

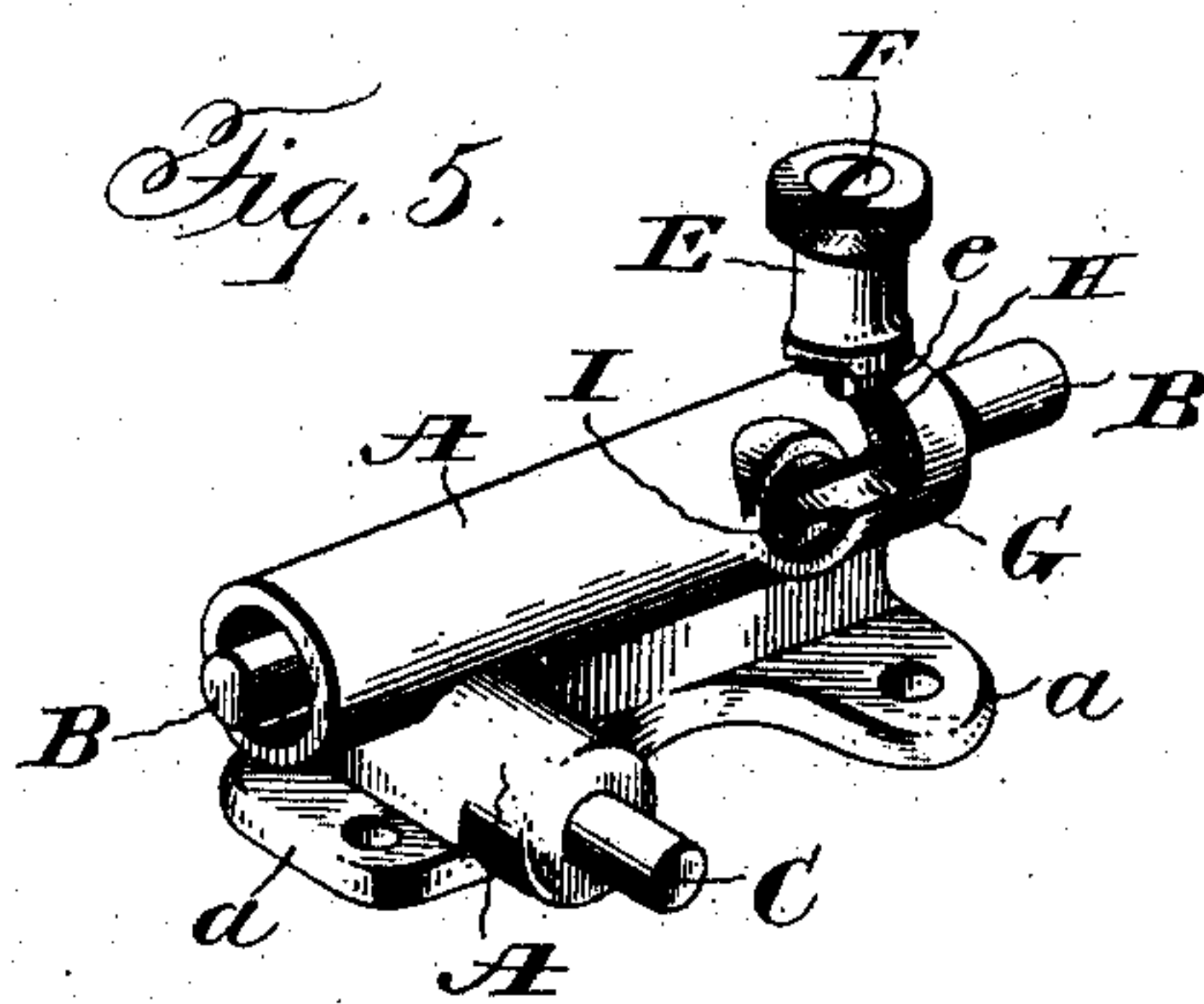
