Sept. 1, 1931. W. F. HAUSMANN 1,821,155

LOCK

Original Filed March 15, 1929

Fig. 1.

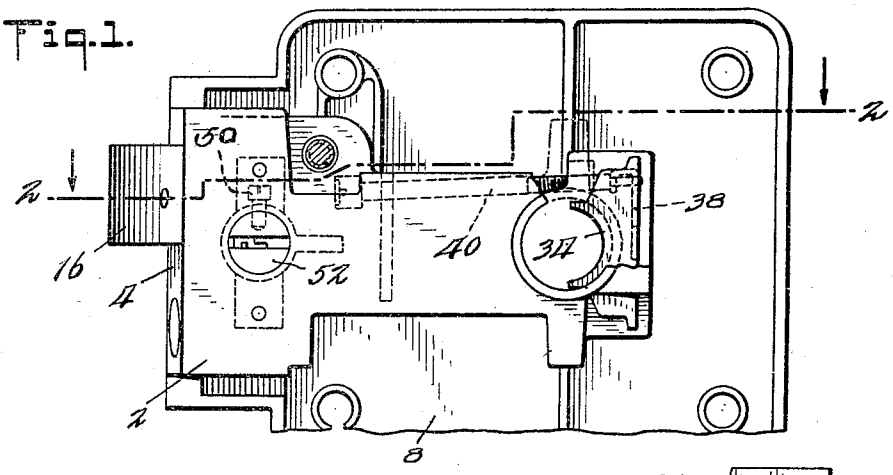


Fig. 3.

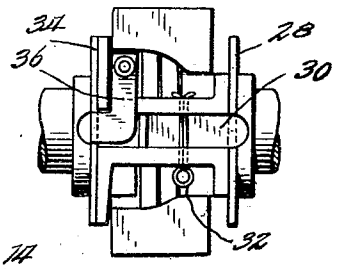


Fig. 2.

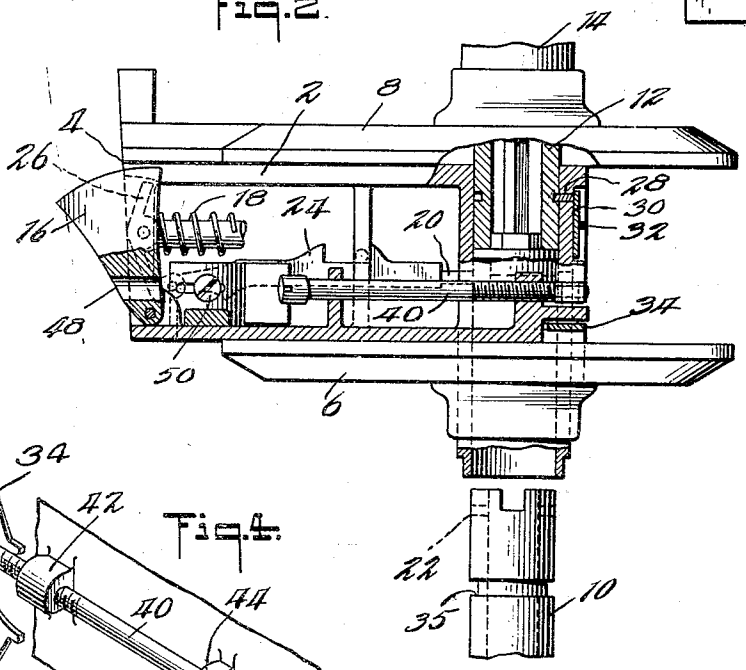
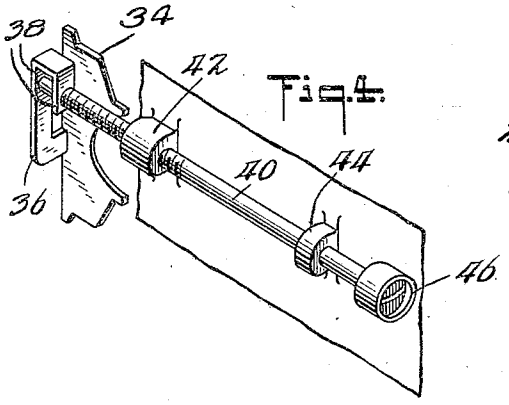


Fig. 4.



