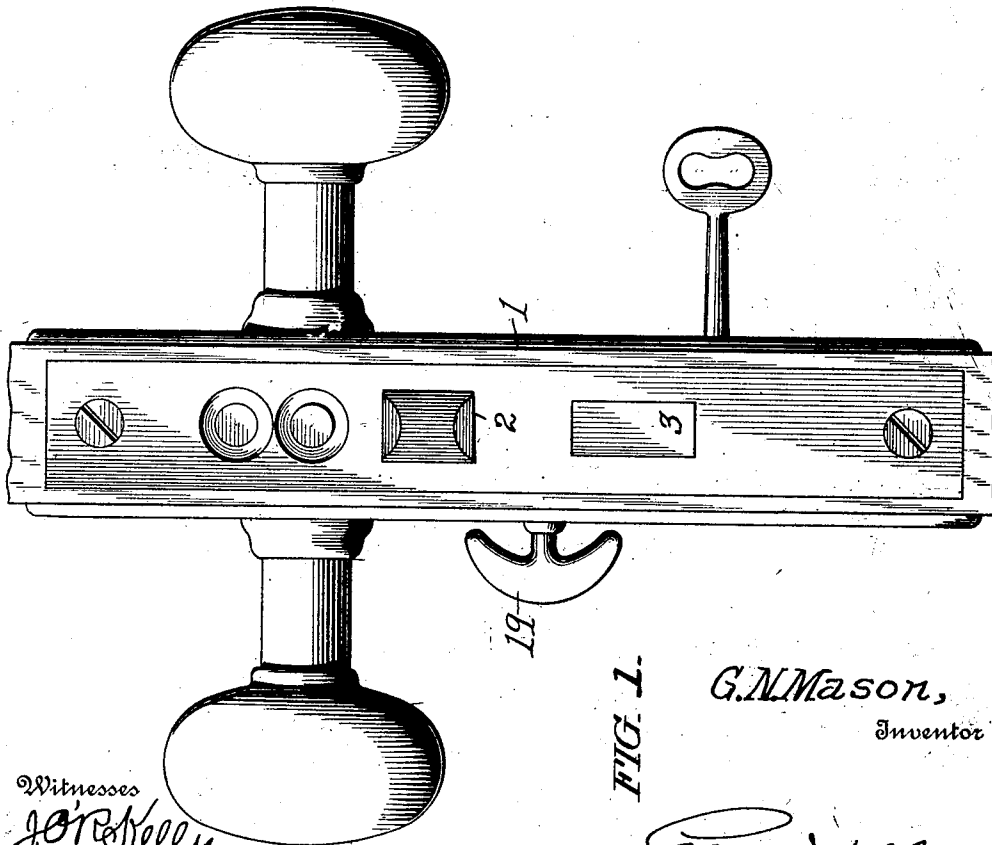
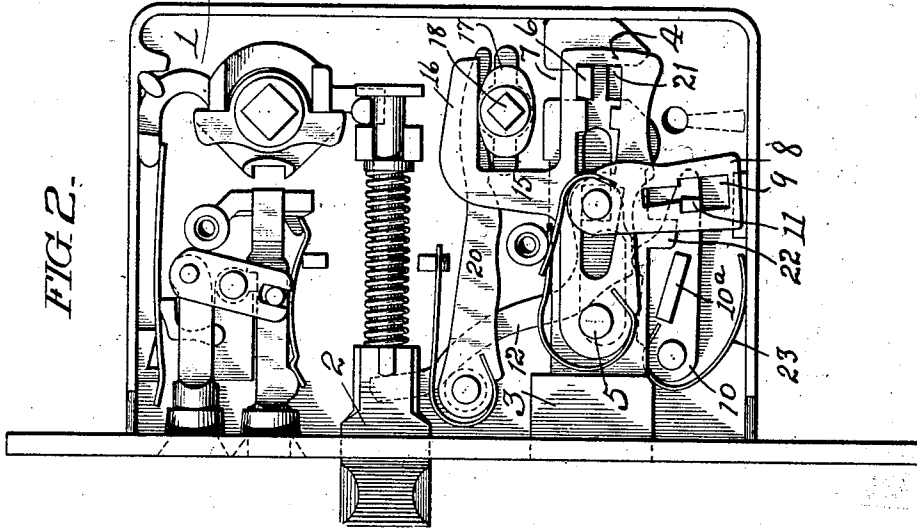


G. N. MASON.
LATCH AND LOCK MECHANISM.
APPLICATION FILED JUNE 28, 1910.

1,033,028.

Patented July 16, 1912.

