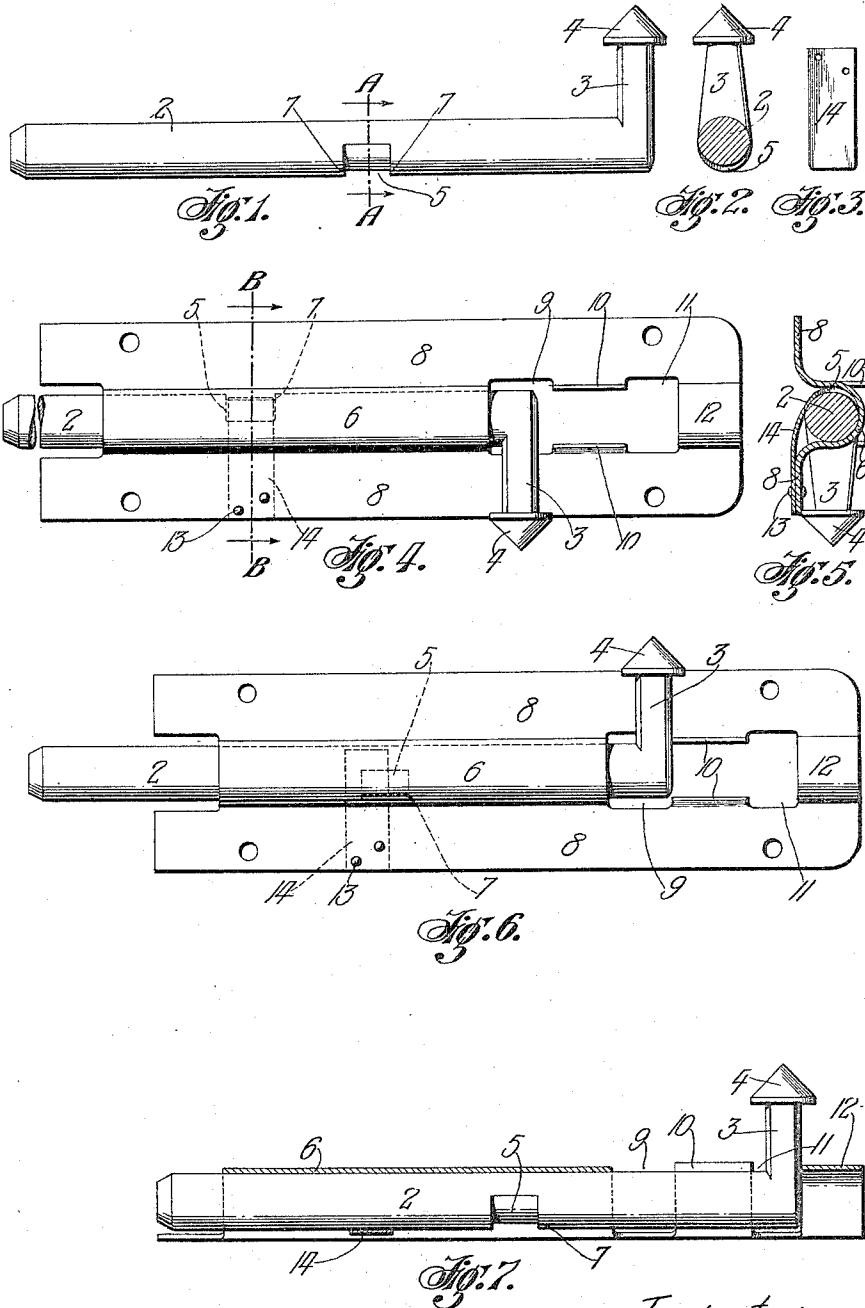


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SLIDE BOLT.
APPLICATION FILED MAR. 3, 1917.

1,228,996.

Patented June 5, 1917.



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UNITED STATES PATENT OFFICE.

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SLIDE-BOLT.

1,228,996.

Specification of Letters Patent.

Patented June 5, 1917.

Application filed March 3, 1917. Serial No. 152,301.

