

(No Model.)

A. G. MINGES & G. REIN.  
WINDOW.

No. 551,219.

Patented Dec. 10, 1895.

Fig. 1.

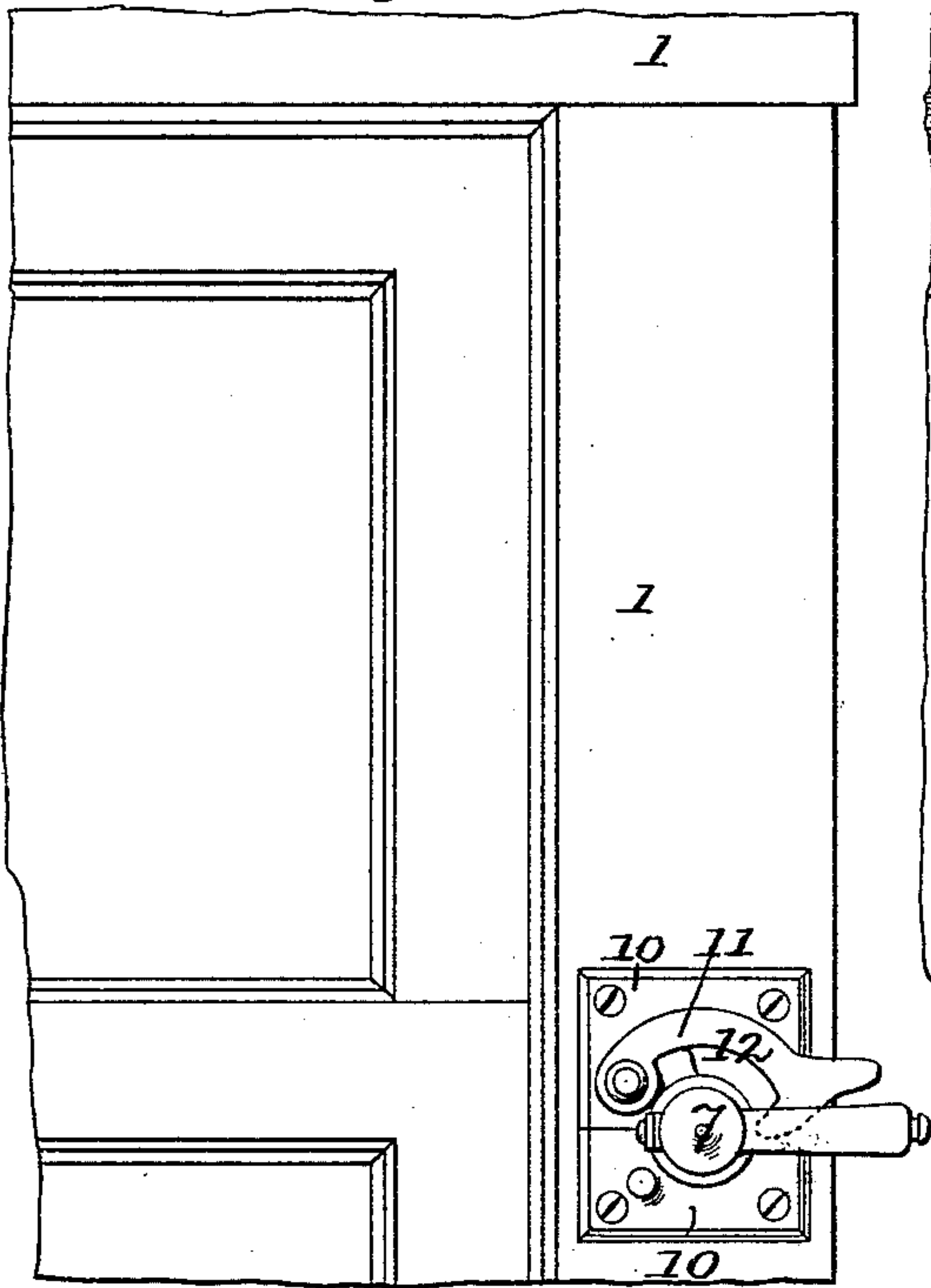


Fig. 2.

