No. 834,338. PATENTED OCT. 30, 1906.

H. P. TOWNSEND.

NIGHT LATCH MECHANISM.

APPLICATION FILED JAN. 15, 1906.

Fig. 1.

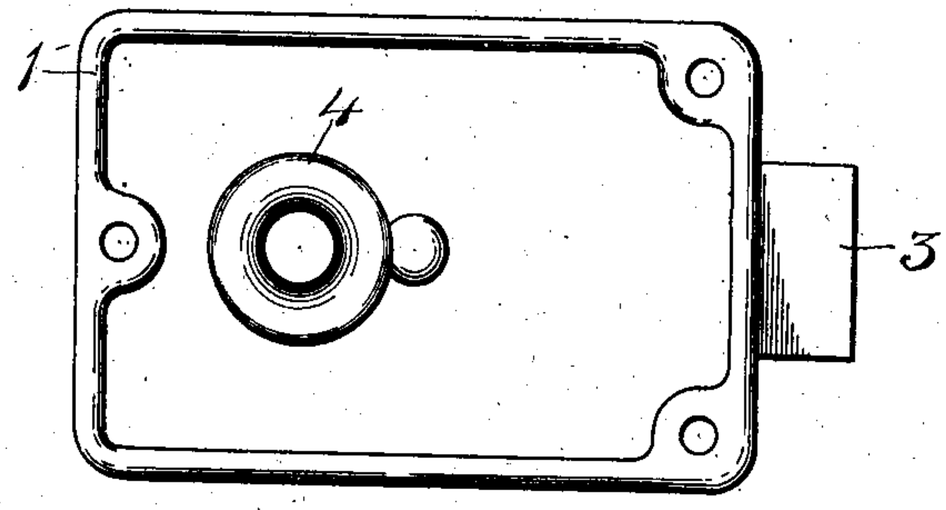



Fig. 2.

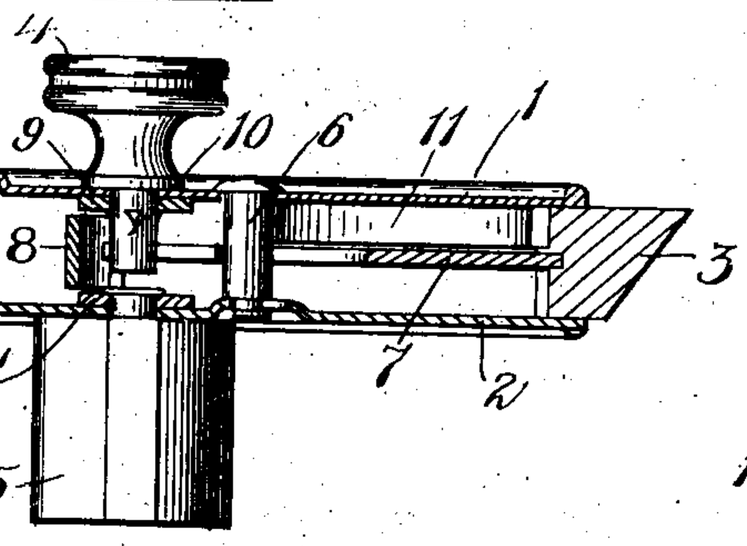



Fig. 5.

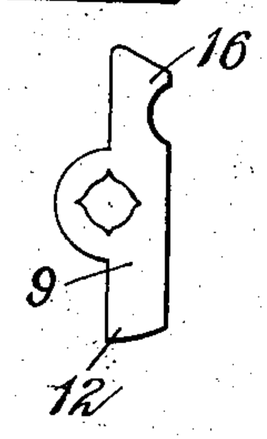



Fig. 4.

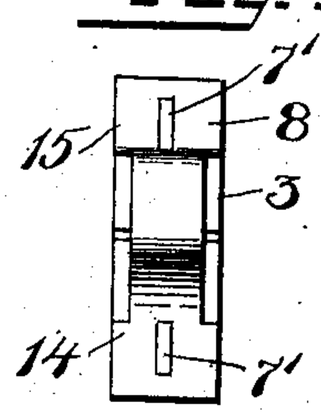



Fig. 3.