To all whom it may concern:

Be it known that I, ARTHUR ALBERT WALTERS, a subject of the King of Great Britain and Ireland, residing in the city of Richmond, a suburb of the city of Melbourne, in the county of Bourke, State of Victoria, Commonwealth of Australia, (whose post-office address is corner of Punt Road and Stewart street, in the said city of Richmond,) have invented a certain new and useful Improved Slide-Bolt, of which the following is a specification.

This invention relates to bolts used to secure doors, gates, windows and other articles, which bolts usually consist of a sliding body capable of being shot forward into a keeper and being partially rotated in either direction and locked between spurs outstanding from the bolt casing. In bolts of this description it is a simple matter for an unauthorized person or a child to move the bolt handle across to the center and then withdraw the bolt.

The object of this invention is to provide a bolt of the above description that is securely locked as soon as it has been moved forward to retain the articles together. A bolt made according to the invention may only be moved from such a position by a person aware of the peculiar action necessary to release it.

Referring to the drawings which form part of this specification—

Figure 1 is a side view of a bolt according to the invention.

Fig. 2 is a section on line A—A of Fig. 1 looking in the direction of the arrows.

Fig. 3 is a view of a plate spring used with the bolt.

Fig. 4 is an outside view of the casing the bolt being shot and locked by the plate spring which is resting in a circumferential groove in the bolt. Parts are broken away for convenience of illustration.

Fig. 5 is a section on line B—B of Fig. 4 looking in the direction of the arrows.

Fig. 6 is an outside view of the casing showing the position of the bolt when its groove is clear of the plate spring.

Fig. 7 is a side sectional elevation of the casing showing the bolt fully withdrawn, its handle outstanding at right angles from the casing.

The invention includes a bolt having a round body 2. Integral with its outer end

is the inner end of a handle 3, the outer end of which may have a knob 4 or finger piece thereon.

Formed in the body of the said bolt is a circumferential groove 5 which is situated in a portion of the body covered by a casing 6 hereinafter referred to. The position of the groove, which does not extend wholly around the bolt body is dependent upon convenience or the use for which the bolt is intended. The maximum depth of the groove is made in that part of the body opposite the handle. The width of the groove depends upon conditions. The inner edges of the walls of the groove and the surface of the bottom where they meet are preferably sharp cornered. The sectional contour of the removed portion is eccentric or that of a crescent, so that the bottom wall of the groove acts, in effect, as a cam, as subsequently explained.

The bolt is situated in the casing 6. This casing has flanges 8 by which it is secured to a door, gate or window or the like. This casing at its outer end is interrupted forming a transverse locking slot 9 for the bolt handle which may be moved through one hundred and eighty degrees (180°) approximately. The space between the casing and two spurs (hereinafter referred to) is greater than the width of the handle. There is thereby permitted movement of the bolt in the casing and between the spurs.

Adjoining the locking slot 9, and in rear thereof are two outstanding longitudinal spurs 10. Between these two spurs the handle, when at right angles to the flanges, is moved longitudinally thereby withdrawing the bolt. Adjoining the rear end of the spurs is a second transverse slot 11. In the second or rear slot the handle of the bolt reposes when it is withdrawn.

Adjoining the rear slot 11 is a supplementary housing or limit stop 12. This limits the outward movement of the bolt.

Secured inside one of the flanges of the casing by rivets 13 or other means is one end of a detent, here shown as a plate spring 14. The width of this spring is slightly less than the width of the groove referred to. The other end of the spring presses into the groove.

Instead of the spring being situated inside the casing it may be secured inside the keeper into which the bolt passes. In such

a case the groove will be made in that part of the bolt body which passes into the said keeper.

