

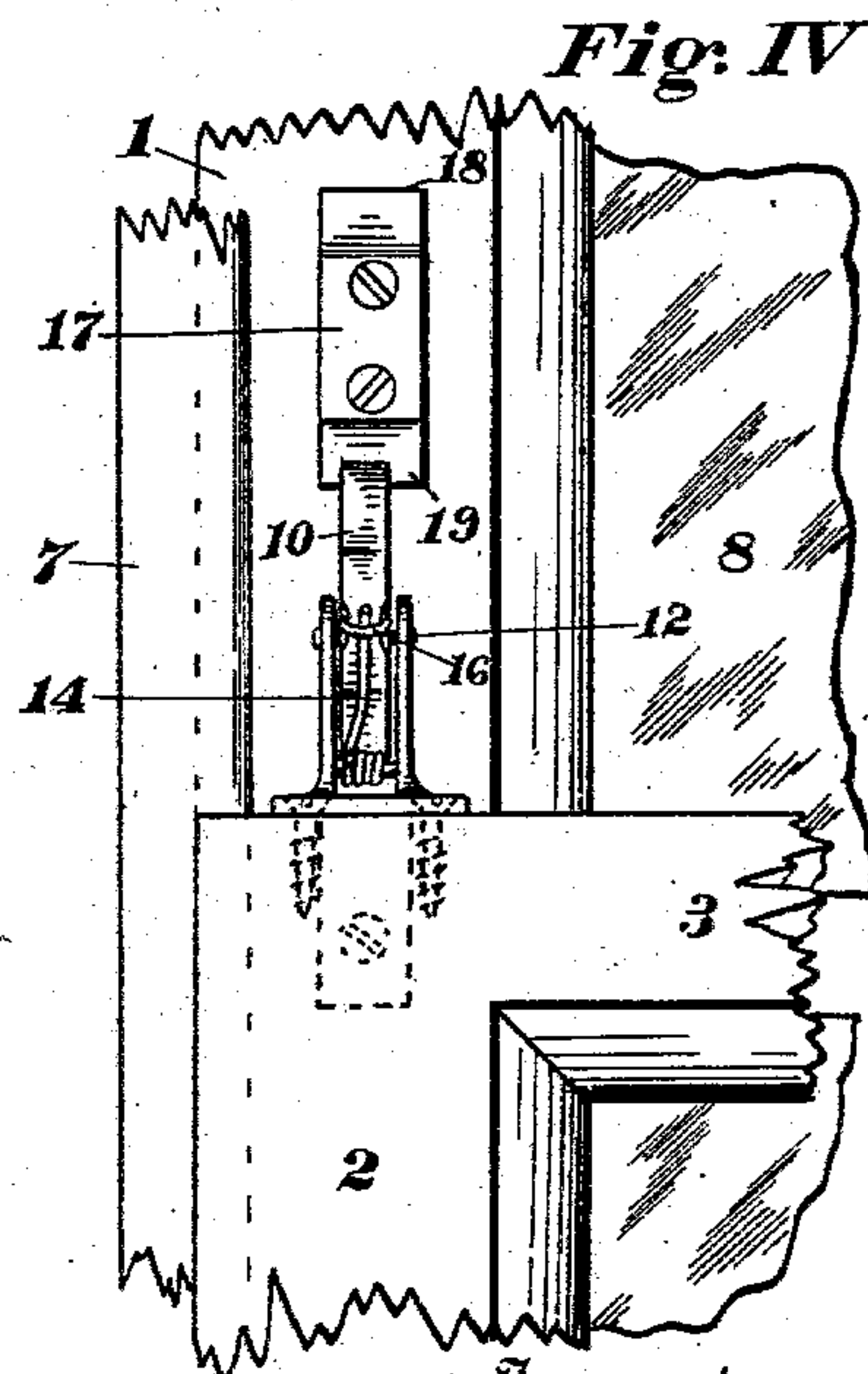
