

(No Model.)

J. BARR.
WINDOW.

No. 414,965.

Patented Nov. 12, 1889.

Fig. 1.

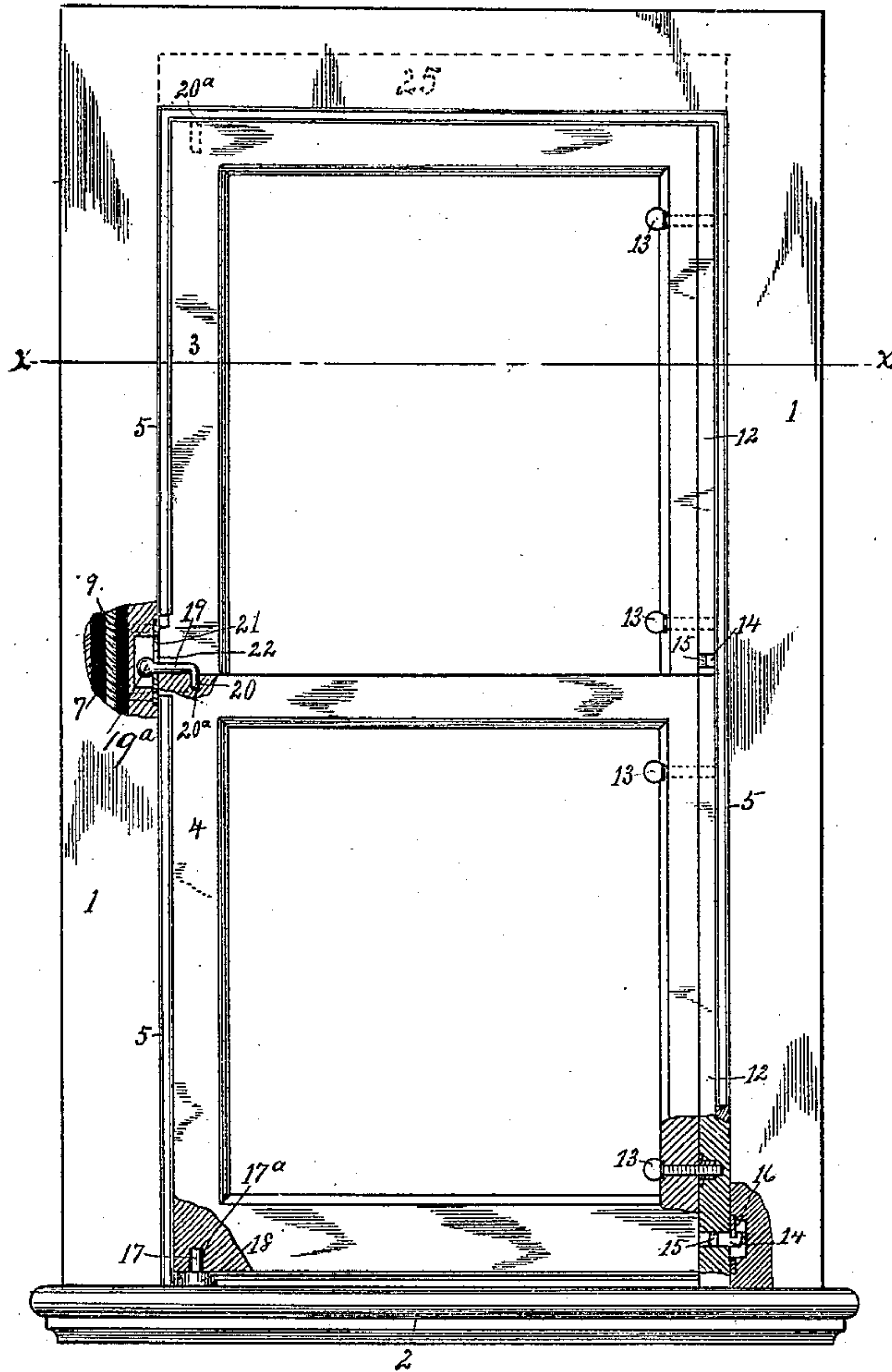


Fig. 2.

