(No Model.) 2 Sheets—Sheet 1.

F. V. & M. A. GREENE.

WINDOW.

No. 458,392. Patented Aug. 25, 1891.

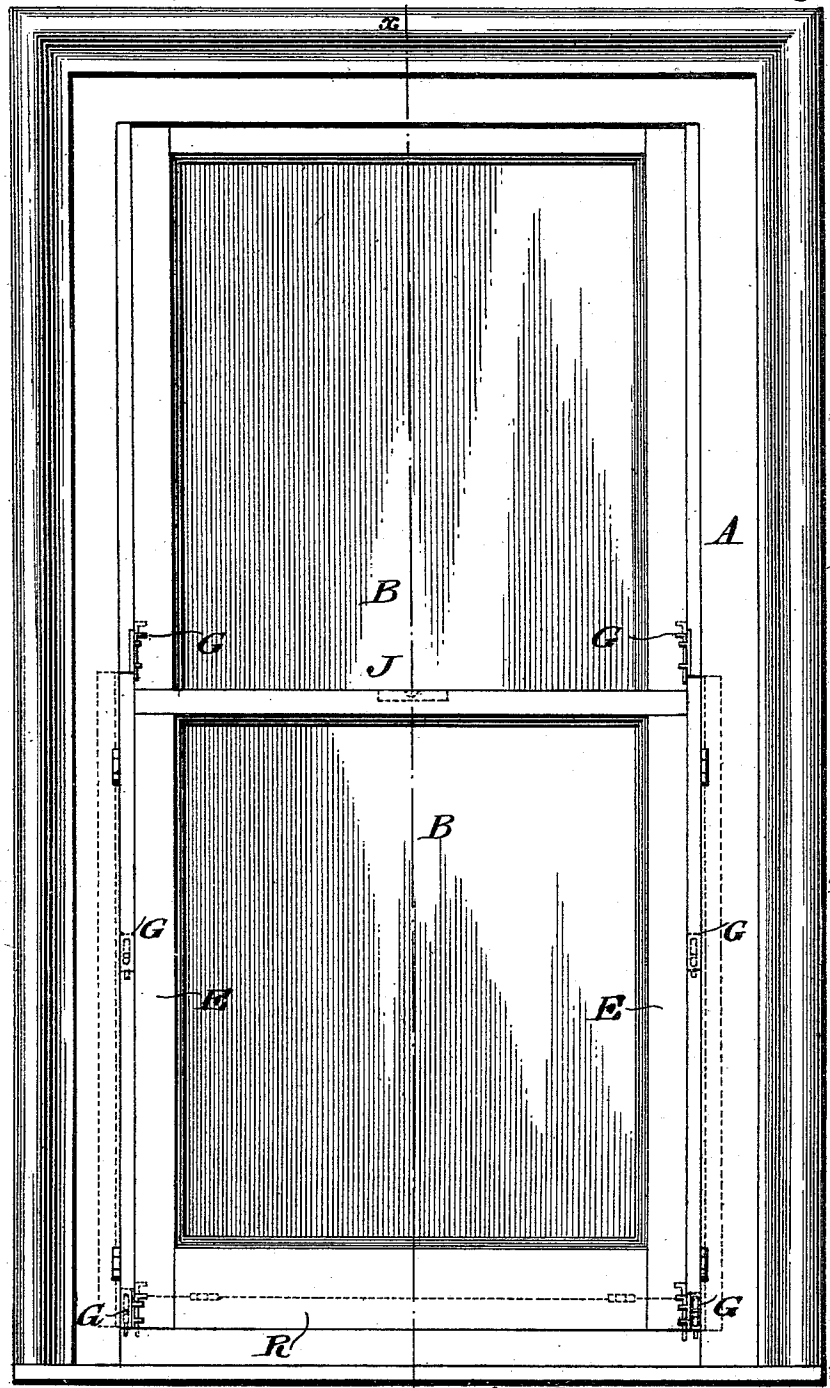


Fig. 1.

