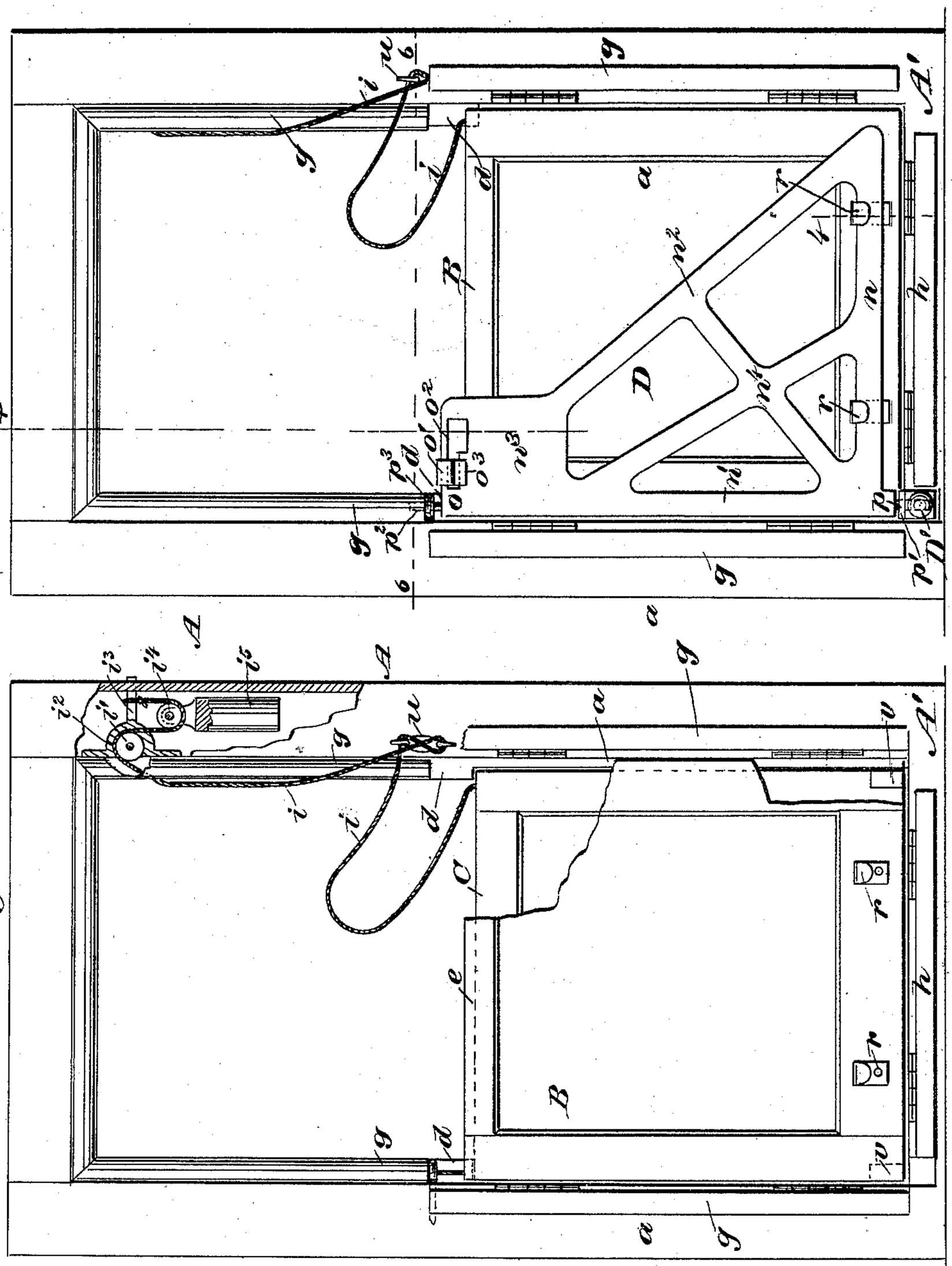
(No Model.) 3 Sheets—Sheet 1.

V. SCHIRMER.

WINDOW.

No. 476,081. Patented May 31, 1892.



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(No Model.) 3 Sheets—Sheet 2.

