

(No Model.)

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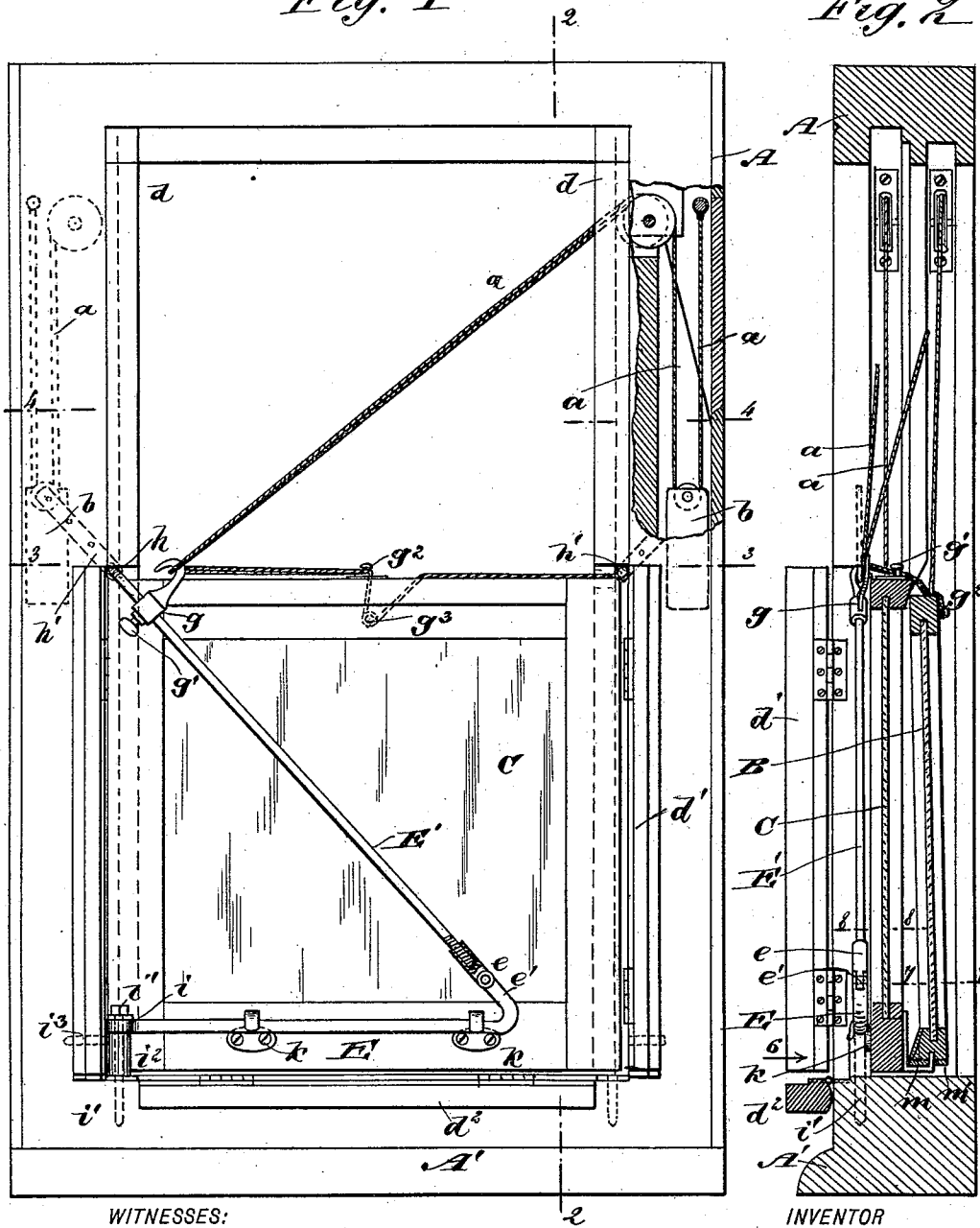
V. SCHIRMER.
SWINGING JACK FOR WINDOW SASHES.

No. 486,740.

Patented Nov. 22, 1892.

