J. P. MACKAY.

DOOR SECURING DEVICE.

APPLICATION FILED MAY 24, 1916.

1,243,618. Patented Oct. 16, 1917.

Fig. 1.

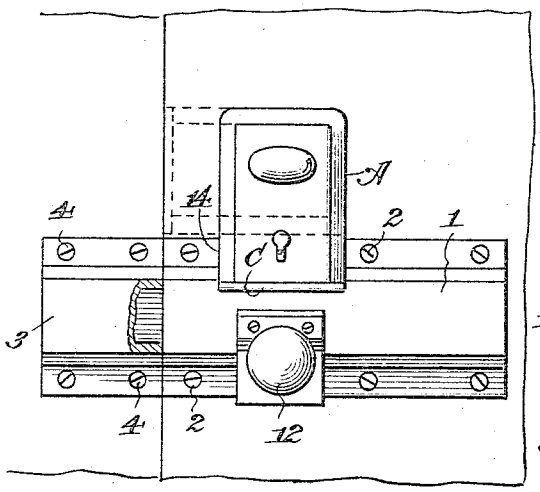


Fig. 2.

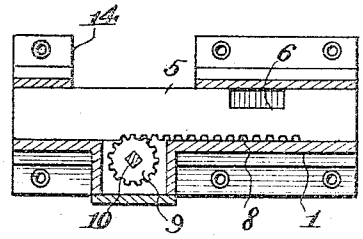


Fig. 3

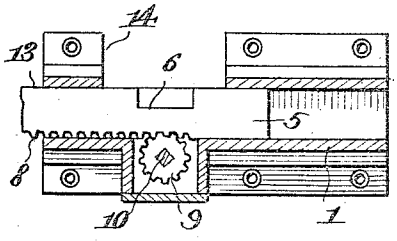


Fig. 4.

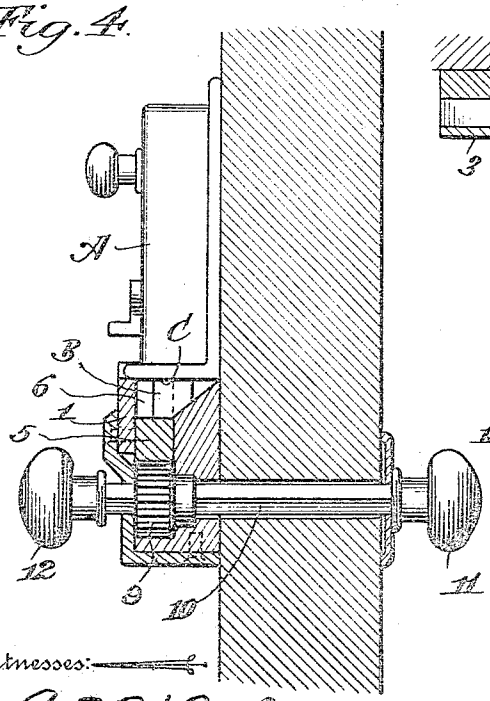


Fig. 5.

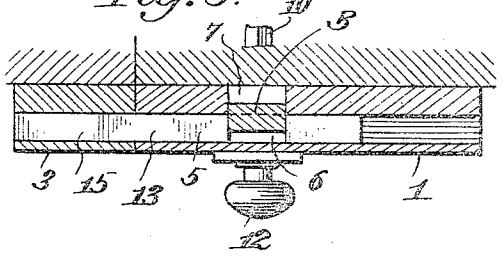
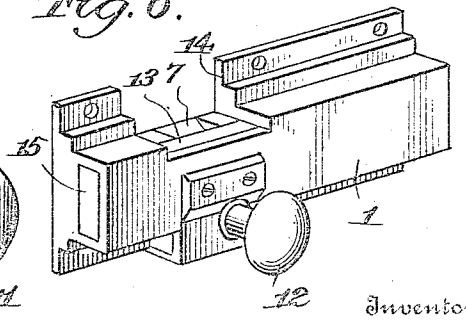


Fig. 6.



Witnesses:

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DOOR-SECURING DEVICE.

1,243,618. Specification of Letters Patent. Patented Oct. 16, 1917.

