

No. 734,855.

PATENTED JULY 28, 1903.

L. W. HAGEL.
SASH LOCK, LIFT, AND SASH SUPPORTER.

APPLICATION FILED DEC. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

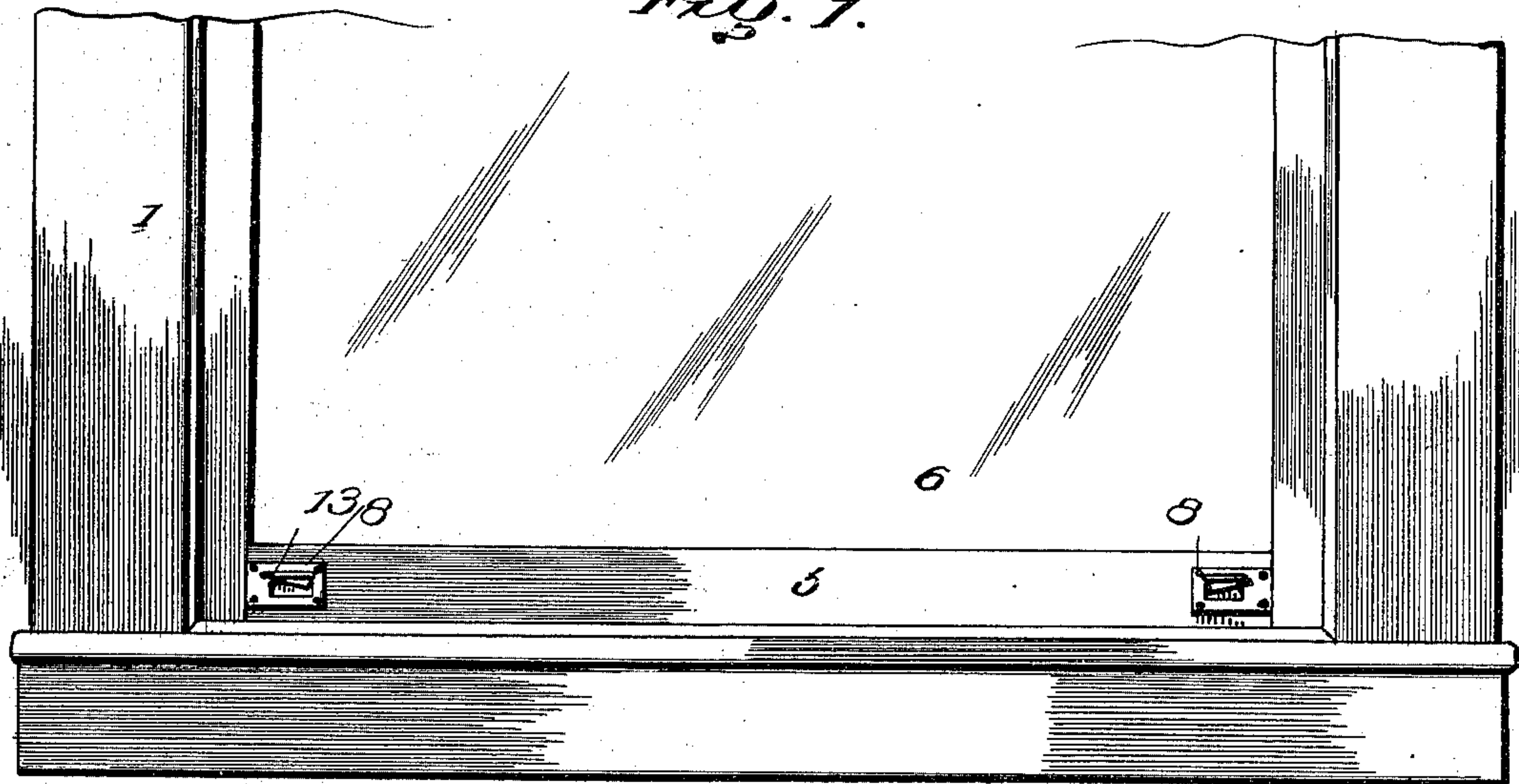


Fig. 2.