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UNITED STATES PATENT OFFICE

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LOCK

Application filed March 15, 1929, Serial No. 347,321. Renewed November 8, 1930.

My invention relates to locks, and has special reference to locks in which pin tumbler or other lock mechanism is located in one or both of the knobs of the lock.

The principal object of the invention is to provide novel means which is of simple construction, easily operated and safeguarded against operation by an unauthorized person, for holding the shank of at least one of the knobs of a lock from outward movement but permitting turning movement thereof, and for releasing the shank so as to permit the knob and shank to be removed without removing the lock from the door.

This and other objects of my invention and features whereby they may be attained, will be clearly understood from the following description and accompanying drawings in which:

Figure 1 is a side view of a portion of a lock embodying the features of my invention in their preferred form, the outer knob and shank and the outer escutcheon being removed;

Fig. 2 is a sectional plan view taken on the line 2—2 of Fig. 1 but showing the shank of the outer knob separated from the lock;

Fig. 3 is a detail rear view of a position of the lock; and

Fig. 4 is a detail view in perspective of the holding means for the shank of the outer knob.

My improved lock as illustrated in the drawings is provided with a frame 2 having a face plate 4 and side plates or escutcheons 6 and 8 secured to the frame. The lock is further provided with a shank 10 for the outer knob and a shank 12 for the inner knob, the shanks being arranged in axial alinement and being mounted to turn in sleeves 14 secured to the sides of the frame 2. One or both of the knobs may have a pin tumbler lock mechanism mounted therein. Where only one such a mechanism is employed it is of course usually mounted in the outer knob.

The inner ends of the knob shanks operate roll-backs which through suitable connections are adapted to retract the usual latch bolt 16 pivotally mounted in an opening in the face plate 4, the latch bolt being projected by means of a spring 18 coiled about a rod pivotally connected with the latch bolt. The latch bolt may also be retracted by means of suitable connection with a key operated plug of the pin tumbler mechanism in the outer knob.

The outer knob may be dead locked by means of a pin 20 which is adapted to be moved into and out of an aperture 22 in the shank of the outer knob. This pin is secured on the inner end of the usual carrier bar 24 having its outer end pivotally connected with one end of a walking-beam 26 mounted in an opening in the face plate 4. Upon moving the walking-beam in opposite directions by pressing on opposite ends thereof, the dead locking pin may be projected and retracted.

The shank of the inner knob is secured by a keeper-plate 28 that extends into an annular groove in the shank, and is held in place by means comprising an abutment strip 30 and a cotter pin 32.

The parts above referred to are of a well known construction and need not be further described herein.

In accordance with my invention a keeper-plate 34 is provided for holding the outer knob shank 10 from outward movement but permitting turning thereof, and means is provided accessible through the face plate 4 of the lock for moving this keeper-plate into and out of holding engagement with the shank of the knob, such means being under the control of an auxiliary lock mechanism. As shown, this keeper-plate 34 is mounted to slide in a suitable slot in the frame 2, and the outer knob shank is provided with an annular groove 35 for receiving the forward end of the keeper-plate to hold the shank from outward movement but permitting turning movement thereof. This keeper-plate is provided on its inner side with a bent lug 36 having vertical portions 38 that are apertured to receive the reduced end of a screw 40, said end of the screw being headed over so as to provide a swivel connection between the screw and the lug 36. This screw 40 is screw-threaded through a lug 42 on the lock

frame, and extends through a guiding lug 44 also on the lock frame. The screw is provided with a slotted head 46 which is adapted to be operatively engaged by a screw-driver inserted through an aperture 48 in the latch bolt 16, this aperture being in alinement with the screw.

