(No Model.)

3 Sheets—Sheet 1.

J. A. KIRK.

WINDOW.

No. 577,382.

Patented Feb. 16, 1897.

Fig. 1.

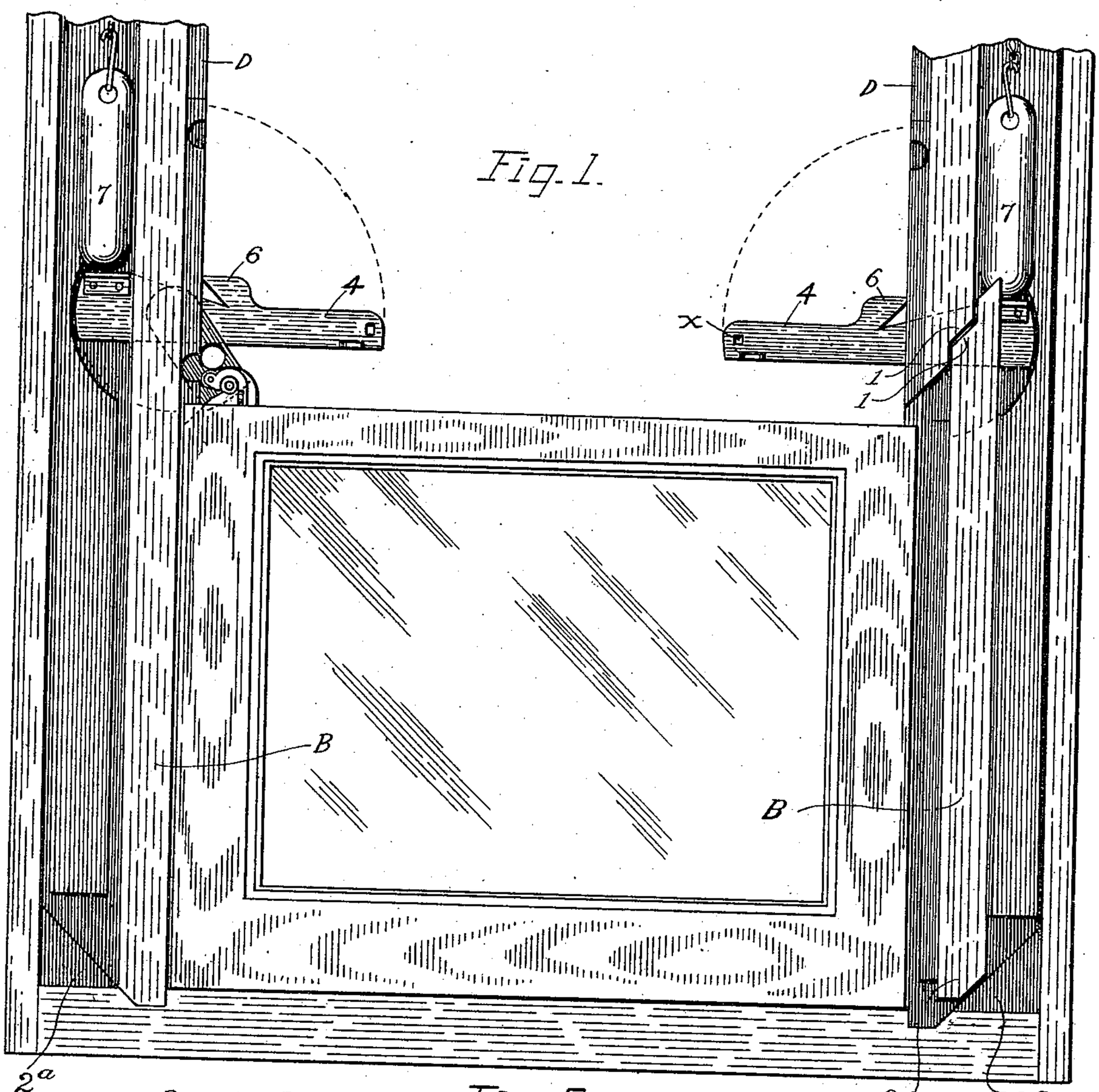
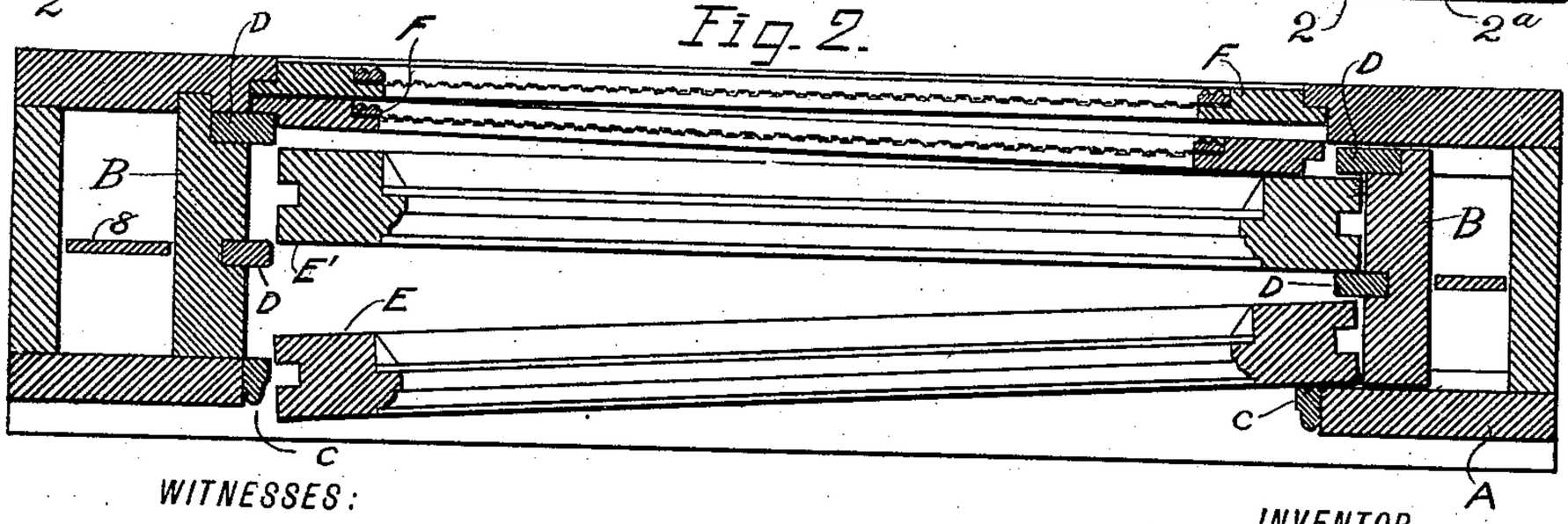