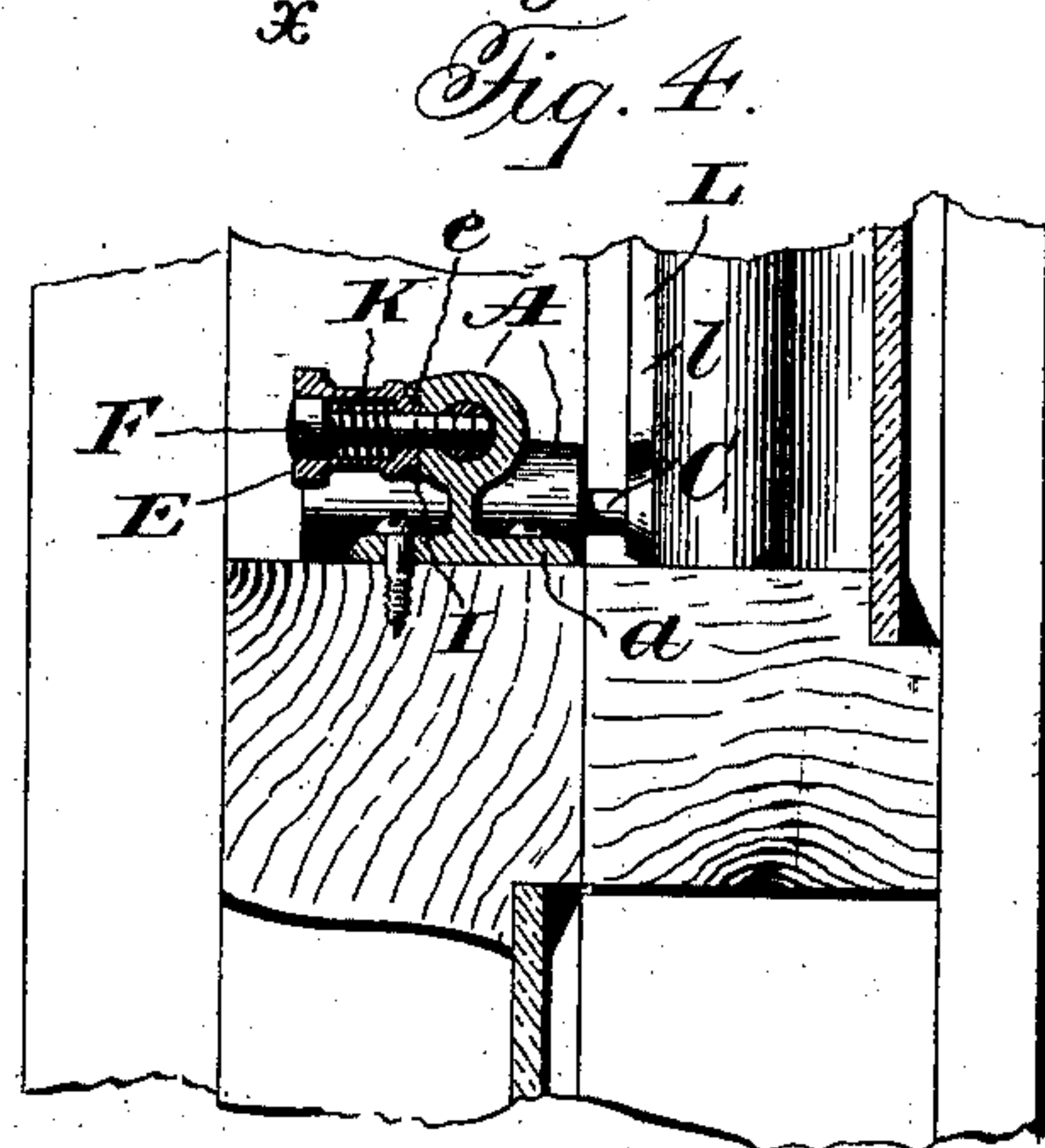
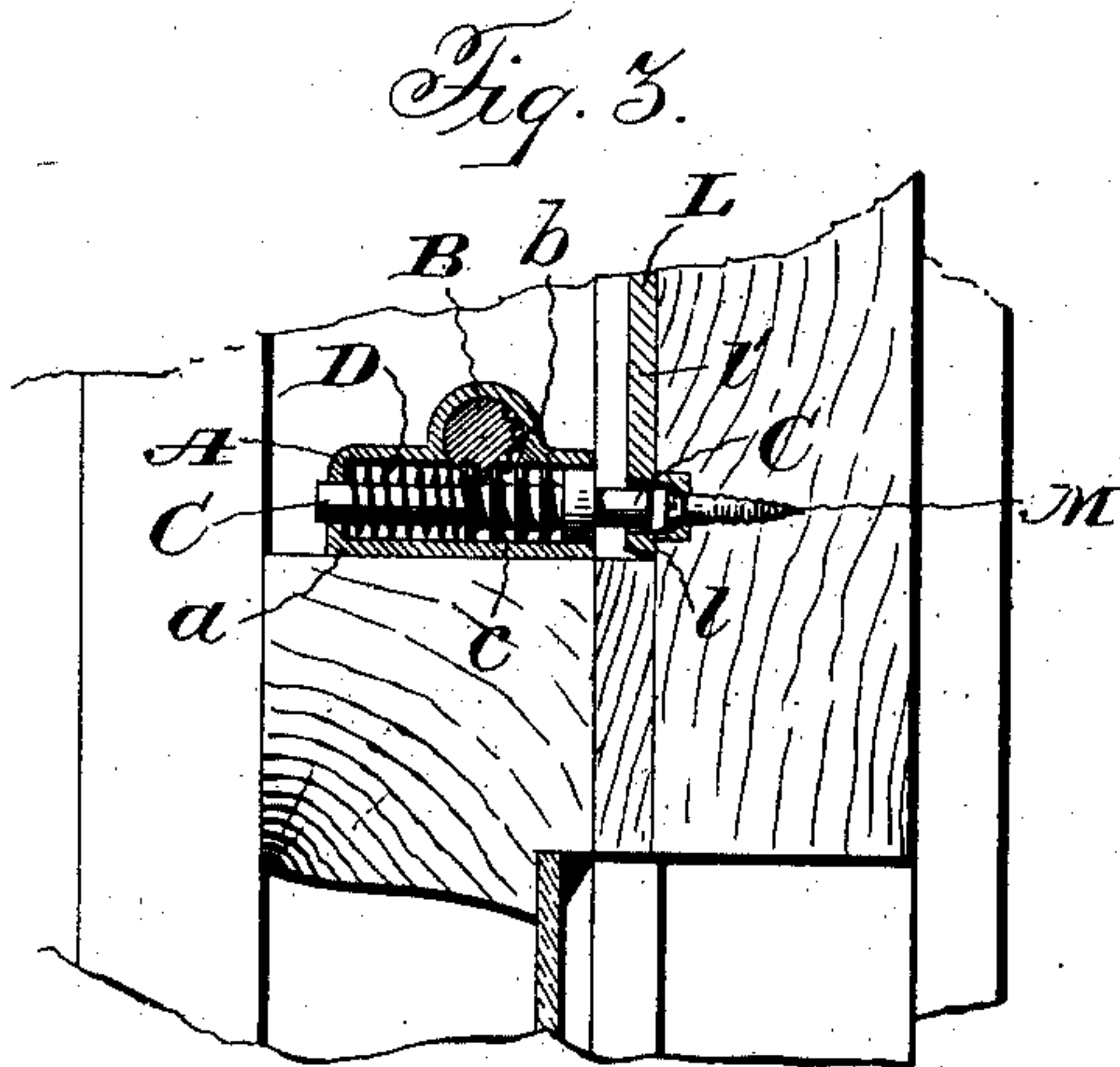
