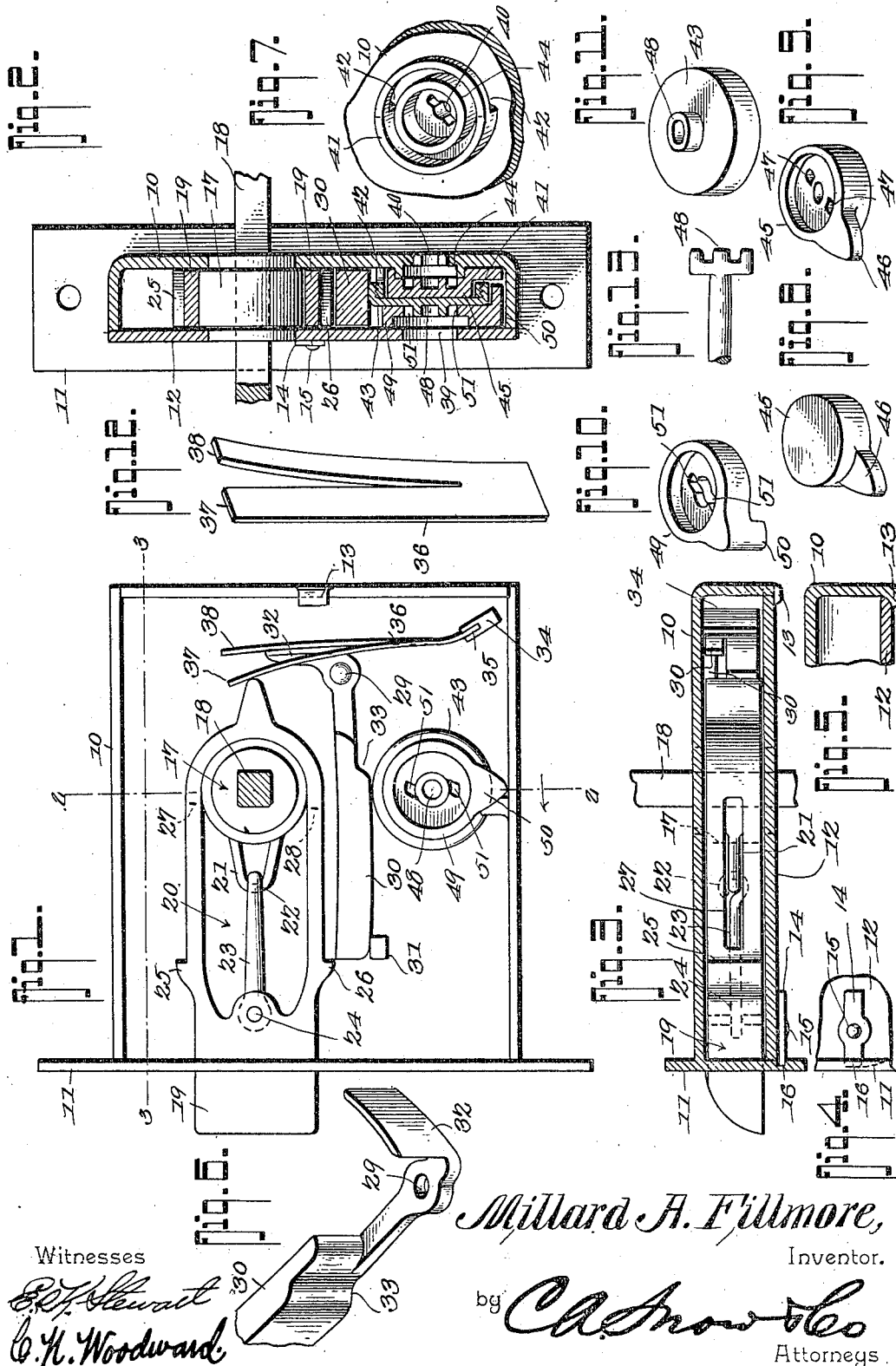


No. 824,984.

