

(No Model.)

C. R. ARNOLD & A. M. LICHTENBERGER.
WINDOW SASH.

No. 562,789.

Patented June 30, 1896.

Fig. 1.

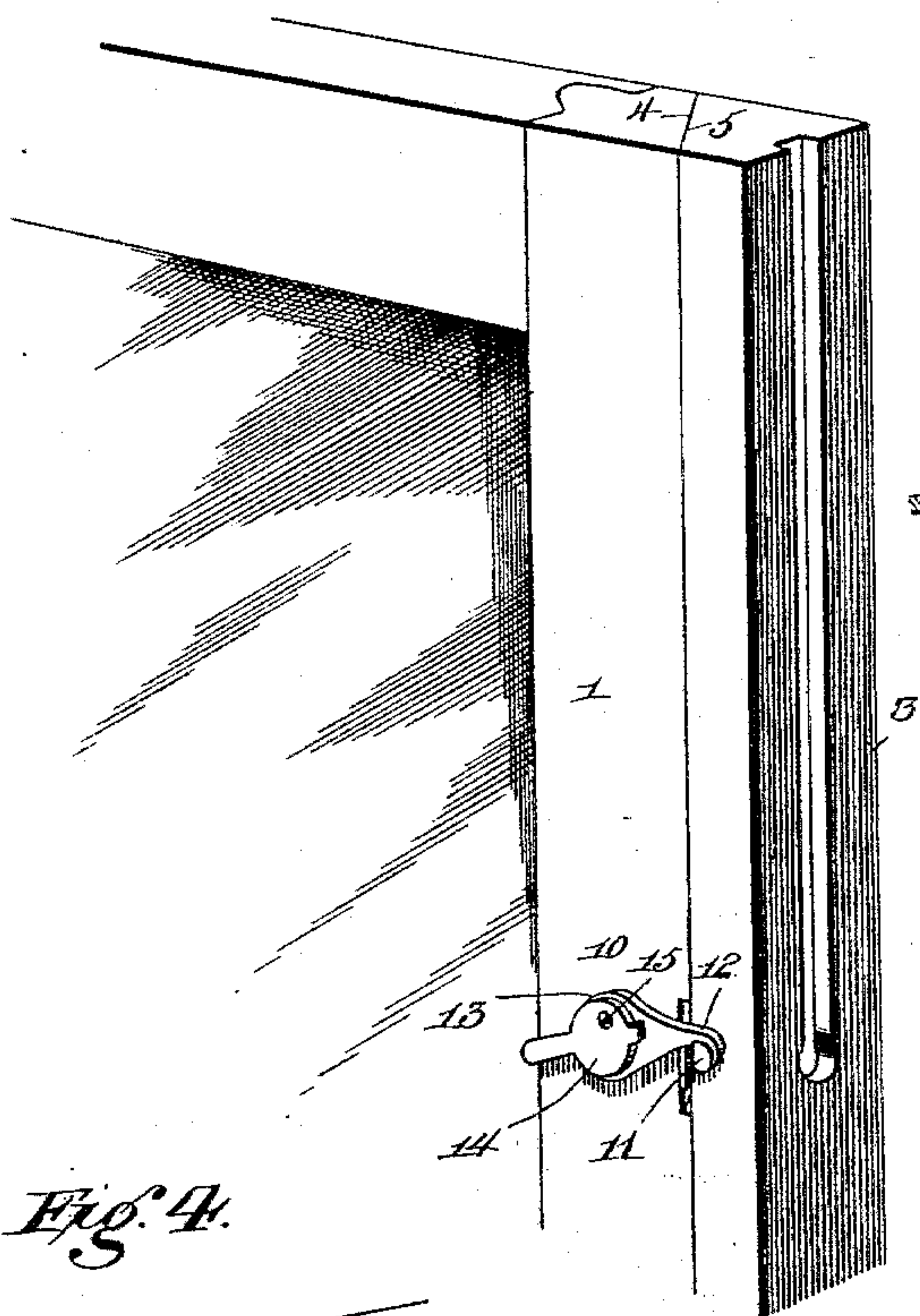


Fig. 2.