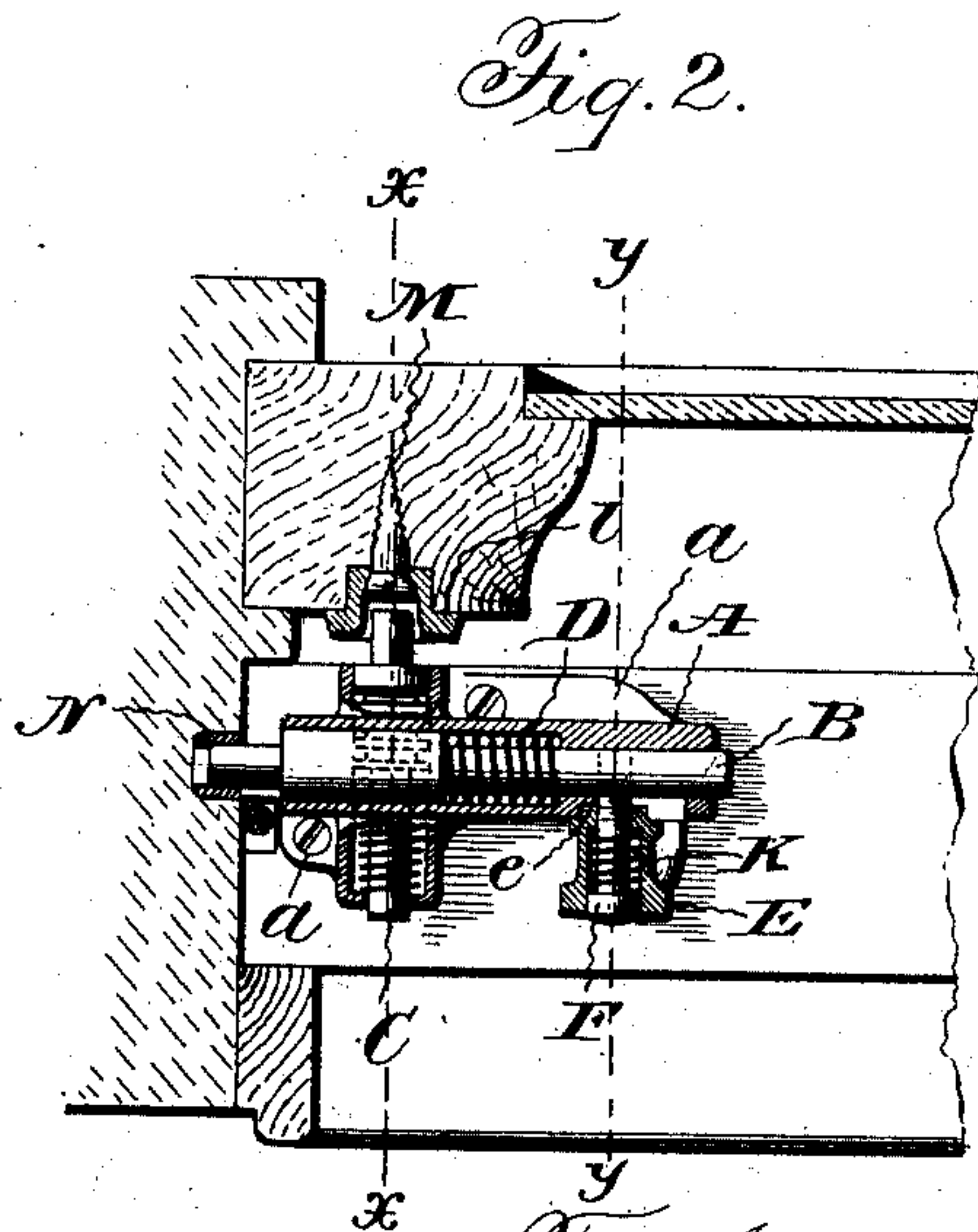