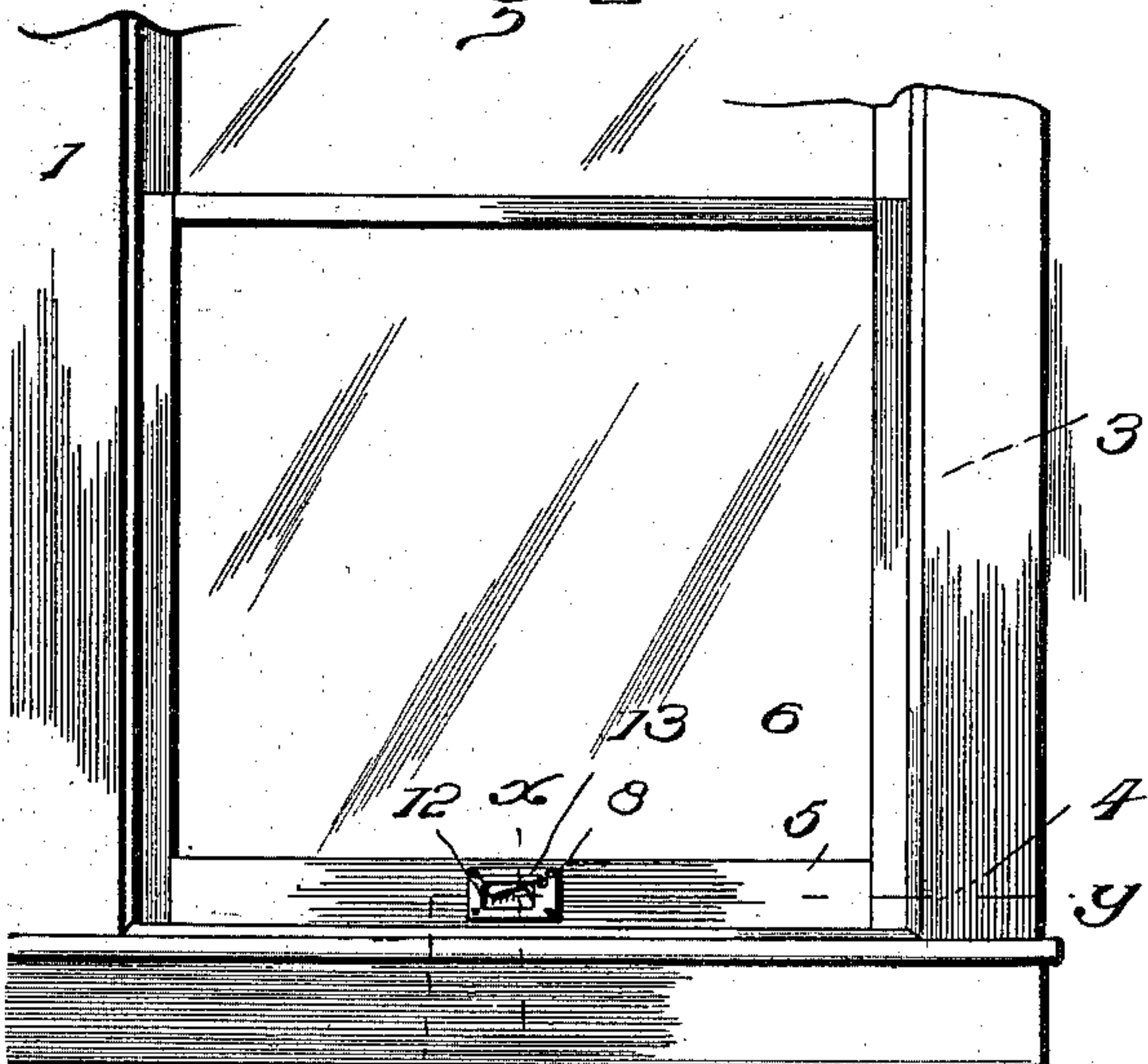


Fig. 3.

