W. D. MARKLEY.

DOOR LOCK.

APPLICATION FILED MAY 9, 1910.

1,030,313. Patented June 25, 1912.

Fig. 1

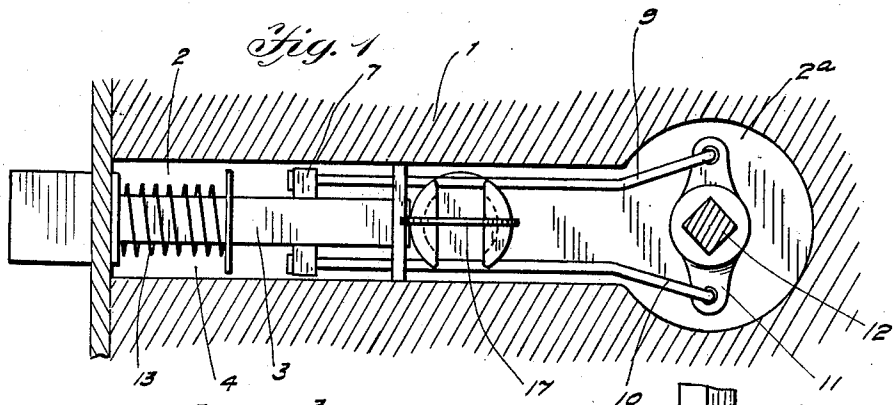
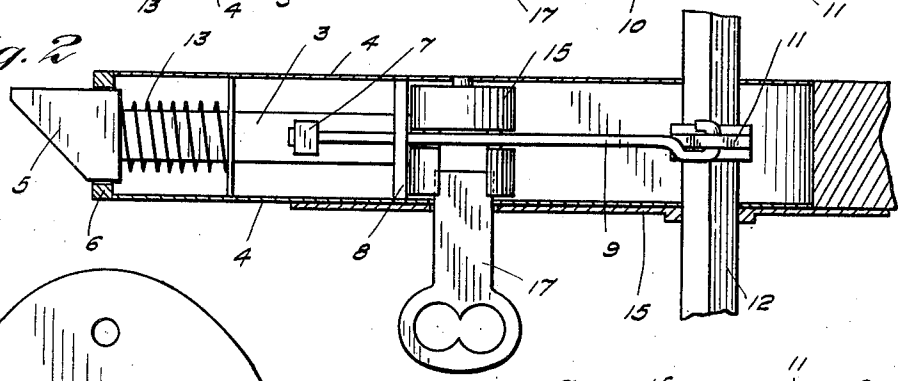


Fig. 2



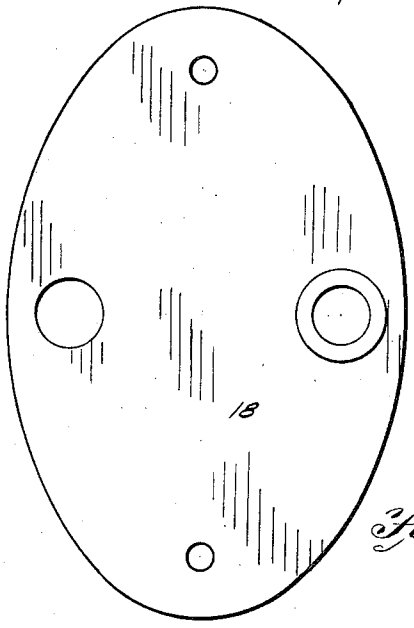


Fig. 4

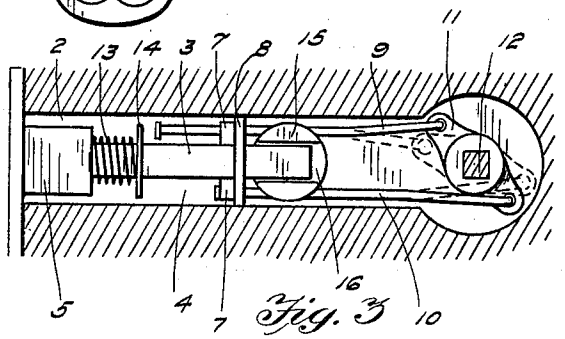


Fig. 3

Witnesses

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DOOR-LOCK.

1,030,313. Specification of Letters Patent. Patented June 25, 1912.

Application filed May 9, 1910. Serial No. 560,240.

To all whom it may concern:

Be it known that I, WILLIAM D. MARKLEY, citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification.

This invention relates to improvements in door locks and the leading object in view is the construction of a lock which combines both locking and latching features and can be inserted in a single circular opening formed in the edge of a door.

