invention. Fig. 2 represents a vertical section thereof. Fig. 3 represents a front view thereof. Figs. 4 and 5 represent vertical sections of window frames and sashes embodying my invention. Figs. 6 and 8 represent side elevations of the modification. Fig. 7 represents a section of the construction as shown in Fig. 8.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a window-frame, and B designates the sashes thereof.

C designates sash cords or chains which pass over the pulleys D in the usual manner and are connected with the sashes by means of the thimbles E, forming journals which pass through the bosses F, projecting from the face-plates G, it being noticed that the end portions of the cords or chains pass through the hollow of the thimbles E and are retained in position by the keys or split pins H, which are passed through loops formed on the cords or through the outer links of the chains, said keys or pins being of such length that they abut against the bosses F, as more particularly seen in Figs. 1 and 2, it being also noticed that the inner ends of the thimbles are extended inwardly, forming bifurcations J, between which the adjacent portions of the cords or chains are received, so as to permit the proper bend of the cords or chains and adapt them to move straight and perpendicular to and from the pulleys.

The bifurcations are lengthened in a verti-

cal direction, so as to extend beyond the opening in the face-plates and form flanges K, which contact with said face-plates, and thus prevent outward motion or displacement of the thimbles through the bosses F.

It will also be seen that the side stiles of the sashes are recessed, as at L, to receive the keys or pins and connecting devices thereof and permit said keys or pins to rotate freely therein when the sash-frames are rotated in order to swing the latter into or out of the window-frame.

The lower portions of the inside and outside beads are separated from the upper portions thereof, forming sections L' and M, which are hinged to the adjacent portions of the frame and may be swung, respectively, inwardly and outwardly or opened when it is desired to impart rotary motions to the sashes.

It will be noticed that during the rotation of the sashes they remain hung or suspended by the cords or chains C, and the bosses F rotate on the thimbles without twisting or affecting said cords or chains.

In Figs. 4 and 5 I illustrate the motions of the sashes, while in Fig. 4 I have also adapted the lower sash to be raised above the meeting-rail of the lower sash, owing to the upwardly-extending chamber N' in the window-frame, thus leaving the upper sash when lowered with sufficient space to place the hand on the top rail thereof, as shown in said figure, or to raise said upper sash above the sill thereof, so as to permit the hand to be placed under the bottom rail of said sash, as also illustrated in said figure.

In Fig. 5, N designates rollers or bearings which are located at the lower ends of the parting-strips, and on which the cords or chains C ride when the sashes are moved out from their vertical positions.

In Fig. 6 the thimble has at its outer end the flange P, which bears against the boss F, and against which the key or pin N rests.

In Figs. 7 and 8 the thimble has at its outer end the flange Q, which bears directly against the back of the face or attaching plate G.

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

1. The boss F, the thimble E journaled in said boss and having the projecting bifur-

cated portion J, a cord or chain passing between said portion J and through said thimble, and a pin connected with the end of said cord or chain and crossing the end of said  
5 thimble and bearing thereagainst, said parts being combined substantially as described.

2. A sash having a recess in its side stile, a face-plate secured to said stile, a thimble journaled in said plate and provided with a  
10 projecting bifurcated portion extending be-

yond the opening in the face-plate, a chain within said portion and said thimble, and a pin secured to the end of said chain, and crossing the end of said thimble, and bearing there-  
against, said parts being combined substan- 15  
tially as described.

FRANCIS V. GREENE.

Witnesses:

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