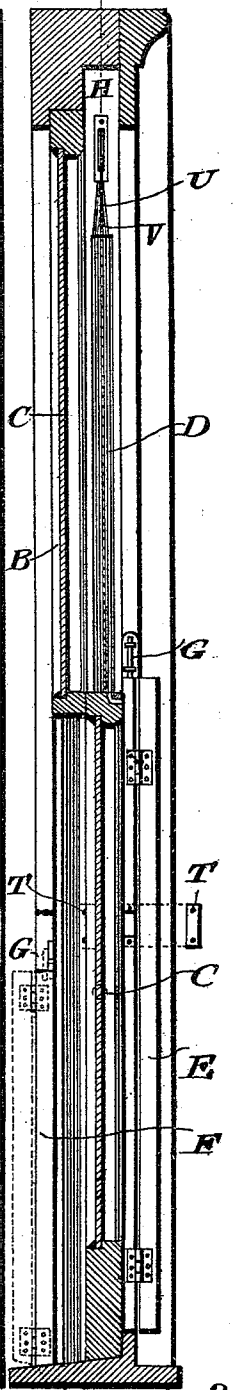


Fig. 2.

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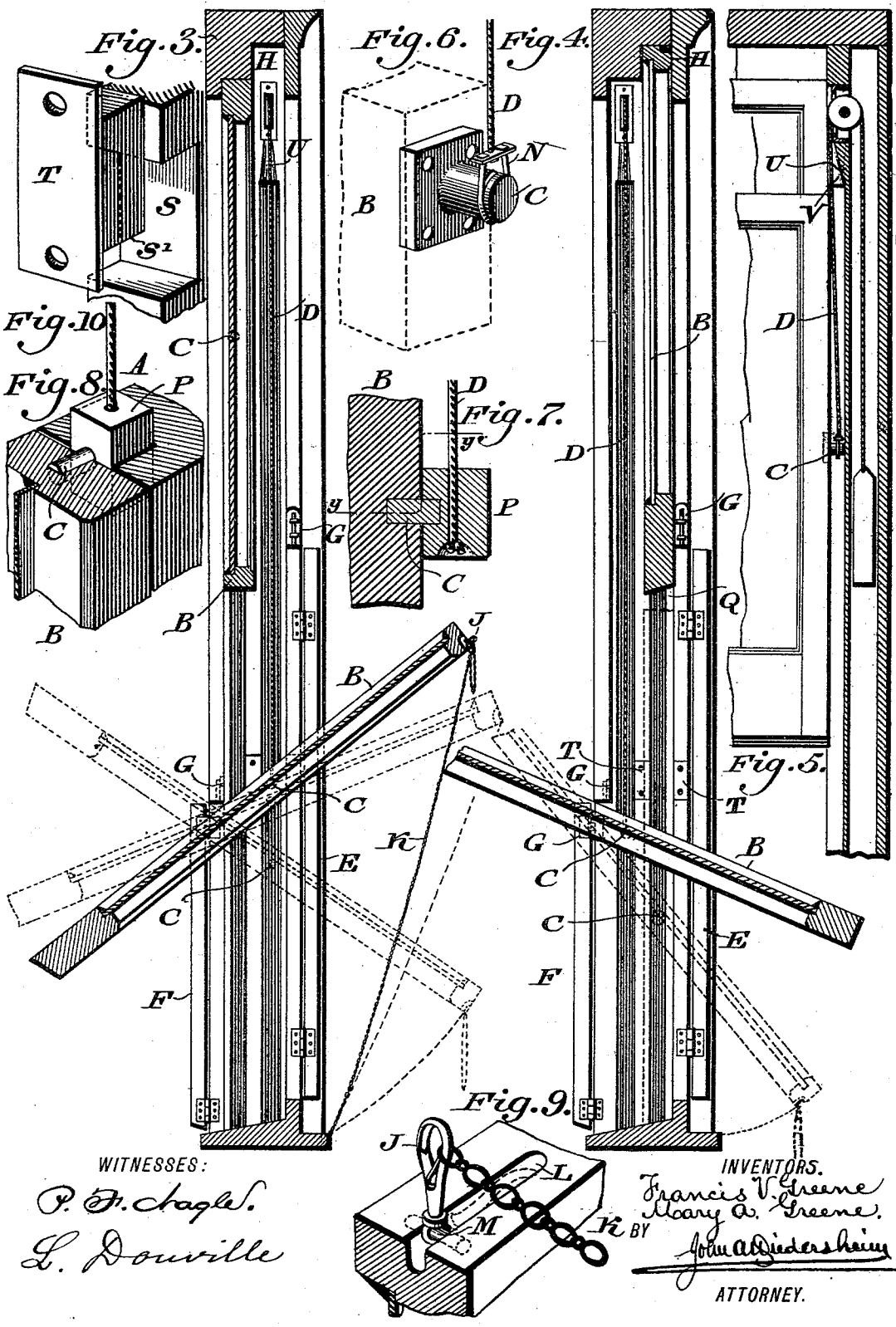
THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

