(No Model.)

H. C. PIESTER.

LATCH.

No. 508,973. Patented Nov. 21, 1893.

Fig. 1

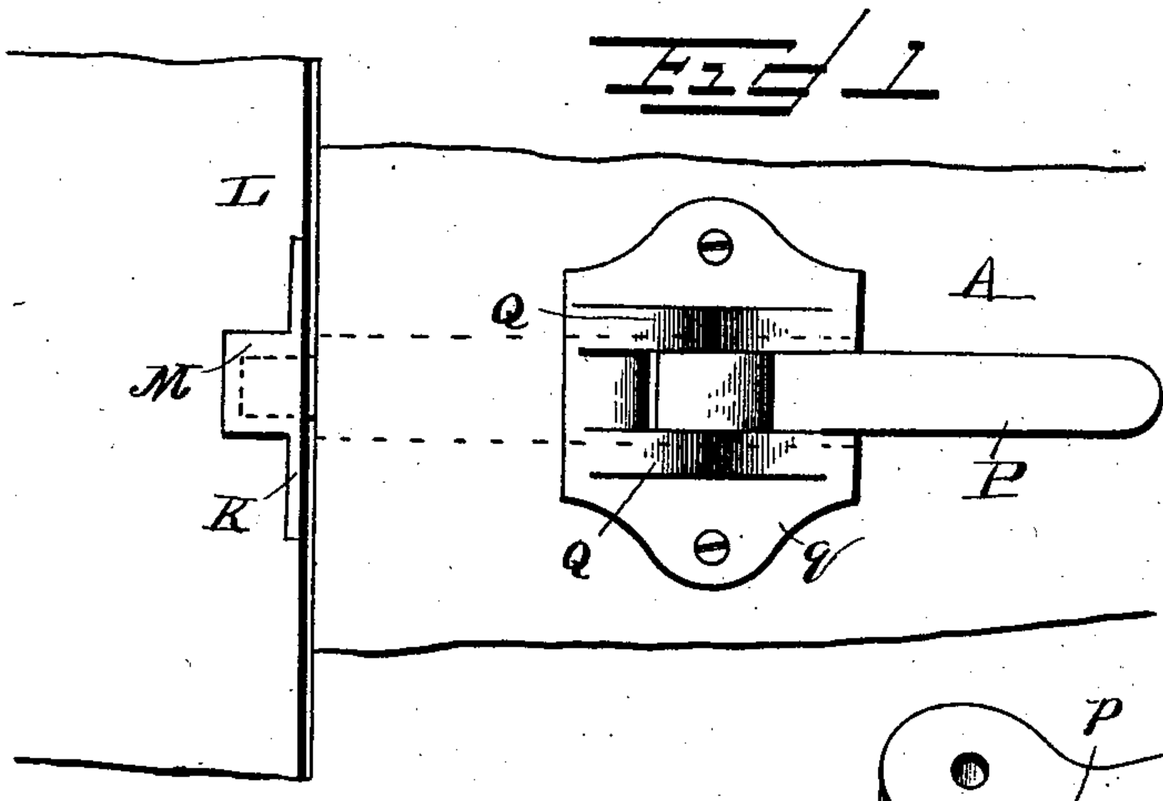


Fig. 5

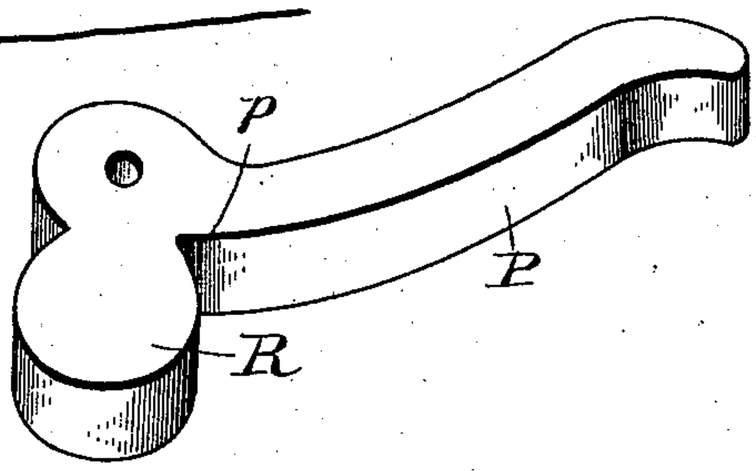


Fig. 2

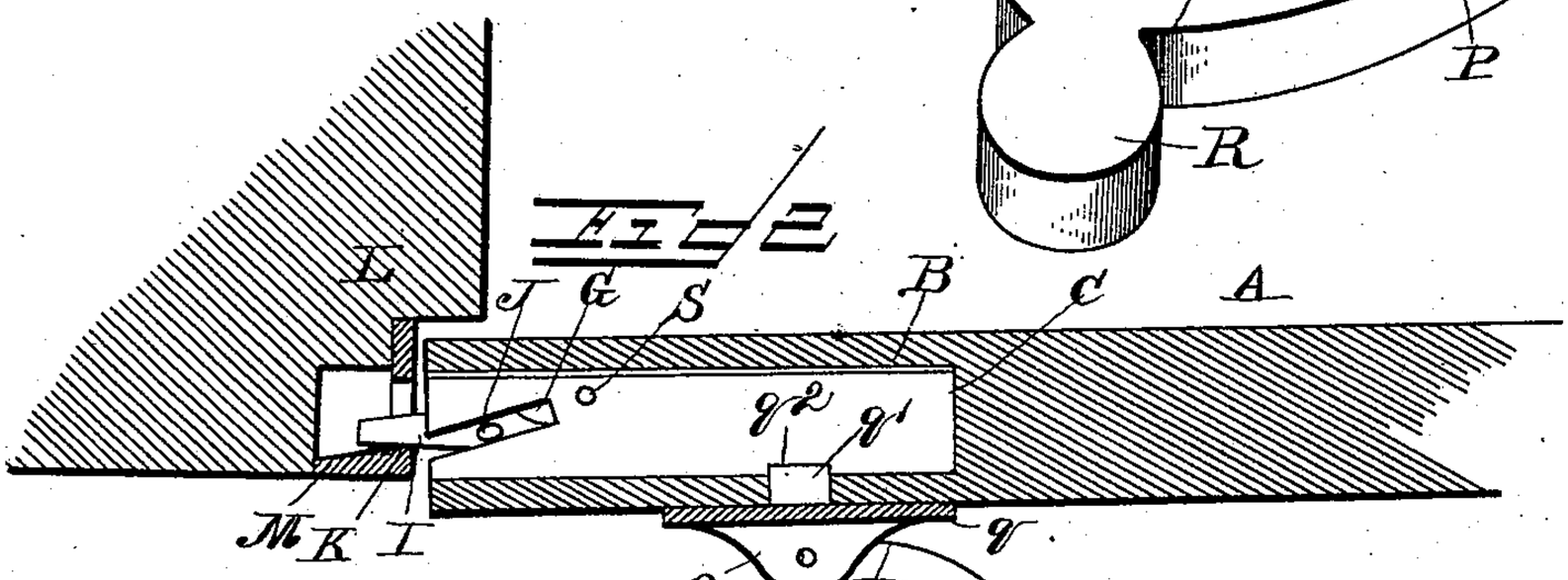


Fig. 3

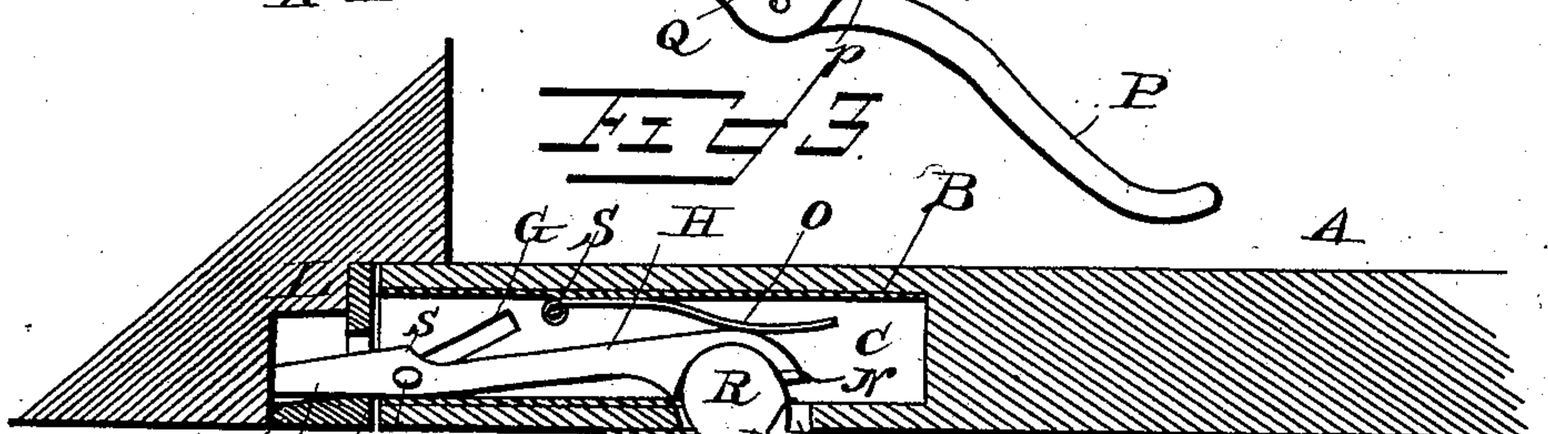
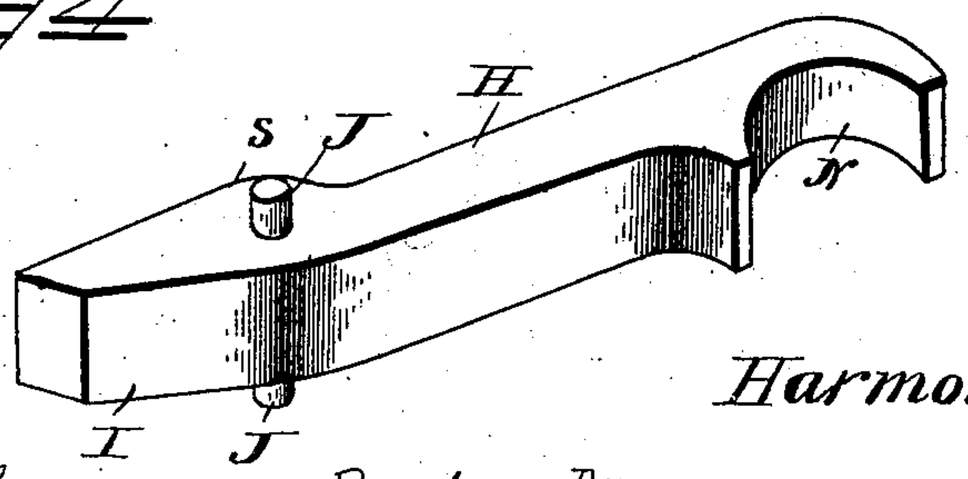


Fig. 4



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SPECIFICATION forming part of Letters Patent No. 508,973, dated November 21, 1893.

Application filed May 31, 1893. Serial No. 476,109. (No model.)

To all whom it may concern:

Be it known that I, HARMON C. PIESTER, a citizen of the United States, residing at Petoskey, in the county of Emmet and State of Michigan, have invented a new and useful Door-Bolt, of which the following is a specification.

This invention relates to door bolts, and it has for its object to provide an improved sliding door bolt which is especially adapted for use in connection with warped or sprung doors, so as to provide means for securely locking doors which have become warped or sprung and on which ordinary locking bolts could not be used.

To this end the main and primary object of the present invention is to provide an improved locking bolt not only capable of use on doors but as equally available for employment on swinging objects, windows, &c., whereby such objects can be locked and tightened perfectly, even though warped or sprung out of their proper positions.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a front view of a portion of a door and its jamb or casing with my improved locking bolt applied. Fig. 2 is an enlarged horizontal sectional view of the construction disclosed in Fig. 1, directly above the locking device, which shows in elevation. Fig. 3 is an enlarged central horizontal sectional view of the locking bolt applied for use and shown as locking the door in position in its jamb or casing. Fig. 4 is a detail in perspective of the sliding locking bolt. Fig. 5 is a similar view of the cam lever handle.

