(No Model.)

P. FORG.

BOLT.

No. 370,773. Patented Oct. 4, 1887.

Fig. 1.

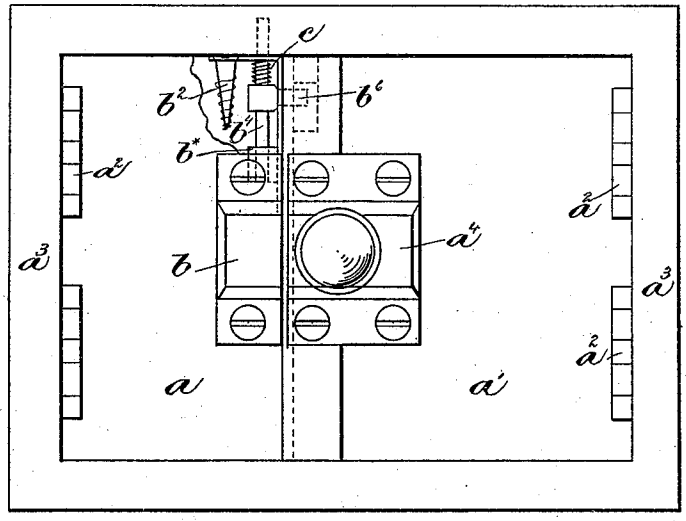


Fig. 2.

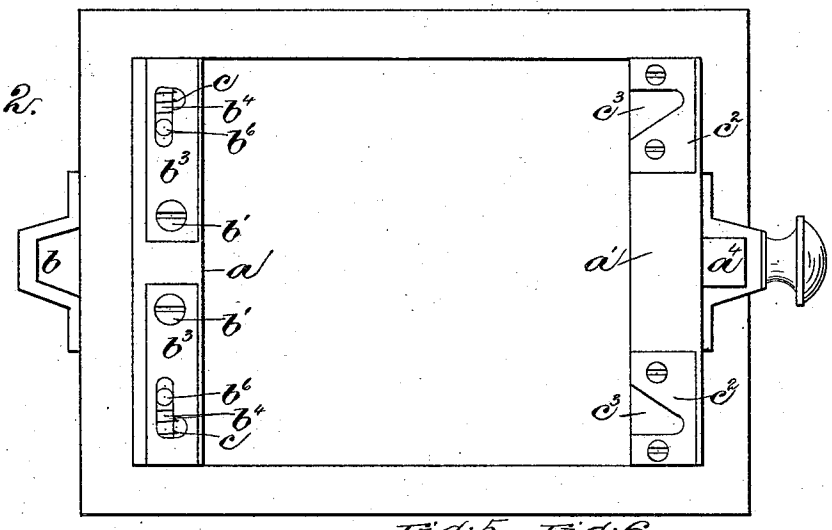


Fig. 3.

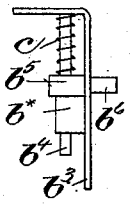


Fig. 4.

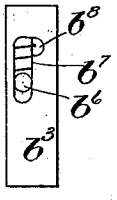


Fig. 5.

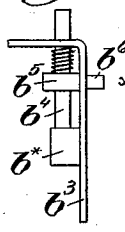
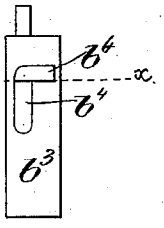


Fig. 6.



Witnesses
Fred L. Emery.
John F. C. Pennebaker

Fig. 7.



Inventor.
Peter Forg.
by Crosby & Gregory attys.

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UNITED STATES PATENT OFFICE.

PETER FORG, OF SOMERVILLE, MASSACHUSETTS.

BOLT.

SPECIFICATION forming part of Letters Patent No. 370,773, dated October 4, 1887.

Application filed February 1, 1887. Serial No. 226,139. (No model.)

To all whom it may concern:

Be it known that I, PETER FORG, of Somerville, county of Middlesex, and State of Massachusetts, have invented an Improvement in Flush-Bolts, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Prior to my invention flush-bolts have been constructed in which the face-plate is provided with an elliptical concavity which is slotted for a portion of its length, and in which slot slides a finger-piece secured to the bolt, the bolt and finger-piece being held in the position to which they are moved positively by the operator by a flat strip of metal, one end of which is secured to the face-plate, the other bearing against the said bolt. It frequently happens with the class of flush-bolts referred to that the friction between the metal strip and the bolt is so great as to require considerable force to overcome it to move the bolt. This is especially undesirable on the doors of buildings in time of fire, and so, also, the friction between the said metal strip and bolt is often very slight, so that a slight jarring or shaking of the door will dislodge the bolt. Furthermore, when the friction referred to is excessive, the doors are often closed, but not bolted, in which case they are liable to be blown open by violent winds, thus springing or otherwise injuring the lock; or the doors may be started at the hinges.