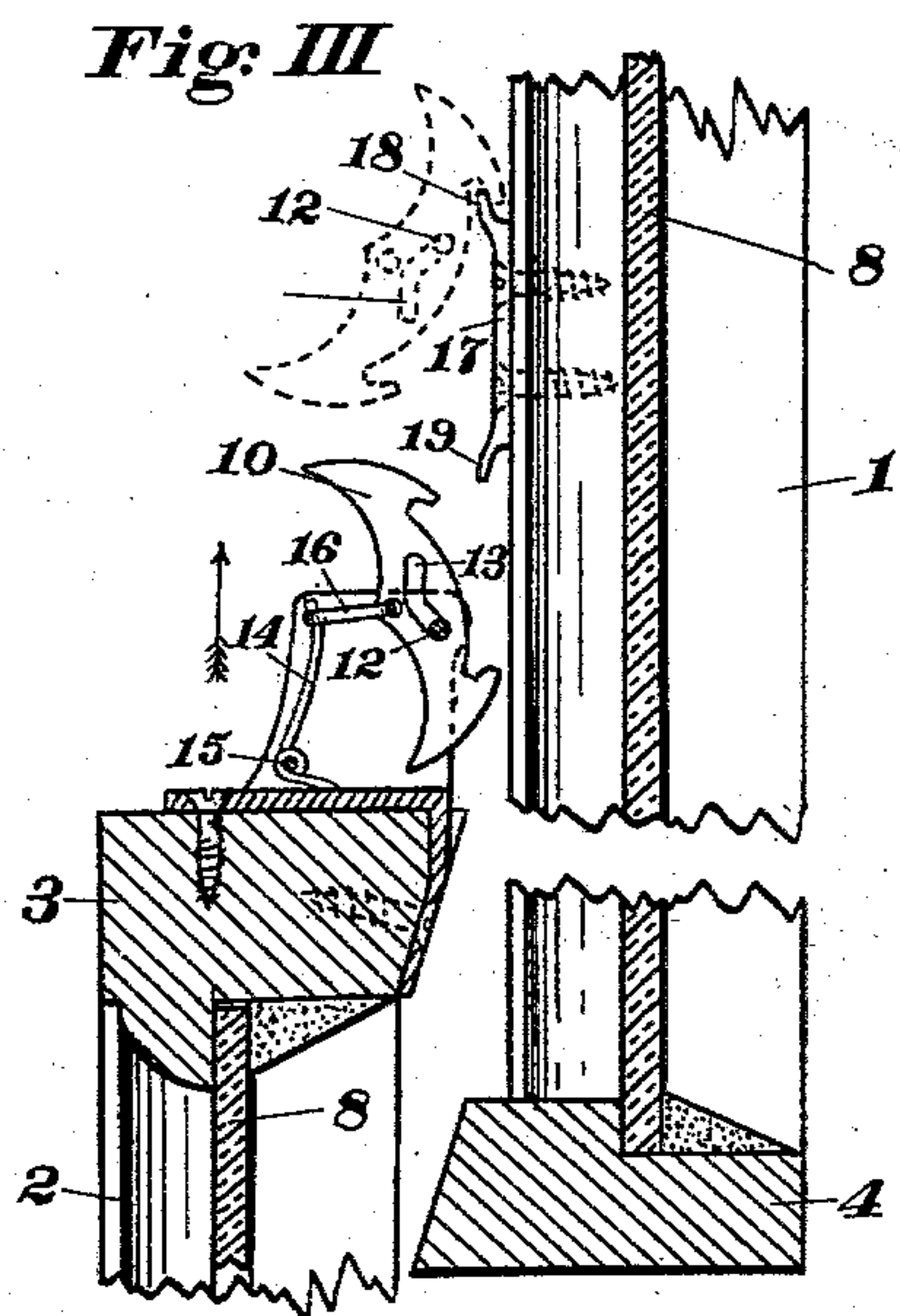
