

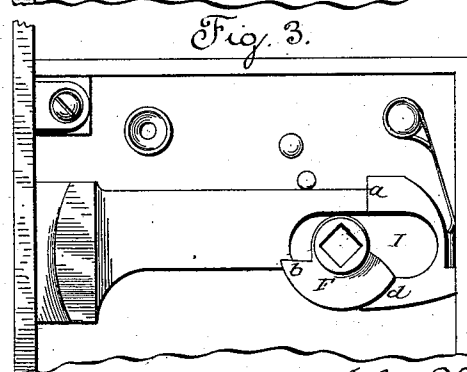
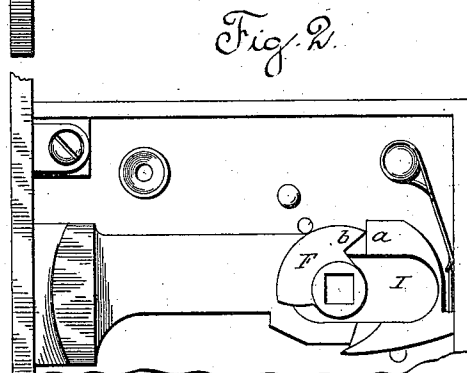
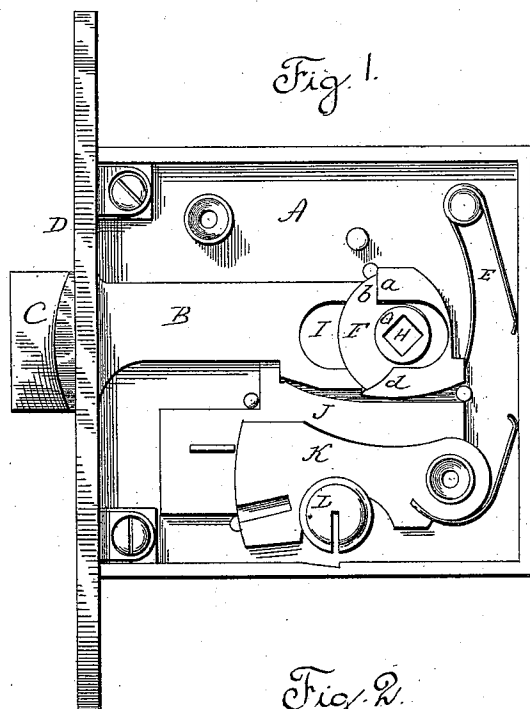
(No Model.)

J. H. BARNES & J. H. WOOLASTON.

NIGHT LATCH.

No. 337,115.

Patented Mar. 2, 1886.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN H. BARNES AND JOSEPH H. WOOLASTON, OF NEW HAVEN, CONNECTICUT, ASSIGNORS TO THE BARNES MANUFACTURING COMPANY, OF SAME PLACE.

NIGHT-LATCH.

SPECIFICATION forming part of Letters Patent No. 337,115, dated March 2, 1886.

Application filed October 26, 1885. Serial No. 180,937. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. BARNES and JOSEPH H. WOOLASTON, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Night-Latches; and we do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the latch, the covering-plate removed, showing the internal mechanism; Fig. 2, the upper portion of the case, showing the latch-bolt in its drawn position under the rotation of the follower; Fig. 3, the same as Fig. 2, showing the follower turned in the opposite direction to hold the bolt in its drawn position.

This invention relates to an improvement in that class of latches in which the bolt is arranged to be drawn by a knob on one side and actuated by a key from the reverse side, and commonly called "night-latches," and particularly to that class in which the bolt is drawn by means of a follower hung in bearings in the case, so as to revolve upon a fixed axis under the action of a knob, and thereby draw the bolt by the simple rotation of the knob, the object of the invention being to make the rotating knob the instrumentality through which the bolt is locked in its drawn position; and the invention consists in the construction of the follower and the bolt, whereby the object of the invention is accomplished, as more fully hereinafter described, and particularly recited in the claim.

