

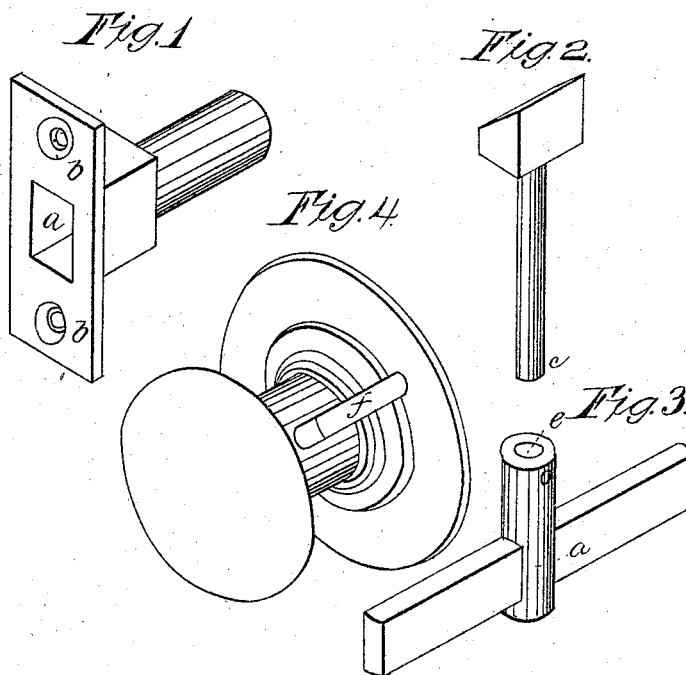
2 Sheets, Sheet 1.

T. L. Littlefield,

Latch.

N^o 3,343.

Patented Nov. 21, 1843.



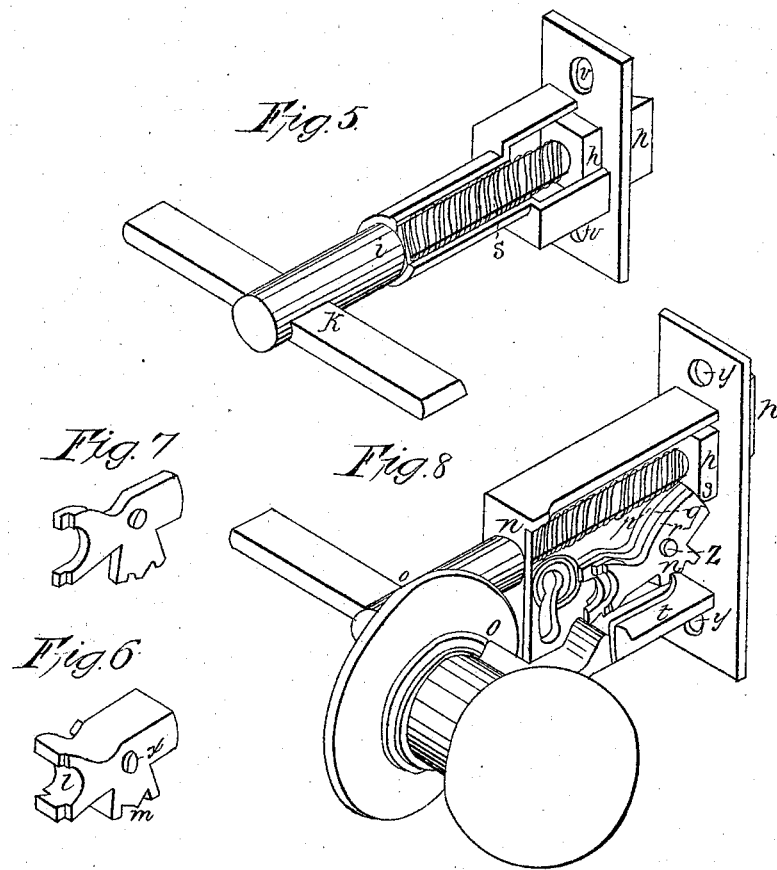
2 Sheets. Sheet 2.

T. L. Littlefield,

Latch.

N^o 3,343.

Patented Nov. 21, 1843.



UNITED STATES PATENT OFFICE.

THEODORE L. LITTLEFIELD, OF PHILADELPHIA, PENNSYLVANIA.

DOOR LOCK OR LATCH.

Specification of Letters Patent No. 3,343, dated November 21, 1843.

To all whom it may concern:

Be it known that I, THEODORE L. LITTLEFIELD, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Mode of Constructing Latches and Locks for Doors, &c.; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists, first, of a latch bolt case, the shape of which is part round or cylinder, and part square; into which, is to be introduced a latch bolt and a spiral spring, the latter, or spiral spring, being placed around the spindle, or round part of the latch bolt, and working inside of the cylinder, or barrel part of the case; also, of a flat sliding bar or thumb piece, to move back the latch bolt, which bar, or thumb piece, passes through the round head or bolt stop, fastened to the back end of the latch bolt spindle, and slides backward into, or partly through the neck, stem, or straight part of an immovable or stationary knob or knobs, the whole forming a latch for a door; and, secondly, of a combination of the above described latch bolt, roundhead or bolt stop, spiral spring and bar or thumb piece, in connection with one or more tumblers, which tumbler or tumblers, being moved by a key, against a corner of the square part of the latch bolt, and held by a spring or springs, fastens or locks the latch bolts, the latch bolt, spiral spring, the tumbler or tumblers, and the tumbler spring being placed inside of a square or oblong case, which may be composed of metal or other substance, in connection with the other parts described, forms a lock for a door.

To enable others skilled in the art to make and use my inventions, I will proceed to describe their construction and operation, reference being had to the annexed drawings, making a part of this specification.

