

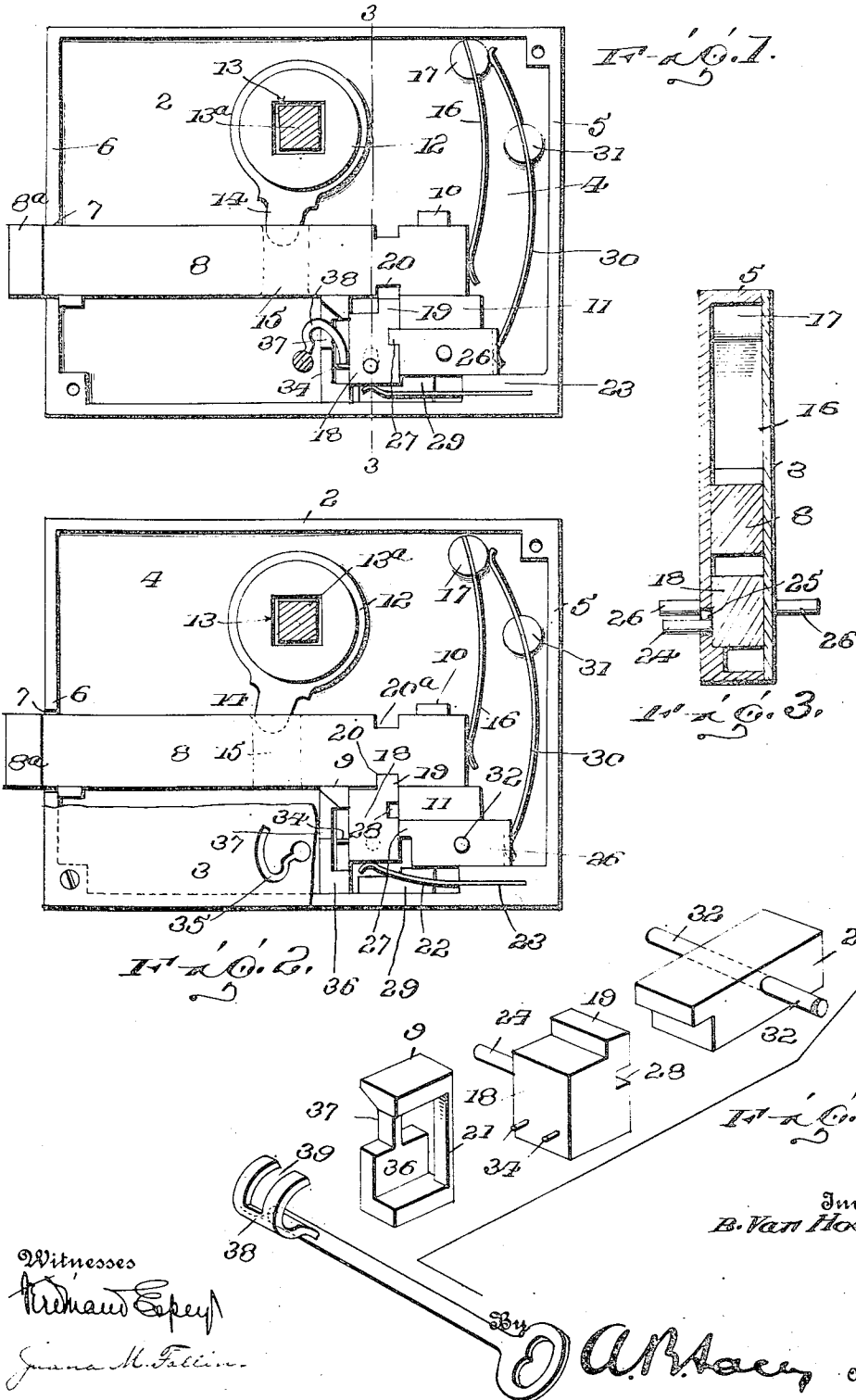
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LOCK.

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BENJAMIN VAN HOESSEN, OF SNYDER, TEXAS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BENJAMIN VAN HOESSEN, citizen of the United States, residing at Snyder, in the county of Scurry and State of Texas, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to locks and particularly to that character of lock in which a sliding bolt is provided, and means provided for latching the bolt in its projected position so that it can not be operated from the outside without a key, said means, however, being movable out of engagement with the bolt so as to permit it to be readily operated by means of the ordinary door handle.

The primary object of my invention is to provide a lock of great simplicity and in which the parts may be readily operated from the inside of the door either to latch the bolt in its projected position, or to unlatch the bolt to permit it to be operated by hand, and further to provide a lock which when unlatched can only be operated from the outside by means of a key.