Application filed May 24, 1916. Serial No. 99,598.

To all whom it may concern:

Be it known that I, JAMES P. MACKAY, a subject of the King of Great Britain, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Door-Securing Devices, of which the following is a specification.

This invention relates to safety fastenings for doors. The device is adapted to be used particularly in combination with a conventional standard lock having a spring projected bolt.

Notwithstanding the fact that many locks are constructed whereby to obstruct a mechanical entry of the lock, the same can be tampered with and the bolt released from the keeper upon the door frame by prying the door away from the keeper through the insertion of a tool between the vertical edge of the door and the next adjacent side of the door frame, causing the ordinary bolt to be released from the keeper. This is done through the fact that in locks there is a limit to the projection of the bolt in the keeper, and the projection is entirely too inadequate for the purpose of preventing the same from being released by the springing of the door.

My improved fastening consists of an auxiliary sliding bolt which is adapted to be applied to the door without removing the ordinary lock therefrom and one in which the bolt may be positively locked on the projection of the bolt of the ordinary lock mechanism. In carrying the invention into practice, use is made of a sliding bolt having an effective projecting end which is considerably greater in length than the effective locking end of the ordinary bolt mechanism and designed to accommodate itself in a keeper of substantially the same proportion.

A further object of the invention is to provide a fastening attachment which is applicable to a lock which is already in position on the door, one which may be associated with the lock by simply changing the same from its normal horizontal position to a vertical position, one in which the bolt may be accurately associated with the sliding bolt of the lock whereby to cause the same to be held retracted against the action of its spring during the operation of projecting the auxiliary bolt to an operative position in its keeper.

A further object of the invention is to provide an auxiliary fastening which may be used in combination with a lock which is so mechanically designed as to render it extremely difficult to pick or otherwise mechanically enter the same, causing the bolt of said auxiliary fastening to be projected over such an area and within a corresponding keeper so as to materially increase the value of the lock as a positive means for preventing both mechanical and forcible entry of the door.

With the above and other objects in view which will appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement of parts which will hereinafter be fully described and particularly pointed out.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitations are necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claims may be resorted to when desired.

In the drawings:—

Figure 1 is a front view of a portion of the door showing a lock turned upon its seat to assume a vertical position and illustrating the application of my improved fastening thereto.

Fig. 2 is a plan view of the fastening removed from the door, the bolt being retracted.

Fig. 3 is a similar view showing the bolt projected.

Fig. 4 is a section taken vertically through the sliding bolt of the fastening showing the operating means therefor.

Fig. 5 is a view taken at right angles to Fig. 4.

Fig. 6 is a perspective view of the device.

As stated, I employ a fastening which in the true sense of the word is supplemental or auxiliary to the sliding bolt of a lock. I provide as a new and useful article of manufacture a device which is separate, distinct and complete in itself and applicable to locks of the ordinary type without changing the seat of said lock. The device or article is also constructed whereby it will properly accommodate itself to ordinary lock mechanism regardless of the direction of swinging movement of the door. In other

words, the device is constructed so as to accommodate itself to right and left hand opening doors. This is done by simply reversing the position of the device and correspondingly reversing the position of the ordinary lock with which it is associated.

The device conventionally illustrated at (A) herein is the casing of a lock having a sliding key actuated bolt (B) of any common design. The normal position of the lock is shown in dotted lines. In associating the lock with my improved auxiliary fastening, I do not change the position of the seat of the lock, but simply turn the same from its normal horizontal position to a vertical position, causing the bolt (B) to extend downwardly when the door opens from one side or upwardly when the door opens from the opposite side. I wish particularly to emphasize the fact that it is not necessary to remove the mentioned ordinary lock structure (A) from the door when applying my auxiliary fastening to the door. The auxiliary fastening consists of a housing 1 adapted to be secured to the door by suitable fastenings 2, and said housing is arranged in line with a relatively long keeper 3 secured by fastenings 4 to the door jamb.