2 SHEETS-SHEET 1.



Witnesses
J. O. Kelly.
A. L. Davis

By

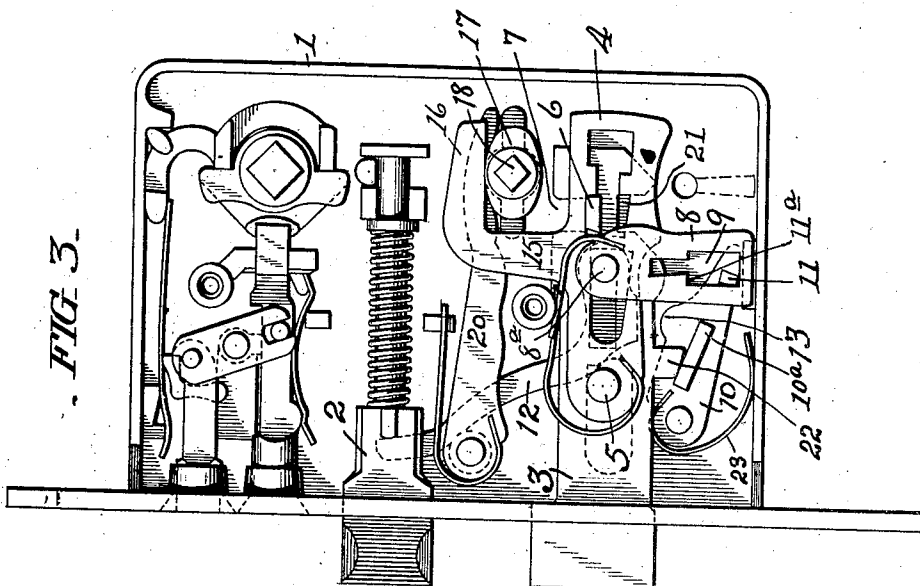
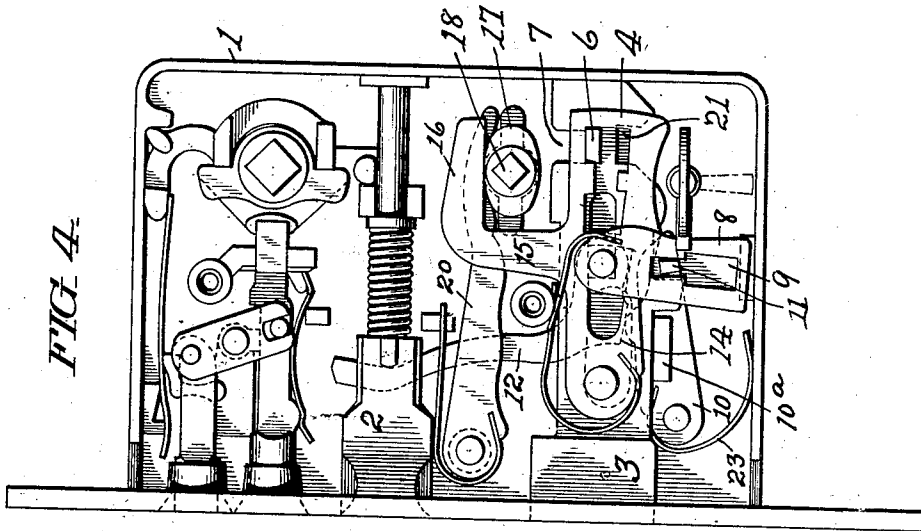
G. N. Mason,
Inventor
E. J. Kelly,
Attorney

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3 SHEETS—SHEET 2.



G. N. Mason, Inventor

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UNITED STATES PATENT OFFICE.

GEORGE N. MASON, OF READING, PENNSYLVANIA, ASSIGNOR TO READING HARDWARE COMPANY, OF READING, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LATCH AND LOCK MECHANISM.

1,033,028.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed June 28, 1910. Serial No. 569,367.

To all whom it may concern:

Be it known that I, GEORGE N. MASON, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Latch and Lock Mechanism, of which the following is a specification.

My invention relates to improvements in latch mechanisms and the object in the present instance is to provide a simple and effective means for operating both the latch bolt and dead locking bolt with a single key.

A further object is to provide means for operating the dead locking bolt from the inside of the door by means of a knob, which will overcome the necessity of using a key in the inside of the door but making both bolts capable of being operated from the outside by a single key.

The invention is more fully described in the following specification and clearly illustrated in the accompanying drawing, in which:—

Figure 1 is an edge view of a portion of a door with my lock in position, showing the outside key operation and the inside knob operations. Fig. 2 is a plan view of the lock, with the cover of the casing removed, showing the latch bolt in protracted position and the dead bolt in retracted position. Fig. 3 is a like view with both bolts in protracted position. Fig. 4 is a like view with both bolts in retracted position, with the operating key at the end of its second turn.