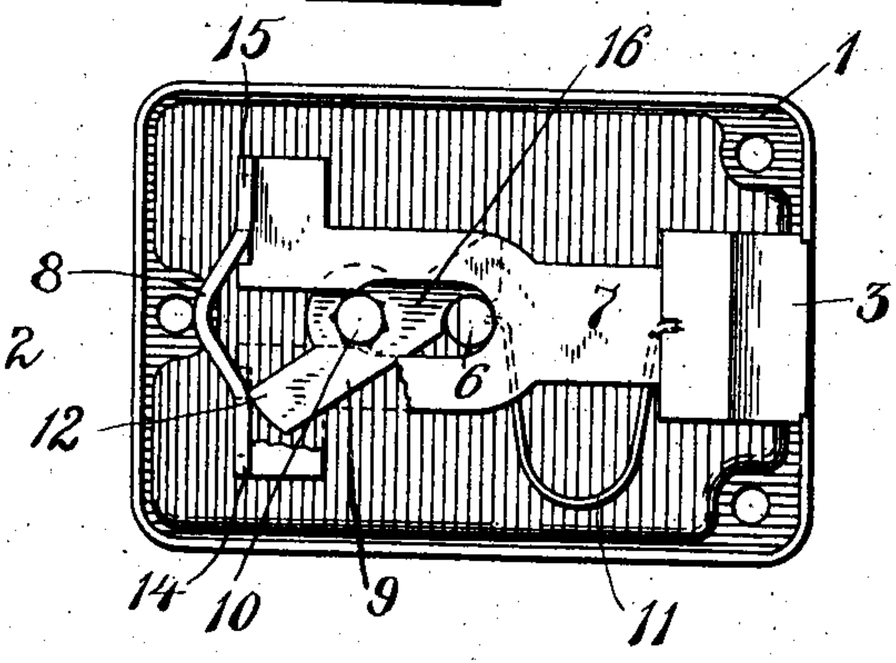



Fig. 6.

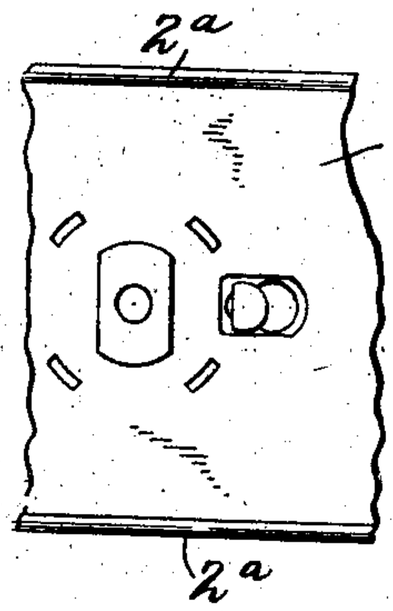
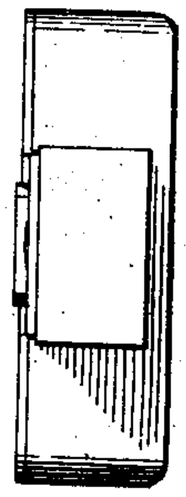



Fig. 7.



Witnesses

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## NIGHT-LATCH MECHANISM.

No. 834,338. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed January 15, 1906. Serial No. 296,011.

*To all whom it may concern:*

Be it known that I, HARRY P. TOWNSEND, a citizen of the United States, residing at New Britain, Hartford county, Connecticut, have invented certain new and useful Improvements in Night-Latch Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in lock and latch mechanism, and particularly to what is termed a "night-latch."

The object of the invention is to provide a simple construction which may be manufactured economically and which will operate satisfactorily and in which the latch-bolt may be readily retracted and held in its retracted position when desired by a simple turn of the thumb-piece.

The invention consists in improvements the principles of which are illustrated in the accompanying single sheet of drawings.

The latch bolt and slide are preferably formed of three pieces—the head, a slotted shank, and a cross-bar for coöperation with the roll-back. The roll-back carried by the thumb-turn may be rocked in one direction to retract the latch-bolt in the ordinary manner. When rocked in the opposite direction, the bolt is automatically held back even when the thumb-piece is released. It may be permitted to extend, however, by a release movement of the thumb-piece.

Figure 1 is a front or outside view of a rim-latch mechanism embodying the improvements of my invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a view of the interior mechanism, showing the latch-bolt retracted and dogged. Fig. 4 is an end view of the latch slide and bolt. Fig. 5 is a detail view of a roll-back. Fig. 6 is a detail view of another feature. Fig. 7 is an end view of lock-case and bolt.

The mechanism illustrated is of the rim type, in which 1 indicates the main part of the outer side of the casing, and 2 indicates the back plate or side of the casing. 3 is the latch-bolt. 4 is the thumb-turn. 5 is the case or cylinder for the lock mechanism. These rim-locks are usually applied to the inner side of a door and secured by screws passing through the casing into the door. The lock-cylinder usually extends through a hole in the door and is accessible from the outside. In the form shown the door to which the mechanism is to be attached will open inwardly. Two parts of the casing are preferably secured together by a post 6, which is fixedly attached to the outer side 1 and provided with a head for connection in a key-hole-slot in the back side 2.