Fig. 1

Fig. 2



WITNESSES:

C. Neveu
C. Sedgwick

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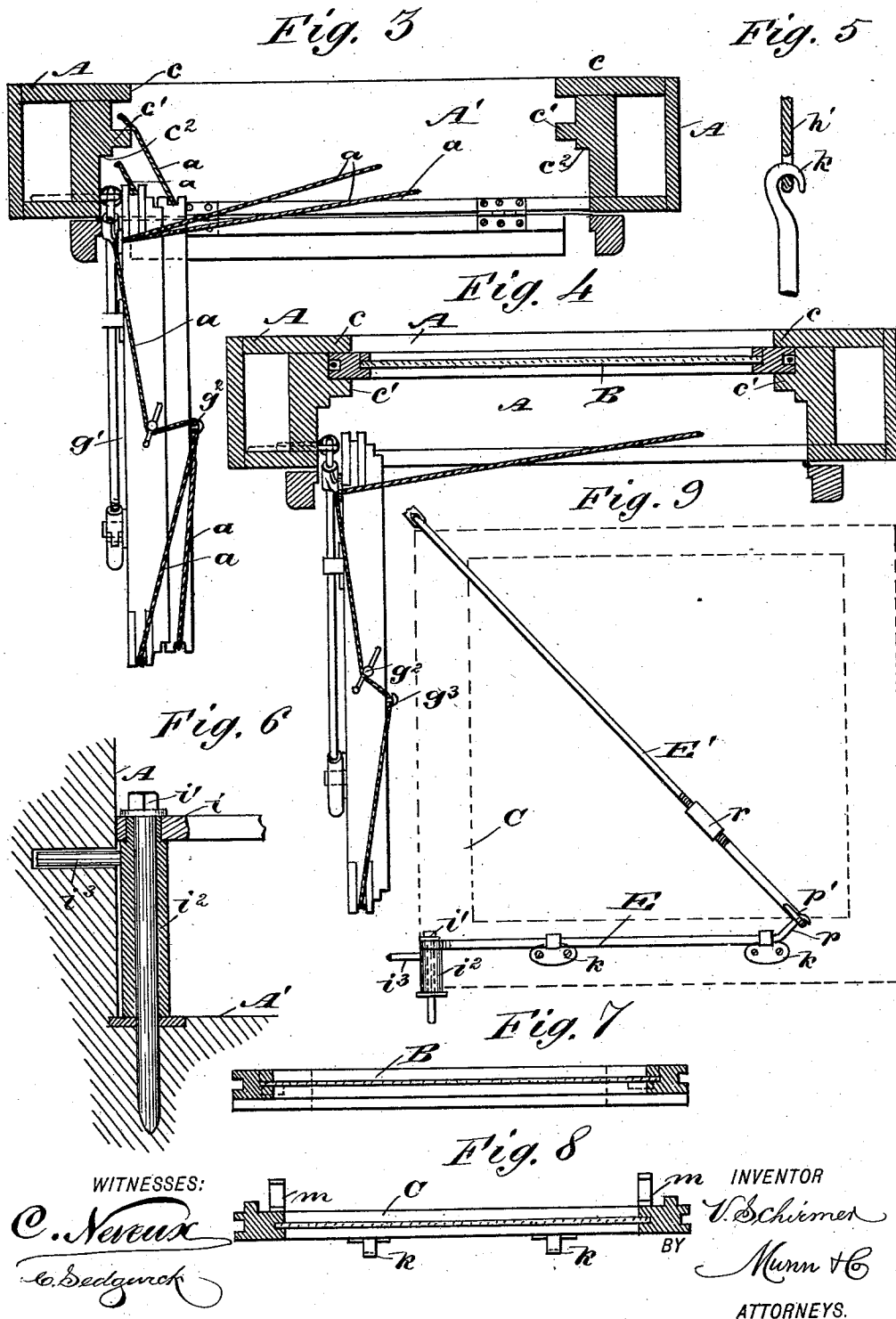
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3 Sheets—Sheet 2.