Fig. 2.



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(No Model.)

3 Sheets—Sheet 2.

J. A. KIRK.

WINDOW.

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Fig. 4.

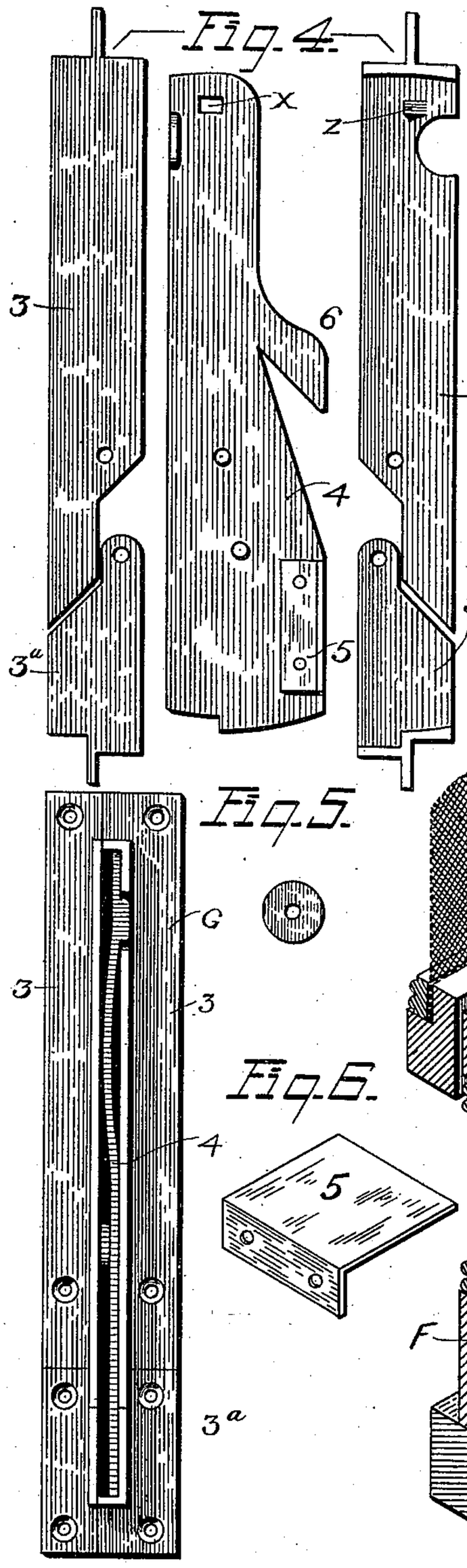
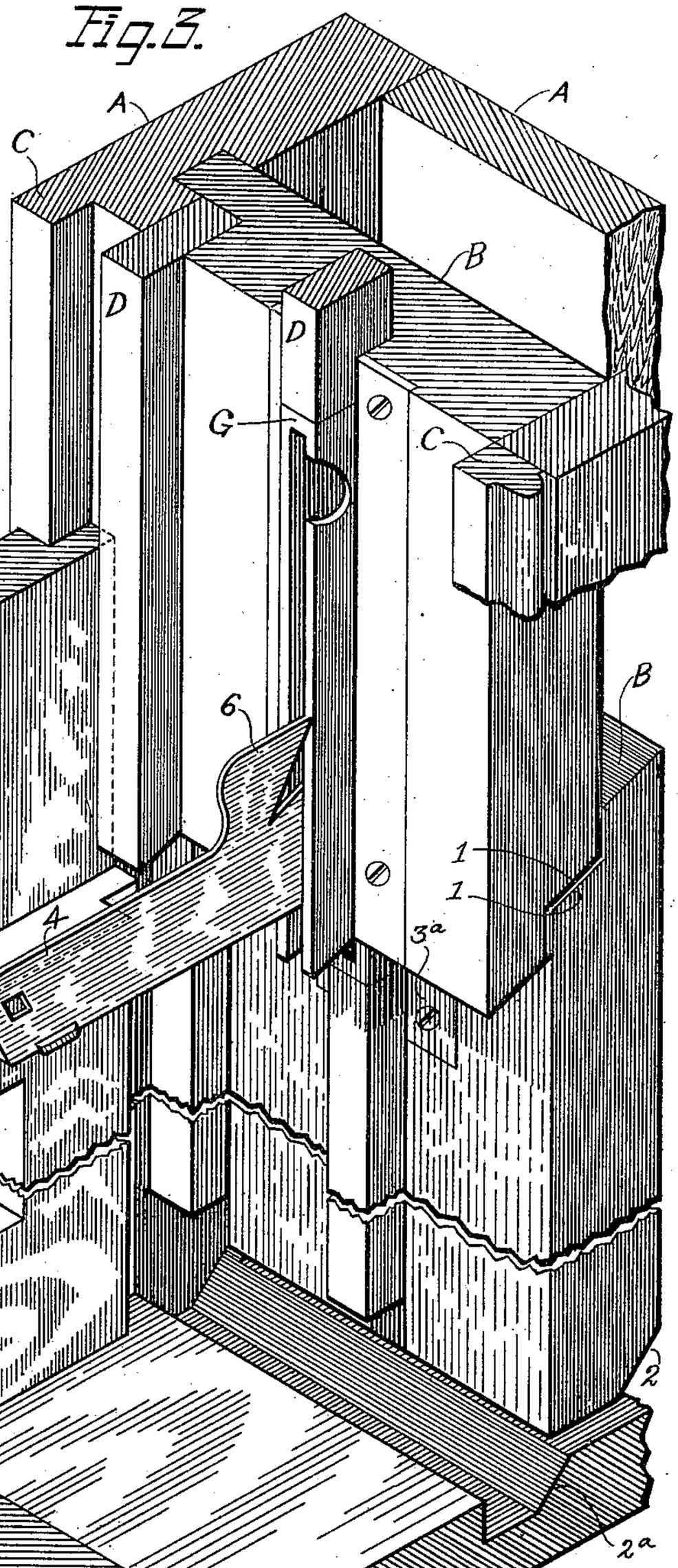