PATENTED JULY 3, 1906.

M. A. FILLMORE.
DOOR LOCK.

APPLICATION FILED OCT. 5, 1904. RENEWED MAY 11, 1906.



UNITED STATES PATENT OFFICE.

MILLARD A. FILLMORE, OF BLAINE, WASHINGTON.

DOOR-LOCK.

No. 824,984.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed October 5, 1904. Renewed May 11, 1906. Serial No. 316,346.

To all whom it may concern:

Be it known that I, MILLARD A. FILLMORE, a citizen of the United States, residing at Blaine, in the county of Whatcom and State of Washington, have invented a new and useful Door-Lock, of which the following is a specification.

This invention relates to door-locks, and has for its object to produce a simply-constructed and easily-applied device of this character which may be locked and unlocked from either side of the door by the same or a different key, as may be preferred, and which cannot be unlocked from one side if locked from the other side, or so arranged that when locked from one side it can be unlocked only from that same side, thus producing an effectual protection against burglars and sneak-thieves and the like.

Another object of the invention is to provide an improved construction of lock of the class known as "knob-latch" locks or wherein the locking mechanism is disposed for engagement with the knob-latch mechanism.

Another object of the invention is to provide an improved construction of a reversible knob-latch mechanism.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings thus employed, Figure 1 is a side elevation of the improved lock with the cover-plate removed. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Figs. 4 and 5 are detail views illustrating the construction of the means for securing the cover-plate to the lock-casing. Fig. 6 is a detached perspective view of the bolt locking-lever. Figs. 7, 8, 9, 10, and 11 are detached perspective views of the key-tumbler member of the improved device, Figs. 8 and 9 be-

ing views of the same tumbler from opposite sides. Fig. 12 is a detached perspective view, enlarged, of the double-acting spring. Fig. 13 is a detail view of the bit portion of the controlling-key.

The lock may be either of the mortise or rim pattern; but for the purpose of illustration the casing 10 is of the usual mortise-pattern, with the face-plate 11 for embedding in the free edge of the door.

The cover 12 is detachable and rests by its upper and lower edges upon the upper and lower walls of the casing and is embraced by the inner wall of the casing, the latter having an overhanging lug 13 for engaging a recess in the cover member. Centrally of the front of the cover a button 14 is pivoted, as at 15, and adapted to engage a recess, as at 16, in the rear face of the face-plate 11. By this simple means the cover member may be readily attached and detached as required.

A tumbler member 17 is mounted for rotation in bearings in the rear wall of the casing 10 and in the cover 12, with the knob-spindle 18 passing through the tumbler. The latch-bolt 19 is mounted for reciprocal movement through the face-plate 11 and provided with a longitudinal cavity 20, in which the tumbler 17 rotates, the bolt being thus guided in its reciprocal movement by the tumbler and the slot in the face-plate, as will be obvious. Extending from the tumbler 17 is a loop 21 for engagement with an eye 22 in one end of a rod 23, the other end of the rod being pivoted, as at 24, in the bolt 19. The side edges of the bolt are provided with projecting lugs 25 26 and also provided with longitudinal slots 27 28 to permit the passage of the loop 21 when the tumbler 17 is actuated by the spindle. The bolt 19 is thus reversible in position to provide for the right or left hand swinging of the door in the usual manner.

Pivoted at 29 upon the casing 10 is a lock-lever 30 for movement into the path of one of the stop-lugs 25 or 26, according as to which edge of the bolt is presented downwardly, and held from downward movement by a stop-lug 31. The rear end of the lock-lever is provided with a lateral arm 32 and also provided with an intermediate shoulder 33.

