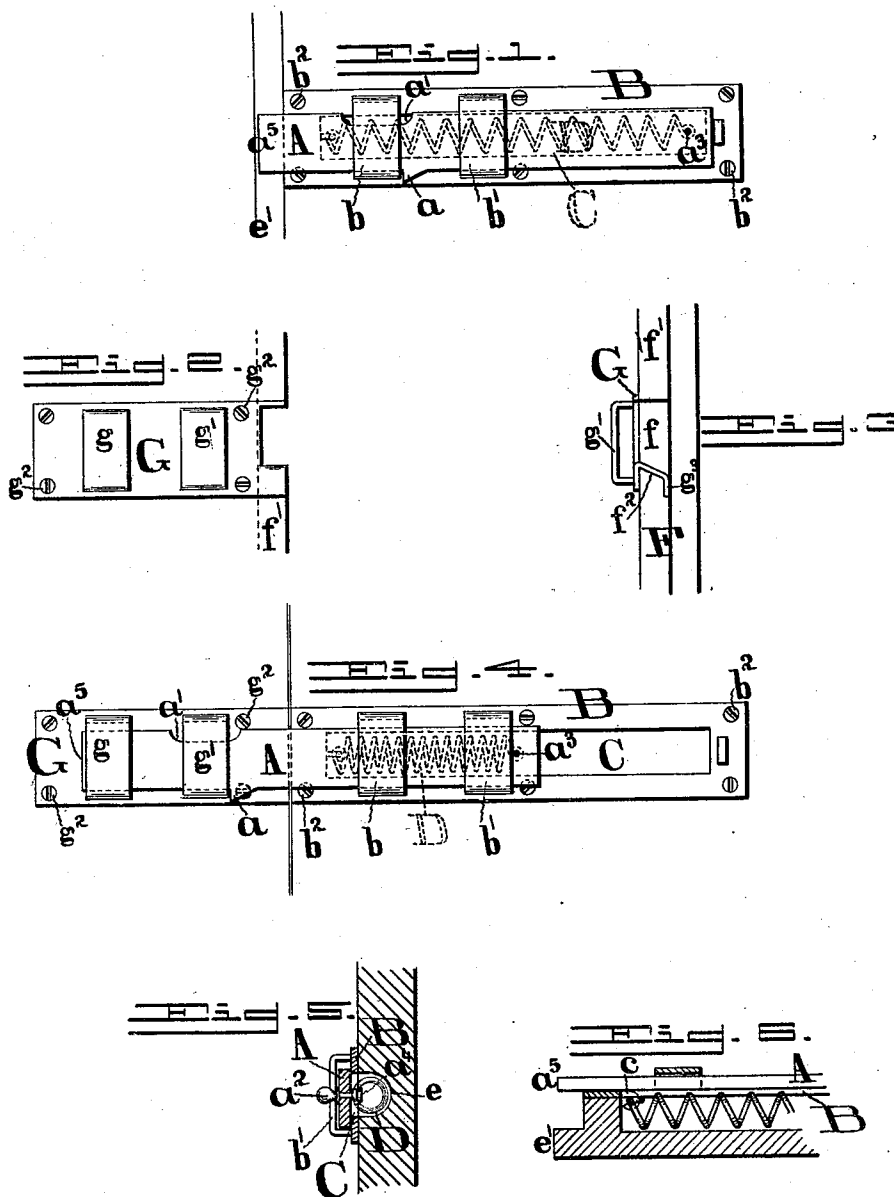


(No Model.)

J. KILLINGER.
SELF LOCKING BOLT.

No. 554,494.

Patented Feb. 11, 1896.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN KILLINGER, OF WAYNE, PENNSYLVANIA.

SELF-LOCKING BOLT.

SPECIFICATION forming part of Letters Patent No. 554,494, dated February 11, 1896.

Application filed December 29, 1894. Serial No. 533,320. (No model.)

To all whom it may concern:

Be it known that I, JOHN KILLINGER, a citizen of the United States, residing at Wayne, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Self-Locking Bolts, of which the following is a specification.

The nature of this invention is a shutter-fastener, comprising in its construction a bolt provided with a detent on one of its edges near the forward end of the bolt, a guide-case within which the bolt is longitudinally and vertically movable provided with an abutment for said detent, a knob or handle at the rear end of the bolt, the shank of which extends loosely through the latter, a retracting spring, one end of which is secured to the shank while the other end is fastened to the guide-case forwardly of the said abutment, and a keeper provided with an inclined or cam portion laterally beyond the retaining-face of the keeper, by which portion the forward end of the bolt is vertically raised to release the detent when the shutter is closed and thus permit the bolt to be shot automatically into the keeper, the said shank permitting the bolt to be retracted manually against the action of the spring to release the bolt from the keeper, and thereupon permitting the bolt to drop by gravity, as will be hereinafter particularly described and claimed.