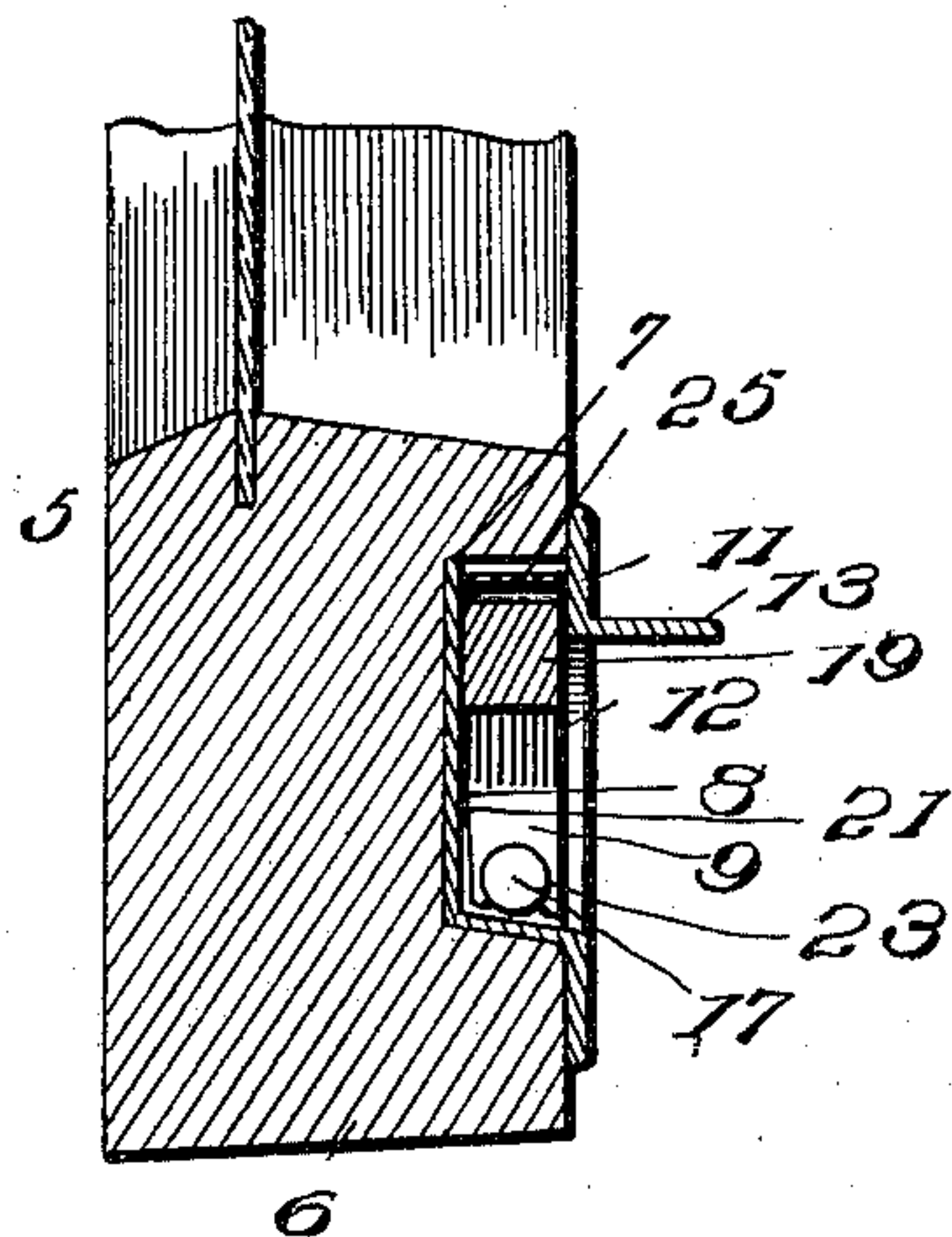
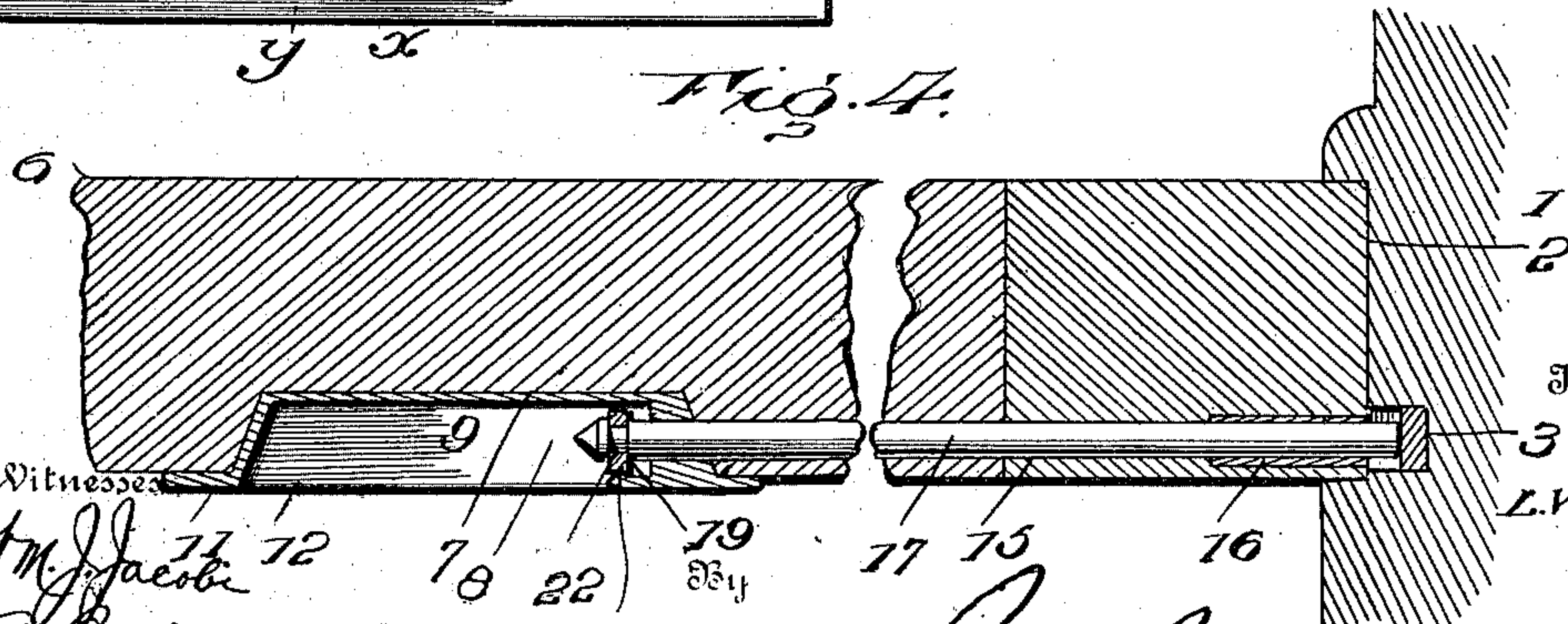


Fig. 4.



