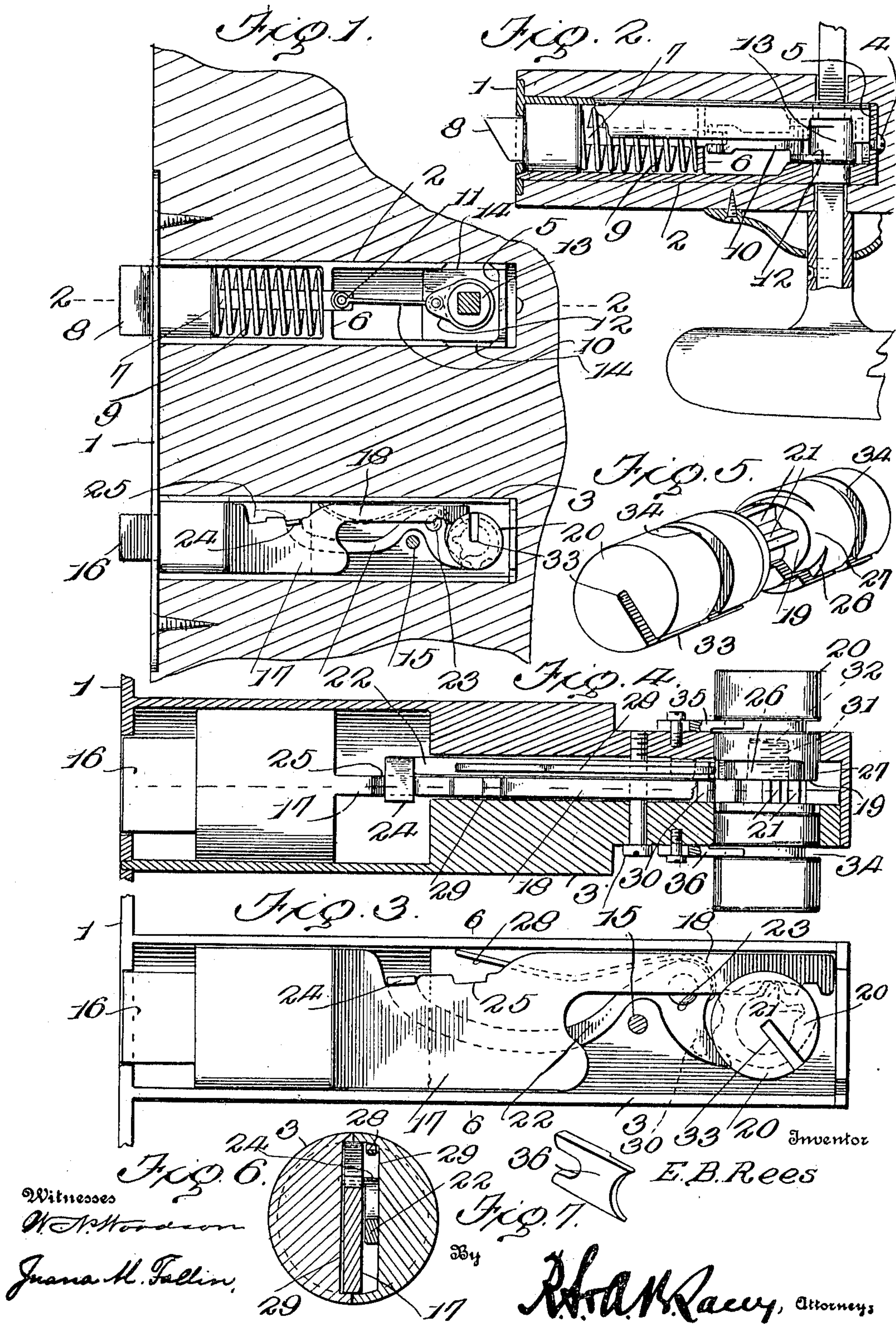


E. B. REES.  
MORTISE LOCK.

APPLICATION FILED JULY 9, 1909.