The housing 1 is provided with a horizontal sliding bolt 5 provided with a substantially U-shaped recess 6, which is adapted when the bolt is projected as seen in Fig. 5, to aline with a similar recess 7 formed in one wall of the housing. Along one edge the bolt is provided with a toothed surface 8 adapted to coact with a pinion 9 whose spindle 10 is mounted to rotate in the housing. Said spindle also extends through the door to which the fastening is applied, and on the outside it is provided with a hand knob 11, a similar knob 12 being also secured to the inner end of the spindle. In this manner mechanical motion can be imparted to the sliding bolt 5 for a purpose to be hereinafter explained.

The face 13 of the bolt 5 is disposed in the same horizontal plane with the top of the recess 7. The housing 1 is provided with a vertical relatively wide recess 14 into which that end of the casing or lock structure A, through which its bolt B is adapted to be projected, extends. The end face C of the casing A through this arrangement is adapted to come directly against the face 13 of the bolt 5, whereby the bolt B will be held retracted through its engagement with said face 13 of the bolt 5. Assuming the operating mechanism within the casing A to be set to cause the bolt B thereof to be yieldingly projected, it is evident that when the bolt 5 is projected so as to cause the recess 6 to aline with the bolt B, the latter will be extended into said recess 6 and into the recess 7. Said recess 6 is formed to one side of the center of the bolt 5, and in this manner, it will be observed that the effective locking end 15 of the bolt will be relatively long and in practice many times greater in length than the length of the effective locking end of the bolt B. The keeper 3 is of a length corresponding with that of the effective locking end 15 of the bolt 5, and incident thereto it becomes absolutely impossible to retract said end 15 from its keeper by springing the door in a manner described hereinbefore.

The door to which my improved fastening is applied opens in this instance from the left, and consequently the casing A of the ordinary lock mechanism is turned in a downward direction on its seat so as to assume a true vertical position. The housing 1 is then applied, the recess 14 forming a seat for the reception of the base of said lock casing A. The fastenings 2 are then associated with the housing 1 and with the door, securing the housing in position and at the same time maintaining a relatively fixed condition of the casing A of the ordinary mechanism. The housing 1 comes flush with the vertical edge of the door and is adapted to properly aline with the keeper 3 when the door is closed. The ordinary mechanism in the lock casing A is controlled in the usual manner. When it is desired to lock the door, the bolt B is released, whereby it is capable of moving under the action of its spring (not shown). The spindle 10 is then actuated to cause the bolt 5 to move in its casing, advancing the end 15 into the keeper until a vertical alinement of the recess 6 with the bolt B has been obtained. At this moment, the bolt B under the action of its spring is automatically projected into the recess 6 and the bolt 5 held in a relatively fixed condition. A reversal in the just described operation is made when it is desired to release or retract the bolt 5 from the keeper.

Having thus described the invention, what is claimed as new, is:—

1. A fastening for doors comprising a housing, a bolt slidable therein and means for projecting and retracting the bolt, said housing having a relatively large recess through which the bolt is exposed and a relatively small recess between the end walls of the large recess, and said bolt having a recess adapted to register with the small recess in the housing, in combination with a lock casing having a key actuated bolt, said lock casing being adapted to be mounted with one end seated in the large recess of the housing and the key projected bolt adapted for engagement with the small recess in the housing and also with the recess in the bolt mounted in the housing in one position of said bolt.

2. In a door fastening device, a housing,

a bolt slidable therein, means for projecting and retracting the bolt, and a keeper adapted to receive one end of the bolt when projected, said housing having a recess through which the bolt is exposed, in combination with a conventional unitary lock casing mounted with one end thereof seated in the recess of the housing, and a slidable key retracted bolt in said lock casing with one end thereof impinging on the bolt within the housing, said last mentioned bolt having a recess adapted to be engaged by the bolt in the lock casing.

3. As an article of manufacture, a door fastening device comprising a housing, a bolt slidable therein, and means for projecting and retracting the bolt, said housing having a recess through which one face of the bolt is exposed, and said bolt having a recess which may be placed in and out of registry with the recess in the housing; the recess in the housing being adapted to form a seat for one end of a conventional unitary lock casing having a key retracted bolt with which the bolt in the housing is adapted to coöperate.

In testimony whereof I, affix my signature in presence of two witnesses.

JAMES P. MACKAY.

Witnesses:
ANNA V. DOYLE,
CHRIS FEINLE, Jr.

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