Referring to the accompanying drawings, A represents an ordinary swinging door having in its swinging edge the lock mortise B, in which is inserted the elongated tubular lock casing C. The elongated tubular lock casing C, is open at its outer end at the outer edge of the door, to provide for the ejection of the sliding bolt contained therein, and is further provided at one side near its inner end with the opening D, which communicates with the slot E, formed in the face or front side of the door A. The tubular lock casing C, is provided at its outer end in the top and bottom sides thereof, with the inclined slots G, which lead from the extreme open outer end of the casing at an angle rearwardly to a point in close proximity to the rear sides of such casing, and said casing is designed to inclose the sliding locking and tightening bolt H. The sliding locking bolt H, is mounted to move longitudinally within the casing, and also at an angle, and is provided at its outer end with the locking tongue I, upon opposite sides of which project the guide pins J, adapted to work in the inclined slots G, so that as the locking and tightening bolt H, is ejected from the open outer end of the casing, the locking end or tongue of said bolt moves at an angle from the rear side of the casing to the front side, and is adapted to be projected into the keeper K, secured in the shoulder of the door jamb or casing L, and provided with a strike flange M, against which one side of the locking bolt bears, and serves to throw the door tightly into the jamb or casing, even when warped or sprung as will be readily apparent.

The extreme inner end of the angularly moving sliding bolt is provided at one side with the rounded bearing notch N, which communicates with the end opening D, of the casing, and back of the said notched end of the sliding bolt is arranged the outwardly pressing leaf spring O, which holds the notch of the bolt in working engagement with the cam of the lever handle P. The lever handle P, is journaled between the pivot ears Q, of the lever plate *q*, attached to the outside of the door A, and further provided with the inwardly extending lugs *q'*, fitting notches q^2, in the edges of the opening D, so as to firmly hold the lever plate in a position in alignment with the slot E, of the door and the opening D, in the inner end of the tubular casing.

The inner end of the lever handle P, is provided with an off-standing rounded cam lug R, which loosely fits the rounded bearing notch N, of the sliding locking bolt, so that as the said lever handle is moved laterally, the said locking bolt will be slid in and out of its casing.

Now from the foregoing it is thought that

the operation and many advantages of the herein described locking device will be readily apparent to those skilled in the art. As clearly shown in Fig. 3 of the drawings, in case the door is sprung or warped, the locking end of the sliding bolt is only partially projected when it first comes in engagement with the strike flange of the keeper, and before the door is entirely shut. By now continuing to press on the lever handle and to force the bolt entirely out of the casing, the drawing pressure, caused by the bolt moving at an angle, will serve to throw the door tightly into the jamb or casing. When the bolt is withdrawn it is limited in its inward movement by the transverse stop pin S, arranged to be engaged by the shoulder *s*, at one side of the bolt.

It will be apparent to those skilled in the art that the herein described bolt may be attached to a window or other swinging object, or to the outside of the door instead of mortised therein, and still subserve the same important use, and I will have it understood that changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a door bolt, the inclosing casing, a sliding bolt mounted to slide longitudinally within said casing at an angle from side to side thereof and having a notch at its inner end, an adjacent lever-handle having a projection loosely turning in the notch in said bolt, and a suitably arranged spring to hold the notch end of the bolt in engagement with said projection, substantially as set forth.

2. In a lock of the class described, an elongated tubular casing, a sliding locking and tightening bolt mounted to move at an angle and longitudinally in the casing, an operating lever handle mounted adjacent to the lock casing and engaging said sliding bolt, and a spring arranged in rear of the bolt to hold the same in engagement with said lever, substantially as set forth.

3. In a lock, an inclosing casing having straight parallel inclined slots, a sliding bolt having opposite guide pins moving in said slots, and means for sliding the bolt in and out of the casing, substantially as set forth.

4. In a lock, an elongated tubular casing having inclined slots at one end, a longitudinally sliding locking bolt mounted within the casing and having an end locking tongue, and opposite guide pins moving in said inclined slots of the casing, a lever handle loosely connected with said sliding bolt, and a keeper having a strike flange adapted to receive the tongue end of the sliding locking bolt, substantially as set forth.

5. In a lock, a tubular casing, a sliding locking and tightening bolt mounted to move at an angle and longitudinally therein and provided with a rounded bearing notch at its inner end, and an operating lever handle pivoted adjacent to the lock casing and having an off-standing rounded cam lug loosely fitted in said rounded bearing notch, substantially as set forth.

6. In a lock, an elongated tubular casing having inclined slots at one end, a sliding bolt mounted within said casing and having near one end guide pins moving in said slots and at its other end a rounded bearing notch, a lever plate attached to a suitable point of attachment adjacent to the lock casing, a lever handle pivoted in said plate and having at its inner end an off-standing rounded cam lug loosely fitting the rounded bearing notch of the bolt, and an outwardly-pressing leaf spring arranged in rear of the notched end of said bolt, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARMON C. PIESTER.

Witnesses:

COURTLIN C. GATCH,

WILLIAM H. PARKER.