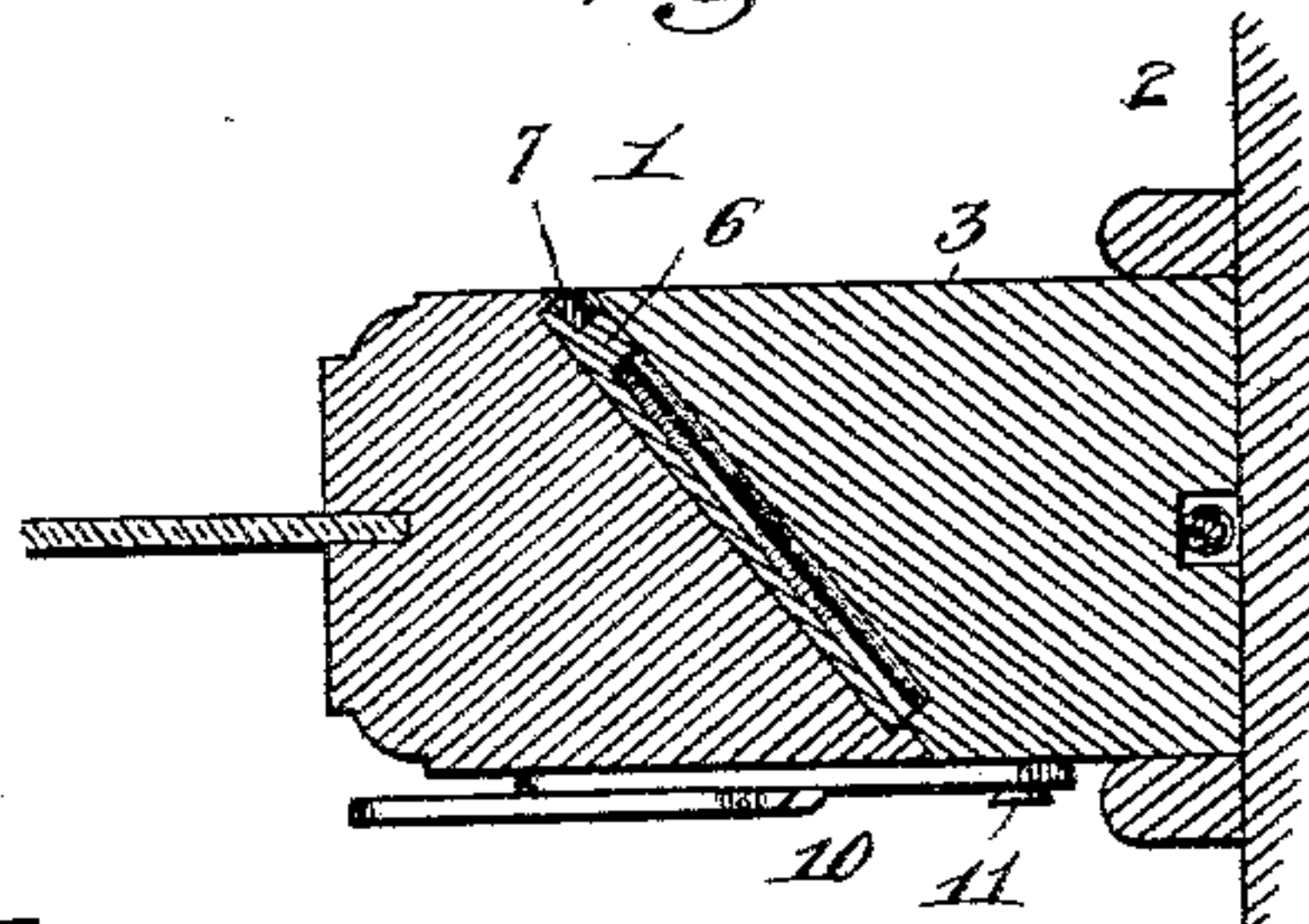


Fig. 3.