Inventor

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2 SHEETS—SHEET 2.

Fig. 5.

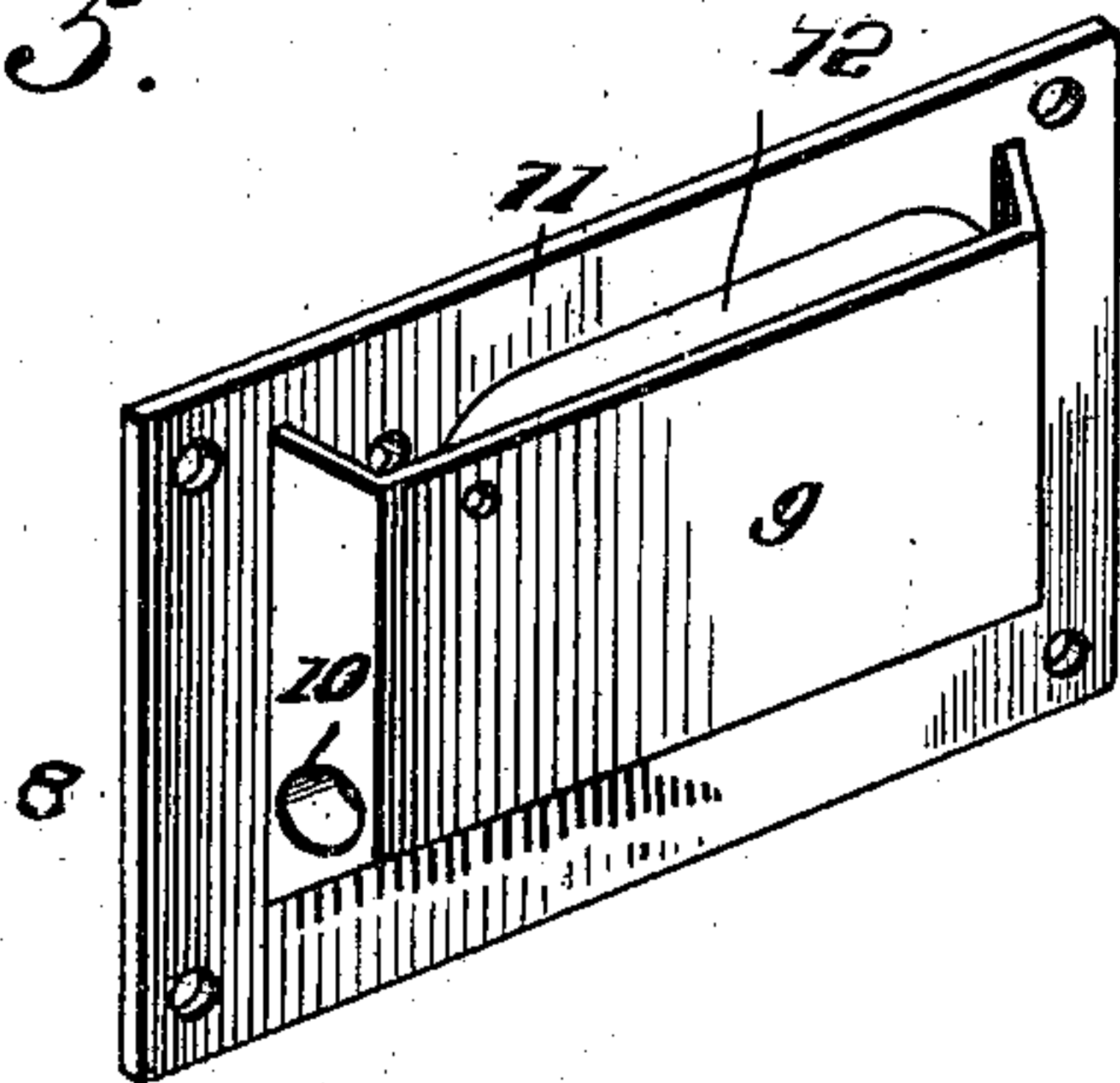


Fig. 6.