V. SCHIRMER.

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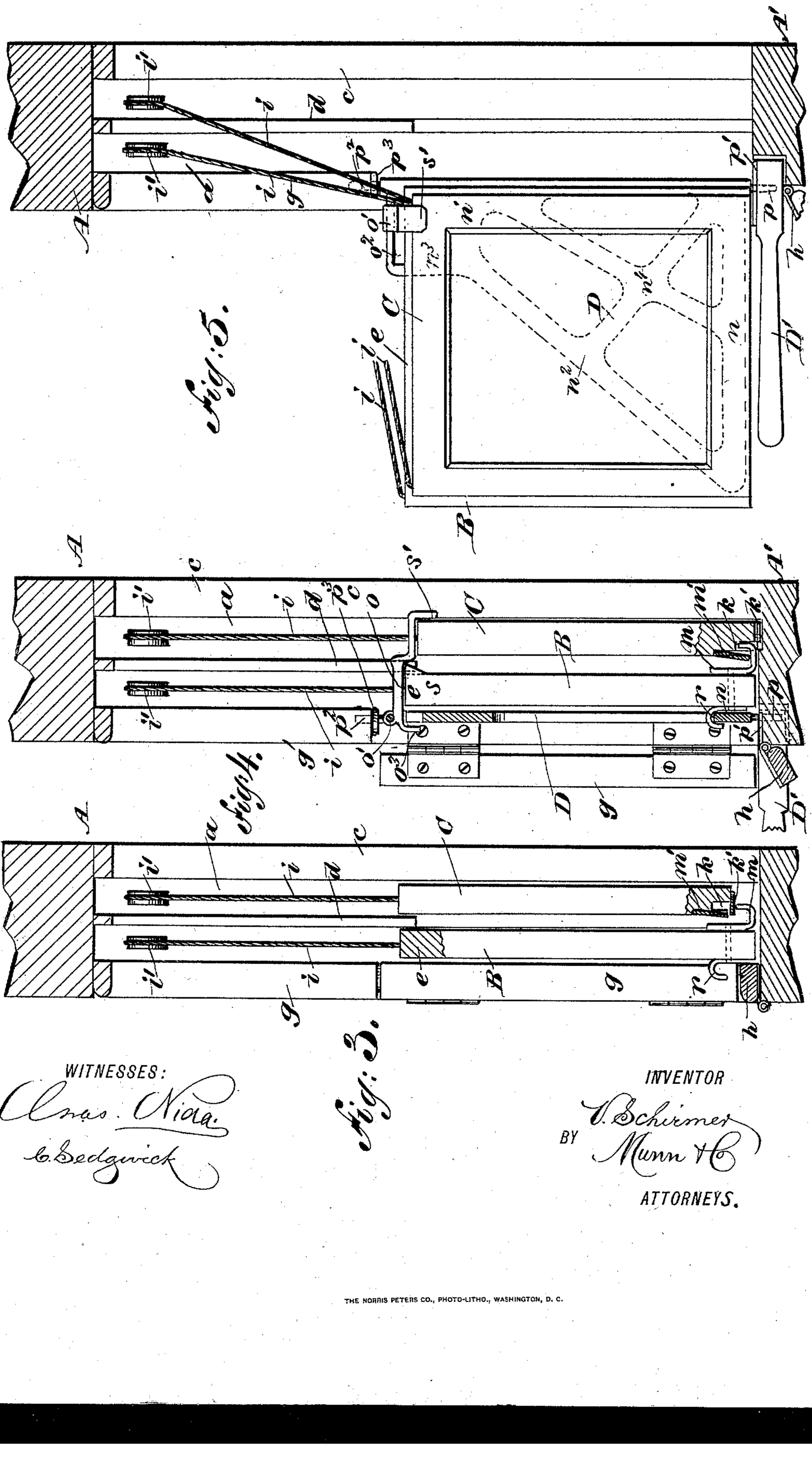

Fig. 5.

Fig. 4.

Fig. 3.

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WINDOW.

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Fig. 6.

