(No Model.) 2 Sheets—Sheet 1.

R. MUENCH.

NIGHT LATCH.

No. 381,162. Patented Apr. 17, 1888.

Fig. 1.

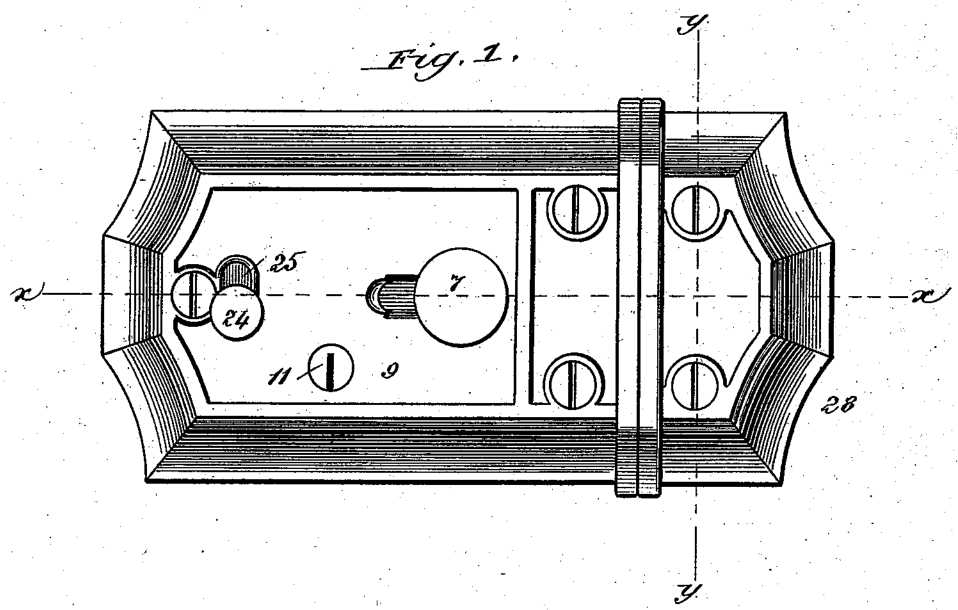


Fig. 2.

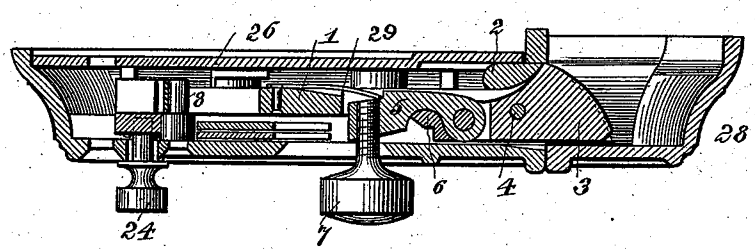
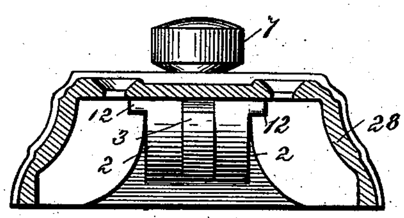


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 4.

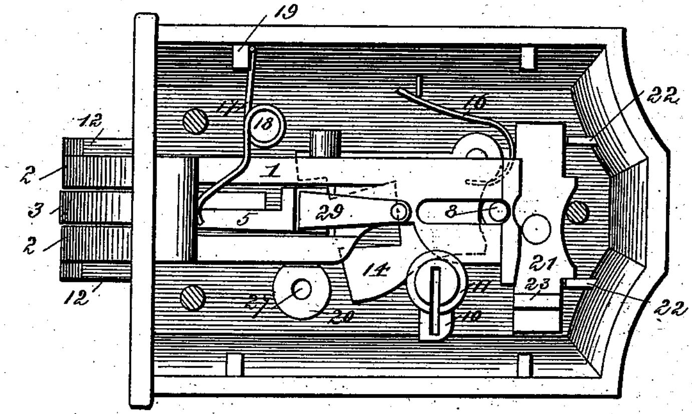


Fig. 5.

