(No Model.)

A. F. NIXON & L. L. GIBSON.

LATCH AND LOCK.

No. 475,089. Patented May 17, 1892.

Fig. 1

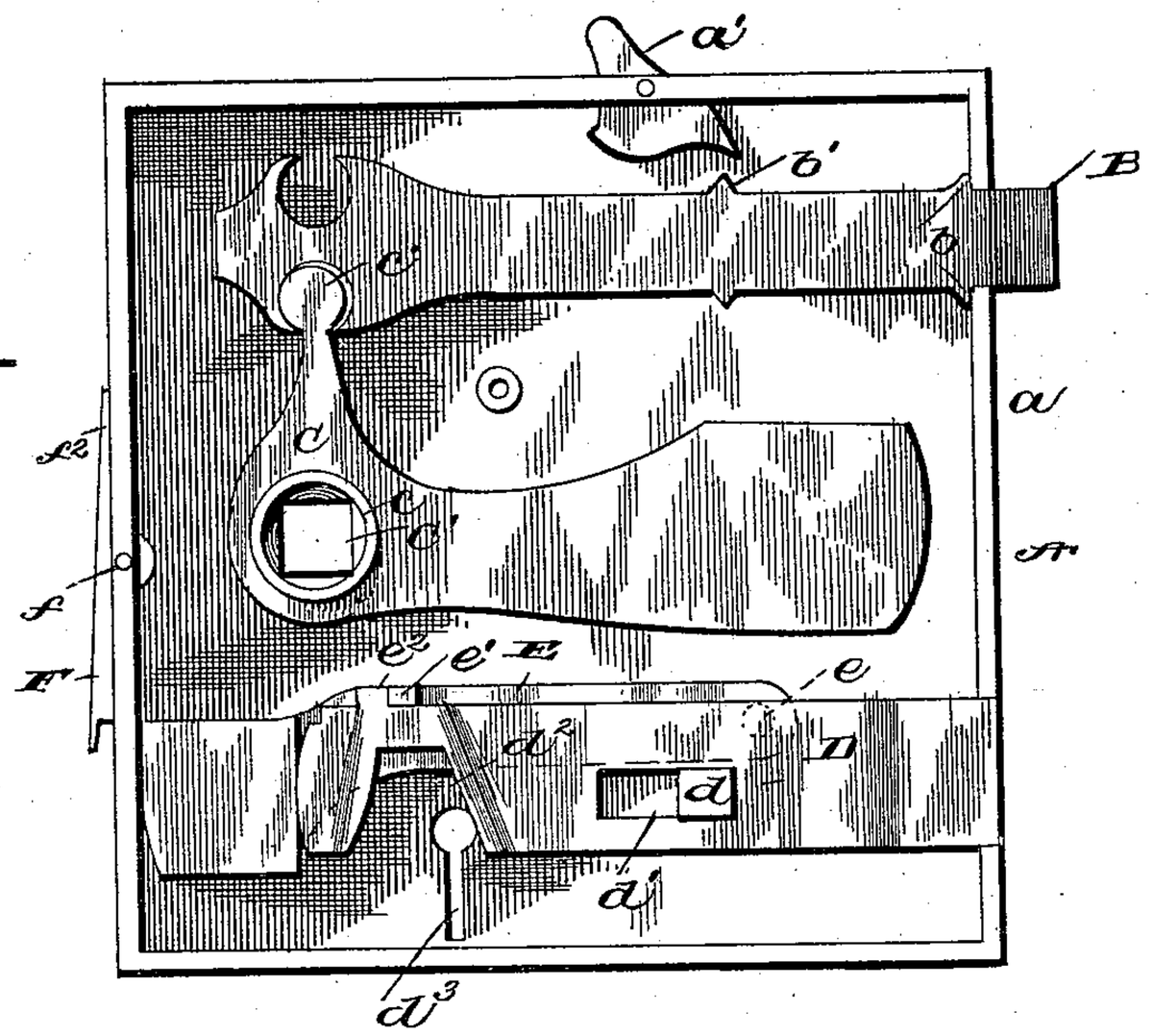
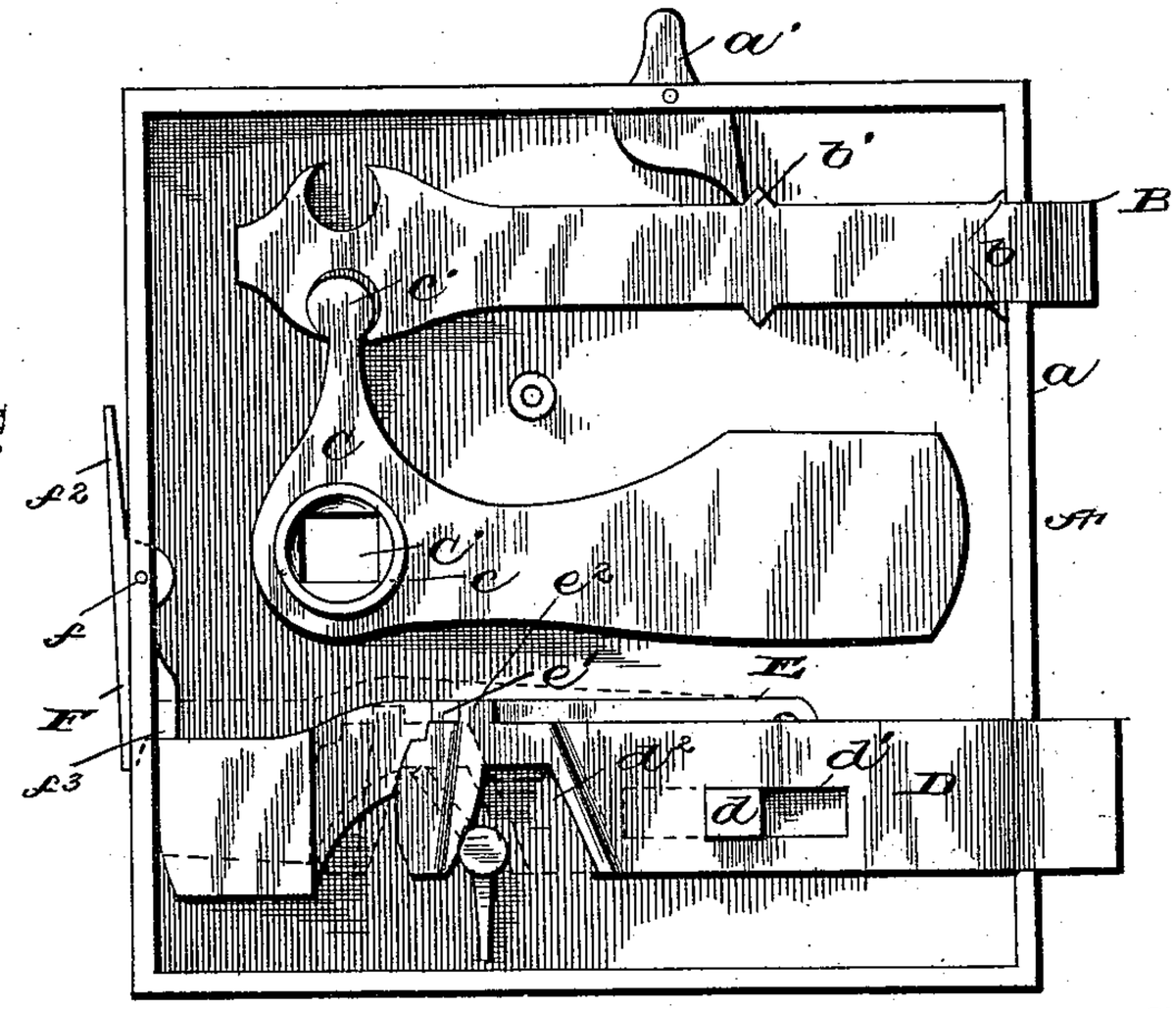