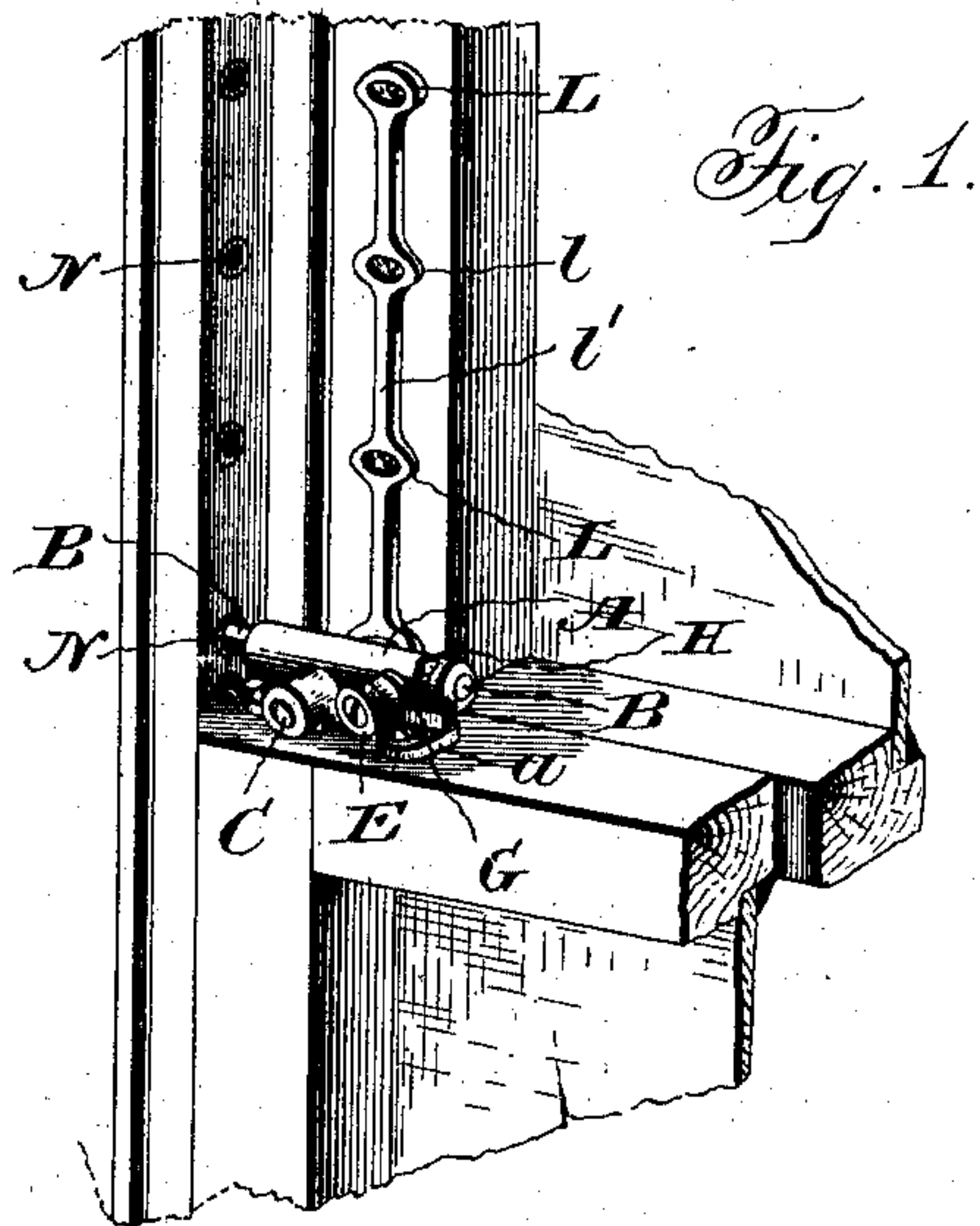
No. 706,595.

