(No Model.)

F. W. TOBEY.

LATCH.

No. 502,789. Patented Aug. 8, 1893.

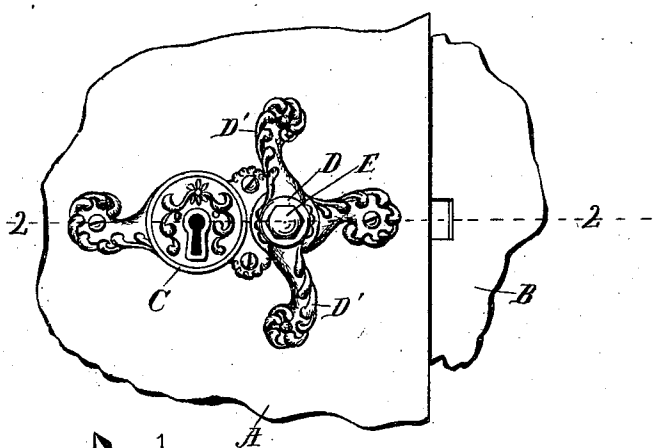

FIG. 1.

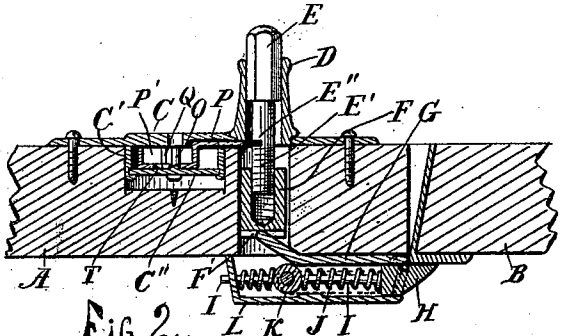

FIG. 2.

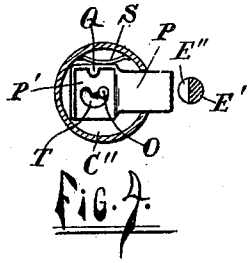

FIG. 4.

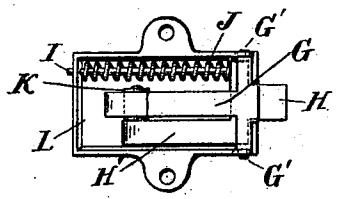

FIG. 3.

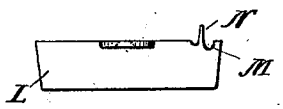

FIG. 5.

WITNESSES:

Lewis E. Flanders

Lois Moulton

INVENTOR

Fred W. Tobey

BY

Luther V. Moulton

ATTORNEY.

UNITED STATES PATENT OFFICE.

FRED W. TOBEY, OF GRAND RAPIDS, MICHIGAN.

LATCH.

SPECIFICATION forming part of Letters Patent No. 502,789, dated August 8, 1893.

Application filed March 6, 1893. Serial No. 464,696. (No model.)

To all whom it may concern:

Be it known that I, FRED W. TOBEY, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Latches; and I do hereby 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.

My invention relates to an improved latch for securing doors, and its object is to provide the same with certain new and useful features, hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved latch and a portion of the door to which it is attached; Fig. 2 a horizontal section of the same on the line 2—2 of Fig. 1; Fig. 3 an elevation of the bolt-case and its contents; Fig. 4 a detail of the locking-slide; and Fig. 5 a detail of the bolt-case before its contents are inserted, to illustrate the construction.

Like letters refer to like parts in all of the figures.

A represents a portion of the door; B, a portion of the casing.

C is a suitable escutcheon plate of any desirable design, secured to the outer surface of the door. Projecting outward from this plate is a tubular post D, having a hexagon opening through its axis, and also having lateral projections D′ D′, forming a handle by which to pull the door open. In said opening is a hexagon push pin E, longitudinally movable therein and having a cylindrical inner end E′ provided with a screw thread which engages a corresponding screw threaded opening in the axis of a block F, which block is thus longitudinally adjustable on said push pin. The inner end of said block engages the movable end of the lever G, which lever enters a transverse groove F′ in the end of said block, which prevents it from turning on the pin, which pin in turn is prevented from rotating by its angles engaging the angles of the hexagon opening in the post D.