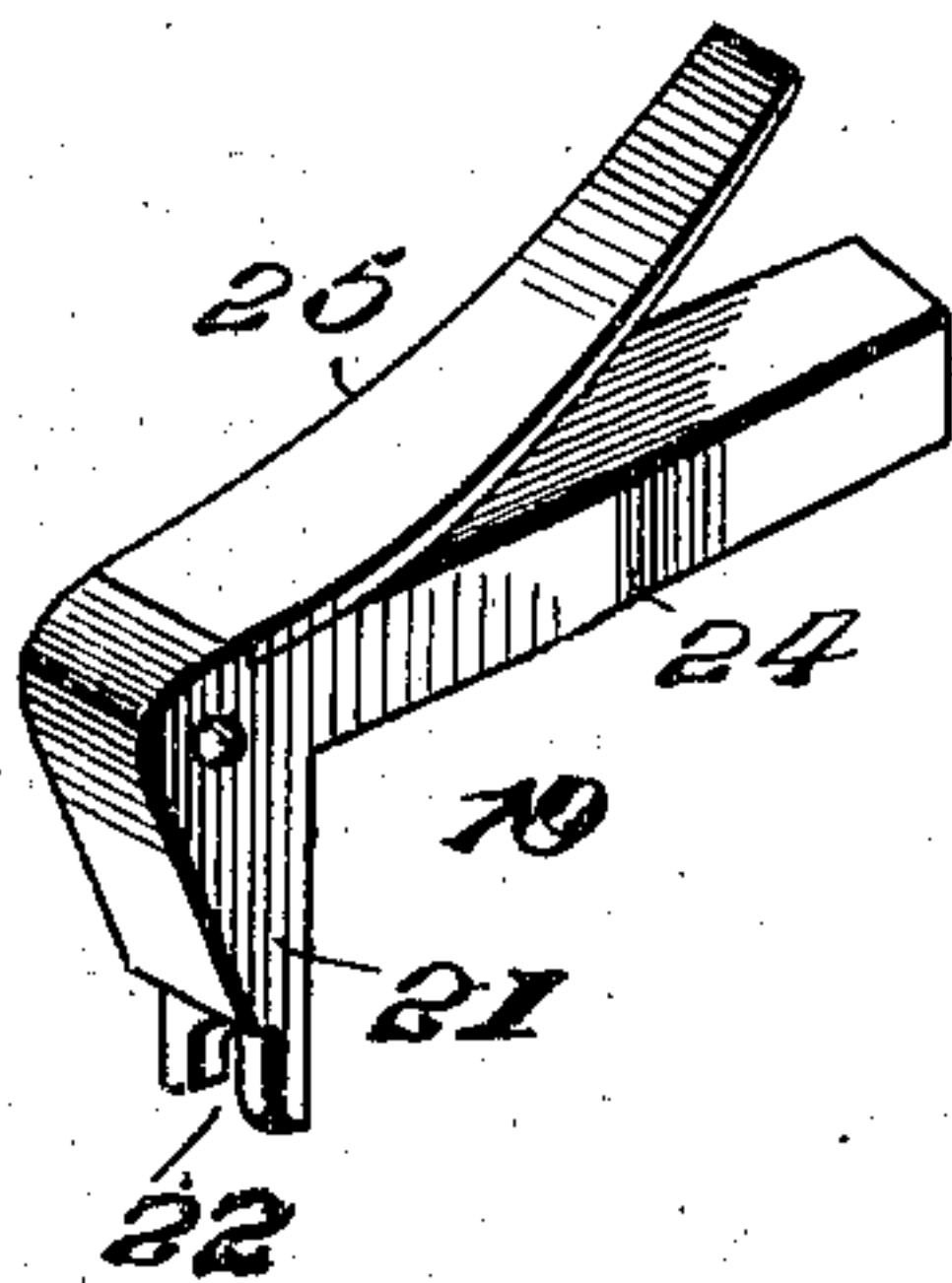


Fig. 8.