Patented Aug. 12, 1902.

W. W. POTTER.
WINDOW FASTENER.

(Application filed Nov. 12, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM WALLACE POTTER, OF PAWTUCKET, RHODE ISLAND.

WINDOW-FASTENER.

SPECIFICATION forming part of Letters Patent No. 706,595, dated August 12, 1902.

Application filed November 12, 1901. Serial No. 82,040. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WALLACE POTTER, of Pawtucket, in the county of Providence, and in the State of Rhode Island, have
5 invented certain new and useful Improvements in Window-Fasteners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

10 Figure 1 is a perspective view of a window-fastener embodying my invention shown as applied to a window. Fig. 2 is a horizontal section of the same. Fig. 3 is a vertical section on the line *xx* of Fig. 2. Fig. 4 is a like
15 section on the line *yy* of Fig. 2, and Fig. 5 is a detail perspective view of the fastener with the parts shown in unlocked position.

Letters of like name and kind refer to like parts in each of the figures.

20 My invention relates to window-fasteners of the class by which the sash can be locked when partially opened; and my object is to provide a fastener of this class which can readily be applied without cutting or special
25 fitting of the woodwork, be of simple and cheap construction, and be proof against unlawful attempts to operate it; and to these ends my invention consists in the window-fastener having the construction and combination of parts substantially as hereinafter
30 claimed.