A further object is to provide a lock of this character having very few parts and in which a peculiar key is necessary in order to actuate the bolt.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings wherein:

Figure 1 is a side elevation of a lock constructed in accordance with my invention, the outer face plate of the casing being removed. Fig. 2 is a like view to Fig. 1 but showing the tumbler engaged with the bolt to prevent a retraction of the bolt. Fig. 3 is an enlarged vertical section on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of the tumbler, latch, warding member and key, the several parts being separated from each other.

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

Referring to these drawings, 2 designates the lock casing consisting of the two face plates 3 and 4 and the surrounding rim 5 which includes the end plate 6 formed with an opening 7 through which the bolt 8 projects. The bolt 8 may have any usual or desired form and is mounted to move in guides 9, 10 and 11. The guides 10 and 11 are op-

posed to each other but spaced sufficiently far apart to permit the rear end of the bolt to slide between the guides. The bolt is likewise guided upon a member 9 as before stated which forms the upper part of a key ward as will be later described.

Rotatably mounted in the side plates 3 and 4 is a barrel 12 having a polygonal opening 13 through it for the passage of the shank of a knob. This barrel has a projecting arm 14 which projects into a slot 15 which passes through the bolt. By rotating the barrel by means of the knob, the bolt may normally be retracted. The bolt is projected by means of a spring 16 supported in a slotted post 17, the end of this spring contacting with the rear end of the bolt 8 and acting to force it forward.

For the purpose of holding the bolt in its projected position and preventing its retraction by means of the barrel 12, I provide a tumbler 18 which is movable toward and from the bolt and is supported between the side plates 3 and 4 and immediately rearward of the member 9. This tumbler has the form of a sliding block and is provided at its end adjacent the bolt 8 with a tooth 19 preferably rectangular in form which engages in a recess 20 formed in the under face of the bolt.

The sliding block 18 forming the tumbler is supported against a guide strip 21 and is urged upward or into engagement with the notch or recess 20 by means of a spring 22 whose rear end is supported in any suitable manner within the casing. As shown, the rear end of the spring is supported between the two sections of a split block 23 which embrace the spring 22. In order to permit the sliding block 18 which forms the tumbler to be forced downward to release the tooth 19 from its engagement with the notch 20, I provide a pin 24 which projects out through a slot 25 in the side plate 4 upon the inside of the door.

As a means of latching the tumbler 18 in a position out of engagement with the notch or recess 20, I provide the spring actuated sliding latch 26 which is disposed at right angles to the length of the tumbler 18 and is longitudinally shiftable into or out of engagement with the tumbler. This latch 26 is provided at its outer end with the tooth 27 which engages in a notch or recess formed in the rear face of the tumbler. The latch 26 is supported beneath the guide 10

and at its rear end rests upon the block 23 and is guided thereby, this block 23 therefore forming part of the means for guiding the latch 26 and supporting the same.

5 The latch is likewise supported by means of a guide lug 29 which is shown as being made part of the plate 3. A spring 30 acts to force the latch 26 toward the tumbler 18 so that when the notch 28 is brought
10 in register with the tooth 27 the latch 26 will snap into engagement with the tumbler 18. This spring 30 is preferably held in a cleft post 31 and the upper end of the spring preferably bears against the post 17. The
15 lower end of the spring bears against the rear end of the latch 26 and forces it toward the forward end of the lock. The latch 26 is provided on both faces with the outwardly projecting studs 32 which extend
20 out through slots 33 in the plates 3 and 4.

I have provided key actuated means for disengaging the tumbler 18 from the bolt 8. For this purpose the tumbler 18 is provided on its forward end with one or more projecting studs, pins or lugs 34 adapted to
25 be engaged by the bit of a key so that when the key is rotated, the tumbler 18 will be depressed. I have shown for this purpose the front plate 3 as being provided with an arcuate or angular keyhole 35 to permit
30 the insertion of a key whose bit is angular or arcuate. Preferably the lock is warded by means of a ward 36 having a relatively narrow portion 37, this narrow portion extending upward and engaging and supporting
35 the part 9. The key bit 38 is longitudinally slotted as at 39 so that the bit will move on each side of the web 37 which forms the ward of the lock and so that the bit will engage the two studs 34 projecting
40 from the face of the tumbler. When a key of this character is inserted in the latch and then rotated in a clockwise direction, the end of the bit will engage the pins or studs 34 and a further rotation of the key will
45 act to depress the tumbler 18 and carry the tooth 19 out of engagement with the notch 20.

