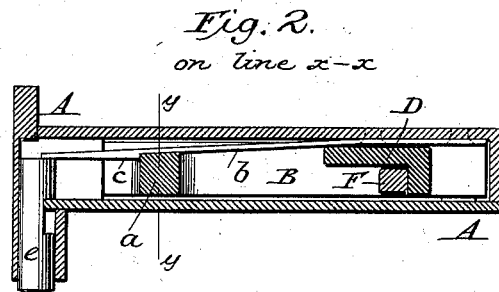
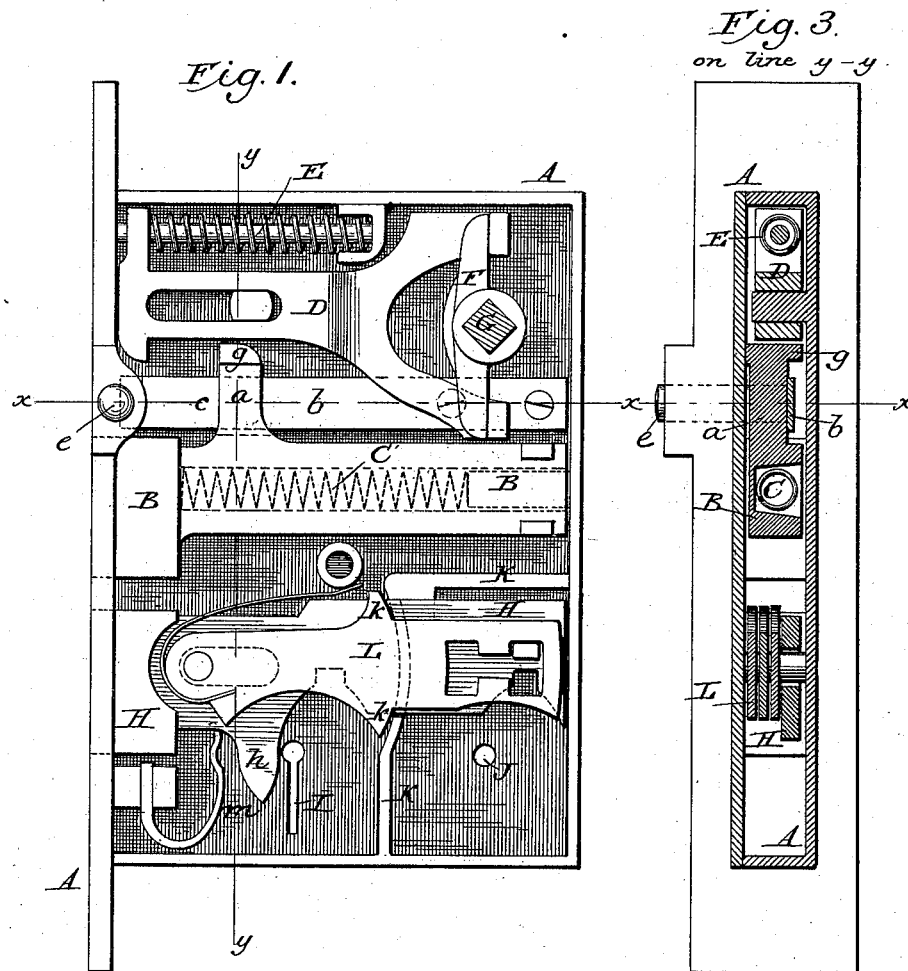


(No Model.)

E. S. WINCHESTER.
LOCK.

No. 384,108.

Patented June 5, 1888.



Attest.

Sidney P. Hollingsworth
William H. Shipley.

Inventor

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By his Att'y
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UNITED STATES PATENT OFFICE.

EDWARD S. WINCHESTER, OF BOSTON, MASSACHUSETTS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 384,108, dated June 5, 1888.

Application filed December 4, 1886. Serial No. 220,663. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. WINCHESTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Locks, of which the following is a full, clear, and exact specification.

The first part of my invention relates to devices of peculiar construction and arrangement by which the latch-bolt is automatically detained when retracted by the knob-spindle and automatically released when the door is closed.

The second part of the invention relates to peculiar means for preventing the picking of a lock which has its case provided with two key-holes on opposite sides out of line with each other.

Figure 1 represents a side elevation of my lock, the sides of the case being removed to expose the internal parts. Fig. 2 is a horizontal section on the line *x x* of Fig. 1. Fig. 3 is a vertical section on the line *y y* of Fig. 1.