In the carrying of my invention into practice I employ a casing A, having a flange or foot *a*, by which it may be secured by screws
35 to the upper side of the top rail of the lower sash, close to the side thereof, and within which are slidably mounted two bolts B and C, respectively, at right angles to each other and adapted the one to engage with locking-cavities in the window-frame and the other
40 with locking-cavities in the upper sash. The bolt B, which engages the locking-cavities in the window-frame, has in addition to its sliding movement a rotary one, which is utilized
45 to slide the bolt C from locking position, gear-teeth *b* being provided on the bolt B to engage a rack *c* on the bolt C, said rack being preferably in the form of a series of annular ribs. For moving each bolt to locking position each
50 is acted on by a coil-spring D, encircling the respective bolt and engaging a collar thereon and a shoulder on the casing. Near one end

the bolt B has an operating-knob E, that is attached to the bolt by a shank or stem F. To permit the sliding and rotary movement
55 of the bolt B, the casing A has a slot G in its side, which extends parallel with the bolt, and a slot H at a right angle to the bolt, which runs from one end of the slot G to the top of the casing. Besides its function as a means
60 for moving the bolt I make the knob serve as a latch to lock the bolt from movement, and for this purpose the knob is mounted slidably on the stem or shank and at its inner end has a circular boss or projection *e*, fitted
65 to enter a round cavity I concentric with that end of the slot G which is away from the slot H. A coil-spring K, encircling the shank or stem and bearing at one end against the shank-head and at the other against the knob,
70 tends to press and yieldingly hold the knob with its boss or projection in the cavity I. To move the bolt B, it is necessary first to draw the knob outward to free it from the
75 cavity I and then holding it against the pressure of the spring to move it horizontally along the slot G and finally upward through the slot H. The slot H terminates at a point
80 directly above the bolt, and it has a slight offset in the side toward which the bolt-spring D pulls the knob for the knob-shank to seat
85 itself in, and thus lightly secure the bolts in unlocked position. The engagement of the knob-shank with the slot-offset is such, however, that it will be released by the jar pro-
90 duced by the sash striking the window-sill when lowered, and thus effect the automatic locking of the sash, as hereinafter described. It will be noted that the slot G accurately
95 guides the knob into position for the engagement of its lug with the cavity I, and thus insures the latching of the bolts.

The bolt-engaging cavities in the upper sash are in the form of a series of equidistant circular metal thimbles L and L' let into holes
100 bored in the sash, each thimble having on its outer end a rim or flange *l* to abut against the face of the side rail of the sash, and adjacent thimbles being united by a light bar *l'*, that extends from the flange of one to the
flange of the next and which also lies against the face of the side rail of the sash. Passing through a hole in the inner end of each thimble is a screw M for securing the same to the

sash-rail. By placing the screws in the thimbles a nice finish is secured, as the screws are concealed, and the screws do not have to bear lateral or sidewise strain, such strain being sustained by the thimbles. Of course there need not be a screw through every thimble, although it is preferable there shall be. The outer portion of the bolt-engaging opening of each thimble is enlarged laterally and its sides beveled or inclined inward to insure the entry of the bolt therein, even though by reason of looseness in the fit of the sash in the window-frame there should be want of alinement of bolt and thimble opening. Thimbles N and N unconnected with each other are placed in holes bored for them in the window-frame for engagement by the bolt B.

In applying my invention to a window a convenient procedure to locate accurately the bolt-engaging holes in proper relative position is, first, to attach the series of connected thimbles L and L to the side rail of the upper sash, and then, engaging the bolt C with the lowermost thimble L, move the frame-engaging bolt B into contact with the window-frame to cause it to indent the latter, and thereby indicate the position for the lowermost bolt-engaging hole. Then without disturbing the upper sash the bolt C is freed therefrom and the lower sash raised to engage the bolt C with the next thimble L and the operation repeated of indenting the frame by the bolt B, and for each successive thimble L the same thing is done. It is to be noted that the bolt B for engaging the window-frame is placed above the bolt C. My object in thus placing the bolt B higher is that thereby sufficient room is left above the top rail of the lower sash to enable a boring-tool to be readily used for boring the lowermost hole in the window-frame and so avoid any necessity for removing the sash for this purpose. Another advantage from such location of the bolt B is that the operating-knob is thereby situated sufficiently above the top rail of the upper sash to enable it to be easily grasped and manipulated. As the sliding and rotary movements of the bolt B take place successively and not simultaneously it follows that the movement of the two bolts are successive, both in their locking and unlocking motions. In respect to the movement to locking position the successive movements of the two bolts are utilized, as has hereinbefore been described, in fixing the position of the bolt-engaging cavities in the window-frame, and it is advantageous in that if there be slight irregularity in the relative positions of the two sets of locking cavities both bolts can nevertheless be made to engage their respective cavities by first moving the sash-engaging bolt into engagement with one of the thimbles L and then shifting the sash to enable the frame-engaging bolt B to engage one of the thimbles N. The successive movements of the two bolts for unlocking is advantageous in that if there is

any jamming of the bolts it is obviously easier to withdraw one bolt and then the other than to withdraw both at the same time.