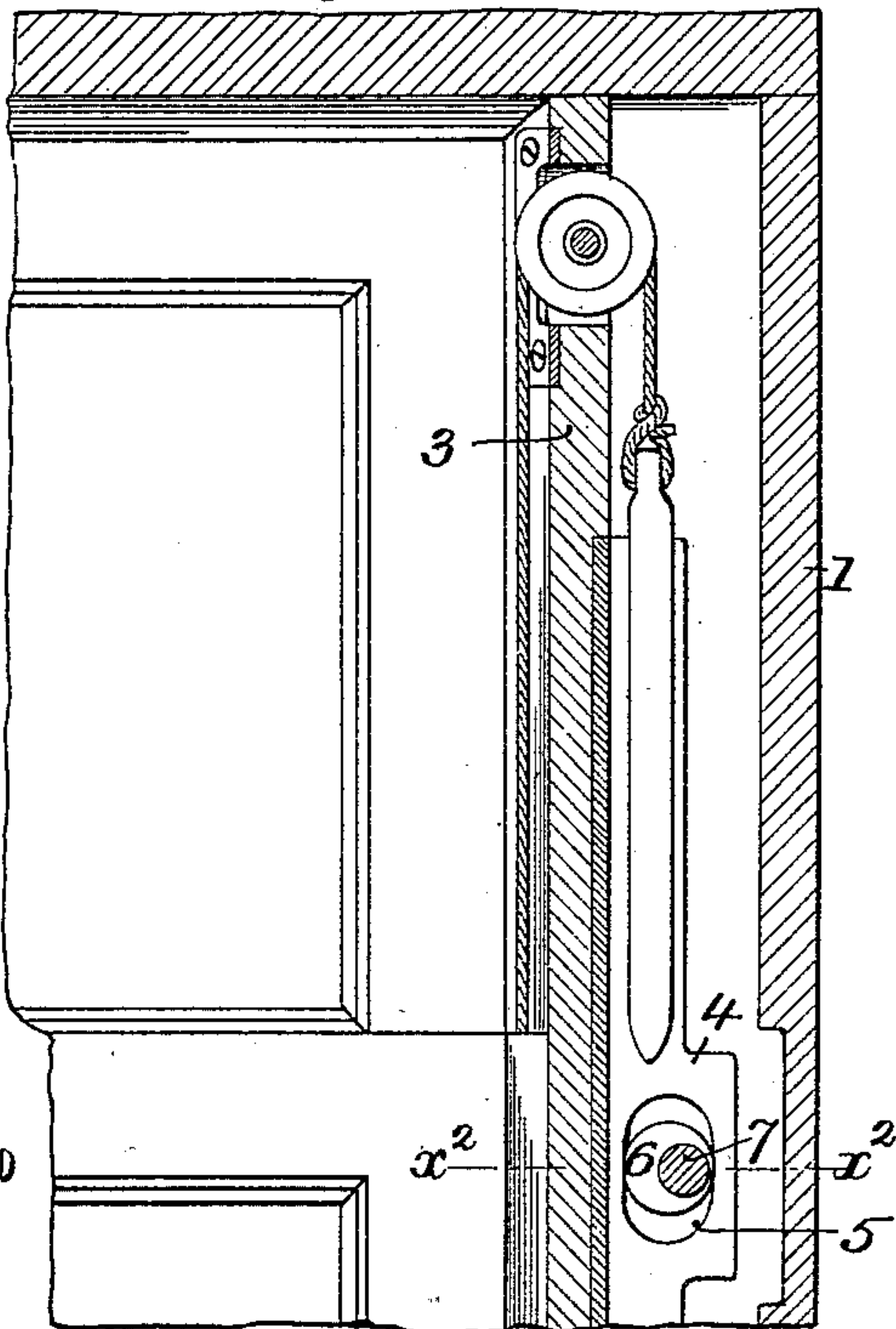


Fig. 3.