Fig. 5.

Fig. 6.

Fig. 3.



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3 Sheets—Sheet 3.

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WINDOW.

No. 577,382. Patented Feb. 16, 1897.

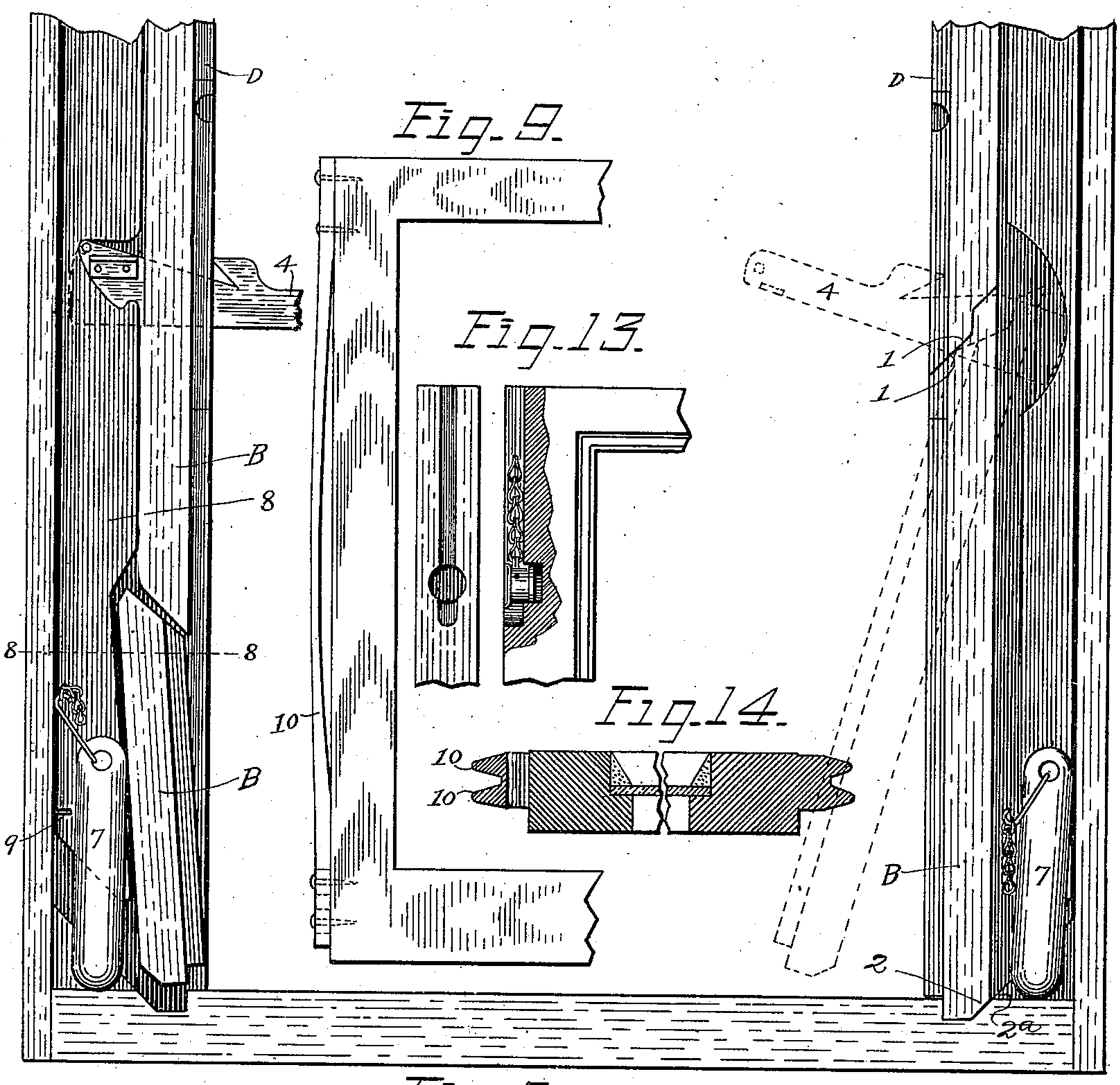

Fig. 7

Fig. 9.

Fig. 13.

Fig. 14.

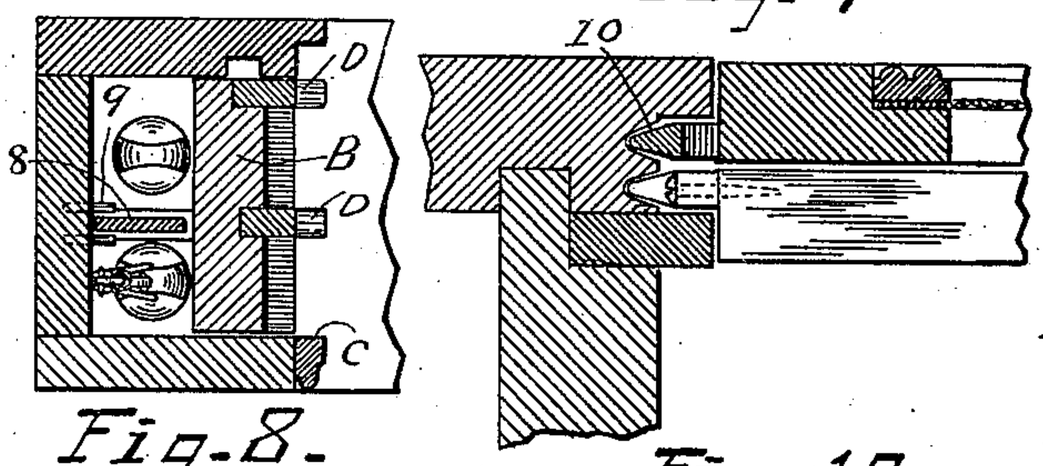

Fig. 8.

Fig. 10

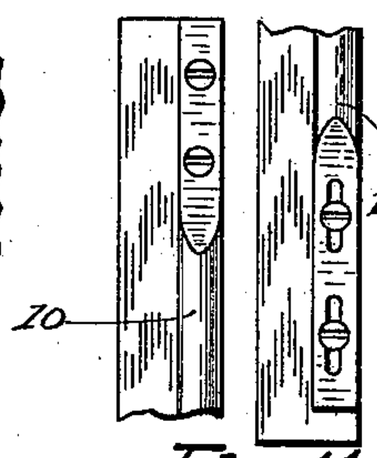

Fig. 11.

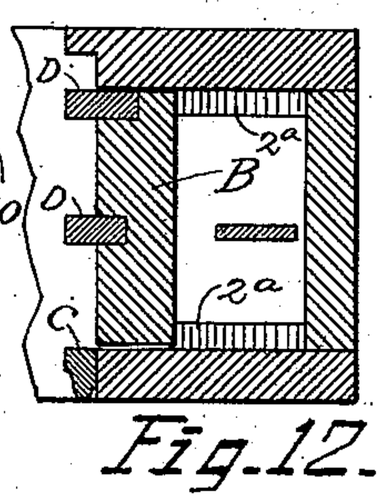

Fig. 12.