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Fig. 10

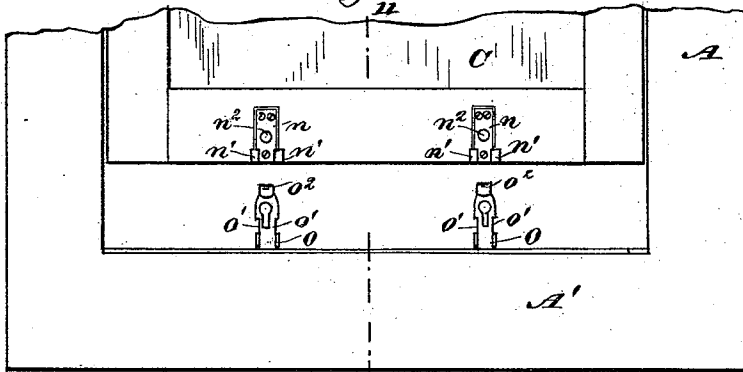


Fig. 11

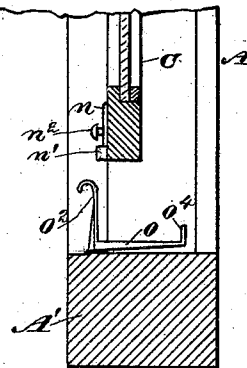


Fig. 12

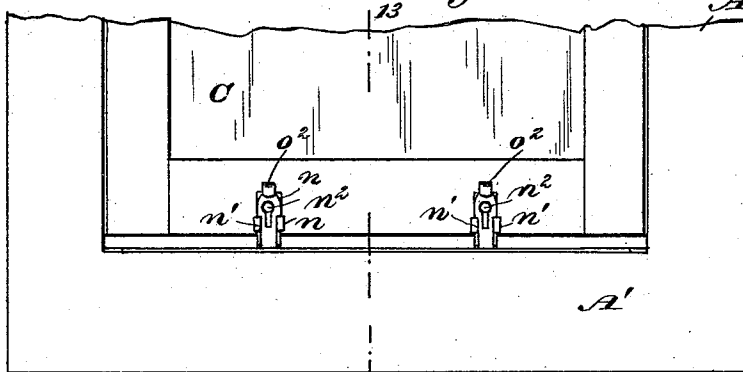


Fig. 13

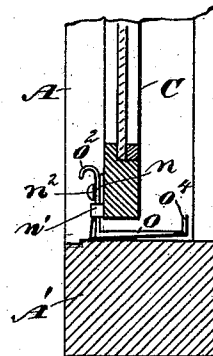


Fig. 14

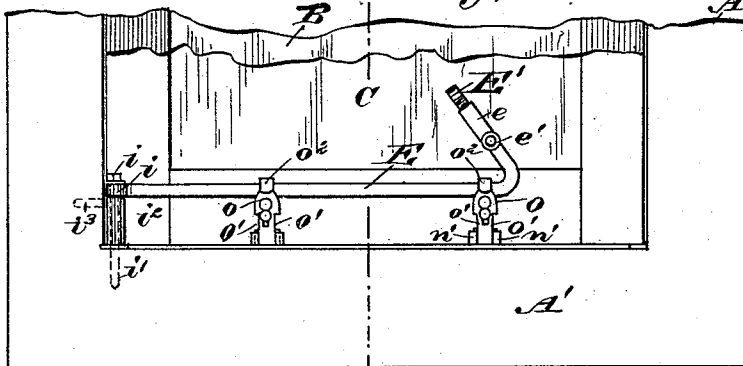


Fig. 15

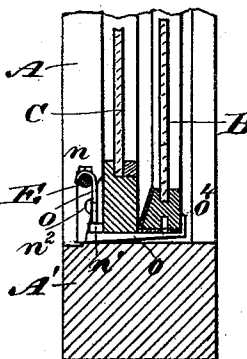


Fig. 16

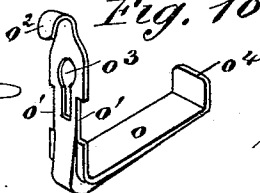
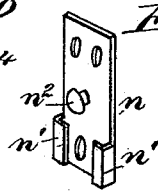


Fig. 17



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UNITED STATES PATENT OFFICE.

VALENTINE SCHIRMER, OF NEW YORK, N. Y.

SWINGING JACK FOR WINDOW-SASHES.

SPECIFICATION forming part of Letters Patent No. 486,740, dated November 22, 1892.

Application filed June 22, 1892. Serial No. 437,575. (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
5 Swinging Jack for Window-Sashes, of which the following is a full, clear, and exact description.

This invention relates to an improved device for the swinging support of window-sashes to facilitate cleansing the same, the object being to improve the construction of the sash-supporting jack shown in the patent issued to me May 31, 1892, 476,081, which device consists of a cast-metal triangular frame
15 provided with a handle-bar and pivot-support on the latter, as well as upon the side of the window-casement, whereby the jack or frame is adapted to carry both sashes of the window and swing them inwardly when these released sashes are hung upon the jack.