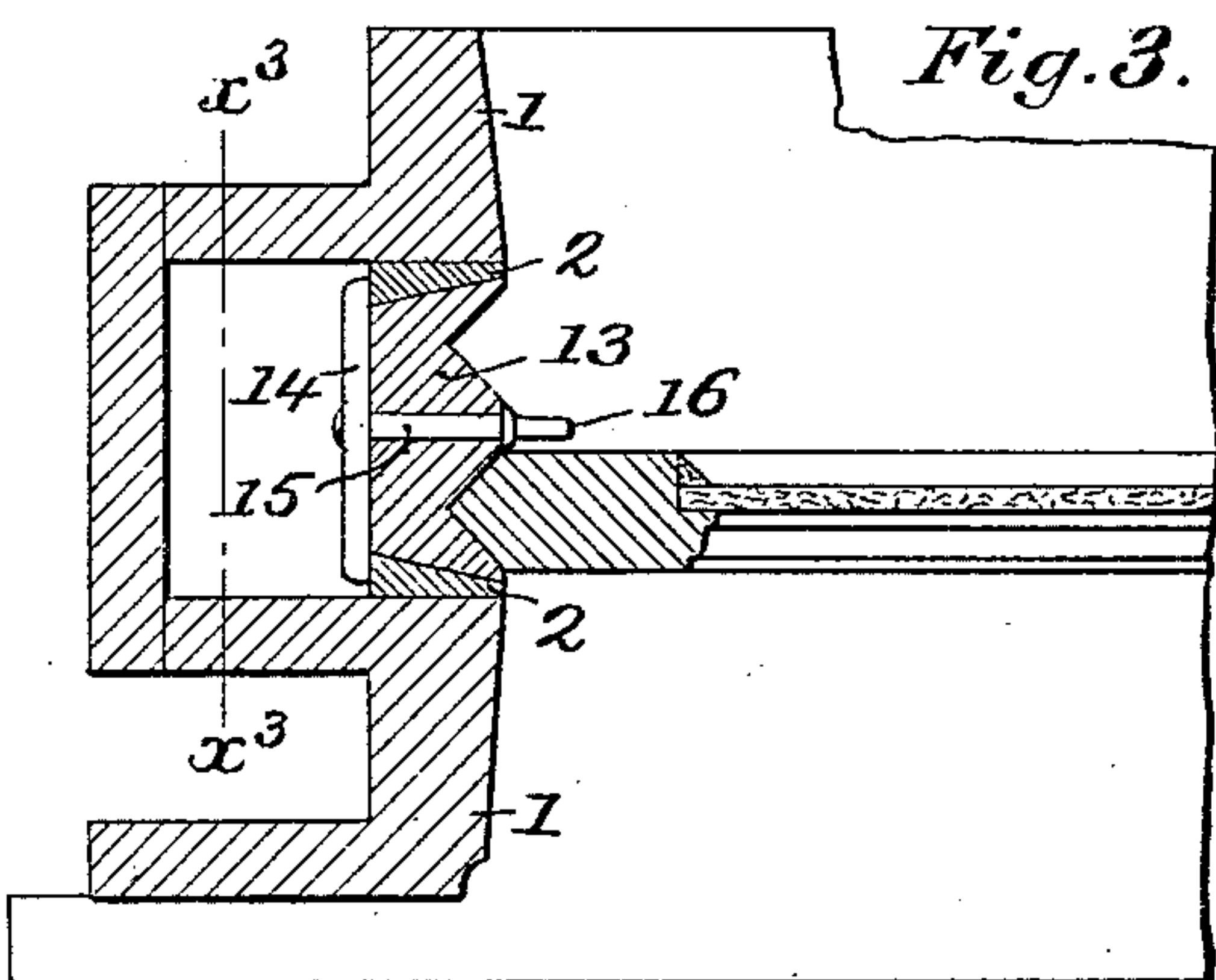


Fig. 4.