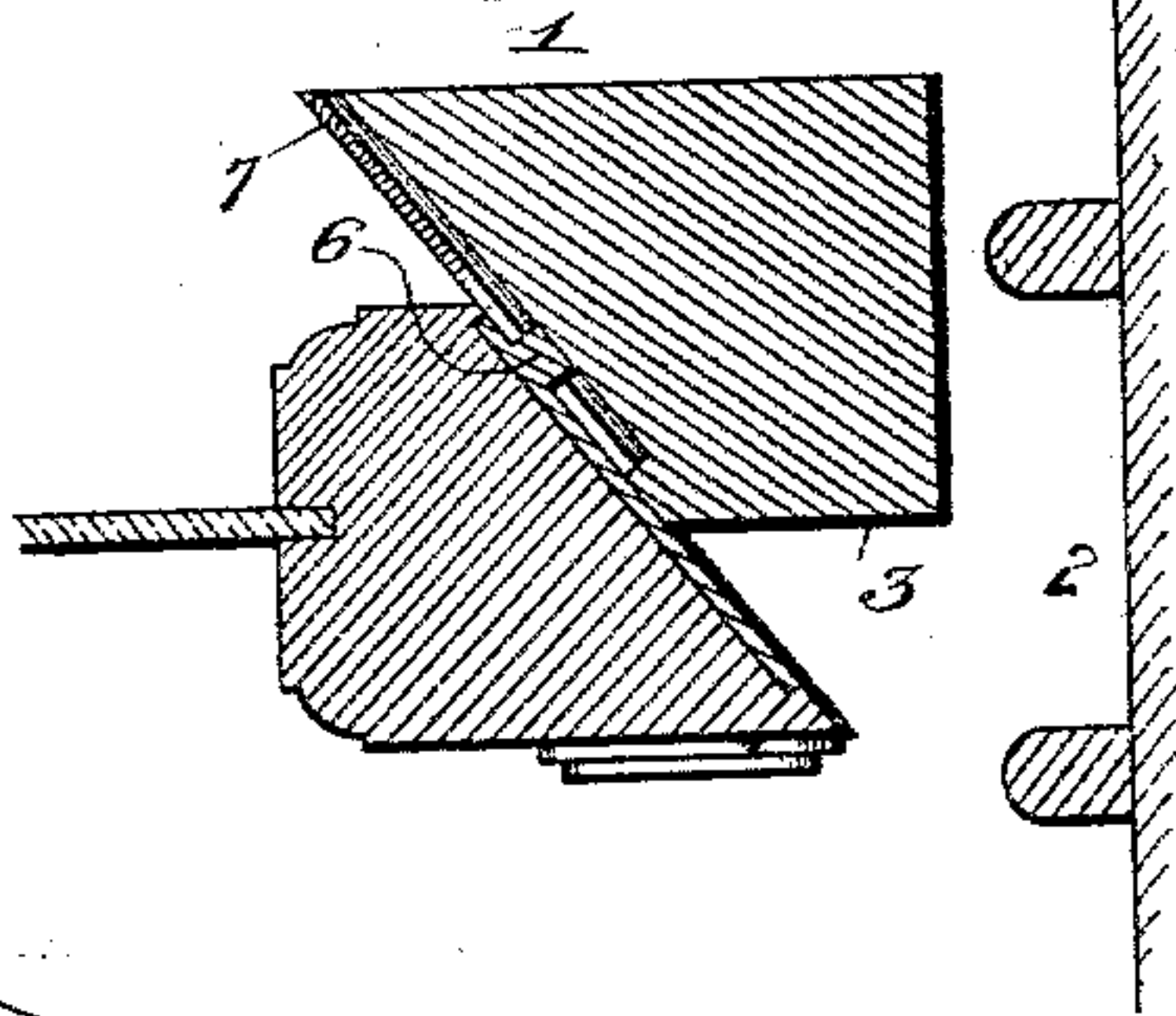


Fig. 4.