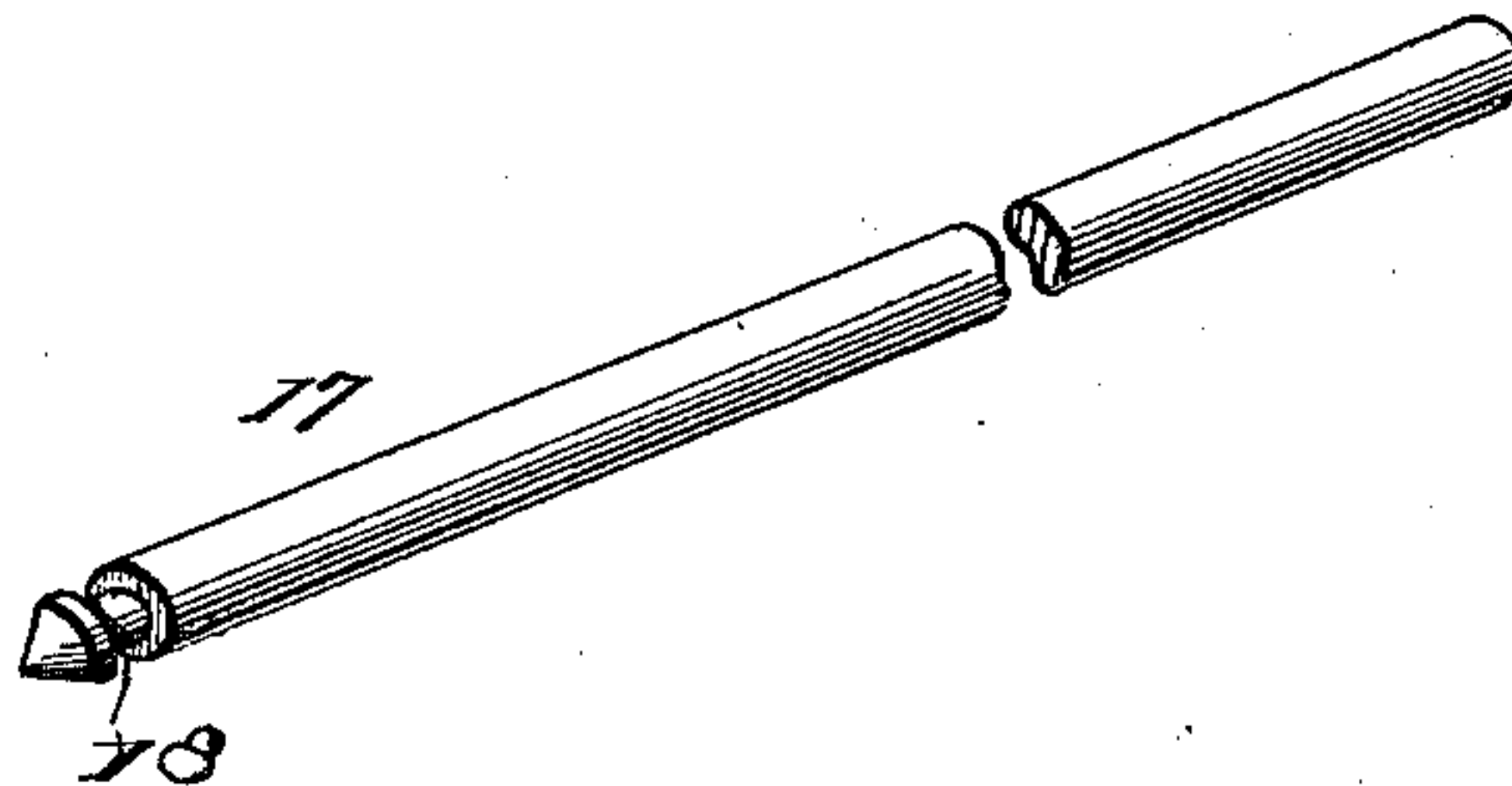


Fig. 9.

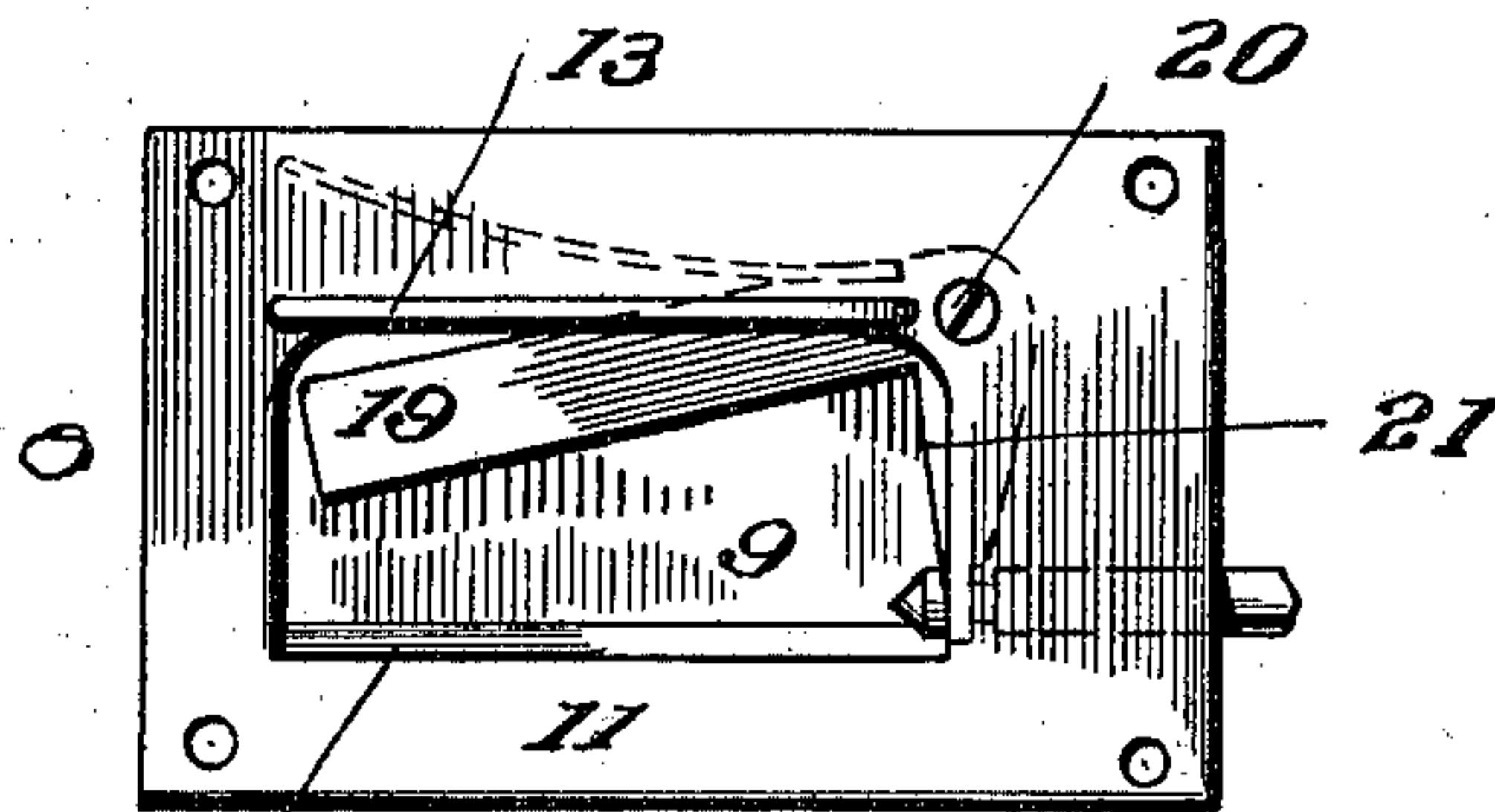


Fig. 7.