In accordance with my invention I overcome these defects by means of a flush-bolt comprising a face-plate provided with a vertical slot having an extension substantially at right angles to it, the bolt b^4, the shoulder b^6, secured to said bolt and normally extended through the vertical slot in the face-plate and adapted to be turned into the extension of the vertical slot to lock the bolt, combined with the spring encircling the bolt and adapted to be compressed when the said bolt is locked and to restore the said bolt to its normal position when unlocked, substantially as will be described.

Figure 1 shows a door-frame having double doors, one-half of which is provided with my improved flush-bolts, being broken out to show the upper flush-bolt inserted in its socket in the door-frame, the double door being securely locked. Fig. 2 is the same as Fig. 1 with the doors open; Fig. 3, a side view of my improved flush-bolt, showing the position of the parts when the doors are open, as in Fig. 2; Fig. 4, a front or face view of Fig. 3; Fig. 5, a side view of my improved flush-bolt, showing the position of the bolt when the doors are closed, as in Fig. 1; Fig. 6, a front or face view of Fig. 5; and Fig. 7, a sectional detail to be referred to, the section being taken on line $x\ x$, Fig. 6.

The doors $a\ a'$, secured by hinges a^2 to the sides a^3 of the door-frame A, may be of any usual construction, they being herein shown as provided with an ordinary slide-bolt or catch, a^4, and socket b, by which they are fastened when closed.

The door a, shown in the present instance as the smaller of the double doors, has its front edge mortised at top and bottom to receive flush-bolts to be described, by which the said door may be locked, each flush-bolt being secured, as shown, by screws $b'\ b^2$, inserted through the bent face-plate b^3 of the said flush-bolt. Each plate b^3 on the inner face of its vertical arm has a lug, $b^\times$, through an opening in which the bolt b^4 is extended, the said bolt having a collar, b^5, provided with a shoulder or lug, b^6, extended through a vertical slot, b^7, having an extension, b^8, substantially at a right angle to it. The bolt b^4 is encircled by a spiral spring, c, one end of which bears against the collar b^5 and the other against the bent or horizontal portion of the face-plate b^3, the bolt being extended through the said bent portion, it being flush with its upper face when the door a, to which the flush-bolt has been applied, is open.

The front edge of the door a' is cut away or notched near its top and bottom, as at c^3, to receive the shoulders or lugs b^6, and has secured to it a plate, c^2, slotted to correspond to the notch in the door, one side of the said notch, as shown, being inclined, and upon which inclined side the shoulder or lug b^6 rides as the doors are closed. As each shoulder or lug b^6 rides up the inclined side the bolt b^4 is forced through and beyond the bent portion of the face-plate b^3 and into a socket in the top and bottom of the door-frame, as shown at the top by dotted lines, Fig. 1, thus automatically locking both doors, the spring at such time being compressed. Each bolt b^4 of the flush-

bolts remains in its socket while the doors are closed; but when the door *a'* is opened the spring *c* acts to force the bolt back to its normal position, with the collar b^5 resting against the lug $b^\times$, the shoulder b^6 traveling down the incline side of the slot in the plate c^2. This feature is especially advantageous in doors on public buildings when, in case of fire, it is desired to open both doors quickly, thus avoiding the usual crush attendant upon such occasions. It is also advantageous when applied to doors of wardrobes, commodes, and similar articles of furniture.

In many cases it may not be desirable to have both doors open at the same time, and to provide for this contingency the bolt b^4 may be inserted in its socket in the usual manner by pushing upon the shoulder b^6 until it has reached the extension b^3 of the vertical slot, when the said shoulder will be turned into the said extension, as shown in Figs. 5, 6, and 7, the bolt being thus prevented from being withdrawn from its socket until the said shoulder has been positively released by hand. When in the position shown in Figs. 5, 6, and 7, the shoulder b^6 is not acted upon by the inclined side of the slotted plate.

I claim—

A flush-bolt, comprising a face-plate provided with a vertical slot having an extension substantially at right angles to it, the bolt b^1, the shoulder b^6, secured to said bolt and normally extended through the vertical slot in the face-plate and adapted to be turned into the extension of the vertical slot to lock the bolt, combined with the spring encircling the bolt and adapted to be compressed when the said bolt is locked and to restore the said bolt to its normal position when unlocked, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER FORG.

Witnesses:
G. W. GREGORY,
J. H. CHURCHILL.