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UNITED STATES PATENT OFFICE.

JOHN A. KIRK, OF WASHINGTON, DISTRICT OF COLUMBIA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 577,382, dated February 16, 1897.

Application filed April 16, 1896. Serial No. 587,862. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. KIRK, a citizen of the United States, and a resident of Washington, District of Columbia, have invented certain new and useful Improvements in Windows; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in windows.

A primary object of the invention is to provide for the ready adjustment of the sash in the window-frame and its easy removal from said frame for cleaning, repairing, or changing the same.

To this end the invention consists in certain combinations hereinafter described and claimed.

In the accompanying drawings I have illustrated one practical form in which my invention may be embodied.

Figure 1 is a front elevation of a window, the inside casing being removed and the parts of the frame in position for the insertion or removal of the sash. Fig. 2 is a horizontal section, the parts being in the position shown in Fig. 1. Fig. 3 is a perspective on an enlarged scale, showing the right-hand side of a window with my improvements applied to use. Fig. 4 shows in elevation a stile-operating lever in the middle and the side plates of a metallic case or fitting at the right and left. Fig. 5 is a face or front view of the lever-casing, the parts of which are seen in Fig. 4, and as applied to use as seen in Fig. 3. Fig. 6 shows in perspective a table for attachment with the lever to serve as a support for sash-weight, as seen in Fig. 1. Fig. 7 is an elevation with inside window-casing removed similar to that shown in Fig. 1, showing a convenient way to get at the sash-weight in case the weight-cord is broken. Fig. 8 is a section on the line 8 8 of Fig. 7. Fig. 9 is a side elevation of a storm or screen sash. Fig. 10 is a horizontal section showing screen-sash in position. Fig. 11 is a detail showing means of fastening tongue to the sash. Fig. 12 is a horizontal section of one side of the window-frame, showing the movable section of the pulley-stile in its normal position. Fig. 13 is a detail showing the sash-cord plug and its socket in the sash, and Fig. 14 is a horizontal section through a storm-sash.

A is a box-window frame having pulley-stiles B B, stops C C, and parting-strips D D.

E and E′ are the lower and upper sash, respectively; and F F are screen-sash.

Storm-sash may be substituted for the screen-sash at pleasure, as either may be adjusted in the outside groove in the frame.

A special feature of my invention consists in dividing one of the pulley-stiles and connected parting-strips transversely just above the top of the lower sash and in moving the lower part of the stile and beads bodily into the box-frame away from the sash, so that any one or all of the sash may he readily removed from the frame or readjusted in said frame for cleaning or repairs. This feature involves new construction of stile and means for operating the same and also means for disposing of the sash-weights when the sash is removed.

The box-frame is constructed in the usual manner, except that there is provision for outer screen or storm sash. One of the pulley-stiles is divided transversely into two parts of equal width, one part being movable and the other fixed in the frame. The cut is by preference a double bevel, as shown at 1 1, and said stile is also beveled or inclined at the bottom, as shown at 2. This bevel or incline bears against corresponding inclined ways or shoulders 2^a, formed in the bottom part of the frame.

The upper section of the pulley-stile is rigidly fixed in its position in the usual way, but the lower section is free to move outward away from the sash into the box and inward toward the sash, as may be desired.

G is a casing consisting of plates 3 3. This casing or box is fitted into the window-frame in the plane of the parting-strip D and forms a continuation thereof. One of the plates is provided with a stud Z to interlock with shoulder X, formed by the opening in the operating-lever.