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR F. NIXON AND LEVI L. GIBSON, OF EVERTON, MISSOURI.

LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 475,089, dated May 17, 1892.

Application filed October 1, 1891. Serial No. 407,405. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR F. NIXON and LEVI L. GIBSON, citizens of the United States, residing at Everton, in the county of Dade and State of Missouri, have invented certain new and useful Improvements in Door Latches and Locks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention is an improved door latch and lock combined.

One object of the invention is to dispense with the use of springs for operating the parts of the lock and latch where these have thus far been necessary, as springs are liable to become displaced or broken, thus rendering the lock useless.

Another object is to provide a combined lock and latch in which the locking-bolt may be firmly secured in its retracted or advanced position to prevent any person upon the outside of the door from unlocking the same even though provided with a key fitting the lock.

In addition to the above objects we have aimed to produce a lock which shall be inexpensive, not liable to get out of order, and the parts of which shall be interchangeable.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of our improved lock and latch, the outer plate being removed to show the parts in their relation to each other; and Fig. 2 represents a similar view with the parts in their assumed position when locked.

In the drawings, A represents the casing inclosing the working parts, this casing being of the ordinary form of casing adapted to be applied to the side of a door.

B is the latch, having its forward end sliding in a recess or opening in the flange *a* of the casing. It is provided with lugs or projections *b*, which engage the walls of the opening in the flange *a*, and also with a lug or projection *b'* upon its upper side, which is adapted to be engaged by a suitable catch or lever *a'*, pivoted to the flange *a* upon the top of the casing, and thus when the upper end of the catch or lever is pressed toward the edge of the door its lower end lodges behind the lug or projection on the latch and prevents the same from being retracted and the door from being opened.

For holding the latch normally forward we have provided the lever C of the shape shown, having the square opening C' through the same at the bend thereof for the reception of the shank or rod, which carries the door-knobs. Around this square opening, upon each side of the lever, are the circular flanges *c*, which engage or rest in openings in the side walls of the casing and form the pivot of the lever C. The short end of this lever, which is bent upwardly, terminates in a small knob or enlargement *c'*, which engages a corresponding recess in the rear end of the latch. The other end of the lever C is enlarged to form a weight, and the force of gravity upon the weighted end of this lever tends to keep the latch pressed normally forward as far as the lugs *b* will permit. The locking-bolt D has its forward end sliding in an opening in the flange *a* near the bottom of the casing. Its rear end is held up in a horizontal position by means of the lug *d*, projecting from the wall of the casing and engaging an elongated opening or slot *d'* through the center of the locking-bolt. The bolt has the recess d^2 in its under rear end adapted to be engaged by a key passing through a suitable keyhole d^3. Behind or to one side of the locking-bolt, which is of less thickness than the space between the walls of the casing, is a lever E, having one end pivoted to the wall of the casing at *e*. The other end of this lever is weighted to keep said end normally depressed. A lug is formed upon this lever, as at *e'*, which is adapted to engage a lug e^2 upon the upper edge of the locking-bolt. When the locking-bolt is forward, this lug e^2 is in advance of the lug upon the lever E, and when the locking-bolt is retracted the lug thereon is in rear of the lug upon the lever. Normally when the key is inserted in the keyhole and turned the

tongue of said key will raise the lever E until the lug thereof is out of engagement with the lug on the locking-bolt, and the bolt may be advanced or withdrawn to lock or unlock the door, as desired.

To prevent the unlocking of the door from the outside even should a person have a key fitting the lock, the lever F is provided of the shape shown, part of the flange *a* being broken away. This lever is pivoted in the flange at *f* and has a lug on its lower end extending within the casing. Its upper end is formed with or consists of a long slender finger f^2, having its end flaring outwardly slightly. Normally this finger is against the side of the flange *a*, its friction being sufficient to hold it; but by drawing it away from the flange the lug f^3 on the lower end is thrown inward over the top of the rear end of the lever E, which is thus held firmly in its lowered position and its lug locked in position in contact with the lug on the locking-bolt.

Having thus described our invention, what we claim is—

1. In combination with the casing, the bolt having a lug thereon, the pivoted lever having a lug adapted to engage the lug on the bolt, means for raising the lever and sliding the bolt, and means for locking the lever, consisting of a lever pivoted in the flange of the casing, having one end terminating in a finger and the other end formed in the shape of a lug adapted to engage the free end of the lever, the latch-bolt having a recess on the under side, and the weighted angular lever having a lug engaging said recess of the latch-bolt, substantially as described.

2. In a combined latch and lock, the combination of the latch-bolt, the weighted lever engaging said bolt, the locking-bolt having a slot, a pin or lug arranged in said slot, the lug on the locking-bolt, the pivoted lever having the lug acting in conjunction with the lug on the bolt, and a key adapted to lift the lever and move the bolt, and the catch for securing the pivoted lever when desired, as and for the purpose described.

3. In a combined latch and lock, the combination of the casing, the bolt having the lug, the catch for engaging the lug, the angular weighted lever having one end engaging the said bolt, the sliding bolt, the pivoted lever acting in conjunction therewith, and the catch for securing the pivoted lever.

4. In a combined lock and latch, the combination of a casing, a sliding bolt, an angular weighted lever engaging said bolt, a pivoted lever having the under side recessed, a sliding bolt acting in conjunction with the lever and having a recess on the under side, a key operating on the lever and bolt, and a catch for securing said lever.

In testimony whereof we affix our signatures in presence of two witnesses.

ARTHUR F. NIXON.
LEVI L. GIBSON.

Witnesses:
WILLIAM I. CARLOCK,
JOHN D. GAMES.