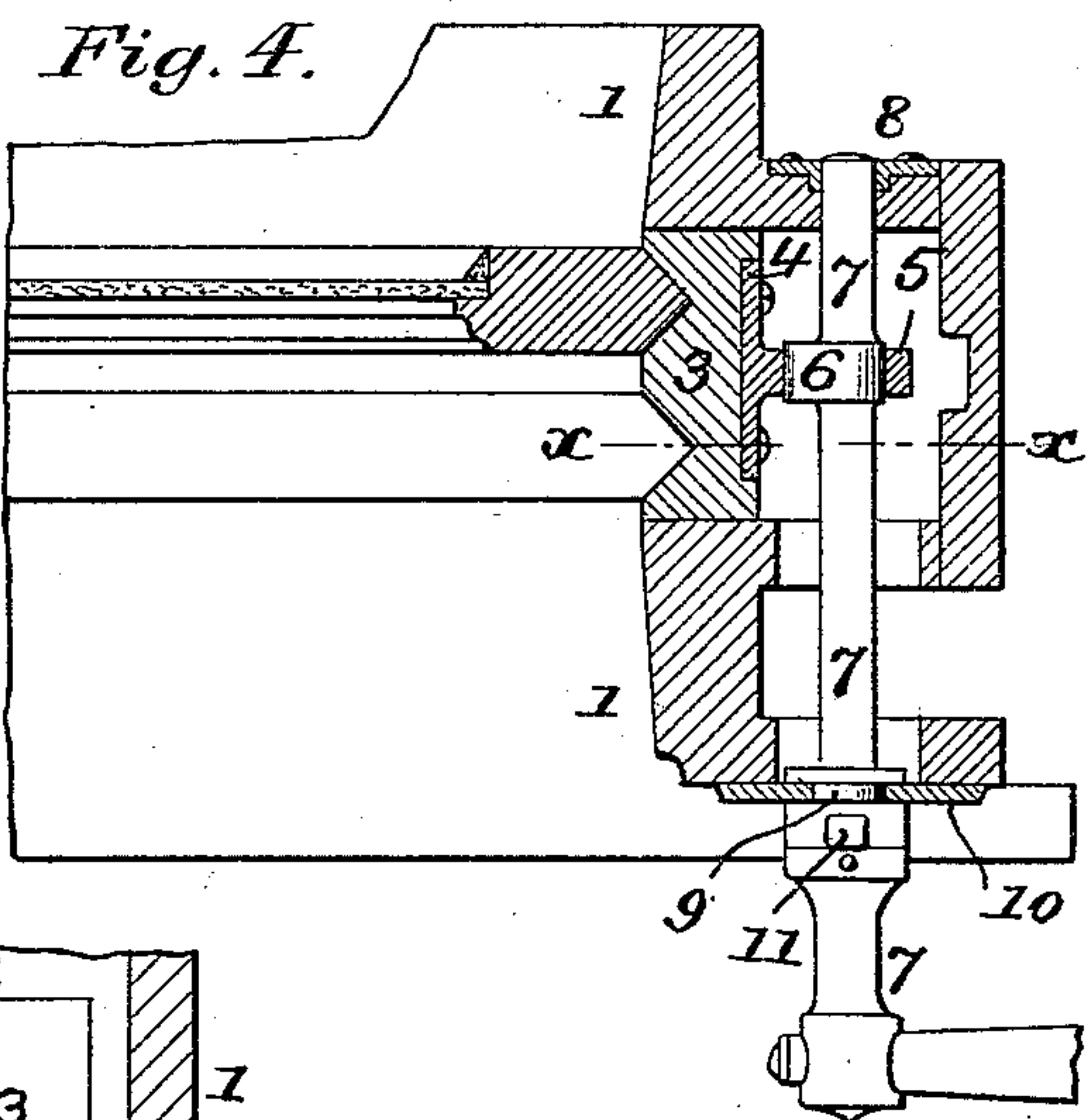
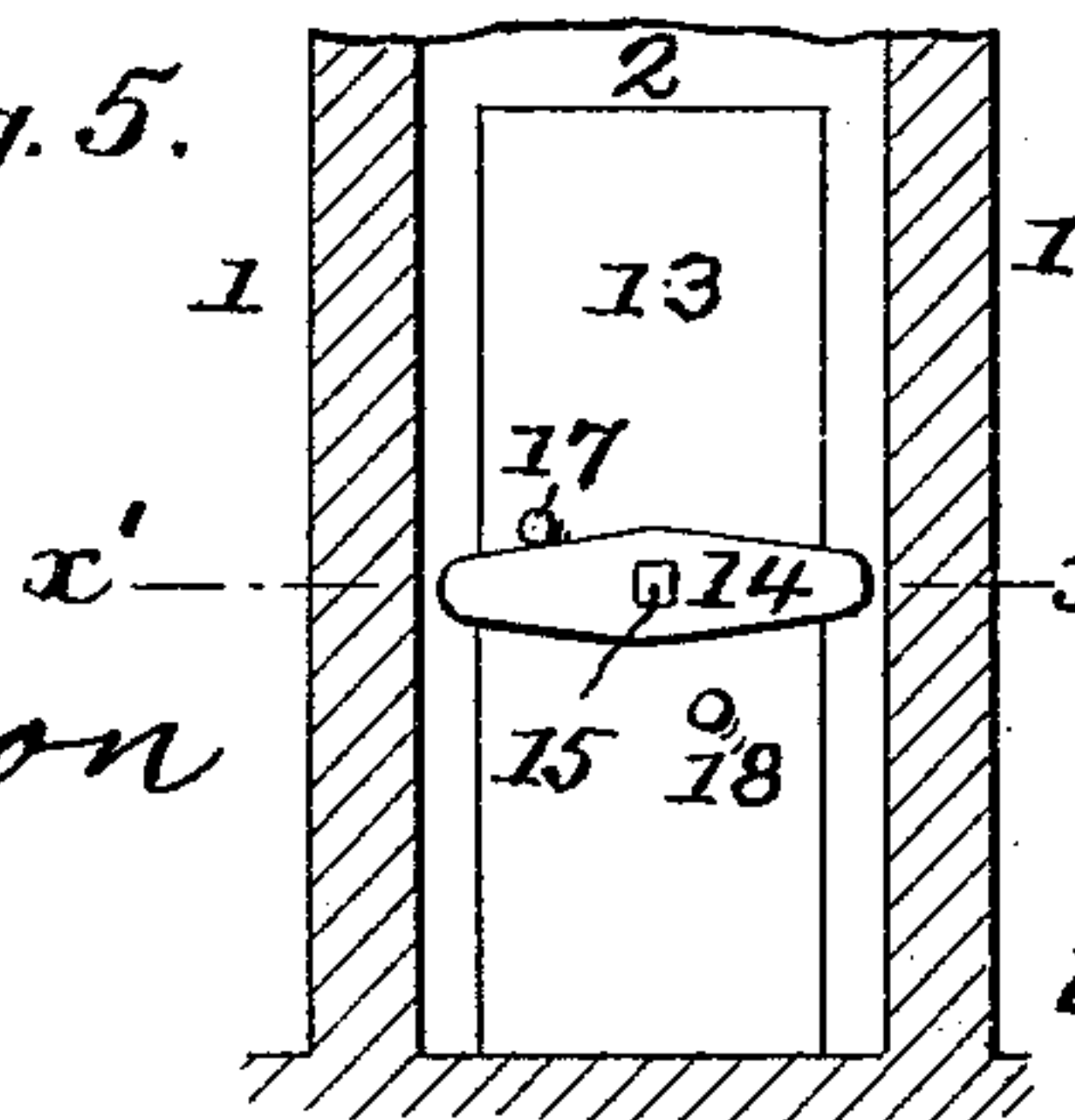