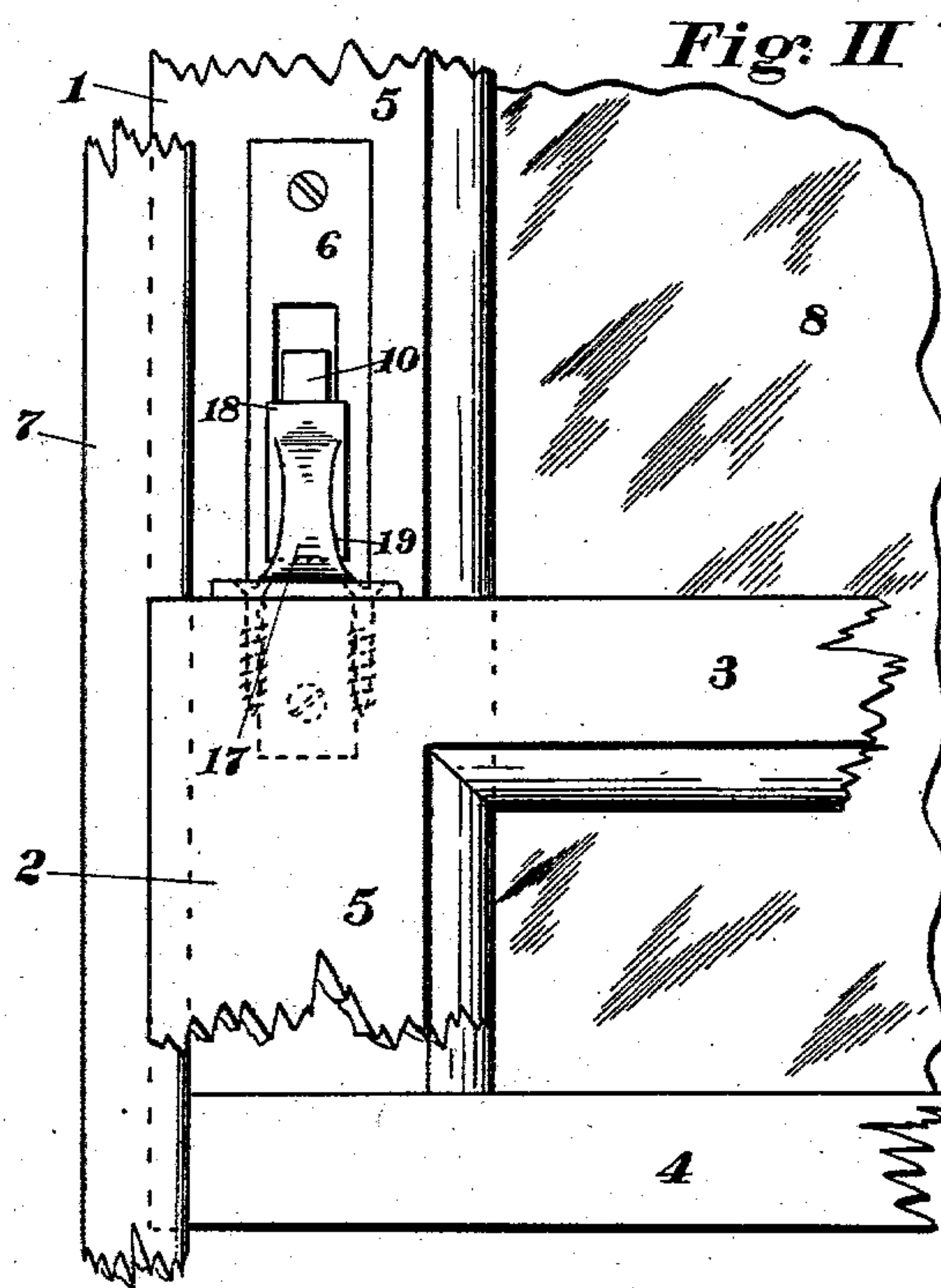