The bolt is operated as follows:—If the bolt is withdrawn and the door unlocked the handle is capable of moving through one hundred and eighty degrees (180°) in the rear slot 11. When the door or other body is to be locked the handle is moved at right angles to the flanges and the bolt is pushed into its keeper, the handle passing between the two spurs 10. When the handle reaches the front or locking slot 9 it may be turned up or down and rests in the space between the casing and the spurs. When the handle is in the locking slot and stands either outwardly at right angles to the flanges or against one of the flanges as shown in Figs. 4 and 5 the free end of the spring 14 is bedded in the groove 5 and the bolt cannot be pulled backwardly. When, however, the head of the bolt is pushed over toward the free end of the spring and upon the other flange in the locking slot as shown in Fig. 6 the groove is turned toward the fixed end of the spring, and the free end of the latter is thus freed from the groove by the action of the cam-shaped bottom wall of said groove which forces or pushes the end of the spring outward. The bolt may then be moved longitudinally backward or forward a small distance in the locking slot 9. The groove is thereby moved out of registration with the spring. The handle is then turned outwardly at right angles to the flanges. The spring being still out of the groove the handle can then be moved longitudinally between the two spurs and the door unlocked.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In a lock, the combination, with a bolt casing having a transverse slot; of a bolt slidable in said casing, to project its outer end into, or withdraw it from, a keeper; said bolt being provided with a lateral handle which extends outwardly through said slot, and with a circumferential groove having a cam-shaped bottom wall; and a detent for coöperation with said groove adapted to automatically snap thereinto when the bolt is in its projected position, to lock said bolt against withdrawal; the cam wall of said groove being adapted to directly and automatically force said detent out of the groove when said bolt is rotated by manipulation of its handle while still maintaining its fully-projected position.

2. In a lock, the combination, with a bolt casing having front and rear spaced, parallel, transverse slots and a pair of outwardly-projecting, longitudinal spurs connecting the same; of a bolt slidable in said casing to project its outer end into, or withdraw it from, a keeper; said bolt being provided

with a lateral handle which extends outwardly of the casing and is engaged, in its projected and retracted positions, in the front and rear slots respectively, and being also provided with a circumferential groove having a cam-shaped bottom wall; and a detent for coöperation with said groove adapted to snap automatically therein when the bolt is in its projected position, to lock said bolt against withdrawal; the cam wall of said groove being adapted to force said detent out of the groove when said bolt is rotated by manipulation of its handle, said handle having a limited lateral movement in said front slot so as to bring said groove out of registration with said detent and thereby permit the withdrawal of the bolt.

3. In a lock, the combination, with a bolt casing having front and rear spaced, parallel, transverse slots and a pair of outwardly-projecting, longitudinal spurs connecting the same; of a bolt slidable in said casing to project its outer end into, or withdraw it from, a keeper; said bolt being provided with a lateral handle which extends outwardly of the casing and is engaged, in its projected and retracted positions, in the front and rear slots respectively, and being also provided with a circumferential groove located intermediate the ends thereof and having a cam-shaped bottom wall; and a detent disposed within said casing for coöperation with said groove, adapted to snap automatically therein when the bolt is in its projected position, to lock said bolt against withdrawal; the cam wall of said groove being adapted to force said detent out of the groove when said bolt is rotated by manipulation of its handle, said handle having a limited lateral movement in said front slot so as to bring said groove out of registration with said detent and thereby permit the withdrawal of the bolt.

4. In a lock, the combination, with a bolt casing having a transverse slot; of a bolt slidable in said casing, to project its outer end into, or withdraw it from, a keeper; said bolt being provided with a lateral handle which extends outwardly through said slot; and a detent for locking said bolt in its projected position; said bolt having a locking portion which is automatically engaged by said detent when the bolt is moved into projected position, and which directly and automatically forces said detent out of such engagement when the bolt is subsequently rotated by manipulation of said handle.

5. In a lock, the combination, with a bolt casing having front and rear spaced, parallel, transverse slots and a pair of outwardly-projecting, longitudinal spurs connecting the same; of a bolt slidable in said casing to project its outer end into, or withdraw it from, a keeper; said bolt being provided with a lateral handle which extends out-

wardly of the casing and is engaged, in its projected and retracted positions, in the front and rear slots, respectively; and a detent for locking said bolt in its projected position; said bolt having a locking portion which is automatically engaged by said detent when the bolt is moved into projected position, and which automatically releases said detent from such engagement when the bolt is subsequently rotated by manipulation of said handle, said handle having a limited lateral movement in said front slot so as to bring said locking portion out of alignment with said detent and thereby permit the withdrawal of the bolt.

In testimony whereof I affix my signature.

ARTHUR A. WALTERS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."