FRANCIS V. GREENE AND MARY A. GREENE, OF PHILADELPHIA, PENNSYLVANIA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 458,392, dated August 25, 1891.

Application filed January 24, 1891. Serial No. 378,942. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS V. GREENE and MARY A. GREENE, citizens 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.

Our invention consists of a window having its sash or sashes adapted to be rotated so that the outside of the same may be convenient of reach for purposes of cleansing, glazing, repairs, &c., the window-frame, which is made without parting beads, being provided with sectional beads, which may be opened or closed, and with means whereby the journals or gudgeons of the sashes may be readily fitted to or removed from said frame. Provision is also made to secure a temporary horizontal open space between the sashes at the meeting-rails, so that when the lower sash is raised to the head of the frame and the upper sash lowered to the sill the top of the latter can be easily grasped by the hand through the above-mentioned open space and rotated inwardly, and other novel features are presented, as will be hereinafter set forth, it being noticed that the working on the outside of a sash or sashes is obviated, and that both sashes are to be separately rotated inwardly, while their lower rails are in contact with or near the sill-piece of the frame.

Figure 1 represents a view of the inner face of a window embodying our invention. Figs. 2, 3, and 4 represent vertical sections on line *x x*, Fig. 1, certain parts being in different positions. Fig. 5 represents a vertical section of a portion at a right angle to Fig. 4. Fig. 6 represents a perspective view of one of the journals and the connected sash-cord. Fig. 7 represents a vertical section of a modification of said journal. Fig. 8 represents a perspective view thereof in section on line *y y*, Fig. 7. Fig. 9 represents a perspective view of a portion of the top of the meeting-rail of the lower sash. Fig. 10 represents a perspective view of a portion of the window-frame, showing a throat or recess for the entrance of the journal of a sash and also a covering therefor.

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

Referring to the drawings, A designates a sash-frame, and B B designate window-sashes therein, said sashes having journals C projecting from the sides thereof, the same entering the grooves in the frame A and having connected with them the sash-cords D, whereby the sashes may be raised and lowered, as usual, the journals C, however, permitting the sashes to be swung or rotated into various positions, forms of which are shown in the full and dotted lines, Figs. 3 and 4. The lower portions of the inside and outside beads are separated from the upper portions thereof, forming sections E F, which are hinged to the adjacent portions of the frame, whereby the inner sections E may swing inwardly and the outer sections F may swing outwardly, so that both sections may be removed from the sashes when swinging or rotary motions are to be imparted thereto. When the sections are restored to their normal positions, they close against the sashes and form continuities of the upper fixed sections of the side beads and are locked or secured by bolts G or other fastenings suitably applied.

In the head of the window-frame is a chamber H, which is above the sash-cord pulleys and adapted to receive the upper part of the lower sash when raised for purposes to be hereinafter explained.

To the meeting-rail of the lower sash is secured a snap-hook J, whereby the links of a chain K may be engaged therewith for holding said sash at different angles, as more particularly shown in Fig. 3, the lower end of said chain being secured to the sill-piece of the sash-frame. In the meeting-rail is a recess L, which is adapted to receive the snap-hook when the latter is not required for use, said hook readily turning on the rod M, which connects it with the meeting-rail. (See Fig. 9.)

In Fig. 6 the sash-cord is connected with a yoke N, the latter freely encircling the journal C, so that the sash may turn on said shackle.

In Figs. 7 and 8 the sash-cord is connected with a block P, which plays in the groove of the sash-frame and carries the journal C, which, as is evident, enters the side of the sash and permits the sash to rotate as in Fig. 6.