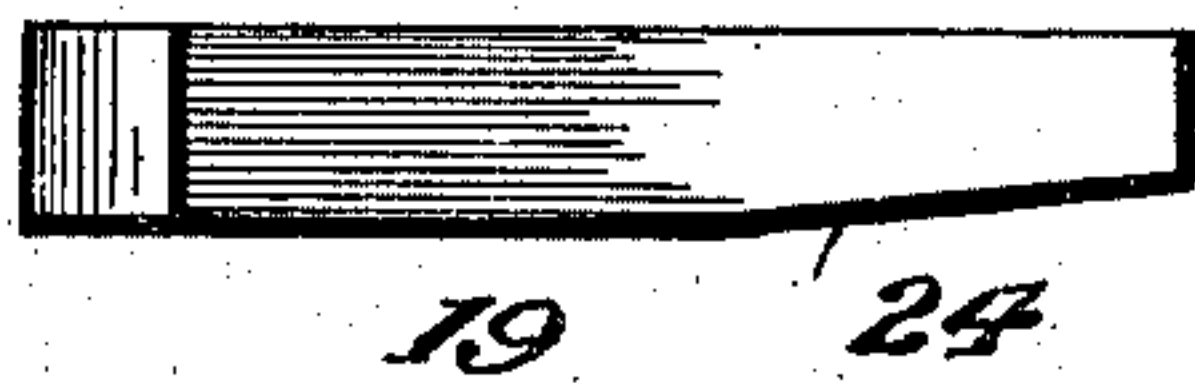
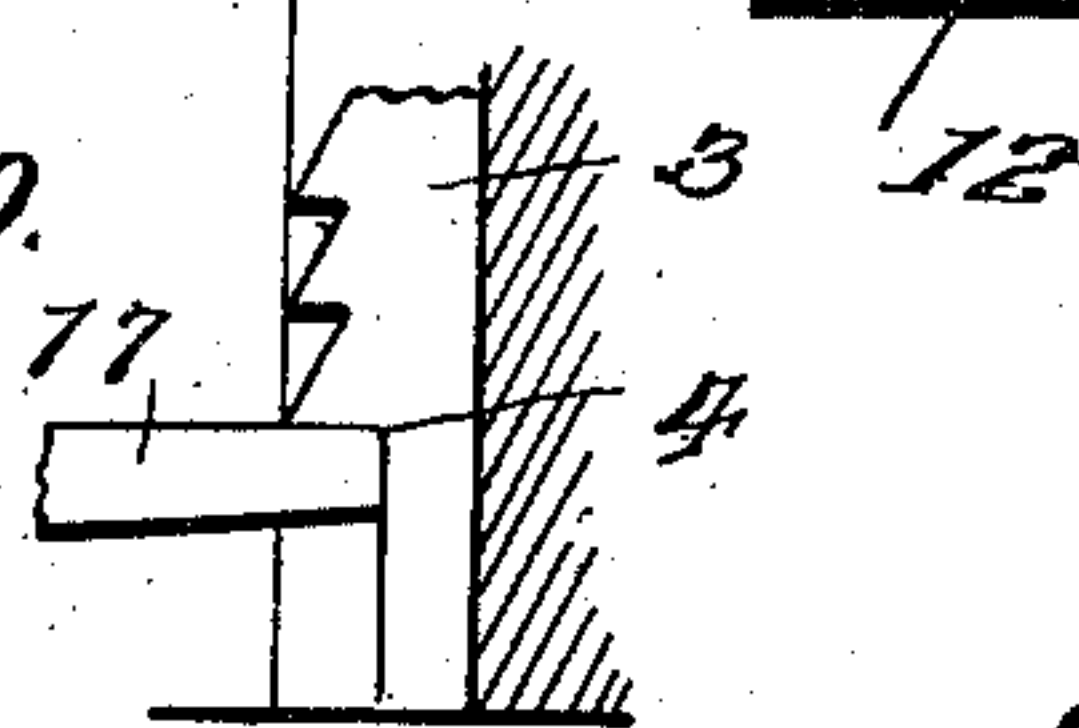


Fig. 10.



Inventor

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By

John M. Munn

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Witnesses
Wm. J. Jacobi
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UNITED STATES PATENT OFFICE.

LOUIS W. HAGEL, OF JACKSONVILLE, ILLINOIS.