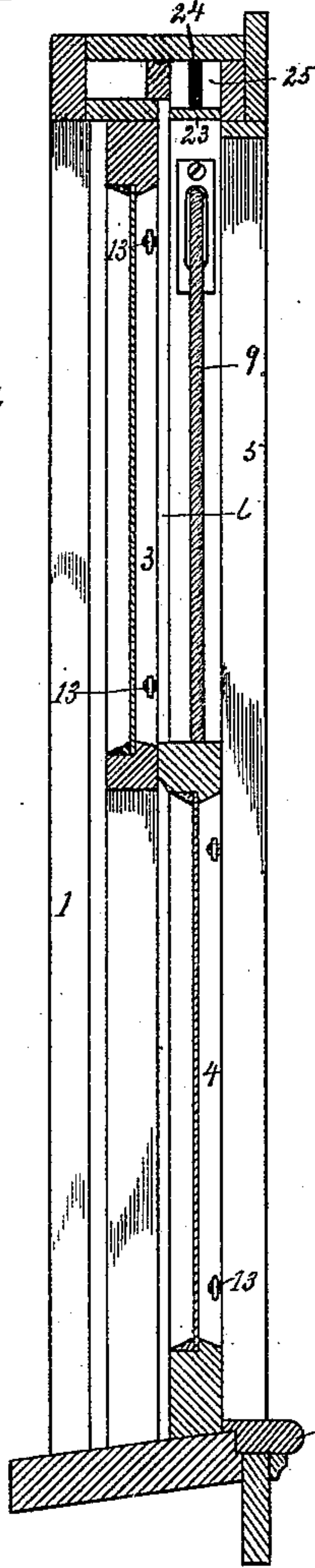


Fig. 3.

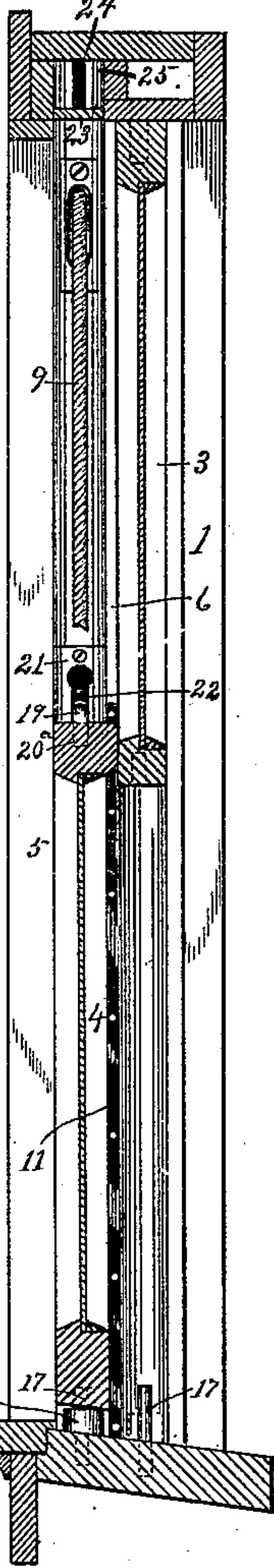
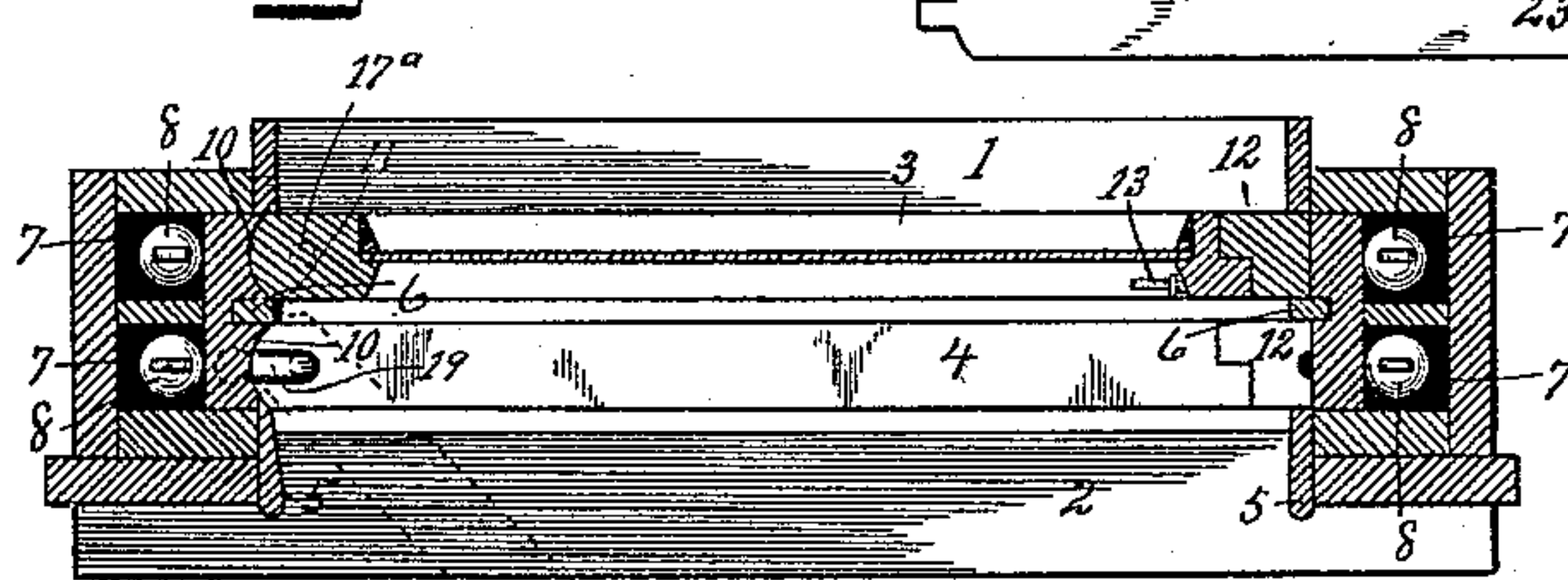