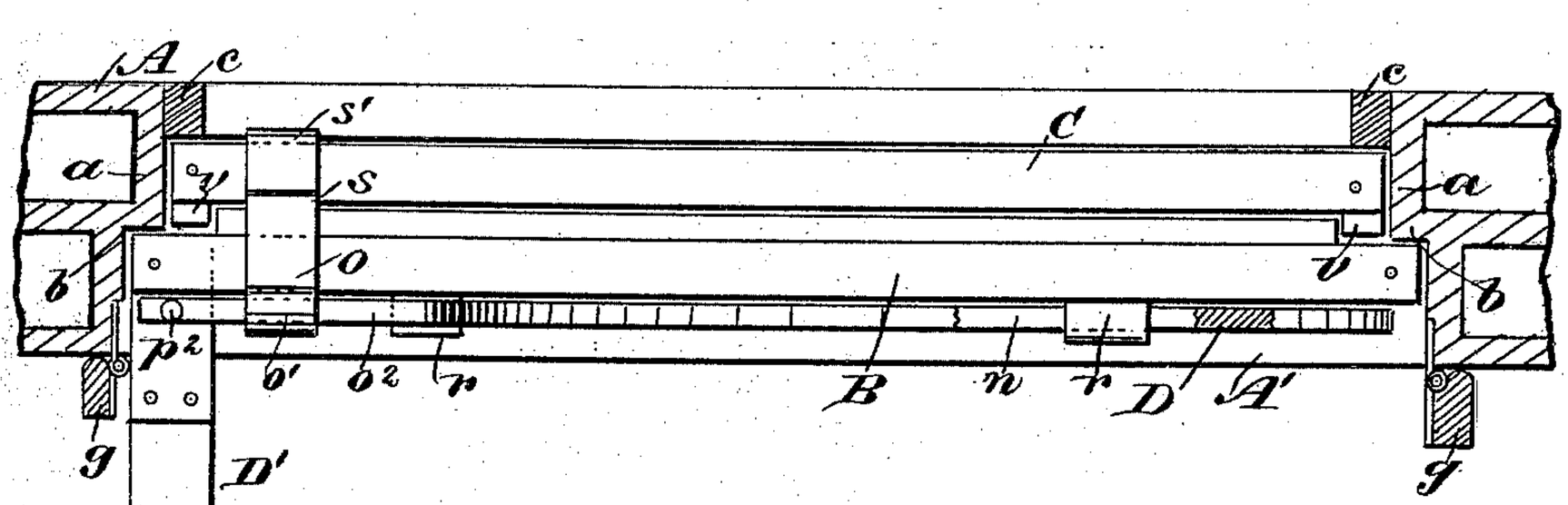
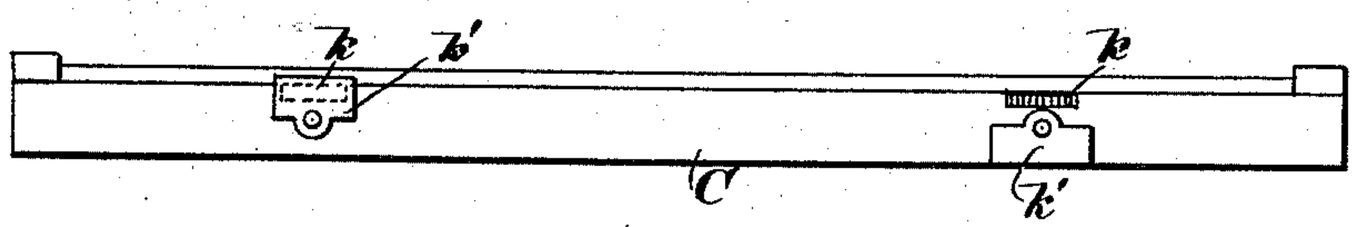


Fig. 8.