A represents the lock-case; B, the horizontal sliding latch, urged forward by a spring, C, and retracted by means of a sliding yoke-plate, D, which is in turn urged forward by a spring, E, and retracted by the stump or tumbler F, through which the knob-spindle G is passed. These parts are constructed and operated in the usual manner.

In applying my detent, I form the latch-bolt B with an upwardly-extending arm, *a*, and within the case I place a flat horizontal spring, *b*, the rear end of which is fixed to the case, while its forward end is left free to spring toward the latch-bolt, and provided with a shoulder, *c*, in such position that it will automatically engage the arm *a* when the latch-bolt is retracted, and thus hold the bolt in its retracted position—that is to say, with its nose flush with the face of the case. At its forward end the spring bears against the inner end of a sliding pin, *e*, which extends laterally through the side of the case, with its outer end exposed in such position that when the door to which the lock may be applied is closed the exposed end of the pin will encounter the door-casing and be driven inward, thereby releasing the latch-bolt and permitting it to move forward under the influence of its projecting spring

C. The sliding pin is seated in a hole drilled edgewise into the face-plate of the lock-case, and its escape is prevented by the forward edge of the case entering a notch in its side, as plainly shown in Fig. 2. This arrangement avoids the necessity of special devices to prevent the escape of the pin.

I am aware that latch-bolts have been combined in various ways with automatically-actuated catches and detents to hold them when retracted until the door is closed, and I therefore lay no broad claim to such combination; but I believe the particular construction and arrangement herein shown to be new and to be advantageous by reason of its extreme simplicity and cheapness.

To prevent the tipping or rocking of the latch-bolt in the event of its becoming worn, I provide it with an arm, *g*, which, passing around the detent-spring, bears against the inside of the case, as shown, thus supporting the bolt against the side pressure of the spring.

Referring now to the second part of the invention, H represents a reciprocating lock-bolt, which may be moved by a key inserted through either of the two key-holes I and J, which are formed in opposite sides of the case out of line with each other, in a manner commonly practiced at the present day.

The lock-bolt is formed with a rigid depending arm, *h*, in such position that when the bolt is projected the bit of the key in the inner and forward key-hole, I, may be turned behind and against said arm to prevent the retraction of the bolt. To prevent the key thus applied from turning accidentally out of engagement with the arm *h*, I secure to the inside of the lock-case an elastic arm, *m*, the upper end of which is indented and arranged in such position that it will engage the bit of the key when the latter is in contact with the arm *h*, and thus prevent the key from being rotated, except by the application of a considerable force thereto.

To prevent the key when seated against the arm *h* from being displaced by instruments inserted through the outer key-hole, *j*, I provide the lock-case with an internal partition, K, rising from the base midway between the two key-holes, closely encircling the bolt, and extending thence horizontally to the rear of

the case, thus cutting off communication between the two key-holes.

In connection with the bolt I use a series of tumblers, *L*, mounted on a fixed pivot, and resembling in their form and mode of action those now in general use. They differ, however, from the ordinary tumblers in that they are each formed at the rear end with shoulders or extensions *k* on the upper and lower edges. The vertical play of the tumblers *L* requires that the opening in the partition *K* through which they pass shall be enlarged vertically. The shoulders *k* cover or bridge over this elongated opening, and, bearing closely against the face of the partition *K*, they keep the opening constantly closed, so that it becomes impossible to pass an instrument through the key-hole *I*, and thence to the key in the rear key-hole.

20 What I claim as my invention is—

1. In combination with the case *A*, the reciprocating latch-bolt, its projecting spring

c, the flat spring *b*, fixed at one end to the case and provided at the other end with a shoulder to engage the latch-bolt, and the transverse pin *e*, seated in the face-plate of the lock and provided with a side notch, in which the edge of the lock-case is seated to prevent its escape, as described and shown.

2. The combination of the case, the reciprocating lock-bolt provided with a depending arm, *h*, in position to encounter the bit of the key, and the elastic arm *m*, fixed at one end rigidly to the lock-case and indented at the opposite end to engage and hold the bit of the key, as described.

In testimony whereof I hereunto set my hand, this 3d day of November, 1886, in the presence of two attesting witnesses.

E. S. WINCHESTER.

Witnesses:

C. O. L. DILLAWAY,
W. A. TRIPP.