The operation is as follows: When it is desired to turn the lower sash, it is raised so that the section F of the outer bead may be reached and swung out. The section E of the inner side is swung inwardly, and thus both sections are clear of the sash, it being noticed that the fastening of the section F is convenient of access. The sash may now be rotated, so as to be placed at a desired angle for purpose of ventilation, or overturned sufficiently to bring the outer face within the apartment for purposes of washing, glazing, &c., all as will be seen in Fig. 3. In order to turn the upper sash, the same is lowered and the lower sash raised to full extent, its top part entering the chamber H, as has been stated. This leaves, as shown in dotted lines in Fig. 4, a space Q between the meeting-rails of the two sashes, through which the hand may be introduced in order to grasp the top rail of the lowered sash, and thus turn said sash, so that it partly enters the apartment, it being also adapted to be overturned and placed at various angles, the same as the upper sash. The sashes may be restored to their normal positions and the sections E F closed and secured, and thus the sashes, when so required, may be raised and lowered as usual.

In Fig. 1 we show the bottom part R of the lower sash divided horizontally, the parts being hinged together, so that the part R may be raised and thus form the space Q, when the sashes are respectively raised and lowered, the same as that formed by the chamber H. This method of securing the open space Q, required for rotating the lowered upper sash inwardly, is to be used as a substitute when the chamber H cannot be formed in the head of the frame.

In the inner casings are horizontal recesses S, which are adapted to receive the journals C, so as to permit the same to reach the vertical grooves of the window-frame and to be removed therefrom. In attaching the sash-cords to the journals the ends of the former are brought down through the grooves out of the recesses and secured to the journals by holding the sashes so that the journals are near and opposite the recesses. When the sash-cords are secured, the journals are passed through the recesses S into the grooves and the said recesses then filled by removable blocks S′, which are held in place by removable plates T, properly secured to the inner casings and pulley-stiles.

In order to form a solid bearing or seat for the pulley-casings, which are countersunk, the pulley-stiles are left intact for some distance below the head of the frame, the grooves for the journals C terminating upwardly within a few inches of the lower edges of the pulley-casings. U designates the guides for the sash-cords thus formed, and V small grooves which communicate with the grooves in which the journals move, said small grooves V deepening and widening from top to bottom, by which provision as the sash-cords extend in somewhat oblique direction from the pulleys to the journals C said cords when running are prevented from coming in contact with any angles or corners of the frame just below the pulley-casings. (See more particularly in Fig. 5.)

A chain may be connected with a snap-hook on the top rail of the upper sash, so as to control the same, similar to that of the lower sash.

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

1. A window-frame having hinged inside and outside beads and sashes with journals which enter the grooves of the frame and are connected with the sash-cords, the sashes being adapted to have a temporary horizontal open space between the lower rail of the lower sash when raised to the head of the frame and the top rail of the upper sash when lowered to the sill, each sash being rotatable independently of the other, substantially as described.

2. A window-frame having sashes rotatably mounted on journals sliding in grooves therein and hinged inside and outside beads, said frame having a chamber cut in the head thereof into which the top of the lower sash can be raised, so as to leave a temporary horizontal open space between its lower rail and the top rail of the upper sash when lowered to the sill, substantially as described.

3. A window-frame having sashes rotatably mounted on journals sliding in grooves therein and movable beads with the lower rail of the lower sash divided horizontally, the two parts being hinged, so that when this sash is raised to the head of the frame and the upper sash is lowered to the sill by raising the lower hinged section there will be a temporary horizontal open space between the sashes, substantially as described.

4. A window-frame having movable beads and provided with recesses S in the inner casings, sashes with sash-cords attached to journals which enter grooves in the frame, said recesses S being for the introduction and removal of the journals, blocks S′, fitted in the grooves, and the plates T for holding the said blocks in place, substantially as described.

5. A window-frame having a sash provided with a journal whereby the sash may be ro-

tated and a cord connected with said journal running in a groove, whereby the sash may be raised or lowered, which groove terminates some inches below the pulley-casing, thus forming a solid seat or bearing for the pulley-casing and at the same time affording material for a small groove deepening and widening vertically downward for the reception and protection of the cord, substantially as described.

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