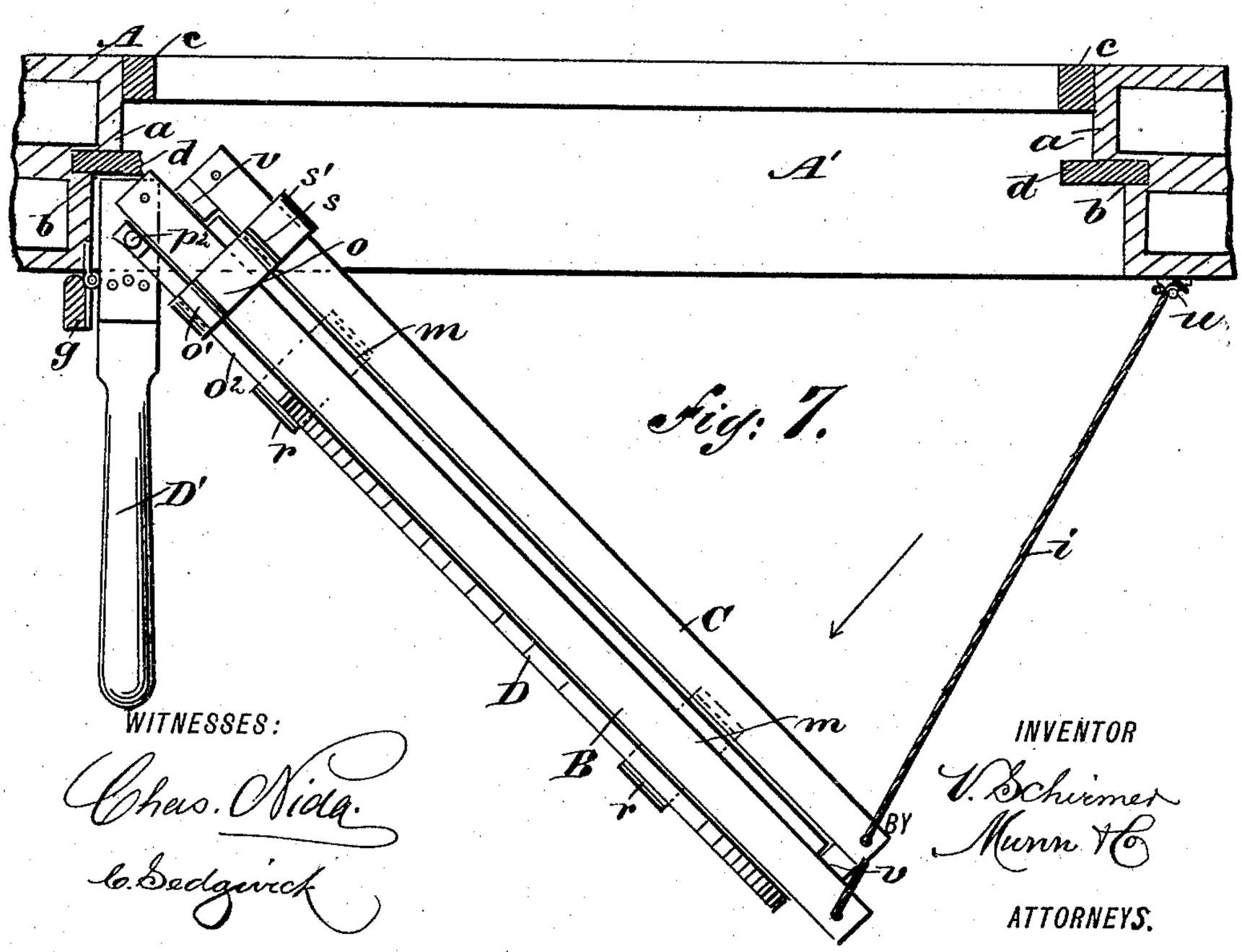


Fig. 7.

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UNITED STATES PATENT OFFICE.

VALENTINE SCHIRMER, OF NEW YORK, N. Y.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 476,081, dated May 31, 1892.

Application filed September 22, 1891. Serial No. 406,455. (No model.)

To all whom it may concern:

Be it known that I, VALENTINE SCHIRMER, of New York city, in the county and State of New York, have invented a new and useful Improvement in Windows, of which the following is a full, clear, and exact description.

My invention has for its object to provide a window having the ordinary counterbalanced sashes with improved means to facilitate the cleaning of said sashes on their outer and inner surfaces in a safe and expeditious manner; and it consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an inside elevation of a window casement and sash therein embodying a part of the improvement, the upper sash being lowered and the lower sash closed and broken away to show the top sash, the side of the casement also being broken away to expose the sash-support. Fig. 2 is an inside elevation of a window casement and sash, the latter being adjusted to swing inwardly on a supporting-bracket frame that is part of the improvement. Fig. 3 is a transverse sectional elevation of the window frame and sash, showing the upper sash in lowered adjustment and both sashes broken away on the edge to expose other parts. Fig. 4 is a transverse sectional elevation of the window-frame and both sashes, supported to swing inwardly on the bracket-frame shown in Fig. 2, the lower portion of the upper sash being broken away on the broken line 4 4 in said figure, showing the hooked connection of the sashes. Fig. 5 is a transverse sectional elevation of the window-casement, showing both sashes supported by the bracket-frame, that is represented by dotted lines, and swung inwardly to permit free access to the outer side of the upper sash and the inner surface of the lower sash. Fig. 6 is a sectional plan of the window-casement, sash, and bracket-frame taken on the line 6 6 in Fig. 2. Fig. 7 represents the parts shown in Fig. 6 in opened condition, and Fig. 8 is a view of the lower edge of the upper sash and attachments thereon.

The window frame or casement A is provided with the usual boxes wherein weights that counterbalance the sashes slide vertically, and, as shown in Figs. 6 and 7, the stiles *a* are shouldered at *b*, so as to widen the space between the portions of the stiles that are loosely engaged by the lower sash B.