Extending from the casing 10 is a stud 34, having a slot 35 to receive a spring 36, provided with a longitudinal cleft, whereby two leaves 37 38 are formed, one for bearing against the arm 32 of the lock-lever and the

other for bearing against the rear or inner end of the bolt 19 to hold the bolt yieldably in projected position and also hold the lock-lever 30 in withdrawn or inoperative position. The lock-casing is provided with oppositely-disposed keyholes 39 40, one in the casing proper and the other in the detachable cover 12 and located contiguous to the locking-lever 30, so that the key-tumblers will be in position to engage the lever. Disposed upon the rear wall of the casing 10 and concentric with the keyhole 40 is an annular housing or casing 41, having a peripheral slot, as at 42, extending about half-way around it next to the casing and adapted to support a cap 43 upon its inner end, the cap forming a closure to the annular member 41 and also forming an imperforate diaphragm between the two key-holes to prevent the passage of the key entirely through the lock. Extending from the casing 10, within the annular housing 41, is a circular bearing 44, concentric to the keyhole 40, for receiving a key-tumbler 45, provided with a lug 46, extending through the peripheral aperture 42.

The key-tumbler is provided with suitable recesses, as at 47, to receive the bits 48 of the key, as represented in Fig. 13, and by means of which the tumbler may be rotated when the key is inserted through the keyhole 40 to cause the lug 46 to engage the shoulder 33 of the lock-lever 30 and throw its free end into engagement with the stop-lug 25 or 26 of the bolt 10, as the case may be. The cap member 43 is provided with a central bearing 48, upon which a key-tumbler 49 is rotatively mounted and provided with a radial lug 50. The tumbler 49 is provided with suitable recesses 51, preferably corresponding to the recesses 47 in the tumbler 45, so that the same key will fit both tumblers. By this arrangement it will be obvious that if the key is inserted through the keyhole 40 and rotated the bits 48 will pick up the tumbler 45 and rotate it and cause the lug 46 to engage the shoulder 33 of the lock-lever 30 and elevate its free end into the path of the stop-lug 25 or 26, as the case may be, and lock the latch-bolt in its projected position, and if the key be inserted through the keyhole 39 it will act in the same manner upon the tumbler 49 and cause the lug 50 of the latter to also engage the same shoulder 33 of the lever 30 and throw its free end into locking engagement with the latch-bolt, the shoulder 33 being wide enough to be engaged by both the tumbler-lugs 46 and 50 independently. It will also be obvious by this arrangement that the lock-lever 30 can be actuated from either side, but that each key-tumbler can be actuated from one side only, so that when the latch-bolt has been locked from one side it can be unlocked from the same side only, as the imperforate cap member 43 prevents the key from passing to both tumblers, as before

described. While the key - tumblers will preferably be provided with corresponding bit-recesses, so that the same key may be used on both sides of the lock, it will be understood that these may be varied to any desired extent to provide for different keys for each side without departing from the principle of the invention, and it will also be obvious that the forms of the recesses may be varied to any required extent to prevent the picking of the lock. By this arrangement it will be impossible to pick the lock from one side when locked from the other side or to tamper with it in any manner. A lock thus constructed cannot be unlocked with a pass-key, as any key is useless unless used upon the locked side.

By this construction there is produced, therefore, a very simply-arranged device which is burglar and sneak-thief proof and which will effectually protect the contents of the room the door of which is provided therewith.

Having thus described the invention, what is claimed is—

1. In a door-lock, a reciprocating bolt, a movable lock-lever for holding said bolt in projected position, spaced key-tumblers for independently operating said lock-lever and accessible respectively from opposite sides of the lock, and means whereby each of said key-tumblers is operative from one side only of said lock.

2. In a door-lock, a reciprocating bolt, a movable lock-lever for holding said bolt in projected position, spaced key-tumblers for independently operating said lock-lever and accessible respectively from opposite sides of the lock, and an imperforate diaphragm between said tumblers to enable each of the same to be actuated from one side only of the lock.