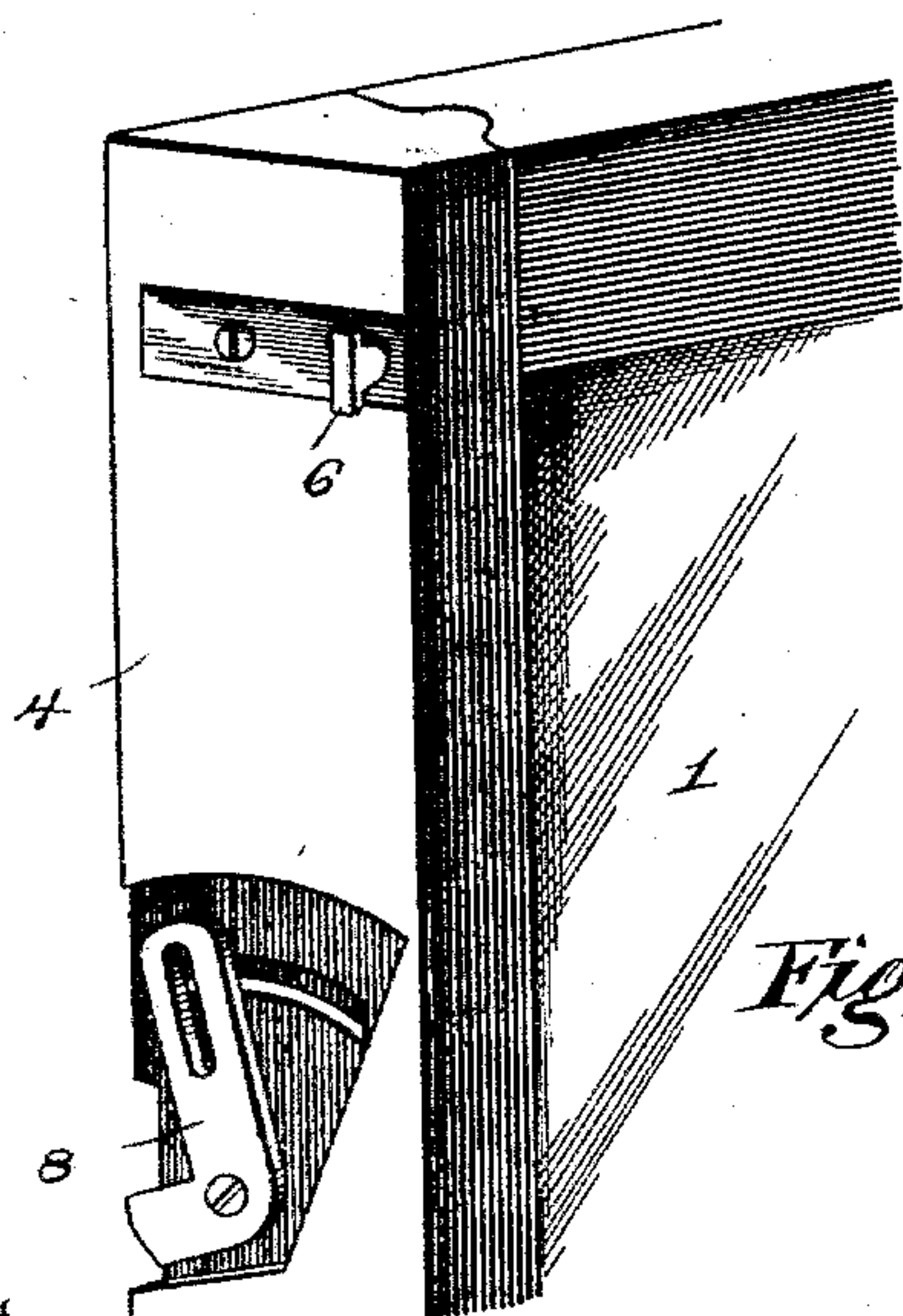


Fig. 5.