The operation of my fastener will readily be understood. When the bolts are in locking position, they are withdrawn therefrom by first freeing the knob E, then sliding the bolt B to disengage it from the window-frame, and finally turning said bolt by swinging the knob upward, and thereby sliding the bolt C to disengage it from the upper sash. By permitting the knob-shank F to engage the slot-offset the two bolts can be retained in their retracted position. To return them to locking position, it is necessary merely to disengage the knob-shank from the slot-offset, whereupon the spring D, acting on the bolt C, will slide the latter to locking position, revolve the bolt B until the knob-shank aligns with the slot G, and the spring of the bolt B being free to act will move said bolt B longitudinally into locking position, where both bolts will be automatically locked by the knob E. The entire operation of freeing the bolts, moving them to locking position, and locking them can be automatically effected by the jar or shock of closing the lower sash. As the engagement of the knob-shank with the slot-offset restrains the turning of the bolt B by the longitudinal movement of the bolt C under the pressure of its spring D, it follows that as soon as the knob-shank is released from the slot-offset by a jar or otherwise the spring of the bolt C will move the latter longitudinally, and through the rack-and-pinion connection between the bolts B and C the bolt B will be turned. By the automatic throwing of the bolts into locking position there is obviated the likelihood of failure from forgetfulness or neglect to lock the sash which exists in the use of fasteners having no capability of such automatic action.

By reason of the latching of the bolt B it is obviously impossible to move the sash-engaging bolt C longitudinally by pressure applied to the outer end thereof. It would therefore be unavailing for a person seeking to so unlock the upper sash to bore a hole through the sash from the outside to get access to the outer end of said bolt, and it would also be impossible to unlock the fastener by reaching over the top of the open upper sash with a piece of wire, because of the inability of retaining the latter in engagement with the knob E in view of the number and variety of its movements. Even should the knob be successfully disengaged from the cavity and the bolt B moved longitudinally it would be impossible to retain a piece of wire in engagement with the knob while swinging the latter from a horizontal to a vertical position, as obviously the wire would slip off the knob before the latter could reach a vertical position.

The application of the operating-knob to the frame-engaging bolt B is very desirable,

as it avoids any undue outward projection or protrusion from the window that might catch and tear the curtain or drapery.

Though the details of construction shown and described are desirable, it is to be understood that they may be varied without departure from my invention. I also wish it understood that my bolt-locking latch is applicable to single bolts, and therefore that I consider the use of the same with a single bolt to be within the scope of my invention.

Having thus described my invention, what I claim is—

1. The combination of a casing or support, bolts mounted to move crosswise of each other, means for transmitting motion from one bolt to the other, and means to cause one of said bolts to move successively longitudinally and rotatably, comprising a guide that has a part that extends parallel with the bolt and a part that extends crosswise thereof, and a part to coact with said guide, substantially as described.

2. The combination of a casing or support, bolts mounted to move crosswise of each other, a knob on one of the bolts, a guide composed of a right-angled slot in the casing or support, engaged by the knob-shank, and a rack-and-pinion connection between the two bolts, substantially as described.

3. The combination of a casing or support, spring-actuated bolts mounted to move crosswise of each other, a rack-and-pinion connection between them, and a spring-actuated knob having a sliding connection with one of the bolts, adapted to engage a cavity in the casing or support, substantially as described.

4. The combination of a casing or support, spring-actuated bolts mounted to move crosswise of each other, and adapted respectively to enter cavities in the window-frame and the sash, a motion-transmitting connection between them, the frame engaging one of said bolts being movable longitudinally and rotatably, and being situated above the other bolt, a knob having a sliding connection with said bolt, a guide composed of a right-angled slot engaged by the knob-shank, and a cavity at one extremity of the right-angled slot to coact with the sliding knob substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of October, A. D. 1901.

WILLIAM WALLACE POTTER.

Witnesses:

LELLAN J. TUCK,
EARL H. ROBERTS.