Fig. 5.



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# UNITED STATES PATENT OFFICE.

ADAM G. MINGES AND GUSTAV REIN, OF ST. LOUIS, MISSOURI.

## WINDOW.

SPECIFICATION forming part of Letters Patent No. 551,219, dated December 10, 1895.

Application filed July 1, 1895. Serial No. 554,644. (No model.)

*To all whom it may concern:*

Be it known that we, ADAM G. MINGES and GUSTAV REIN, citizens of the United States, residing at St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Windows; and we do 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.

The present invention relates to that type of windows in which a laterally-adjustable guide-rail or pulley-stile is employed, and which is formed with vertical guide-grooves to receive and guide the window sash or sashes in their vertical movement, the said guide-rail or pulley-stile in its different lateral adjustments being adapted either to firmly clamp the sash at its required adjustment, to release the sash so that the same is free to move in effecting a vertical adjustment thereof by hand, and to be retracted so as to entirely release the sash, so that the same can be removed from the window-frame for the purpose of cleaning, repair, &c.; and the present improvement has for its objects, first, to provide a simple, durable, and effective mechanism for operating the laterally-moving pulley-stile or guide-rail and in which means are provided to limit the movement of such guide-rail away from the window-sash, so that in the ordinary use of the present invention the window-sash will only be released from a lateral clamping action of the guide-rail and left free and capable of a free and easy vertical adjustment as required, and after such adjustment has been effected to be again clamped and firmly held in a secure and dust-tight manner without liability to looseness or rattling of the window-sash within its frame, such means for limiting or controlling the mechanism for laterally operating the guide-rail or pulley-stile being capable of further manipulation, so as to admit of the operating mechanism effecting a full movement to wholly release the sash from engagement with the window-frame when it is found necessary to remove such sash for the purpose of repair, &c.

A further object of the present improvement is to provide a simple and effective construction and arrangement of the operating

mechanism of the laterally-adjustable guide-rail or pulley-stile whereby the same is made capable of ready and convenient detachment, and without marring the window-casing, to leave the adjustable guide-rail free to be removed from the window-frame.

A still further object of the present improvement is to provide a sectional construction of the lower portion of the guide-rail or pulley-stile whereby a section of the same is made capable of ready and convenient removal, so as to give access to the sash-weights, &c., and which is also adapted for ready and substantial attachment in place in the main portion of such guide-rail, all as will hereinafter more fully appear, and be more particularly pointed out in the claims.

We attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a window frame and sash embodying the present improvements; Fig. 2, a vertical section of the same at line  $x x$ , Fig. 4; Fig. 3, a horizontal section of the same at line  $x' x'$ , Fig. 5; Fig. 4, a similar view at  $x^2 x^2$ , Fig. 2; Fig. 5, a transverse sectional elevation of the lower portion of the window-frame at line  $x^3 x^3$ , Fig. 3.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents the window frame or casing of any usual construction, and provided at each side with vertical guide-rails or pulley-stiles 2 and 3, that in the present improvement are formed with V-shaped guide-grooves to receive and guide the window-sash, which are of a corresponding formation to fit into such grooves and be capable of being guided therein.

In the present invention one of the guide-rails or pulley-stiles is preferably made fixed in the window-frame, while the other is made laterally adjustable in such frame. This last-named laterally-adjustable guide-rail or pulley-stile 3 is adapted to move within the sash-weight chamber of the window-frame, and is provided on its back with the stationary yoke-frame 4, having a centrally-arranged yoke 5, embracing the operating-eccentric 6. The eccentric 6 is arranged upon a horizontally-arranged shaft 7, the rear end of which bears



in a suitable bushing 8 in the window-frame, and the forward end of which is of a handle formation and is provided with an annular recess 9, in which the bearing-plate 10, secured to the window-frame, engages to form a bearing for the forward end of said shaft, and also prevent an endwise movement of the same. In the construction shown bearing-plate 10 is made in sections, each of which is formed with a semicircular recess to fit the respective halves of the annular recess 9, in order that engagement and disengagement of the parts can be readily made when required.

The openings in the window-frame 1 for the passage of the shaft 7 is made of sufficient size to admit of the endwise passage of the operating-eccentric 6, the construction being such that by the detachment of the bearing-plate 10 the eccentric-shaft, &c., is free to be removed from the window-frame, leaving the movable guide-rail or pulley-stile 3 also free to be removed when required.

The operating-shaft 7 of the eccentric is provided with a side or stop lug 11, and the attaching-plate 10 with a curved stop-piece 12, by means of which the movement or throw of the operating-eccentric 6 is limited, so as to merely release the window-sash from the clamping action of the movable guide-rail when it is desired to adjust the sash, and in the present invention the curved stop-piece 12 is made removable, preferably by being pivoted at one end, as shown, so that it can be moved out of the way of the stop-lug 11 when it is required to impart a greater throw to the eccentric 6 in entirely withdrawing the movable guide-rail 3 from engagement with the sash to permit a removal of the same for the purpose of repair, &c.

The curved stop-piece may be inclosed from public manipulation, when so desired, by a suitable inclosing housing, so that only an authorized party can effect an entire release of the window-sash for the purpose of removal thereof.

In the present improvement the lower portion of the guide-rail or pulley-stiles 2 and 3 are each formed with an oblong opening at their lower ends, the sides of which opening

flare outwardly, and which opening is ordinarily closed by a rail-section 13 of a corresponding formation with that of said opening and with that of the surface of the main portion of the guide-rail, so as to constitute to all intents and purposes a continuation or portion thereof when inserted in place.

The removable section 13 is held in place by a turn-bar 14, centrally arranged at the back of said section upon the rear end of a horizontal shaft 15, that passes out through said section and is provided with an operating-handle 16. This turn-bar is adapted when turned to a horizontal position to engage back of the side extensions of the main guide-rail to lock the section 13 in place, and when turned to a vertical position to release said section, so that it can be readily removed.

17 and 18 are stops in the path of the turn-bar to limit its movements in effecting a locking or unlocking of the parts.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A window, comprising in combination, a frame, a sash, a laterally adjustable grooved guide rail, an eccentric for operating the same, a horizontal shaft carrying said eccentric and provided with a stop lug, and a stop piece secured to the window frame, in the path of said lug, and adapted to limit the throw of the eccentric, substantially as set forth.

2. A window, comprising in combination, a frame, a sash, a laterally adjustable grooved guide rail, an eccentric for operating the same, a horizontal shaft carrying said eccentric and provided with a stop lug, and a stop piece arranged in the path of said lug and adapted to limit the throw of the eccentric, said stop piece being of a curved form and pivoted at one end to the window frame, substantially as set forth.

In testimony whereof witness our hands this 19th day of June, 1895.

ADAM G. MINGES.  
GUSTAV REIN.

In presence of—

HECTOR NEUHOFF,  
GEORGE L. NEUHOFF.