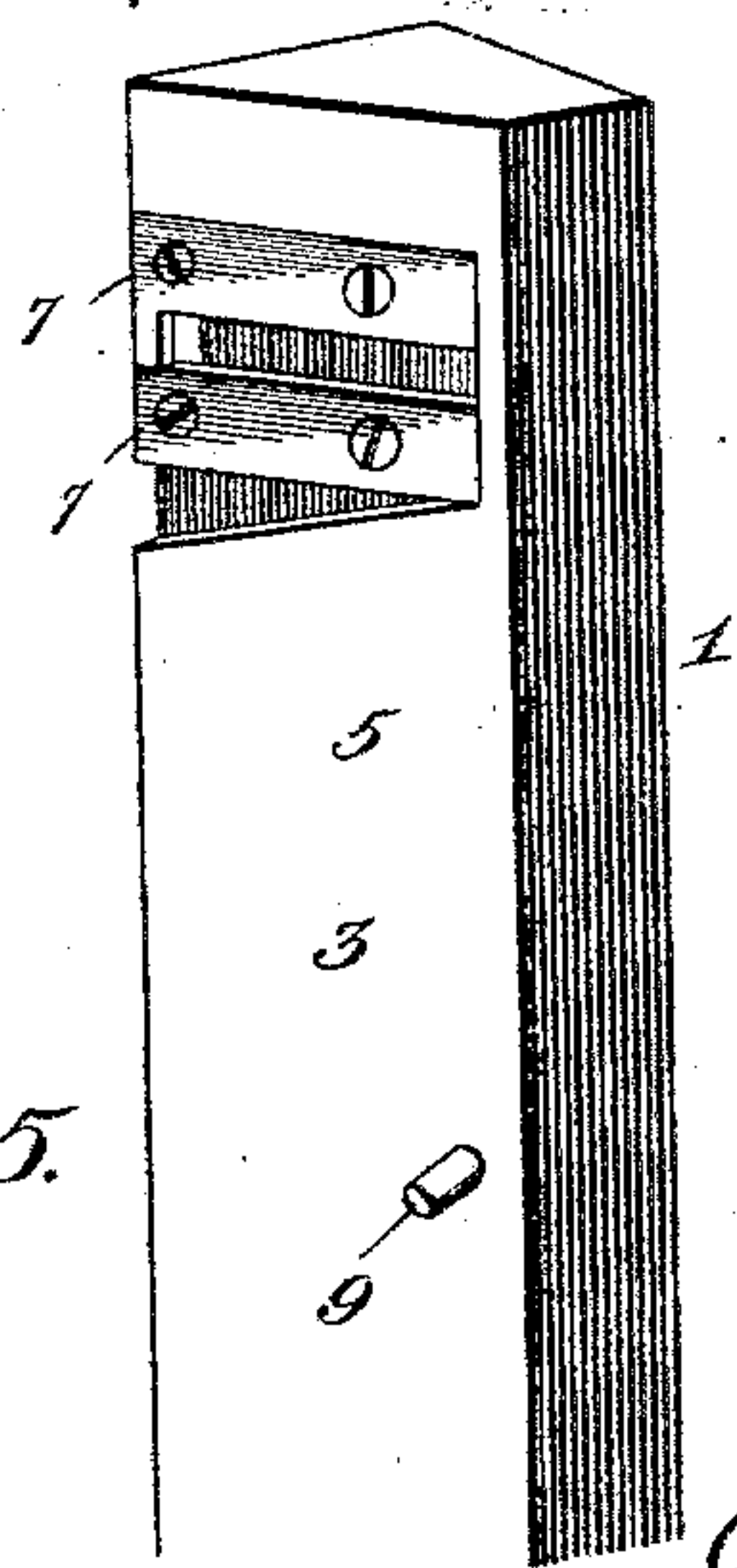