With this construction it will be apparent that when the door is open, with the use of a screw-driver, the screw 40 may be turned in one direction to retract the keeper-plate 34 from the groove 35 in the outer shank 10 so as to permit the shank to be removed. When the knob and shank have been replaced or new ones substituted, the screw may be turned in the opposite direction to move the keeper-plate into holding engagement in the groove 35.

In order to prevent such removal of the knob and shank by an unauthorized person, key-controllable means is provided for blocking the insertion of the screw-driver into operative engagement with the head of the screw. This means comprises a blocking member 50, which as shown is in the form of a screw, secured to the key-operated plug 52 of a pin tumbler lock cylinder which is inserted through an aperture in the portion of the outer side of the frame of the lock exposed to view when the door is open. Normally the blocking screw 50 is so positioned as to block the insertion of a screw-driver into operative engagement with the screw, but is adapted to be moved by turning the key-operated plug to retract it from such blocking position.

With this construction it will be apparent that means, which is of simple construction and easily operated, is provided for securing and releasing the shank of the outer knob without removing the lock from the door. Also, to safeguard against unauthorized removal of the knob and shank the improved securing and releasing means can only be operated when the door is open, and then only with the use of the key to the auxiliary lock.

As will be evident to those skilled in the art, my invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What I claim is:

1. A lock having, in combination, a face plate, a knob having a shank, a member in engagement with said shank for holding the shank from outward movement but permitting turning movement thereof and adapted to be retracted to permit removal of the knob and shank, and means accessible through said face plate for moving said member into and out of such holding engagement with said shank comprising a screw having its inner end in swivel connection with said member and its head adapted to be engaged by a screw-driver inserted through the face plate.

2. A lock having, in combination, a face plate having an opening therein, a knob having a shank, a member in engagement with said shank for holding said shank from outward movement but permitting turning movement thereof and adapted to be retracted to permit removal of the knob and shank, means for retracting said member comprising a screw horizontally arranged in alinement with said opening so as to permit a suitable implement to be inserted through said opening and into operative engagement with the head of the screw, an element between the head of the screw and said opening for blocking the insertion of the said implement into operative engagement with said head, and key-controllable means for moving said element out of such blocking relation to said screw head.

3. A lock having, in combination, a face plate, a latch bolt mounted in the face plate having an aperture therein extending fore and aft thereof, a knob having a shank, a member in engagement with said shank for holding the shank from outward movement but permitting turning movement thereof and adapted to be retracted to permit removal of the knob and shank, and means comprising a rotatable member arranged in alinement with said opening in the latch bolt, spaced a distance inwardly therefrom and adapted to be rotated in opposite directions by means of a suitable implement inserted through said opening in the latch bolt to move said member into and out of holding engagement with said shank.

4. A lock having, in combination, a face plate, a knob having a shank, a member in engagement with said shank for holding the shank from outward movement but permitting turning movement thereof and adapted to be retracted to permit removal of the knob and shank, and means accessible through said face plate comprising a screw mounted for turning movement in opposite directions to cause it to move longitudinally fore and aft of the lock, and a connection between the screw and said member for moving said member into and out of holding engagement with said knob shank upon respectively turning said screw in opposite directions.

5. A lock having, in combination, a face plate having an opening, a knob having a shank, a member in engagement with said shank for holding the shank from outward movement but permitting turning movement thereof and adapted to be retracted to permit removal of the knob and shank, means comprising a screw horizontally arranged in alinement with said opening and adapted to be turned by means of an implement inserted through said opening and into engagement therewith to move said member into and out of holding engagement with said shank, a lock mechanism having a key operated plug,

and a projection on the plug adapted to be moved into and out of blocking position between said opening and said screw upon turning the key-operated plug in opposite directions, respectively.

In testimony whereof, I have signed my name to this specification this 7th day of March, 1929.

WILLIAM FREDERICK HAUSMANN.