The latch-bolt and slide are preferably formed of three parts. The head 3 extends through an opening in the end of the casing.

7 is the shank of the slide and preferably formed of sheet metal and having a longitudinal slot at the rear end to allow for the post 6 and the hub of the thumb-turn.

8 is a cross-head also preferably formed of sheet metal riveted to the shank 7 by lugs 7′ 7′.

9 is a roll-back secured to the hub 10 of the thumb-turn, preferably by forcing some of the metal of the hub into notches in the central perforation in the roll-back.

11 is a spring, one end of which rests in a notch in the post 6, the other end of which rests in a notch in the back of the bolt-head 3 and tends to force the bolt outwardly into its latching position. The central portion of the cross-head 8 is bent or extended back to form a recess for the double purpose of affording clearance for the roll-back hubs and also to receive one end of the roll-back when the same is turned in one direction to hold the latch retracted when that is desired. The roll-back 5′ is adapted to be operated by the use of a key in the cylinder-lock. The rear ends of the two arms of the slide 7 are guided by the hub 10 of the thumb-piece, while the bolt-head itself is guided in the opening in the casing.

12 is a shoulder formed on one end of the roll-back 9.

14 represents a bearing-face on the cross-head 8 of the latch-slide which is adapted to be engaged by the shoulder 12 of the roll-back 9.

15 indicates that part of the cross-head of the latch-slide opposite the shoulder 14, which is adapted to be engaged by the arm 16 of the roll-back.

Normally the pressure of the spring holds the latch-bolt extended, with the cross-head bearing against both arms of the roll-back. When it is desired to open the door, the latch-bolt is retracted by rotating the thumb-turn

4 in a clockwise direction, (as viewed in Fig. 1.) When the thumb-turn is released, the spring 11 forces the bolt out and turns the thumb-piece to its original position through the action of the cross-head on the roll-back. When it is desired to retract the bolt and hold it retracted or dog it, it may be effected by rotating the thumb-piece in the opposite direction. In this event the slide is retracted until the shoulder 12 of the roll-back 9 snaps into the recessed portion of the cross-head 8, as shown in Fig. 3. The arm 16 of the roll-back comes to a stop against the post 6 after the shoulder 12 has snapped over the shoulder 14, a suitable clearance-recess being formed in the roll-back arm 16 to permit this range of movement of the part 11. When the thumb-piece is released, the spring 11, acting against the slide, tends to force it outward. The cross-head then bears against the end 12 of the roll-back and takes up the longitudinal thrust of the spring. When it is desired to release the latch-bolt, the thumb-piece is turned in a clockwise direction (as viewed in Fig. 1) until the shoulder 12 is disengaged from the shoulder 14. The spring will then extend the bolt and will turn the roll-back and thumb-piece to their normal positions.

Another feature of importance is shown in the construction of the case, whereby the cover portion may be readily attached or detached without the use of screws, bolts, or other removable fastening devices. In this connection reference is made to Fig. 6, wherein it will be seen that the cover-plate 2 is provided with a keyhole-slot located in such a portion as may be caused to yield by pressure. As shown, it is in substantially the central portion of the cover-plate 2 and the surrounding wall of metal is slightly depressed. The larger part of the keyhole-slot is adapted to slip over the head of the post or stump 6, whereupon by sliding it back laterally from this position the narrower portion of the keyhole-slot engages in a groove underneath the end of said stump. This is clearly seen in Fig. 2. By this arrangement it is merely necessary to shift the plate 2 laterally to either attach or detach the same, the flexibility thereof permitting of this lateral movement. The normal spring of the metal holds the edges of the keyhole-slot in intimate and tight frictional engagement with the stump 6. The edge of the plate 2, as indicated at $2^a$, may be bent to form a shoulder projecting slightly within the box or frame 1 to assist in holding the plate in place.

What I claim is—

1. A latch construction comprising a latch-bolt, a slide therefor having a recessed cross-head, a roll-back, means for actuating the roll-back, a spring for normally extending the bolt and slide, one end of the roll-back being arranged to engage in the recessed portion of the cross-head when said roll-back is turned in one direction to hold the slide in its retracted position.

2. In a lock-case, a removable cover-plate, composed of yielding or springy material, a keyhole-passage in a flexible part of said plate, a grooved post carried by the case proper and arranged to coöperate with the cover-plate and engage the walls of the keyhole-passage.

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