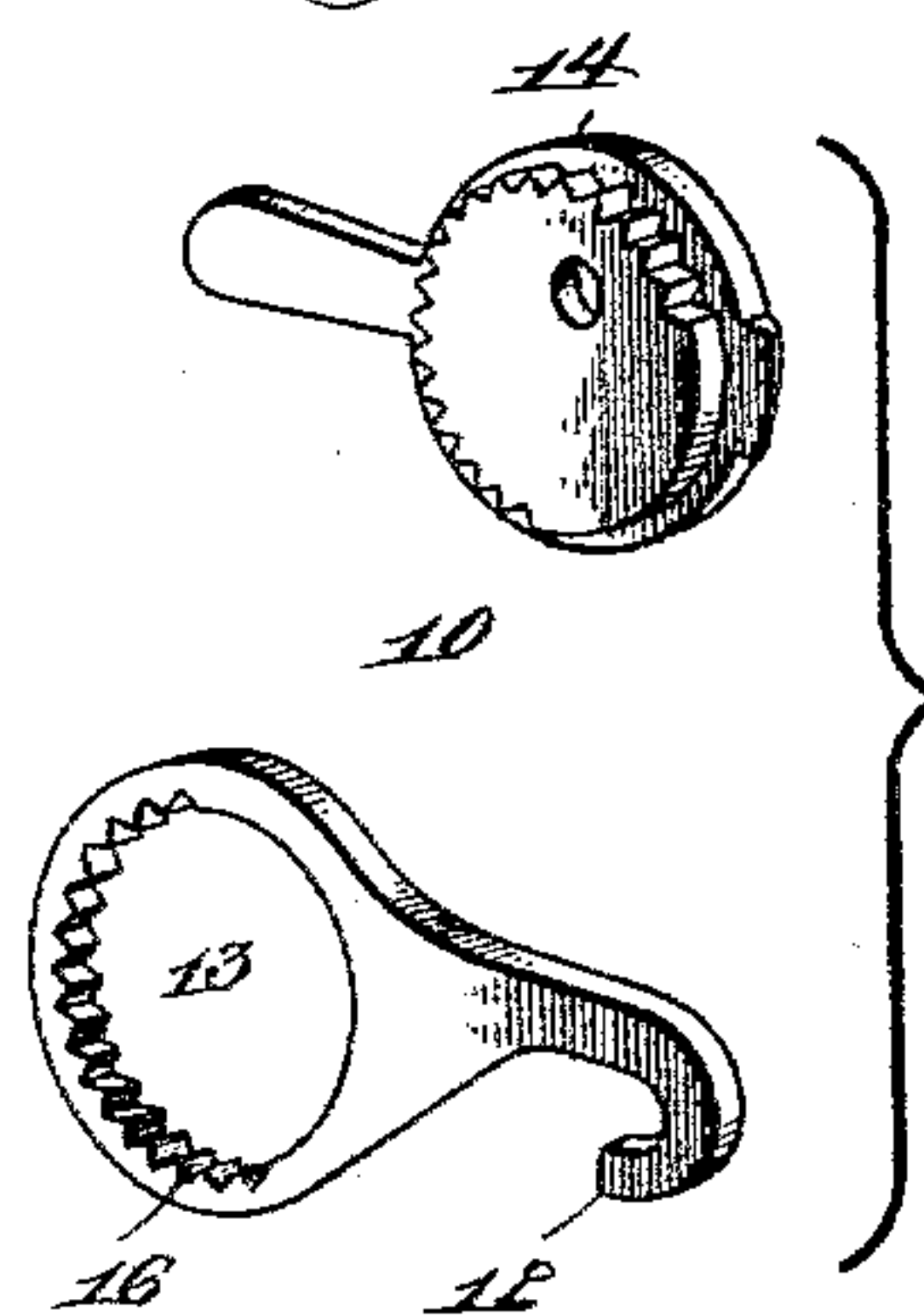