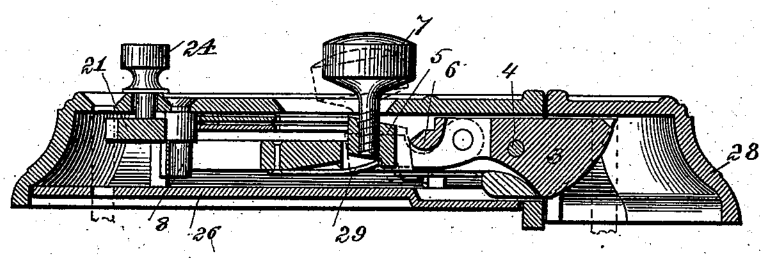


Fig. 6.

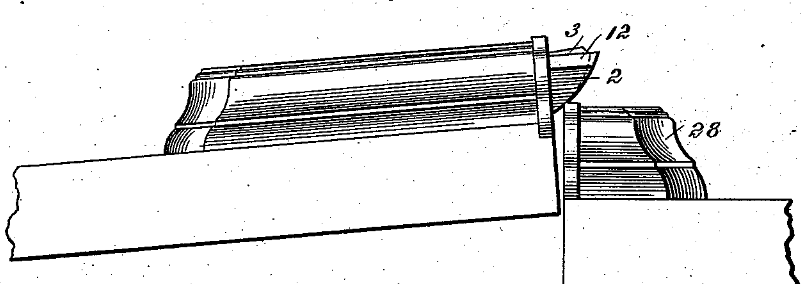


Fig. 7.

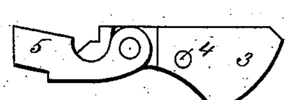
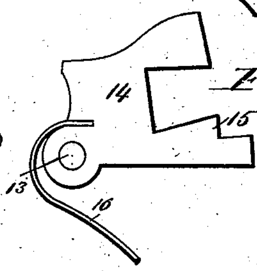


Fig. 8.



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UNITED STATES PATENT OFFICE.

ROBERT MUENCH, OF CHICAGO, ILLINOIS.

NIGHT-LATCH.

SPECIFICATION forming part of Letters Patent No. 381,162, dated April 17, 1888.

Application filed December 13, 1887. Serial No. 257,738. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MUENCH, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Night-Latches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object to provide a night-latch that will be impossible for a burglar to open from the outside; and with that object in view my invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 is a front elevation of the device; Fig. 2, a longitudinal section on line *x x* in Fig. 1, looking at it from the top. Fig. 3 is a section on line *y y* in Fig. 1. Fig. 4 is a rear elevation of the lock with the covering-plate removed. Fig. 5 is a longitudinal section on line *x x* in Fig. 1, looking at it from the bottom. Fig. 6 is an elevation of the latch in the position of being in the act of locking the door. Fig. 7 is the middle piece of the bolt detached, and Fig. 8 is an elevation of one of the tumblers detached.

Corresponding referential characters designate like parts in all the figures.

The bolt 1 is provided with a chamfered head, 2, and has a flat tail end. This head and the adjoining portion of the tail-plate are slotted through their center to insert therein a piece, 3, shaped like the bolt-head, and pivotally secured by a pin, 4, passed through holes in both the head 2 and piece 3. This piece 3 projects somewhat beyond the chamfered face of the latch-head 2. The tail end of piece 3 is notched out for receiving the eyed end of another piece, 5, being pivotally secured to piece 3 in a manner to swing freely thereon in one direction, while in the opposite direction it butts against a shoulder, 6, of piece 3. This piece 5 forms a square stub end at its rear, where it is tapped for a knob, 7, by which the bolt can be retracted. A small leaf-spring, 29, secured against the face of the tail end of the bolt, presses against the butt-end of piece 5. The rear portion of the tail end of bolt 1 is longitudinally slotted, engaging a guide-stud, 8, of the casing, and the lower edge of the tail portion of said bolt is notched out to be engaged by the cam projection 10 of the barrel 11. The face of the bolt-head 2 that slides upon the bottom face of the casing 9 is extended on the sides by two feather-like projections, 12, that move in correspondingly-shaped grooves of the bolt-hole in the end plate of casing 9. A longitudinal groove is also cut through the face of the casing 9 for the screw-stem of button 7 to project through and to move in.