969,725.

Patented Sept. 6, 1910.





# UNITED STATES PATENT OFFICE.

EDWARD B. REES, OF MONETT, MISSOURI.

## MORTISE-LOCK.

969,725.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed July 9, 1909. Serial No. 506,726.

### *To all whom it may concern:*

Be it known that I, EDWARD B. REES, citizen of the United States, residing at Monett, in the county of Berry and State of Missouri, have invented certain new and useful Improvements in Mortise-Locks, of which the following is a specification.

This invention comprehends certain new and useful improvements in locks and latches, and the invention has for its primary object an improved construction of mortise lock, the parts of which are so arranged as to avoid the necessity for cutting a large mortise in the edge of the door, it being only necessary with my invention to bore two openings in the door for the cylindrical latch and lock casings that are secured to the face plate, the door not being appreciably weakened by the openings.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a longitudinal sectional view of my improved lock and latch in applied position; Fig. 2 is a horizontal sectional view, on the line 2—2 of Fig. 1; Fig. 3 is a view looking into the interior of the lock casing; Fig. 4 is a horizontal sectional view thereof, parts being broken away; Fig. 5 is a detail perspective view of the tumbler; Fig. 6 is a transverse sectional view on the line 6—6 of Fig. 3, and Fig. 7 is a detail perspective view of one of the plates for holding the tumbler in place.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawing, the numeral 1 designates a face plate to which the cylindrical latch and lock casings 2 and 3 are secured, the said casings extending in parallel relation to each other. The latch casing 2 embodies two longitudinally mated sections, one of which may be permanently secured to the face plate 1, while the other is detachably secured to said permanently attached portion, as by a screw 4 passing through the end of the detachable section and

through a threaded aperture formed in the end flange 5 of the other section. This casing is formed intermediate of its ends with a transverse web 6 made in two parts that are formed integral with the respective sections of the casing, said web being formed with an opening through which the latch stem 7 extends. The stem 7 is mounted for a limited movement independent of the beveled latch 8 which is mounted in the casing 2, and a coil spring 9 encircles the stem 7 and bears at opposite ends against the web 6 and latch 8 so as to normally hold the latch projected. A link 10 is bifurcated at one end to straddle the rear end of the stem 7, to which it is pivotally connected by means of a cross pin 11. The rear end of the link 10 is pivotally mounted between ears 12 that are formed on the bushing 13 for the knob spindle. Preferably, the casing 2 is cut out at opposite sides, as indicated at 14, so as to provide openings or clearances for the ears 12 as the bushing 13 is turned in one direction or the other to retract the latch. The lock casing 3 is also preferably constructed in mating halves or sections secured one to the other by means of a screw bolt 15. One of these sections may be permanently attached to the face plate 1 and the other removable.

16 designates the lock bolt. This is formed with a relatively thin shank 17, the rear end of which is cut out to form a relatively narrow arm 18 designed to fit within a circumferential middle groove 19 in the two part tumbler 20, and be actuated by a lug 21 formed in said groove. A detent 22 is pivotally mounted intermediate of its ends on a stud 23 formed within the casing 3, the forward end of the detent being formed with a laterally projecting extremity 24 designed for engagement in either one of two notches 25 formed in one edge of the shank 17. The rear end of the detent 22 projects downwardly underneath the tumbler 20 and is accommodated in another groove 26 that is formed in the tumbler, said end being designed for engagement by a cam 27 formed in said groove so as to disengage the detent from the shank of the bolt or lock 16 just preparatory to projecting or retracting the latter. A spring 28 is secured to the detent 22 so as to hold the same under tension, the spring extending forwardly from the pivot stud 23 and engaging one wall of the casing. The interior



walls of the casing are thickened, as shown at 29, so as to provide the proper engaging surface for the relatively narrow shank and detent. One part of the casing is formed with a nib 30 designed to engage the rear end of the detent 22 to assist in holding the same properly on the stud 23 and to prevent any binding.