SASH-LOCK, LIFT, AND SASH-SUPPORTER.

SPECIFICATION forming part of Letters Patent No. 734,855, dated July 28, 1903.

Application filed December 18, 1902. Serial No. 135,754. (No model.)

To all whom it may concern:

Be it known that I, LOUIS W. HAGEL, a citizen of the United States, residing at Jacksonville, in the county of Morgan and State of Illinois, have invented certain new and useful Improvements in Sash-Locks, Lifts, and Sash-Supporters; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in sash-locks, lifts, and sash-supporters wherein the locking-bolt is operated by a pivoted lift located in the sash.

The object of the invention is to provide a bolt adapted to engage a rack fixed in the window-frame and pivot a lift in a housing mortised in the sash to disengage the bolt from the rack when the window is raised.

My invention is primarily designed for car-windows, where a positive lock is required to maintain the window in an elevated position to prevent it being jarred by the motion of the train.

With these objects in view important details of construction have necessarily to be devised, and it is these features also that I will hereinafter describe in detail and particularly point out in the claim.

In the drawings, Figure 1 is a front elevation of a window, illustrating the application of my invention to a heavy window. Fig. 2 is a similar view illustrating the application of the invention to a small window. Fig. 3 is a vertical section of the same on the line X X, Fig. 2. Fig. 4 is a horizontal section on the line Y Y, Fig. 2. Fig. 5 is a detail perspective view of the housing. Fig. 6 is a detail perspective view of the pivoted lift. Fig. 7 is a top plan view of the same. Fig. 8 is a detail perspective view of the lock-bolt. Fig. 9 is an enlarged front elevation of the housing and the lift. Fig. 10 is a detail view showing the locking-shoulder at the end of rack-bar 3.

The same numerals refer to like parts in all the figures.

1 represents a window-frame of ordinary

construction having the usual sash-guide 2. In the face of the guide is a rack-bar 3, whose teeth incline upwardly and which is provided at its lower end with a shoulder 4, against which the locking-bolt is seated when the window is down.

Preferably in the lower rail 5 of the sash 6 is a mortise 7 to receive a housing 8. The housing is composed of a rearwardly-extending box-like structure 9 open at its top and having in one of its side walls a bearing 10. The front wall 11 of the housing has an opening 12 for the convenient insertion of a person's fingers, and over the opening is an outwardly-projecting flange 13.

15 represents an opening in the sash, which extends to the outer edge thereof from and in alinement with the bearing 10. A bushing 16 is interposed in the outer end of the opening 15 to form the opposite bearing for the bolt.

17 represents the bolt, having at one end an annular groove 18 to form a neck, and 19 indicates the lift. The lift is of right-angular formation and is pivoted within the housing 8 at 20. The lower end of the vertical leg 21 of the lift is slightly reduced and is bifurcated at 22, while the horizontal member 23 of said lift is slightly beveled at its rear 24 to avoid frictional resistance when in operation. A spring 25 is interposed between the top of the mortise and the member 23 to prevent the parts rattling and incidentally force the bolt out. The bolt is placed in the opening 15, being guided in the bearings 10 and 16, the end having the groove 18 being in the housing. The bifurcated end 22 of the lift engages the neck adjacent the groove 18, and the pivot 20 is placed in position, completing the assembling of the lock.

In operation the fingers are placed within the opening 11 and under the flange 13 of the housing 8 and the horizontal member 23 of the lift 19. Pressure upward is exerted to raise the window, and in so doing the preliminary movement rocks the lift 19 on its pivot, and the bifurcated end 22 engages the walls of the groove 18 and withdraws the bolt from engagement with the stop at the lower end of the rack 3. The sash is now free to be moved upward until the desired height is reached,

whereupon pressure on the lift is released, and under the influence of the spring 25 and the weight of the lift the bolt is forced outwardly and engages one of the teeth of the rack, thus supporting the window at any desired point. I have described a spring for incidentally returning the bolt to its normal position. However, its prime function is to prevent rattling of the parts when the invention is applied to windows of railway-cars; but for ordinary use the weight of the lift is sufficient to return the bolt, so that I do not desire to limit myself in this particular.

When the improvement is applied to large windows, there will be one lock and lift located near both edges thereof, as disclosed in Fig. 1; but for windows of ordinary sizes one lock will be found sufficient.

My invention is extremely simple and possesses decided advantages over the prior art, inasmuch as the parts are arranged whereby the holding action is positive and the necessary movement to make it such does not re-

quire a further operation other than the mere raising of the window.

What I claim as new is—

In a sash-lock, the combination with a window-frame, of a rack secured thereto, a window-sash having a mortise therein, a housing in the mortise, a bolt mounted to slide in the sash and engage with said rack, a lifting-lever pivoted and lying wholly within the housing, said lift engaging one end of the bolt, the handle end of said lift being of a size to approximately fill the space in the housing above the entrance-opening thereof, and a spring intermediate the lift and the upper wall of the housing-recess, substantially as described.

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

LOUIS W. HAGEL.

Witnesses:

CHARLES A. BARNES,
EMIL HAGEL.