A represents the case within which the mechanism of the latch is arranged. This mechanism consists of a latch-bolt, B, guided longitudinally in the case, its nose C projecting through the face-plate D and beveled in the usual manner, and so that as the door is closed the beveled nose of the bolt, striking the keeper, will be forced inward, and then by the reaction of a spring, E, in the case be thrown out to engage the keeper.

F is the follower, formed as a part of the

hub G, the hub being hung in bearings in the case in the usual manner, and constructed with an opening, H, axially through it, for the introduction of the knob-spindle, and by which the hub and follower may be rotated.

At the inner end the bolt is constructed with a shoulder, *a*, on one side of the hub, the bolt also constructed with a slot, I, which embraces the hub, and so that the bolt will be guided by the hub in a well-known manner.

The follower is constructed with a shoulder, *b*, corresponding to the shoulder *a* on the bolt, and so that as the follower is rotated—say as from the position seen in Fig. 1 to that in Fig. 2—the shoulder *b* on the follower will act upon the shoulder *a* of the bolt and draw or force the bolt inward, as seen in Fig. 2.

The latch-bolt is constructed with a shoulder, *d*, upon the side of the hub opposite the shoulder *a*. The face or surface of this shoulder corresponds to the segment shape of the bearing-surface of the follower, the circular surface of the follower being concentric to the axis of the hub. The latch-bolt being forced inward by hand or otherwise, as seen in Fig. 3, the knob is turned in the direction opposite to that by which the shoulder *b* acts on the shoulder *a*, and so as to bring the circular or outer edge of the follower against the shoulder *d*, as seen in Fig. 3, and so that the follower standing in that position prevents the bolt from being thrown outward by the action of its spring E, whereas when the shoulder *b* is in action, as seen in Fig. 2, when the knob is released the spring will force the bolt outward and bring the follower to its normal position, as seen in Fig. 1.

J represents a locking-bar, which is adapted to engage the latch-bolt B; K, the usual tumblers; L, the key-cylinder, and so that a key introduced into the cylinder and turned will cause the tumblers to come into proper position for the movement of the bar J, and when in such position further turning of the key will force the bar J rearward and correspondingly draw the bolt. The construction of this key mechanism is common and well known, and constitutes no part of our present invention further than as the combination of a key

mechanism of some character is concerned, and so that the bolt may be drawn by means of a key independent of the knob or follower, and as usual in night-latches. By this construction the knob operates upon the bolt in the usual manner of knob-latches by simple rotation, and also serves the purpose, by a similar rotation, of holding the bolt within the case when desired, thus not only simplifying the construction of the lock, but greatly improving it over independent locking devices or latches in which the knob is hung to the bolt and so as to move longitudinally with it. The key mechanism may be omitted.

15 We have described the shoulder *d* as segment-shaped, and the bearing-surface of the follower of corresponding segment-shape and concentric with the axis of the hub. It is only essential, however, that the shoulder and the bearing-surface of the follower shall be such that when the bolt is inward and the said surface of the follower brought to bear upon the shoulder *d* on the latch it shall be of such a character that the tendency of the spring will

25 have no effect to impart rotation to the fol-

lower; but, on the contrary, the follower will remain stationary and support the bolt in its drawn position.

I claim—

In a night-latch, the combination of the latch-bolt B, a follower formed as a part of a hub and supported in bearings in the case for rotative movement only, the said hub adapted to receive a knob by which the hub and follower may be rotated, the follower constructed with a shoulder, *b*, and the latch-bolt with a corresponding shoulder, *a*, by which the rotation of the follower may impart an inward movement to the latch-bolt, the latch-bolt also constructed with a shoulder, *d*, upon the side of the hub opposite the shoulder *a*, and the follower constructed with a bearing-surface adapted to engage said shoulder *d* when the bolt is in its drawn position, substantially as described.

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Witnesses:

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