Figure (1), plate (1), shows the form of the latch bolt case, into which the latch bolt and spiral spring are to be introduced, at (a), also the form of the face plate (b b). Fig. (2) plate (1) shows the latch bolt, consisting of a round spindle, with a square and beveled front. At (c) is a hole, through which a pin passes to fasten it to the bolt stop. It may also be fastened by a screw, or by being screwed on, or otherwise. Fig. (3), plate (1), shows the round head or latch bolt stop, with the flat sliding bar

or thumb piece passed through it at (d). At (e), is the hole into which the spindle of the latch bolt is fastened. Fig. (4) plate (1) shows the knob, with the aperture for the admission of the flat sliding bar or thumb piece as at (f). Fig. (5) plate (2) shows the different parts of the latch in combination; a section of the case being removed to exhibit the inside thereof. The spindle part of the latch bolt is placed inside of the spiral spring, as at (g); the square and beveled part of the latch bolt, passing through and extending beyond the face plate as at (h h), the round head or latch bolt stop attached to and fastened by a pin or screw or otherwise, to the other, or spindle end of the latch bolt as at (i), and which remains outside of the cylinder or barrel end of the case. Through this latch bolt stop, the flat sliding bar or thumb piece is made to pass as at (k). The latch, with the exception of the sliding bar or thumb piece, is to be inserted in a mortise to be made in the edge of the door, and secured by screws passing through the face plate at (v v); and the sliding bar or thumb piece, is to be driven through the latch bolt stop, or round head, in a slot cut through the door at the proper place so as to allow it to move back the latch bolt as before described. Fig. (6) plate (2) shows the shape &c. of a single tumbler, when but one is to be used in a lock, with a hole at (x) for the pin around which the tumbler moves. At (l), is the place where the key strikes and moves the tumbler. At (m), is the place where the tumbler spring operates. Fig. (7) plate (2) shows the shape of the tumbler, when more than one is to be used in a single lock. Fig. (8) plate (2) shows the above described parts in combination. The latch bolt, spiral spring, tumbler or tumblers and tumbler spring or springs, being placed inside of a square or oblong case, composed of metal or other substance, with the round head or bolt stop, and the flat sliding bar or thumb piece attached, as before described, forming a lock for a door.

The top part of the case is removed to exhibit the inside. The latch bolt passes through, and extends beyond the face plate at (h h); and also through the back end of the lock case at (n). The spiral spring encircles the spindle part of the latch bolt, and the latch bolt stop is attached in the

same manner, as in the latch in Fig. (5) plate (2). The flat sliding bar or thumb piece, is passed through the latch bolt stop and through the flange of the knob at (*o o*), where it slides into, or partly through, the straight part, neck or stem of the knob, through the aperture described at (*f*) in Fig (4) plate (1). At (*p, q, & r*) are the tumblers which move on the pivot (*z*), and which are to be turned by a key, so as to bring their other end or ends, against the corner of the square part of the latch bolt as at (*s*). At (*t*) is a flat spring or springs which bear against the under side of the tumbler or tumblers, as at (*u*), and thus holds fast, or locks the latch bolt. The lock is to be inserted into a suitable mortise to be made in the side or edge of the door, and secured by screws passing through the face plate at (*y y*). The flat sliding bar, or thumb piece, to be attached as described in Fig. (5) plate (2).

The advantages of a latch and lock so constructed, and combined, will be apparent to all who are acquainted with the construction and operation of door fastenings. The spiral spring and spindle part of the latch bolt, are here inclosed within a case, so that their motion cannot be impeded by any dirt, or loose chips from the mortise, or elsewhere, becoming entangled with the spiral spring; to which latches without a case are liable. This latch, being nearly all of cylinder shape, requires very little mortising of the door for its insertion; as nearly all the incision necessary for its introduction, may be made by boring with a brace bit or auger. Nearly all the friction consequent upon the rubbing of the spiral spring and latch bolt against each other, or against the latch bolt case, as in other locks and latches where a spiral spring is used, is here obviated: For the spiral spring, by working around a smooth spindle, does not come in contact with the latch bolt case except where it rests at one end; so, likewise, the latch bolt only touches the case at each end. The flat sliding bar, or thumb piece,

is so placed in connection with the stationary knob or knobs, as to prevent the possibility of catching or bringing the thumb or fingers between the thumb piece and the stationary knob or knobs, when the door is drawn to, as is the case with other constituted im-movable knob latches and locks, where unpleasant bruises or injuries, frequently occur from accidentally placing the thumb or fingers between the thumb rod or pin, in the act of closing the door; which objection, in this construction is entirely removed. And further, the sliding bar or thumb piece, by being passed into the stem, neck or straight part of the knob, removes all difficulty and inconvenience when cleaning the knobs of the door.

I do not claim as my invention the employment of a thumb piece or pin on the sliding latch bolt which passes through and slides in an elongated hole in the flanch or plate of the knob, as this has heretofore been done, but in such cases sufficient space has been left between the neck of the knob and the thumb piece or pin, to admit the finger and catch it between the two when the bolt is forced back in closing the door. To avoid this difficulty I form a recess in the neck or stem of the knob into which the thumb-piece or pin enters when the bolt slides back the thumb piece may be made of a width about equal to the play of the bolt so that when the bolt is out one edge of the thumb-piece shall be within the recess, or so near it as to prevent the finger from being caught between the two while sufficient space is allowed for forcing the bolt back; therefore,

What I claim as my invention and desire to secure by Letters Patent is—

Making a recess in the neck of the knob in combination with the sliding bolt of the latch having a thumb piece or pin to enter the said recess as herein described.

T. L. LITTLEFIELD.

Witnesses:

WM. GREAVES,
SIMON P. HASTINGS.