In the drawings:—the numeral 1 designates an ordinary lock casing; 2 is a spring backed latch bolt; 3 the dead locking bolt; 4 is a tumbler, pivoted on a pin 5 in the casing which pin passes through a slot in the dead bolt; the dead bolt is also formed with a lug 6 and a depression 7 in its upper face.

The numeral 8 designates a tumbler pivoted at 8^a to the casing, the pin 8^a projecting through slots in both the dead bolt and the tumbler 4. The tumbler 8 is formed with an irregular opening 9.

10 designates a pivoted lever backed by a spring 23 and formed with a lug 11 thereon adapted to move in the opening 9 of the tumbler 8.

The numeral 12 designates a shifting bar,

pivoted on the pin 8^a and its upper extremity engages the latch bolt 2. The lever 10 is formed with a rounded lug 13 on its upper edge and adapted to contact with the heel 14 of this bar when raised.

The tumbler 4 is formed with an upwardly extending projection 15 having a right angled end 16 which engages a roll back 17. This roll back is secured to a spindle 18 and is provided with a thumb knob 19 on the innerside of the lock. The roll back when turned, engages the depressions 7 in the upper face of the dead bolt 3. A spring backed bar 20, is pivoted to the inside of the casing and bears against the top of the roll back to keep it in full thrown position.

The action of the lock is as follows:—Assuming the parts to be in position as shown in Fig. 2, to lock the dead bolt either the knob 19 or the key may be turned; if the knob is turned, the roll back 17 will raise the arm 16 and with it the tumbler 4, thus releasing the dead bolt from its engagement with the tumbler through the lug 6; the continued turning of the knob will cause the roll back to engage the depression 7 in the upper face of the dead bolt and move it out, to protracted position, as shown in Fig. 3. If, however, the key is used to throw the dead bolt, that is, if the lock is operated from the outside, the turning of the key will raise the tumbler 4, releasing the lug 6 and the continued turning of the key will cause it to contact with the dead bolt in the depression 21 and to throw the bolt to the position shown in Fig. 3. In either case, when the dead bolt is so thrown, the lug 22 on the under side of the dead bolt will contact with the lug 10^a on the lever 10 and depress it so that the lug 11 will go to the lower limit of the opening 9 in the tumbler 8. To retract the bolts from the inside of the door, it is only necessary to turn the knobs; the latch is as usual, operated by the main knob from either side, but in this construction, the dead bolt is operated by the turning of the thumb knob in the opposite direction from the one just described and the action of the parts is similar, the roll back releases the dead bolt from its engagement with the tumbler, through the lug 6, and further turning of the roll back will engage the other depression 7 in the bolt and retract it. When it is desired to operate both bolts

from the outside, with the parts as shown in Fig. 3, the key is inserted and in turning, it will contact with the tumbler 4, (after first contacting with and passing the tumbler 8) raise it free from the lug 6 and then engage the depression 21 in the under face of the bolt 3 and retract it. While doing this, the lever 10 will be permitted to raise to the position shown in Fig. 2, by the lug 22 riding off of the lug 10^a and permitting the spring 23 to raise the lever until the lug 11 engages the offset 11^a in the tumbler 8. This will leave the dead bolt retracted but the latch bolt is still in protracted position. The continued turning of the key in the lock will however, at the beginning of its second revolution, again contact with the tumbler 8 and move it sufficiently to permit the lug 11 to enter the upper and narrower portion of the opening 9; this will bring the end of the lever 10 in the path of the key bit and the turning of the key will raise the lever 10 and with it, through its contact at the lug 13 and the heel 14, shift the bar 12 around its pivotal point 8^a and retract the latch bolt which is connected with said bar at its upper extremity, so that the parts will ap-

pear as shown in Fig. 4, which shows the key still in engagement with the lever 10, as just above described.

What I claim is:—

In combination, a casing having therein, a latch bolt, a slotted lock bolt, a pivot member located in said bolt slot, a lever pivoted at one extreme end portion to said pivot member and operably connected at its other end with the latch bolt, a tumbler pivoted to said pivot member and being disposed substantially at right angles to the lock bolt and having a shoulder, an actuating lever pivoted at one end to the casing and its free end being engageable with said first lever and tumbler shoulder when the lock bolt is retracted, and means on the lock bolt for holding said free end of said actuating lever disengaged with said first lever and tumbler shoulder when the lock bolt is protracted.

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

GEORGE N. MASON.

Witnesses:

ED. A. KELLY,
WM. W. FETTER.