Fig. 6.



Inventors

Clarence R. Arnold

Albert M. Lichtenberger,

Witnesses

John C. Shaw
J. H. Riley

By their Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

CLARENCE ROCKWELL ARNOLD AND ALBERT MASON LICHTENBERGER,
OF WELLSVILLE, OHIO.

WINDOW-SASH.

SPECIFICATION forming part of Letters Patent No. 562,789, dated June 30, 1896.

Application filed October 5, 1895. Serial No. 564,797. (No model.)

To all whom it may concern:

Be it known that we, CLARENCE ROCKWELL ARNOLD and ALBERT MASON LICHTENBERGER, citizens of the United States, residing at Wellsville, in the county of Columbiana and State of Ohio, have invented a new and useful Window-Sash, of which the following is a specification.

The invention relates to improvements in window-sashes.

The object of the present invention is to enable the sashes of a window to be readily removed for cleaning and other purposes without detaching the beads and marring or injuring the woodwork.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a sash constructed in accordance with this invention. Fig. 2 is a horizontal sectional view of one side of a window, the sash being in position in the ways of the window. Fig. 3 is a similar view illustrating the position of the parts of the sash preparatory to removal. Fig. 4 is a detail perspective view of the beveled edge of the sash. Fig. 5 is a similar view of the movable section. Fig. 6 is a detail view of the catch, the parts being separated.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a window-sash mounted in a window-frame 2 in the usual manner and designed to be connected with sash-weights of the ordinary construction. The sash is provided at one side with a vertically-disposed movable section or bar 3, which completes the sash and which engages the adjacent way of the window-frame. The contiguous edges 4 and 5 of the body portion of the sash and the movable section or bar are beveled, and when it is desired to remove the sash from its ways the movable section or bar slides backward from the window-frame to the position illustrated in Fig. 3 of the accompanying drawings. The movable section or bar is disengaged in this manner from the window-frame, and the sash may be readily removed there-

from without disconnecting the sash-weight cords.

The bar or connection is slidingly connected at its beveled edge with the beveled edge of the body portion of the window-sash. The body portion of the window-sash is provided with headed studs 6, and the movable bar or section is provided with plates 7, having openings receiving the heads of the studs and arranged over recesses of the bar or section to permit the studs to move freely in the openings. The studs are formed integral with attachment-plates and are preferably T-shaped, and the plates 7 are composed of two sections adapted to be separated to permit the studs to be introduced into the openings formed by them. The openings of the plates are disposed transversely of the movable bar or section and the latter is adapted to slide back and forth when free to do so.

The movable bar or section is locked in alinement with the body portion of the sash to secure it against accidental movement by a bell-crank lever 8, fulcrumed at its angle on the beveled face of the sash, and engaging a projection 9 of the movable section or bar, and a catch 10 is mounted on the face of the sash and adapted to engage a headed projection 11 of the bar. The bell-crank lever is provided at one arm with a slot receiving the projection 9 of the beveled face of the movable bar or section, and the other arm of the bell-crank lever is engaged by the catch 10 when the movable bar or section is in alinement with the sash.

The catch 10 comprises a hook 12, adapted to engage the headed projection 11 and provided with a circular loop or ring 13 and an eccentrically-pivoted head or plate 14, mounted on the sash and engaging the circular opening of the hook and adapted to be rotated on its pivot 15 to draw the hook firmly in engagement with the headed projection 11. The hook 12 is provided at the circular opening with serrations or teeth 16, which are engaged by corresponding teeth of the eccentrically-pivoted head or plate 14.

It will be seen that the sash may be readily removed from the window-frame without detaching the beads or strips, and that it may be quickly replaced and secured and fastened

in the window-frame. It will also be apparent that the improvements may be readily applied to the ordinary window, and in some windows, if it be found necessary, one-half inch may be cut off of one side to provide ample space at the other side for the movable section or bar, and to prevent the fastening devices of the plates and the lever from coming in contact with the glass of the sash.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any advantages of the invention.

What we claim is—

1. The combination of a sash provided at one side with a movable bar or section adapted to engage one side of the window-frame and capable of movement on the sash, whereby it is drawn backward out of engagement with the window-frame to permit the sash to be removed, a lever fulcrumed on the sash and connected with the bar or section, and a catch for engaging the lever, substantially as and for the purpose described.

2. The combination of a sash having one of its vertical edges beveled, a bar or section having a correspondingly-beveled edge, plates mounted on the bar or section and provided

with openings, headed studs arranged on the sash and engaging the openings of the plate, a bell-crank lever fulcrumed on the sash and engaging the bar or section, and a catch for connecting the sash and the bar or section and for engaging the bell-crank lever, substantially as described.

3. The combination of a sash, a vertical bar or section slidingly connected with the sash and formed continuous thereof and capable of limited movement, whereby it is moved away from the window-frame to permit the removal of the sash, and a catch comprising a hook having a circular opening and provided at the same with serrations or teeth, and an eccentrically-pivoted head or plate having corresponding serrations or teeth engaging those of the hook, substantially as and for the purpose described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CLARENCE ROCKWELL ARNOLD.
ALBERT MASON LICHTENBERGER.

Witnesses:

NELLIE J. WELLS,
FRANK L. WELLS.