In the space between the side plates 3 3 I pivot the lever 4, which carries a weight-support or table 5. To one of these levers I pivotally connect the counterpart 3^a of the casing, which counterpart is secured to the mov-

able part of the stile B. The lever is formed with a spring lip or stop 6, and a shoulder X, as shown. When the sash is to be removed from the frame, the operator releases catch Z from shoulder X and moves the lever 4 to position shown in Figs. 1 and 3, thereby bodily moving the lower part of stile B and the connected parting-strips backward and upward and simultaneously bringing the table 5 in position to hold the sash-weight 7. The lip 6 serves as a catch to hold the lever and table in horizontal position. The stile and strips being now in position shown in Fig. 2, the sash may be removed for any desired purpose. To facilitate the detachment and attachment of the weight-cords with the sash, I countersink or cut away the lower side of the plug-socket in the sash, as shown in Fig. 13.

When the sash is replaced or inserted in the frame, the spring-stop 6 is released, and the lever 4 is adjusted in vertical position within the casing. The movable part of the stile will then be carried downward and laterally toward the sash, the beveled surfaces 1, 2, and 2^a serving to direct it to the proper place, where it is held securely until the lever is again swung out to release the sash.

Both sides of the window-frame are provided with a shelf or table to support the sash-weights, as will be seen in Fig. 1.

In order to readily obtain access to the weight-boxes in the frame without tools, as when the sash-cord breaks, I have provided transversely-divided pulley-stiles and mechanical means for locking and holding the removable part in position. At the right of Fig. 7 the pulley-stile is shown in dotted lines raised by the lever 4 and drawn outward. Ready access to the box is thus obtained without the use of screw-driver or other tool.

The removable section shown at the left of Fig. 7 is jammed or clamped in position by means of the sword 8, provided with inclined faces, as shown, and operated to clamp and release the section by the table-carrying lever 4. The sword is held and guided in its proper plane by means of studs or pins 9.

In Figs. 9, 10, and 13 I have shown sash having projections or tongues 10 10 to fit in corresponding grooves in the window-frame. Each of the screen-sash has a single tongue, as seen in Fig. 10. These tongues are arranged at adjacent edges of the side rails of the sash, so that upper and lower sash may readily pass each other. The storm-sash has two tongues or ribs, as seen in Fig. 14.

In order to prevent rattling and that the screen-sash may be held in a raised or lowered position for ventilation or other purposes, I form a tongue separate from the sash for one side of the sash and attach it to the side rail by screws or other fastening devices. At one end the attachment will be as shown at the left of Fig. 11, and at the other end set-screws pass through slots, as seen at the right of Fig. 11. In this way the tongue may be sprung and adjusted to press laterally in the grooves in the frame. By this means the sash is held in any position it may be set.

Having now described my invention, what I claim is—

1. In a window the combination of a box-frame having inclined guideways, a movable pulley-stile, beveled or inclined at its lower end, and adapted to be adjusted with relation to the frame, a lever operatively connected with said stile and a catcher for securing the lever and thus firmly locking the stile in normal position.

2. In a window having sash-weights to counterbalance the sash and in which the sash is removable the combination of the frame and an adjustable shelf to support the weights, substantially as described.

3. In a window the combination of a box-frame having inclined guideways, a pulley-stile having beveled ends and a lever for adjusting the stile in the desired position.

4. In a window the combination of a box-frame a pulley-stile laterally movable in said frame, a movable table or weight-support and means for moving the stile and for bringing the table into operative position, substantially as described.

5. In a window the combination of a box-frame, a pulley-stile having a segment thereof laterally movable in said frame, a sliding sash, sash-weights, a table and levers having a catch whereby the movable segment is operated to permit the removal and insertion of the sash and the table is adjusted to support the weights, substantially as described.

6. In a window the combination of a box-frame having an inclined guideway, a stile having the movable section thereof beveled at the lower end to correspond with the guideway and mechanical means for operating said movable section and for locking it in place, substantially as described.

7. In a window the combination of a box-frame, a removable stile-section and a reciprocating cam-faced sword for clamping the stile-section in place, substantially as described.

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

JOHN A. KIRK.

Witnesses:
GEO. H. WELLS,
J. E. HOSFORD.