To this end my present invention consists in the peculiar construction and combination of parts, whereby the improved jack is made lighter and cheaper and is also rendered adjustable, so as to adapt it to engage fixtures on different windows, and thus be rendered more convenient in service, as is hereinafter described and claimed.

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

Figure 1 is an inner side elevation of a window-casement broken away at one side, window-sashes therein, the upper sash being lowered and opposite the lower sash, and the improved swinging jack loosely connected with the casement and supporting the sashes ready for an inward swinging movement.
40 Fig. 2 is a vertical sectional view on the line 2 2 in Fig. 1. Fig. 3 is a plan view in section on the line 3 3 in Fig. 1, showing the sashes swung inwardly on the jack. Fig. 4 is a plan view in section on the line 4 4 in Fig. 1, showing the upper sash removed from the jack and located in appropriate grooves of the casement and the lower sash on the jack that is swung inwardly. Fig. 5 is a view showing an enlarged detached and broken detail of construction. Fig. 6 is a sectional view of another enlarged and broken detail, taken opposite the arrow 6 in Fig. 2. Fig. 7 is a plan
50 view in section of the upper sash detached, taken on the line 7 7 in Fig. 2. Fig. 8 is a plan view in section of the lower sash detached on the line 8 8 in Fig. 2. Fig. 9 is a side view of a modified form of the swinging jack and a lower sash connected therewith, the latter being indicated by dotted lines. Fig. 10 is a broken inner side view of the lower portion of a window-casement and a lower sash therein with two improved sash-supporting clip-plates and hanger-hooks in position, these latter-named parts being detached from the clip-plates that are affixed to the sash. Fig. 11 is a view in cross-section of the parts shown in Fig. 10 on the line 11 11 in said figure. Fig. 12 is an inner side view of a window-casement and a lower sash broken away with the improved clip-plates and hanger-hooks in a locked condition on the sash. Fig. 13 is a transverse section of parts taken on the line 13 13 in Fig. 12. Fig. 14 is an inner side view of a window-casement, a lower and an upper sash, the improved clip-plates and hanger-hooks on the lower sash in a locked condition, and the improved jack shown broken and engaging the hanger-hooks. Fig. 15 is a cross-section of parts on the line 15 15 in Fig. 14. Fig. 16 is a perspective view of one of the improved hanger-hooks, and Fig. 17 is a perspective view of one of the improved clip-plates detached.

To further an efficient action of the improvement, it is essential that the window-sash should be counterbalanced by cords and weights and also be adapted for convenient removal from the casement laterally. To this end the window-casement and sash are by preference constructed and arranged as shown in the drawings, a brief description of which parts will be given to render the operation of the improvement clear.

A represents the window-casement, and B C the upper and lower sashes, respectively, the latter being held to slide vertically in the casement by the cords *a* and weights *b*, as indicated in Fig. 1. The usual bead-strips *c d* and parting-strips *c'* are provided for the upper sash of the window, which strips terminate below on a line with the lower edge of the upper sash when the latter is in normal position.

In Fig. 3 it will be seen that the width be-

tween the vertical faces of the window-casement that are engaged by the lower sash is greater than similar faces on the casement whereon the upper sash slides, thereby producing shoulders at c^2 , that serve as guides for the lower sash when it is in place and also prevent the sash C from having frictional contact with the upper sash when reciprocated vertically within the casement.

The bead-strips d' on the inner side of the window-casement below are continuations of the strips d and extend from the lower ends of the latter to the sub-sill A' of the window-casement A, having a hinged engagement with the latter, which will permit them to be swung inwardly and afford clearance for the lateral movement of the sash. There is a joint-closing strip d^2 hinged upon the sub-sill A' , that when folded toward the sash C will seal the crevice below said sash when it is lowered, said strip being readily removed to permit the sash to be swung inwardly if it is folded as shown in Fig. 2.