Fig. 5.

Fig. 4.



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WINDOW.

SPECIFICATION forming part of Letters Patent No. 414,965, dated November 12, 1889.

Application filed January 17, 1889. Serial No. 296,631. (No model.)

To all whom it may concern:

Be it known that I, JOHN BARR, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Windows; and I do hereby declare the following to be 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 the class of windows which are so constructed and arranged that both upper and lower sashes may be swung into the room, so as to give access to both sides of the glass for the purpose of cleaning or lettering, all inconvenience and danger in cleaning and lettering large and high windows being thereby wholly avoided.

The object of my invention is to simplify and cheapen the details of construction, so that the expense shall be reduced to practically that of the ordinary style of windows, thus bringing the invention within the reach of all, and making it feasible in low-priced buildings as well as in larger and more expensive buildings.

With these ends in view I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to denote the several parts.

Figure 1 is an elevation of a window frame-work, showing the upper sash at its closed position, the lower sash being slightly raised and the angle-rod engaged so that it may be swung inward, parts of the frame-work and sash being broken away; Fig. 2, a central vertical section of the two sashes in the closed position, looking toward the right; Fig. 3, a similar section looking toward the left, the position of the sashes being the same as in Fig. 1; Fig. 4, a horizontal section on the line $x x$ in Fig. 1, looking down, a partially-opened position of the lower sash being shown in dotted lines; and Fig. 5 is a view of the sliding cross-piece detached.

1 denotes the window frame-work; 2, the sill; 3, the upper sash; 4, the lower sash; 5, the beads; 6, the parting-beads; 7, the well; 8, the

weights, and 9 the cords. These parts may all be of the ordinary or any preferred construction.

One side of each sash is made convex, as at 10 in Fig. 4, the face of the jamb being concaved to correspond with the sashes. This is in order to permit the sashes to be turned readily when it is required to swing them inward. I preferably provide a rubber strip 11 upon the face of the parting-bead at that side, so as to insure an air-tight closing of the joint. The other sides of the sashes do not engage the jamb, but are rabbeted to engage slides 12, which themselves slide in the face of the jamb, being held in position by the beads in the ordinary manner. In use this side of each sash is locked to its corresponding slide by means of screws or pins 13, which pass through the edges of the sashes and engage said slides.

14 denotes finger-bolts in the slides, by which they are locked to the jambs when the sashes are disconnected, so that the slides will not be drawn up by the weights. These bolts may be operated in any suitable manner, but ordinarily are provided with heads 15, which project outward through slots in said slides, so that they may be readily reached when it is desired to lock the slides to the jamb. It should be understood that ordinarily the slides are not locked to the jamb, but the sashes are locked to the slides, the latter sliding up and down freely with the sashes. When it is desired to swing the sashes open, however, the slides are first locked to the jamb. Then the sashes are unlocked from the slides by loosening screws or pins 13. As shown in the drawings, the bolt is provided with a notch, which engages a face-plate 16, covering a recess in the jamb. The window is then raised slightly, as in Fig. 1, so that the notch will engage the plate, thus holding the slide firmly in place when the sash is swung open. 17 denotes pins which project above the sill a short distance from the jamb on the side that is curved inward—that is, the right, as seen in Figs. 1 and 4. These pins engage corresponding openings 17^a in the lower edges of the sashes, the front pin engaging the

lower sash at its normal position and the back pin engaging the lower edge of the upper sash when it is lowered.