Below the tail end of bolt 1 are pivoted upon a pin, 13, two (more or less) tumblers, 14, that are notched, as shown in Fig. 8, providing a shoulder, 15, which engages the stub end of piece 5. These tumblers have each secured thereto one end of a spring, 16, the opposite end of which rests against the top side frame of casing 9. These springs hold the lower edges of the tumblers against the lower collar of barrel, 11, which latter is slotted for the ward of a flat key to be inserted, which ward will project out below the cam projection 10 of such barrel, and with turning it such keyward 10 will lift the tumblers 14 sufficient for shoulder 15 to clear the stub end of piece 5 while the cam 10 will move the bolt. A coiled wire spring, 17, is placed over a stud, 18, of casing 9, and while one arm of said spring rests against lug 19 of the casing its other arm presses against the rear shoulder of bolt-head 2, forcing the said bolt outward to make the latch self-locking.

Upon the inside face of the casing 9 is placed a plate, 21, vertically guided between pin 8 and two small lugs, 22, forming part of the casing. The bolt 1 will slide over this plate 21, which, however, has upon one end a projecting lug, 23, that with sliding the plate upward will butt against the rear end of the bolt 1, preventing its being retracted for opening. This plate 21 is tapped in about its middle for engaging the screw-shank of a button, 24, passed through a vertically-slotted opening, 25, of the casing. The parts are covered by a plate, 26, fitted between the frame of the casing, engaging stud 18 and barrel 11, where it is slotted for the keyward to enter, and is secured in position by a single screw, 27, engaging with the tapped hole in a stud, 20.

The keeper or lock-strike 28, that is secured against the door-frame, is a shell of a shape corresponding with the latch-casing, and with its side adjoining the bolt-head end of the said casing cut out for admitting the bolt-head 2, and its feather-like side extensions, 12, to fit closely into correspondingly-shaped notches or grooves therein.

In this latch, while closing or while the bolt 1 is projected out by spring 17, the stub end of piece 5 will engage behind the shoulder 15 of tumblers 14, and with closing the door the bolt-head 2 the piece 3 will be brought into contact with the keeper or lock-strike 28 in advance of the bolt-head 2, when, as shown in Fig. 6, the piece 3 is depressed to be flush with the bolt-head, whereby the stub end of piece 5 is swung to clear the shoulder 15 of tumblers 14, thus removing all obstructions for the bolt to be shifted into the casing; but as soon as the door is closed the bolt-head will enter the keeper or lock-striker 28, when at once the stub end of piece 5, depressed by spring 29, will drop behind shoulder 15 of tumblers 14 again, and at the same time the piece 3 will swing so that its chamfered face will project beyond the chamfered face of the bolt, while at the same time the straight face of piece 3 will then be flush with the straight face of the bolt-head. After the bolt-head has entered the keeper or lock-strike its straight face bears against the surface of the same, and is held rigidly from separating by the feather-like projections of the bolt head 2 closely fitting into the corresponding grooves or notches of such fixture. Thus it becomes impossible for a burglar to force the bolt back by any instrument he may insert between the door and frame, because he would have to repress the piece 3 before the bolt can be moved. This cannot be done on account of the two feather-like projections 12 of the bolt 2 which bear against the grooves.

Catching hold of knob 7 for withdrawing the bolt said knob will assume the position shown by dotted lines in Fig. 5, whereby piece 5 will be swung to clear shoulder 15 of tumblers 14, and then there will be no further obstruction to withdrawing the bolt from engagement with fixture 28. It has been already described that pieces 3 and 5 are pivotally connected and that shoulder 6 will limit a swinging movement in one direction, and this is for the purpose that a depression of piece 3 must always swing piece 5 to disengage from the tumblers, but that piece 5 can be disengaged from the tumblers without swinging piece 3, which, as long as the bolt-head is in engagement with the keeper or lock-strike 28, cannot be moved.

The opening of the latch by the key has been already sufficiently described.

What I claim is—

1. In a night-latch, the combination of the bolt-head 2, having the pivotal piece 3 and the feather-like projections 12 on the sides thereof, and means, substantially as described, for operating the said parts, with a keeper, 28, having grooves corresponding with feathers 12, substantially as described.

2. In a night-latch, the combination of a bolt-head, 2, having feather-like projections 12 and pivotal piece 3, said pivotal piece being provided with a shoulder, 6, and pivotally-connected piece 5, with tumblers 14, and keeper 28, having grooves corresponding with feathers 12, substantially as set forth.

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

ROBERT MUENCH.

Witnesses:
WILLIAM H. LOTZ,
OTTO LUBKERT.