Attached to the inner surface of the plate C is a chamber C′, having an inner head C″, from which head projects a key stud O, which engages a curved opening T in the head P′ of a slide P, which slide engages a transverse slot E″ in the push pin to lock the same and thus prevent opening the door. Said slide is operated by a key, which engages a suitable lug Q on said head P′; a suitable spring S presses the head toward the stud O, and crowds said stud into the respective ends of said curved slot T. Suitable tumblers and guards may be added for greater security if desirable, as in ordinary locks. The lever G is pivoted in the case by means of laterally projecting arms G′ G′, which at their ends are journaled in notches M in said case, and secured by bending the spurs N down over the journals on the ends of said arms. Said lever G has an angle near its movable end, and engages a roll K journaled on the bolt H at an inclination to the drection of its motion, whereby said bolt is moved inward as said lever is pushed into the case by means of the pin E. A guide pin I is rigidly attached to the bolt H; extends through an opening in the rear of the case, and is longitudinally movable therein, and the bolt is thrust forward by a spring J surrounding said pin; said bolt passes through a notch in the end of the case L, and is held in place by the lever G, which engages the surface of the bolt, and also engages the roll on said bolt.

What I claim is—

1. In a latch, the combination with a post, having an angular opening, of a push-pin, having an angular head at its outer end, and a block, secured to the inner end of said push-pin and formed with a groove designed to receive the part of the latch operated by said push-pin, substantially as described.

2. In a latch, a push pin having a hexagon head, a post having a hexagon opening in its axis, a screw thread on said pin, a block having a threaded opening and longitudinally adjustable on said pin, and a groove in the end of said block engaging the part of the latch operated by said push pin, substantially as described.

3. In a latch, a longitudinally movable push pin operating the bolt of the latch, a transverse groove in said pin, a slide engaging said groove, a head on said slide having a curved slot, and a lug to engage the key, a key stud passing through said curved slot, and a spring

engaging said head, substantially as described.

4. In a latch, the combination with a post, having an angular opening, a push-pin, extending through said opening and having an angular head at its outer end, and a block, secured to the inner end of said push-pin and formed with a groove, of the bolt, and a lever engaging said bolt intermediate of its ends and having its inner end engaged with the groove in said block, substantially as described.

5. In a latch, the combination with a longitudinally-movable bolt, a roller on said bolt, a lever, pivoted to the case at one end and bent intermediate of its length, said bent portion of the lever engaging the roller on the bolt, and a push-pin having a block at its inner end, said block having a groove receiving the movable end of said lever, substantially as described.

6. In a latch, the combination of the longitudinally-movable bolt, a roller thereon, a lever, pivoted to the case at one end and bent intermediate of its length, said bent portion of the lever engaging the roller on the bolt, a threaded push-pin, and a block, having a threaded opening engaging said push-pin, said block also having a groove engaging the free end of said lever, substantially as described.

7. In a latch, the combination with the case, having a notch in one end, a bolt longitudinally movable in said notch and laterally removable therefrom, a roller on said bolt, and a push pin having a grooved block at its inner end, of a lever, having its rear end received by the groove in said block and at its rear end lateral arms pivoted to the case, said lever engaging said bolt near its forward end and having intermediate of its ends a bent portion engaging the roller on said bolt, substantially as described.

8. In a latch, a longitudinally movable bolt, a guide pin rigidly attached to the same, a spring surrounding said pin and forcing said bolt forward, a roll on said bolt, a pivoted lever having an inclined movable part, engaging said roll, a push pin having a longitudinally adjustable screw threaded end, having a groove engaging the end of said lever, a hexagon head on said push pin, and a post having a hexagon opening to receive said push pin, and lateral projections on said post, substantially as described.

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

FRED W. TOBEY.

Witnesses:
LUTHER V. MOULTON,
LOIS MOULTON.