In order to insure that the sashes shall
5 swing clear of the sill when it is desired to turn them inward, as in cleaning or lettering, I provide removable washers or sleeves 18, which slip over pins 17, then lower the sashes down upon the tops of the washers, the sashes
10 resting upon the washers while being swung inward. The upper pivotal points upon which the sashes turn consist of angle-rods 19, the downwardly-turned ends 20 of which engage openings 20^a in the upper edges of the sashes,
15 in the same manner that pins 17 engage the corresponding openings 17^a in the lower edges of the sashes, it being understood, of course, that the openings in the sashes and the pivots 17 and 20 are in line with each other, so that the
20 sashes will swing inward steadily and without leaving the jambs, the said pivots being the centers of the curves 10 at the edges of the sashes. The angle-rods are provided with heads 19^a, adapted to engage inwardly-curved
25 plates 21 in the faces of the jambs, said plates having slots 22 to receive and hold the heads, the upper ends of the slots being enlarged, so that the heads may be inserted readily. The heads will then drop down and be retained
30 by the slots and the downwardly-turned ends will engage the openings in the upper edges of the sashes.

23 is a cross-piece, the ends of which engage slots 24 in the jamb at the top of the
35 groove or way for the lower sash. The object of this construction is to close the grooves or ways for the upper sash in the usual manner, and at the same time to provide for raising the lower sash above the ordinary height,
40 so that the upper sash may be swung inward under it.

The operation is as follows, it being understood that when it is not desired to swing either sash inward the angle-rod is entirely
45 removed: Supposing that it is desired to swing the lower sash inward, the slide 12, corresponding with the lower sash, is locked to the jamb by means of finger-bolt 14, so that the weight will not draw it up. The sash is then
50 disengaged from the slide by loosening screws or pins 13. This leaves the sash free at that edge. The sash is then lifted sufficiently to allow one of the washers 18 to be placed over the pin 17, which is engaged by
55 that sash. The sash is then slid down upon the top of the washer, and the downwardly-projecting end of angle-rod 19 is engaged in the opening in the top of the sash. This permits the sash to be swung inward readily,
60 clearing the sill. Having finished the work of cleaning and lettering, the angle-rod is disengaged and removed, the washer removed, the opposite edge of the sash locked to the corresponding slide 12, and said slide is released from the jamb, which leaves the sash
65 in condition for use in the ordinary manner.

Suppose that it is desired to clean or letter the upper sash. The lower sash is raised upward into engagement with cross-piece 23, which is raised by the sash until the latter
70 is several inches above its normal position, a socket 25 being provided in the frame-work to receive the lower sash and the cross-piece when they are raised. The upper sash is then forced downward into engagement with
75 the back pin 17, a washer 18 having previously been placed over it, as before. The slide moving with this sash is locked to the jamb in the same manner as before, and the sash is disconnected from the slide by loosening
80 the screws or pins 13, as before. The downwardly-projecting end of the angle-rod is then engaged in the recess in the upper edge of said upper sash, the head being engaged in the corresponding slot 22. The sash
85 may then be swung inward entirely clear of the sill and raised lower sash. As soon as the operation of cleaning or lettering is finished the parts are restored to their normal position in the same manner as has been already
90 described. The sash is then raised to its usual position and the lower sash lowered, cross-piece 22 dropping and closing the upper end of the way the instant the lower sash is moved downward.

Having thus described my invention, I claim—

1. The combination, with a window-sash having openings in its upper and lower edges, and a slide engaged by said sash, of means,
100 substantially as described and shown, for connecting said sash with the slide, means, substantially as described and shown, for connecting said slide with the jamb, an angle-rod adapted to engage the jamb and the upper
105 edge of the sash, and a pin in the sill adapted to engage the opening in the lower edge of the sash, whereby said sash may be swung inward, as and for the purpose set forth.

2. A window-casing having a socket 25, with a cross-piece 23 and pins 17 projecting upward from the sill, in combination with
110 sashes having openings in their lower edges adapted to engage said pins, corresponding openings in their upper edges, and an angle-rod adapted to engage the jambs and the openings in the upper edges of the sashes.

3. The frame-work having a socket 25, a cross-piece 23, and pins 17, in combination with
120 sashes, slides engaged by said sashes, means, substantially as described and shown, for connecting and disconnecting the sashes with the slides and the slides with the jamb, and an angle-rod adapted to be connected to the
125 upper edge of the sashes and to the jambs, whereby either sash may be swung inward, substantially as set forth.

4. The combination, with a window frame-work having a slotted face-plate 21, and
130 sashes having openings 17^a and 20^a, of pins 17, adapted to engage openings 17^a, washers

upon which the sashes rest, and angle-rods adapted to engage face-plates 21 and openings 20^a, as and for the purpose set forth.

5 In a window frame-work of the class described, face-plate 16, having an opening, in combination with a slide to which the weight is connected, a swinging sash adapted to engage said slide, and a finger-bolt in said slide adapted to engage said face-plate to lock the

slide to the jamb when the sash is disconnected from the slide.

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

JOHN BARR.

Witnesses:

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