In the drawings, Figure 1 is a face view of the improved bolt and Fig. 2 a similar view of the keeper therefor. Fig. 3 is an edge view of this keeper. Fig. 4 is a face view of bolt and keeper in locking relation. Figs. 5 and 6 are, respectively, a vertical section of the rear end and a longitudinal section of the forward end of the improved bolt and its appurtenances.

Referring to said drawings, the improved bolt A will be seen to be mainly of the form common to window-shutters, being secured in sliding relation with the base-plate B by the keepers b b' , through which it has liberty of longitudinal movement within the restrictions hereinafter specified, though any other suitable bolt, similarly provided, may be employed to the same intent. This bolt, at a point just clear of the rear edge of keeper b , when the bolt is unlocked, is provided at its lower edge with a depending lug or tooth a ,

the rear edge of which is beveled or inclined, and the front edge or face flat or vertical, and at its upper edge above this lug or tooth and to an extent greater than the width of the keeper b , said bolt is cut away or recessed, as at a' , to permit of this portion of the bolt being raised sufficiently to allow the lug or tooth a to clear the plane of the inner side of the lower end of this keeper, or sufficient clearance, such as that shown in dotted lines in Figs. 1 and 4, may be provided between the upper edge of the bolt and the inner side of the upper end of keeper b to permit of this, the recess a' being in this case dispensed with.

As shown more particularly in the last-mentioned figures, base-plate B is provided with a longitudinal slot C, the same being normally concealed by the bolt A, and at that portion thereof which forms the forward end of such slot has an inturned hook c , which may or may not be continuous of said plate, and the rear end of said bolt is provided with a knob or handle a^2 , the shank a^3 whereof extends through the bolt and at its inner end has a head a^4 thereon for retention of one end of the helical spring D, which is coiled around the projecting portion of said shank, the other end of this spring being similarly secured to the hook c aforesaid, while the door, shutter, &c., to which plate B is secured by screws b^2 , has a recess e therein beneath said slot in which the spring D rests.

The other shutter, door-post, &c., F, has a recess f in its underlapping portion or edge f' , the bottom whereof is inclined downwardly, as at f^2 , in the direction whence the closing shutter, door, &c., comes, and the plate G, which sustains the locking-keepers g g' and is secured to such shutter, door-post, &c., by screws g^2 , is cut away, as shown at g^3 , and has the metal so cut away turned back over the inclined portion of said recess to and around the outside of edge f' , as shown at g^3 in Fig. 3, forming a metallic facing therefor. Now, the forward or free end a^5 of bolt A projects over the overlapping edge e' of the shutter, door, &c., to which said bolt is attached, and the recess f is so located as to be in the path of such end. Therefore, assuming the bolt to be in the position shown in Fig. 1 of the drawings, the closing of this door, shutter, &c., will cause the end a^5 to strike and ride

up on the inclined shoulder formed by the bottom of said recess, effecting the raising of the bolt sufficiently to cause the disengagement of the retaining lug or tooth *a* with keeper *b* and the consequent release of said bolt, whereupon, when the door, shutter, &c., which carries the latter is entirely closed, the same is free to be and is shot or thrust into the locking-keepers *g g'* into the position shown in Fig. 4 by the spring D, whereby it is also secured against rattling or being worked loose accidentally or from without when in this position.

The draft incident to unlocking bolt A counteracts that of the spring. Therefore, inasmuch as the knob or handle *a²* is at the rear end of the bolt and the adjacent end of spring D is attached thereto at the same point, the front part or that portion of said bolt which is in advance of this point is free to turn on the shank of said knob or handle and thus drop of its own weight, so that as the bolt is drawn back manually the tooth or lug *a* will by its inclined edge ride over the inner surface of the lower end of keeper *b* until the face of the same clears the rear edge of the latter, when the bolt A will drop of its own weight and said tooth or lug brought into action again automatically. Obviously when said bolt is unlocked or withdrawn the spring keeps lug or tooth *a* pressed against keeper *b* and prevents rattling of the bolt when the shutter is open, the recess *e* in which said spring is located being in this event covered

by the bolt and the collection of snow, ice, dust or other foreign matter therein thus avoided.

What I claim as my invention is as follows:

In a shutter-fastener, a bolt provided with a detent on one of its edges near the forward end of the bolt, a guide-case within which the bolt is longitudinally and vertically movable provided with an abutment for said detent, a knob or handle at the rear end of the bolt, the shank of which extends loosely through the latter, and a retracting-spring one end of which is secured to the shank while the other end is fastened to the guide-case forwardly of the said abutment, in combination with a keeper provided with an inclined or cam portion laterally beyond the retaining-face of the keeper, by which portion the forward end of the bolt is vertically raised to release the detent when the shutter is closed and thus permit the bolt to be shot automatically into the keeper, the said shank permitting the bolt to be retracted manually against the action of the spring to release the bolt from the keeper, and thereupon permitting the latter to drop by gravity, substantially as described.

In testimony whereof I have hereunto set my hand this 19th day of December, A. D. 1894.

JOHN KILLINGER.

Witnesses:

E. H. POWELL,
WM. H. POWELL.