The operation of my invention is as follows. Under normal circumstances and
50 when the door is not locked, the tumbler 18 is held out of engagement with the bolt 8 by means of the latch 26 whose tooth 27 engages in the notch 28 of the tumbler. Under these circumstances a rotation of the
55 knob shank 13^a will cause a rotation of the barrel 12, and this in turn will retract the bolt, the bolt being urged into a projected position by means of the spring 16. When
60 it is desired to latch the bolt, however, either one of the pins 32 push backward, and this pushes backward the latch 26 so that the tooth 27 thereof escapes the notch 28 and the spring 22 acts to force the tumbler 18 upward and its tooth into engage-
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ment with the notch 20. Under these circumstances the bolt can not be retracted from the outside except by means of the key previously described. When the key is
70 turned in a clockwise direction the tumbler 18 is depressed and when it reaches a proper position the spring 30 forces the latch 26 into engagement with the notch 28, after which the bolt may be turned by means of
75 the barrel 12 as previously described. Upon the inside of the door, however, the bolt may be released from its engagement with the tumbler by depressing the pin 24, thus carrying the tumbler down until the tooth
80 27 on the latch 26 engages in the notch 28. When it is desired to dead latch the door from the outside, it is only necessary to push rearward on the pin 32 which will draw back the latch 26 and the spring 22
85 will force the tumbler upward into engagement and lock the bolt.

The bolt 8 is made reversible so as to be of use on either side of the door, and to that end I duplicate the notch 20 so as to provide a notch 20^a opposed to the notch 20.
90 It will thus be seen that the bolt may be easily reversed in position so that the beveled face 8^a of the bolt will be reversed. It will be seen that I use only one main lock bolt, and that there are only four movable
95 pieces and three springs. There are thus very few parts to get out of order or break.

What I claim is:

1. A lock including a casing, a longitudinally movable bolt therein having a notch
100 on its under side, a rotatable member engaging the bolt whereby the bolt may be longitudinally shifted, a spring normally forcing the bolt into a projected position, a vertically shiftable tumbler disposed beneath the
105 bolt and having a tooth adapted to engage in the notch in the bolt, said tumbler having a notch in one side, a spring urging the tumbler upward into engagement with the bolt, a latch moving at right-angles to the
110 tumbler and having a tooth adapted to engage in the notch in said tumbler and hold the tumbler in a retracted position, and a spring for urging the latch into such engagement, the tumbler being provided with
115 a member projecting through one side of the casing whereby the tumbler may be manually shifted from engagement with the bolt and the latch being provided with members projecting through both sides of
120 the casing whereby the latch may be shifted out of engagement with the tumbler.

2. A lock including a casing, a longitudinally movable bolt therein, manually operated means for shifting said bolt longitudinally, a spring normally holding the bolt
125 in a projected position, shiftable means for holding the bolt in its projected position and preventing a retraction thereof, said means having an actuating member project-
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ing through one side of the lock, and spring actuated latching means engaging the bolt holding means to prevent a retraction of the bolt holding means, said latching means having members projecting on both sides of the lock whereby it may be retracted to permit the bolt holding means to move into engagement with the bolt.

3. A lock including a casing, a longitudinally movable bolt therein having a notch on its under edge, a barrel rotatably mounted in the casing and having an arm engaging said bolt, a spring urging the bolt to a projected position, a tumbler vertically disposed beneath bolt and having a tooth adapted in one position of the tumbler to engage said notch in the bolt, a spring urging the tumbler into engagement with the bolt, a latch shiftable in a direction at right angles to the tumbler and disposed between the tumbler and the rear end of the casing and having a tooth engaging a notch in the tumbler when the tumbler is in its retracted position, a spring urging said latch into engagement with the tumbler, a stud projecting from the tumbler through one side of the casing whereby the tumbler may be

manually withdrawn from engagement with the bolt, and studs projecting in opposite directions from the latch and extending through slots in the sides of the casing whereby the latch may be operated from either side of the door, to withdraw the latch from its engagement with the tumbler and to permit the tumbler to be shifted into engagement with the bolt.

4. A lock including a casing, a longitudinally shiftable bolt therein, a tumbler shiftable into and out of position to prevent a retraction of the bolt, said tumbler having a pair of spaced outwardly projecting studs and the casing having an arcuate keyhole in its face, a warding member disposed between said keyhole and the tumbler and having a ward disposed between said studs, and a key having a curved bifurcated bit adapted to pass said ward and engage the studs on the tumbler.

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

BENJAMIN VAN HOESEN. [L. s.]

Witnesses:

J. H. DOWNS,
TRYON LEWIS.