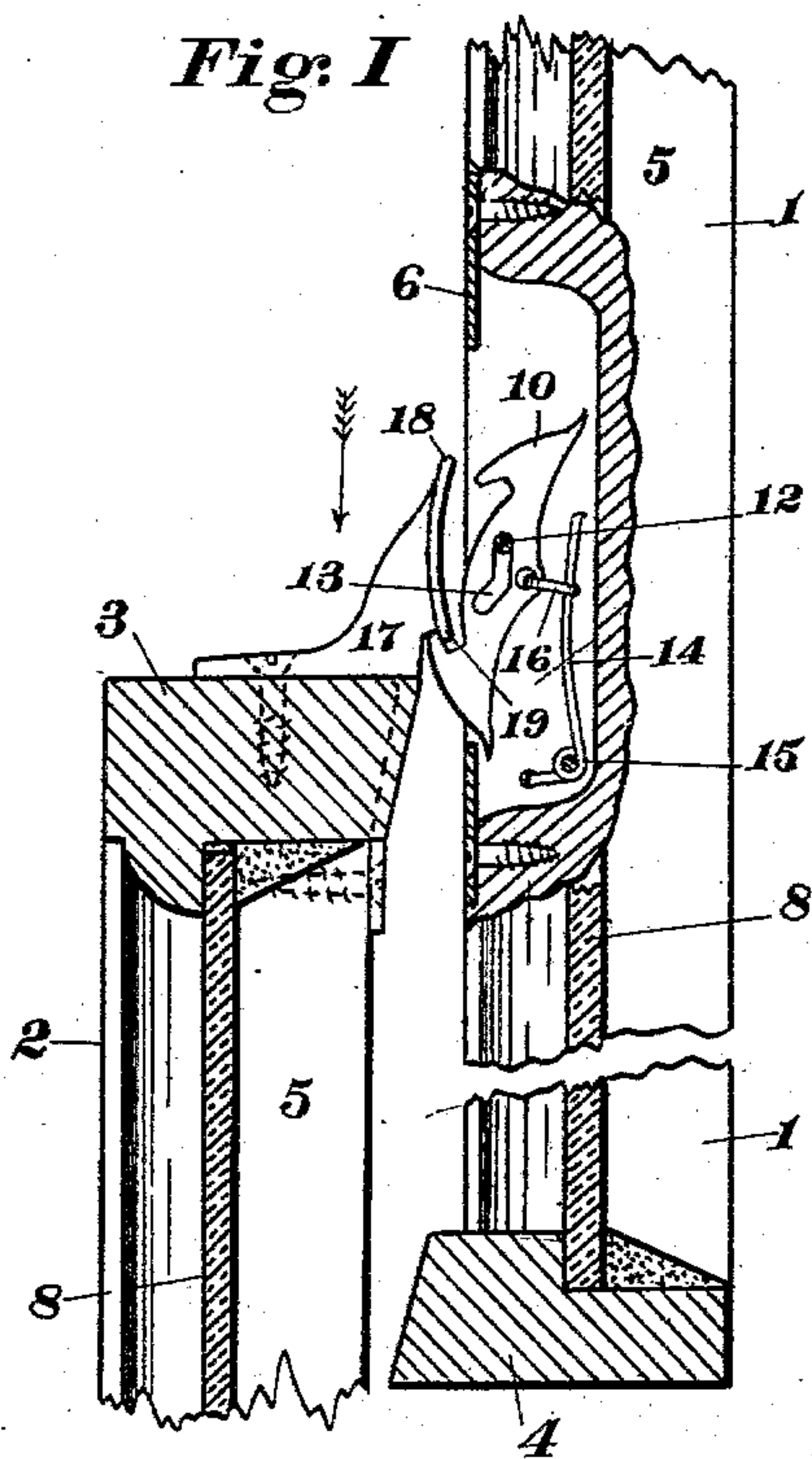
No. 753,479.