The improved sash-supporting jack in preferred form consists, in part, of a metal bar E, that is bent at e so as to project a limb on the same at an acute angle to the straight longer portion, as shown in Fig. 1, said limb having a joint e' formed in it. The free end portion of the limb e , that projects beyond the joint e' , is longitudinally perforated and internally threaded to receive the threaded end portion of a stay-rod E' , that is so proportioned in length as to project diagonally upward and near to one side of the casement A when in position. An adjustable hook-block g is adapted to slide on the stay-rod E' and be secured at any desired point by a thumb-screw g' , and on the upper terminal of the stay-rod a hook h is formed that may be interlocked with an eye-plate h' , which latter is inserted and secured in a recess formed in the stile of the window-casement, as represented in Fig. 1, such a plate being shown on each side of the casement. At the end of the jack-bar E that is opposite from the portion whereon the limb e is formed an enlargement i is produced, which is vertically perforated to receive a fulcrum-pin i' , there being a bracket-block i^2 provided that has a seat on the sub-sill A' and through which the pin i' is inserted and thence into the sub-sill when the jack is placed in position for use, a laterally-extending finger i^3 on said bracket-block having engagement with a perforation in the stile of the casement, so as to sustain the block with the jack hung on it.

Two means for connecting the window-sashes B C with the jack are provided, each being well adapted to impose the weight of the sashes on the jack and adapt the latter to sustain the sash when they are swung laterally during the cleansing process. The simplest form for these adjuncts of the swinging jack is shown in Figs. 1, 2, and 8, consisting, essentially, of two hook-plates k , that are af-

fixed upon the lower transverse rail of the lower sash at a proper distance apart, and two other hook-plates m , which are affixed to the outer side of the same sash-rail and enter slots in the lower surface of the lower or meeting cross-rail of the upper sash, there being similar metal escutcheon-plates m' attached to the rail named and properly apertured so as to receive the upwardly-bent ends of these hook-plates that are on outwardly-projecting portions of the same. (See Fig. 2.)

When the window-sashes are to be cleaned, the sash-holding jack is first placed in position, as shown in Fig. 1. Then the top sash B is lowered and the sash-cords a are drawn upon so as to afford slackness that will permit said cords to be rove upon the hook-block g and also to engage projections g^2 g^3 on the upper cross-rails of the sashes B C, whereby the sash-weight on one side of the casement A will be maintained elevated and the upper edges of the sashes be held together, as indicated in Fig. 2. The act of lowering the upper sash B will cause it to engage with the hook ends of the plates m , so that both sashes will be hung upon the horizontal jack-bar E if this piece has been located within the hook-plates k , and may be together swung with the jack into the room lighted by the window. After the exterior face of the upper sash B has been cleaned it may be released and slid upwardly in the casement, as indicated in Fig. 4. This will expose the outer side of the lower sash C, so that it may be renovated, and the jack can now be removed and the inner sides of the upper and lower sashes be cleaned readily.

It will be evident that if the dimensions of windows in a building vary somewhat and the vertical distance between the hook-plates k and eye-plate h' be different in such windows the length of the stay-rod E' can be altered by screwing it into or out of piece e on bar E, and also that the hook-block g may be shifted to adapt it to suit different windows, which provision renders the improved jack more generally useful and dispenses with need for providing more than one jack for a building.

In Figs. 10 to 17, inclusive, another device for supporting the two window-sashes of a window upon the swinging jack is shown. These are employed in pairs, and each support is composed of two parts, one piece being a clip-plate n and the other part a hanger-hook o . The clip-plate n (shown plainly in Fig. 17) consists of a tablet of metal provided with screw-holes to permit its screwed attachment upon the lower transverse rail of the lower sash C and having two opposite hooked flanges n' formed on its edges that are projected from the same side of the clip-plate. Above the flanges n' a headed stud n^2 is projected from the plate n . The hanger-hook o is formed of a single piece of metal bent at a right angle near its center of length, as shown in Fig. 16, one part being notched op-

positely on the edges, as at o' , of a length that will allow the part of the plate left standing between said notches to pass freely between the hooked flanges n' of the clip-plate

5 n . On the top of the notched member of the hanger-hook o this portion is bent to form a depending hook o^2 , and at a suitable distance from the latter a circular aperture o^3 is formed, which is extended between the notches
10 o' as a slot. Upon the other member of the hanger-hook a portion near the end is bent at a right angle or parallel to the notched member, thus producing a detent-lip o^4 . When the described parts are to be used for attaching the sashes B C upon the jack-bar E, the lower sash is slightly elevated and the upper sash lowered. Then the hanger-hooks o are in pairs placed on the sub-sill A' of the window-casement opposite the secured clip-plates
20 n , and each piece o is slid over the stud n^2 that its hole o^3 is opposite. A sufficient length is given to the hanger-hook members having the detent-lips o^4 to permit these lips to loosely engage the outer lower edge of the upper sash B when the latter is lowered upon the hanger-hooks. Both sashes are now slid upwardly a sufficient distance to allow the hook portions o^2 to pass over the jack-bar E, and then the sashes are lowered to throw
30 their weight mainly upon the jack. The cords a are now adjusted to slacken them and cause their engagement with the projections $g^2 g^3$ on the sashes, as before explained, which will render the sashes capable of swinging along with the jack.