The tumbler 20 is formed in two parts, as above stated, which manifestly facilitates the assembling and disassembling of the parts, one of the sections being provided with an exteriorly threaded neck 31 adapted to screw into a socket 32 on the other part of the tumbler. The tumbler is further formed with a slot 33 extending longitudinally thereof for the insertion of a key. In order to hold the tumbler in place, each of its parts is formed with a relatively narrow annular groove 34, and plates 35 and 36 are secured by screws to the casing 3 on opposite sides, the said plates engaging in said grooves and being adjustably held by the screws passing into the elongated openings or slots that are formed on the plates, as shown best in Fig. 7.

From the foregoing description, in connection with the accompanying drawing, it is manifest that my improved lock and latch may be easily applied to a door merely by boring two openings in the edge of the door, and then securing the face plate to the edge of the door. It is clear that with this construction and arrangement of parts, the door will not be weakened, as it would be by the ordinary mortises and that the device may be very quickly and easily secured in place.

While I have shown and described the device as embodying two cylindrical casings, it is to be understood that one only may be employed if desired, and that other changes may be made in the construction, arrangement and proportions of the parts without departing from the scope of the invention, as defined in the appended claims.

Having thus described the invention, what is claimed as new is:

1. In a lock of the character described, a casing, a lock bolt mounted in said casing and provided with a shank formed with a cut-out portion producing a tumbler engaging arm, a tumbler mounted in said casing and formed with a groove receiving and guiding the extremity of the arm and with a lug in said groove adapted to engage the arm to move the bolt, the tumbler being further formed with another groove communicating with the first named groove and with a cam in the second named groove, and a detent pivotally mounted intermediate of its ends in the casing along side of the shank and tumbler engaging arm and adapted to engage the shank of the bolt in the retracted and projected positions of the latter, the

detent being formed with a rearwardly extending end lying in the second named groove and adapted to be engaged by the cam formed in said groove, for the purpose specified.

2. In a lock, a casing, a lock bolt movable in said casing and formed with a relatively narrow shank cut out at one end to produce a tumbler engaging arm, a tumbler mounted in the casing and extending across the space provided by the cut out portion of the shank, the tumbler being formed intermediate of its ends with a groove receiving said arm and with a lug in said groove adapted to engage the arm to project and retract the bolt, the tumbler being further formed with a groove lying alongside of the first named groove, the second named groove being formed with a cam, and a detent pivotally mounted in the casing alongside of the shank and arm, the rear end of the detent lying in the second named groove and adapted to be engaged by the cam thereof, and the opposite end of the detent being arranged to engage the bolt in the retracted and projected position of the latter, the casing being formed at one side with a knob engaging the side face of the detent to assist in guiding the same in its movement and the casing having interior thickened walls arranged to assist in guiding the detent and shank in their movements.

3. A lock, comprising a casing, a bolt mounted in said casing and provided with a shank formed with a tumbler engaging arm, a tumbler extending transversely of the casing and mounted for a revoluble movement therein, the tumbler being constructed in two sections, one of which is formed with a threaded socket and the other of which is formed with a threaded neck adapted to engage the threads of the socket whereby to hold the two sections together, one section being formed at its juncture with a recess and forming with the other section an annular groove and with a lug in said groove adapted to engage the arm to retract and project the bolt, the recess section being formed with a groove lying alongside of the recess and formed with a cam, a tumbler mounted in the casing and adapted to engage the bolt and be engaged by the cam so as to disengage the detent from the bolt, each section of the tumbler being formed with an annular groove, and plates secured to the side of the casing and working in said grooves, whereby to position the tumbler in the casing.

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

EDWARD B. REES. [L. s.]

Witnesses:

JOS. A. JACKSON,  
J. J. LAUDERDALE.