PATENTED MAR. 1, 1904.

A. F. ENQUIST.
DEVICE FOR ADJUSTING WINDOWS.

APPLICATION FILED NOV. 25, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

AXEL F. ENQUIST, OF SAN FRANCISCO, CALIFORNIA.

DEVICE FOR ADJUSTING WINDOWS.

SPECIFICATION forming part of Letters Patent No. 753,479, dated March 1, 1904.

Application filed November 25, 1903. Serial No. 182,606. (No model.)

To all whom it may concern:

Be it known that I, AXEL F. ENQUIST, a citizen of the United States, residing at San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Adjusting Windows; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to window-sashes and certain improvements in the manner of operating and adjusting the same.

My improvement consists in automatically-operating devices that engage or connect the lower and upper sashes so the latter can be moved upward or downward by the former by a person standing on the floor.

The object of the invention is to provide for the opening and closing of upper sashes in a convenient manner.

In operating sliding window-sashes the upper one is usually beyond reach from the floor and without handles or knobs because of its passing close behind the lower sash, the only available means of lowering being to use a pole or raise the lower sash so the meeting-rail of the upper one is accessible from the outside at a level commonly beyond reach of a person standing on the floor. To obviate these objections, I provide devices, as are hereinafter described, and illustrated by drawings that form a part of this specification.

Figure I is a vertical section through portions of upper and lower window-sashes provided with my improvement. Fig. II is a front view of Fig. I. Fig. III is a section similar to Fig. I, showing devices of a like nature, but mounted on the surface of the sashes. Fig. IV is a front view of Fig. III.

Similar numerals of reference are employed to designate corresponding parts in the several figures of the drawings.

1 is the upper, and 2 the lower, sash, constructed in the usual manner with meeting-rails 3 and 4, vertical bars 5, frame 7, and glass 8.

Referring to Figs. I and II, 6 is a box-plate set into the face of the upper sash-bar 5 and provided with a double end pawl 10, mounted

on a cross-pin 12, by means of a slot 13 in the pawl 10. In the back of this pawl 10 is a ring or link 16, that passes over the upper end of a spring 14, coiled at 15 to produce a backward strain on the pawl 10 below or above the pin 12, as the position of the pawl may determine, tending to disengage it, as seen in Fig. I. On the lower sash is a fixed part 17, with claw-points 18 and 19, that engage the pawl 10 on both the upward and downward movement of the sash 2, the downward movement being shown in Fig. I. When the lower sash 2 is raised, the pawl 10 is released, and by action of the spring 14 the top of the pawl is thrown forward, so that by slightly lowering the sash 2 and again raising it the claw 18 engages the pawl 10 at the top in position to raise the sash 1 by means of the lower sash 2, as will be further explained in connection with Figs. III and IV, where the action is the same. In these views, Figs. III and IV, the locking devices are modified to permit their convenient application to windows in use and without cutting the sash, the operation being the same with the pawl 10 transferred to the lower sash and mounted in a bracket 17, set on the meeting-rail 3. In these views, Figs. III and IV, the upper sash 1 is supposed to be at the bottom and to be raised by the lower sash 2. As this sash moves upward the pawl 10 engages the claw 19 on the upper sash, raising that until closed. The strain on the pawl 10 has in the meantime drawn it downward so the pin 12 is at the upper end of the slot 13. When the pawl 10 is thus shifted on the pin 12, the spring 14 draws it into the position shown by dotted lines in Fig. III and ready to draw the sash 1 downward. This motion of the pawl 10 is peculiar in that the action in either direction sets the pawl for action in the opposite direction.

It will be understood that except in the case of narrow windows these locking devices are applied at each side of a window-sash.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An automatic catch for window-sashes, upper and lower, consisting of an oscillating double pawl attached to one sash, a double

catch on the other sash, for engagement with said pawl, on both upward and downward movements of the lower sash, means for automatically resetting said pawl for reengagement with said catch on the movement of the lower sash in either direction, and means for automatically disengaging said pawl on a slight reverse movement of said lower sash, to permit the lower sash to move independently of the upper sash, the whole to enable the upper sash to be raised and lowered solely by operating the lower sash, substantially as specified.

2. An automatic catch for window-sashes, upper and lower, consisting of a double pawl on one sash pivoted upon an angular slot so as to have endwise motion, a spring to hold the pawl in either position at the extremities of the slot, and a double catch on the other sash for alternate engagement with said dou-

ble pawl, on both upward and downward movements of the lower sash, whereby the lower sash automatically engages the upper sash to draw it down when the lower sash is raised and then lowered, and automatically disengages by a slight reverse movement to permit the lower sash to be operated independently of the upper sash, and at the same time is automatically set for reengagement with the lower sash to replace the upper sash by the movement of the lower sash, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AXEL F. ENQUIST.

Witnesses:

ALFRED A. ENQUIST,
P. W. J. LANDER.