It is the common practice of builders to provide rectangular or square openings in doors, which can only be made by boring several holes in the door, through the edge thereof, and in chiseling the door so that a space large enough to receive a square or rectangular opening is formed. All this requires considerable time and labor and the expense of providing doors with locks arranged in casings of a nature requiring such large openings in the doors is considerable.

The object of the present invention is the construction of a simple device comprising means adapted to latch or to lock a door, which can be inserted in a single circular opening, such as can be made by a drill bit $\frac{3}{4}$ of an inch in diameter.

With the above and other objects in view the invention consists in certain combinations, constructions and arrangements of parts, clearly illustrated in the accompanying drawings, in which,

Figure 1 is a vertical sectional view through a door in which the improved locking and latching device is arranged, Fig. 2 is a sectional top plan view thereof, Fig. 3 is a sectional view showing how the latching and locking bar is operated, and Fig. 4 is a plan view of the face plate which covers the openings in the side face of the door and forms a bearing for the knob shaft.

Referring to the accompanying drawings illustrating the preferred form of the invention, the details of which may be varied without departing from the spirit of the invention, 1 denotes a door, which is provided with a single, circular opening 2, such as can be made by a drill bit $\frac{3}{4}$ of an inch in diameter or of any other desired size, without any chiseling, and which extends from the edge of the door horizontally across the door to receive the casing of the improved lock. At the end of the opening 2 a second opening 2^a is formed in the door, which opening extends transversely of the opening 2 and is larger in diameter than the opening 2, and communicates with said opening 2. All the operating parts are received in the opening 2, the opening 2^a serving to accommodate the knob shaft and to provide room for the rear operating parts of the lock.

A locking and latching bar 3, which is arranged between the plates 4, which plates comprise the casing for the lock, is disposed longitudinally in the opening 2. The bar 3 is provided on its outer end with the enlarged inclined or beveled lug 5, which moves on the end plate 6 on the door 1. The bar 3 is also provided with two oppositely located lugs 7. The inner end of the bar 3 slides on a cross guide 8, located between the plates 4.

The lugs 7, of the bar 3, are slidably engaged by the links 9 and 10, the inner ends of which are bent to engage the rock plate or bar 11, which is mounted on the knob shaft 12. The ends of the links 9 and 10 engaging the lugs 7 of the locking and latching bar 3 are headed to enable either one of said links to operate the bar 3 when the plate or bar 11 is rocked by the knob shaft 12. In order to hold the bar 3 under tension and the lug 5 thereof outwardly of the end plate 6 a spring 13 is mounted on the bar 3. This spring bears at one end against the lug 5 and at the other end against the shoulder of cross bar 14.

The mechanism described comprises a complete latching device, whereby a door can be held closed in the ordinary manner and opened by simply turning the door knob shaft, which is provided with an inner and an outer knob. The device is instantly converted into a locking mechanism by means of a key removable in the casing and door and which controls a rotary abutment. This abutment consists of a round block 15, which is formed with a slot or groove 16 for the movement of the rear or inner end of the bar 3 and with a slot for the reception of the key 17, whereby the abutment block can be turned. When the bar 3 is used as a latching bar the slot or groove of the abutment block 15 is placed in alinement with the rear or inner end of the bar 3. By rocking the shaft 12 the bar or plate 11 will operate the links 9 and 10 so that one of said links will withdraw the lug 5 from the end

of the casing, the rear end of the bar 3 sliding in the slot or groove of the abutment block 15. When it is desired to lock the bar 3 against withdrawal or movement in the casing 4 and the opening 2, the abutment block 15 is turned by the key 17 so that the slot 16 of the abutment block will be at right angles to the inner or rear end of the bar 3. A plate 18, forming a bearing for the shaft protects the side face of the door 1.

To insert the casing and the operating parts of the lock in the opening 2, the rock bar or plate 11 is inclined to the position shown in Fig. 3 so that the ends of said bar or plate can pass through the opening 2 into the opening 2^a.

By means of the improved device a door can be locked by a single bar, which serves as a latching bar. A large number of the locks can be secured in place in the time it takes to place one of the ordinary locks and latches in place.

Having described my invention I claim:—

A lock consisting of a casing, a bolt slidable therein, a cylinder with an opening therein in said casing, means for engaging and disengaging said bolt and said cylinder, a shaft, rods connecting said shaft and said bolt, and guides on said cylinder for said rods.

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

WILLIAM D. MARKLEY.

Witnesses:
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