The usual outer bead-strips *c* are secured externally to retain the upper sash C from outward displacement, and between the sashes parting-strips *d* are embedded in the faces of the stiles *a*, which strips extend a short distance below the top face of the meeting-rail *e* of the lower sash B when the latter is fully lowered, as indicated in Figs. 2 and 3, and thereby affords an abutment at each side of the window-frame for the rail *e* to impinge upon. The inner bead-strips *g* are each cut into two pieces near their longitudinal centers and have their lower sections hinged to the casement A, so as to fold toward or from the lower sash B, and the upper parts of these strips retain the lower sash in place when it is slit toward the top of the same.

On the sub-sill A′ of the casement A a closing-strip *h* is hinged at the edge, so as to fold toward and loosely engage the inner face of the lower cross-rail of the lower sash when the latter is fully depressed, as shown in Fig. 3.

The sashes B C are preferably rigged with cords *i*, that engage with one end the edges of the sash and thence are extended to rest on the loose sheaves *i′*, (shown in Fig. 1,) said sheaves being pivoted in bracket-frames i^2, that each have a limb i^3 extended inwardly across the channel or box of the frame A, so that the other ends of the cords, if secured to these limbs, will afford bights wherein the pulleys i^4 will rest, and thus sustain the weights i^5 suspended, said pulleys being pivotally secured on the upper ends of the said weights, as shown in Fig. 1. It will be seen that the upper sash C is provided with two pockets *k*, Fig. 8, that are located in its lower cross-rail at a proper distance from each side edge, said cavities being designed to receive the free ends of the hooks *m*, that are attached to the lower rail of the lower sash B, and when the connection is effected, as shown in Fig. 4, the sashes are adapted to

slide upwardly together, the weight of the upper sash being supported by a transverse stay-plate m', that is affixed upon the inner face of the lower cross-rail of the upper sash.

As it is desirable that the upper and lower sashes B C should be afforded hinge-joints at one edge, so that they may be swung into the apartment when they are to be cleaned, and thus enable such work to be done safely, avoiding exposure, a bracket-frame D is provided, which will be described. The construction of the bracket D is indicated in Figs. 2, 5, and 7, consisting of a light skeleton metal frame having a base cross-bar n, joining a vertical side bar n' and a diagonal brace n^2. The side bar and brace, converging above, are united by a head-piece n^3, stiffening-braces n^4 extending between the bars named, thereby affording a light strong frame. There is a locking-bar o, loosely secured by one end to the upper edge of the head-piece n^3 of the bracket-frame. Said bar has one end bent into a close loop o', that is loosely engaged with a cross-bar o^2, which is formed on the upper edge of the head-piece by slotting the latter transversely a short distance from the top edge to produce a cross-bar, which is then rounded in the body, so as to permit the locking-bar to rock on it. For about one-half of its length the cross-slot in the head-piece n^3 is made of increased width as compared to the remaining portion of said slot, thus affording clearance for the hook o^3, that is formed on the locking-bar o below and near the loop o'.

The bracket-frame D is furnished with a depending pintle p, which projects from its lower edge in alignment with the vertical side bar n', which pintle loosely engages a bracket-plate p', that is secured upon a handle-bar D', the latter-named piece being made to enter a transverse channel cut in the sub-sill A' near one of the frame-stiles a. From the top of the side bar n' a pintle p^2 is projected, which is axially coincident with the pintle p and has a loose engagement with the looped head of an eyebolt p^3, into which it may be inserted when the frame D is to be used, and it will be seen that when the frame is in position, as described, it will be free to swing on its pintles. The frame of the upper sash C is made of less height than the frame of the lower sash by giving the lower cross-bar of the latter increased breadth, so that when the sash C is lowered and is in hooked engagement with the sash B, as before explained, the upper edge of the upper sash will be slightly below the lower terminals of the parting-strips d.