3. In a door-lock, a reciprocating bolt, a lock-lever swinging from one end for holding the bolt in projected position by the other end, spaced key-tumblers for independently operating said lock-lever and accessible respectively from opposite sides of the lock, and means whereby each of said tumblers is operative from one side only of said lock.

4. In a door-lock, a reciprocating bolt, a movable lock-lever for holding said bolt in projected position, independent bearings contiguous to said lever member for supporting key-tumblers for independently operating said locking-lever, and means whereby each of said tumblers is operative from one side only of said lock.

5. In a door-lock, an inclosing casing, a reciprocating bolt within said casing for projection therefrom, a movable lock-lever for holding said bolt in projected position, a key-tumbler bearing contiguous to one face of said casing, a key-tumbler mounted for oscillation upon said bearing and having a radial

lug for engagement with said lock-lever, an imperforate casing inclosing said bearing and having another bearing contiguous to the other face of said casing, and a key-tumbler mounted for oscillation upon said last-mentioned bearing, said casing having oppositely-disposed keyholes affording access respectively to said tumblers.

6. In a door-lock, an inclosing casing, a reciprocating bolt within said casing for projection therefrom, a movable lock-lever for holding said bolt in projected position, a key-tumbler bearing contiguous to one face of said casing, a key-tumbler mounted for oscillation upon said bearing and having a radial lug for engagement with said lock-lever, an imperforate casing inclosing said bearing and provided with a peripheral slot for the passage of said tumbler-lug and having another bearing contiguous to the other face of said casing, and a key-tumbler mounted for oscillation upon said last-mentioned bearing, said casing having oppositely-disposed keyholes affording access respectively to said tumblers.

7. In a door-lock, a reciprocating bolt, a movable lock-lever for holding said bolt in projected position and spring-controlled to yieldably hold the same normally out of engagement with the bolt, spaced key-tumblers for independently operating said lock-lever, and means whereby each of said key-tumblers is operative from one side only of said lock.

8. In a door-lock, a reciprocating bolt, a lock-lever for holding said bolt in projected position, a spring having a longitudinal cleft dividing the same into two leaves for respectively engaging said bolt and lock-lever and yieldably supporting the same, spaced key-tumblers for independently actuating said lock-lever and accessible respectively from opposite sides of the lock only.

9. In a door-lock, a latch-bolt operative by a knob-spindle, a movable lock-lever for holding said bolt in projected position, spaced key-tumblers for independently operating said lock-lever, and means whereby each of

said key-tumblers is accessible from one side only of said lock.

10. In a door-lock, an inclosing casing, a latch-bolt mounted for reciprocation in said casing and projecting therefrom and provided with a longitudinal slot, a tumbler operative by a knob-spindle and mounted for rotation in said casing and within said slot and provided with a radial loop, a rod pivoted by one end in said bolt and having an eye at the other end engaged by said loop, a lock-lever for holding said bolt in projected position, spaced key-tumblers for independently operating said lock-lever, and means whereby each of said tumblers is accessible from one side only of said lock.

11. In a door-lock, an inclosing casing having oppositely-disposed keyholes in its side walls, a reciprocating bolt within said casing for projection therefrom, a movable lock-lever for holding said bolt in projected position, spaced key-tumblers for independently operating said lock-lever and disposed between said keyholes and accessible respectively through the same, and an imperforate member between said key-tumblers whereby each is accessible from one side only of said casing.

12. In a door-lock, a reciprocating bolt, a lock-lever swinging from one end for holding said bolt in projected position by its other end and provided with a lateral arm adjacent to its pivoted end, a spring having a longitudinal cleft dividing the same into two leaves, one leaf for bearing against said bolt and the other leaf for bearing against said lateral arm, spaced key-tumblers for independently operating said lock-lever and accessible respectively from opposite sides of the lock, and means whereby each of said key-tumblers is operative from one side only of said lock.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MILLARD A. FILLMORE.

Witnesses:

JNO. J. PINCKNEY,
HARRY LITTON.