The slightly-modified form of the sash-supporting jack shown in Fig. 9 has its bar E bent at one end to produce a hook p , that loosely engages with an eye p' on the stay-rod
40 E', which latter is adapted for change of length by a turnbuckle attachment r , the other parts of the device being similar to what has already been described.

In the form of the jack just described it will be seen that the stay-rod may be detached from the other piece E when the device is not in use, and thus permit it to be packed away closely, while the other form allows the stay-rod to be folded on the bar E by
50 reason of its hinged joint e' , so that one style is the equivalent of the other in construction and service.

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

1. In a swinging jack for window-sashes, a horizontal jack-bar pivoted by one end on the window-casement and loosely joined at the other end to a stay-rod end, which rod is
60 loosely secured by its other end to the window-casement above the pivoted end of the jack-bar, substantially as described.

2. A sash supporting and swinging jack comprising two loosely-connected pieces, one
65 piece pivoted by an end on a bracket-block that is detachably secured to the window-casement

and the other piece joined flexibly with an eye-plate that is embedded in the stile of the casement, substantially as described.

3. A sash supporting and swinging jack 70 comprising a bar bent at one end to produce an angularly-projecting limb, an end piece jointed on said limb and adapted to have adjustable connection with a stay-rod, a stay-rod furnished with a hook on one end, an
75 eye-plate loosely engaging said hook of the stay-rod, a bracket-block loosely secured to the window-casement, a fulcrum-pin passing through the end portion of the jack-bar and through the bracket-block into the sub-sill of
80 the casement, and means to connect the jack-bar with the sashes of the window, substantially as described.

4. In a swinging jack for window-sashes, a jack-bar pivoted by one end on the casement
85 of the window and loosely connected at the other bent end to a stay-rod, a stay-rod having a hook at its top end and adapted for adjustment at the other end that engages the jack-bar, an eye-plate engaging the hook of
90 the stay-rod, and an adjustable hook-block on the stay-rod, substantially as described.

5. In a swinging jack for window-sashes, a jack-bar bent at one end to produce a limb
95 at an acute angle thereon, a socketed and internally-threaded piece hinge jointed to the jack-bar limb, a perforated boss at the other end of the jack-bar, a bracket-block vertically perforated, a finger-piece thereon laterally projected, a fulcrum-bolt passing through the
100 boss of the jack-bar and through the bracket-block, a stay-rod threaded at one end and furnished with a hook at the other end, an adjustable hook-block thereon, and an eye-plate
105 on the hook of the stay-rod, substantially as described.

6. The combination, with a window-casement and two sashes counterbalanced therein and permitted to swing inwardly when both sashes are in lowered condition, of a sash sup-
110 porting and swinging jack comprising a horizontal bar and a diagonal stay-rod loosely joined at one end of each, the other end of the horizontal bar loosely secured to swing on the sill of the casement, and the remaining end of
115 the stay-rod loosely secured to the casement-stile above the pivoted end of the horizontal bar, substantially as described.

7. In a device to support and swing window-sashes in their casement, a two-part adjustable jack-frame pivoted on the sill of the window-casement and hinged to the side of the casement above said pivot-point, hooks on the lower sash adapted to hold the lower edges of both sashes together, and other hooks on the
125 inner side of the lower sash adapted to engage the horizontal bar of the composite jack, substantially as described.

8. In a sash supporting and swinging device for window-sashes, the combination, with
130 a swinging jack pivoted on a window-casement, of devices for the detachable connec-

tion of the window-sashes with said jack, each comprising a hanger-hook bent at a right angle, having a lip on the end of its horizontal member and a hook on the top of the upright member that is also notched on the edges oppositely and slotted between said notches, and a clip-plate having two hooked flanges that loosely embrace the upright member of the hanger-hook, and a headed stud thereon which engages the slotted aperture of the hanger-hook, substantially as described. 10

VALENTINE SCHIRMER.

Witnesses:

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F. W. HANAFORD.