There are two bracket-hooks r secured on the inner face of the lower cross-bar of the sash B at a proper distance from each side edge of the sash, which hooks are shaped to engage the upper-edge portion of the bracket-frame cross-bar n, as shown in Figs. 2 and 4, such a connection of parts being effected when the sashes are to be cleaned. The hooked connection of the upper sash C with the lower sash B and the similar connection of the latter with the bracket-frame D transfers the weight of both sashes upon the bracket-frame. When the sashes are to be cleaned, the lower sections of the bead-strips g are swung away from the lower sash and the closing-strip h similarly adjusted, as shown in Fig. 4, the sash being connected with the lower cross-bar of the bracket-frame D, as before explained, and for convenience in manipulation the upper edges of the sashes are locked together by an adjustment of the bar o, which is formed with an offset at s and a hook s' on its outer end. The shoulder or offset s on the bar o engages with the outer edge of the lower sash B when the locking-bar is folded outwardly, and the hook s' bears upon the outer face of the top cross-bar of the upper sash C at the same time, and to secure the bar in locked condition it is slid toward the vertical side bar n' of the bracket-frame D, which will cause the hook o^3 to interlock with the edge portion of the slot in the head-piece n^3. When the inner surface of the lower sash B has been cleaned, the connected sashes are swung inwardly, as shown in Fig. 5, which will expose the exterior surface of the upper sash C for a similar treatment. In order to allow the sashes B C to be swung inwardly, as stated, the counterbalance-weights i^5 on the side of the frame A from which the sashes are to be moved are elevated to near the top of the boxes in which they travel and are there held by belaying the cords i on a fixture u, so as to afford proper slackness to said cords, which will permit the swinging of the sashes. After the exterior surface of the upper sash C has been cleaned the next step in the operation is to separate the sashes and expose their adjacent surfaces. To this end the sash-weight of the upper sash is released, so that the latter may be adapted to slide upwardly when swung close to the casement. The upper sash C is now elevated slightly, so as to disengage it from the hooks m, and as the lower sash B is still in hooked engagement with the bracket-frame D said sash may be readily swung, with the frame, away from the upper sash, and so allow free access to be had to the inner surface of the upper sash and the outer surface of the lower sash for cleansing purposes. When the sashes have been renovated, the bracket-frame D may be quickly removed and the window closed in an obvious manner, the replacement of the bead-strip sections g and closing-strip h stopping all the crevices around the sashes. After the cleaning of the window-sashes has been completed the pockets k in the lower edge of the upper sash C are preferably closed by the pivoted plates k', that may be rotatably moved to cover the pockets, so that a lowered adjustment of the upper sash when the pockets are thus covered will cause the plates k' to impinge upon the free ends of the hooks m and support the sash C, aligning its upper edge with the up-

per edge of the lower sash B, as represented in Fig. 3.

To avoid any rattling of the sashes together, two spacing-blocks *v* are affixed upon the inner surface of the side rails of the upper sash at their lower ends, which blocks will have contact with the side rails of the lower sash at any point of vertical adjustment, and thus obviate vibratory movement of either sash.

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

1. A window comprising a frame, counterbalanced sash therein, parting-strips on the stiles, extending from above half the height of the frame within, sectional bead-strips hinged below to the stiles, and a removable device adapted to engage both sashes when they are opposite each other below and hold them upon it and swing them together laterally when manipulated, substantially as described.

2. The combination, with a window-frame and sliding sashes therein, provided with cords and weights, of a removable bracket-frame pivoted to swing laterally on the window-frame and having engagement with the sashes to support them in swinging adjustment, substantially as described.

3. The combination, with a window-frame, counterbalanced sashes in the frame, adapted for hooked connection near their lower edges, sectional bead-strips having their lower sections hinged to the window-frame, and a hinged closing-strip on the sill of the frame, of a removable bracket-frame pivoted on a handle-bar below the lower sash and provided with a pintle above the handle-bar pivot, adapted to enter an eyebolt on the window-frame, and means for detachably connecting the window-sashes with the pivoted bracket-frame, substantially as described.

4. The combination, with a window-frame and counterbalanced sashes therein, adapted for hook-and-socket connection at their lower edges, of a removable bracket-frame pivoted on a handle-bar below the lower sash and upon the window-frame above said lower sash and engaged by hooks on the lower sash below said bracket and provided with a folding securable locking-bar at its upper edge adapted to engage both sashes, substantially as described.

5. In a window, the combination, with a frame having parting-strips extending down about half the length of the stiles within the frame, of a counterbalanced upper sash having pockets in its lower rail, movable covers for said pockets, and hooks on the lower rail of the lower sash, adapted to enter said pockets when uncovered and the upper sash is lowered, substantially as described.

6. A swing-bracket for supporting window-sashes in their casement, consisting of a skeleton frame pivoted at its lower edge near one side in a handle-bar below the lower sash and at its upper edge on an aligning pintle entering an eyebolt on the window-casement, and a bar mounted to swing and slide on a cross-bar at the upper edge of said bracket, provided with hooks at its ends and adapted to lock the window-sashes together, substantially as described.

VALENTINE SCHIRMER.

Witnesses:
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