Feb. 17, 1925. 1,526,636

R. L. HAMPTON

LOCK

Filed Oct. 6, 1921 2 Sheets-Sheet 1

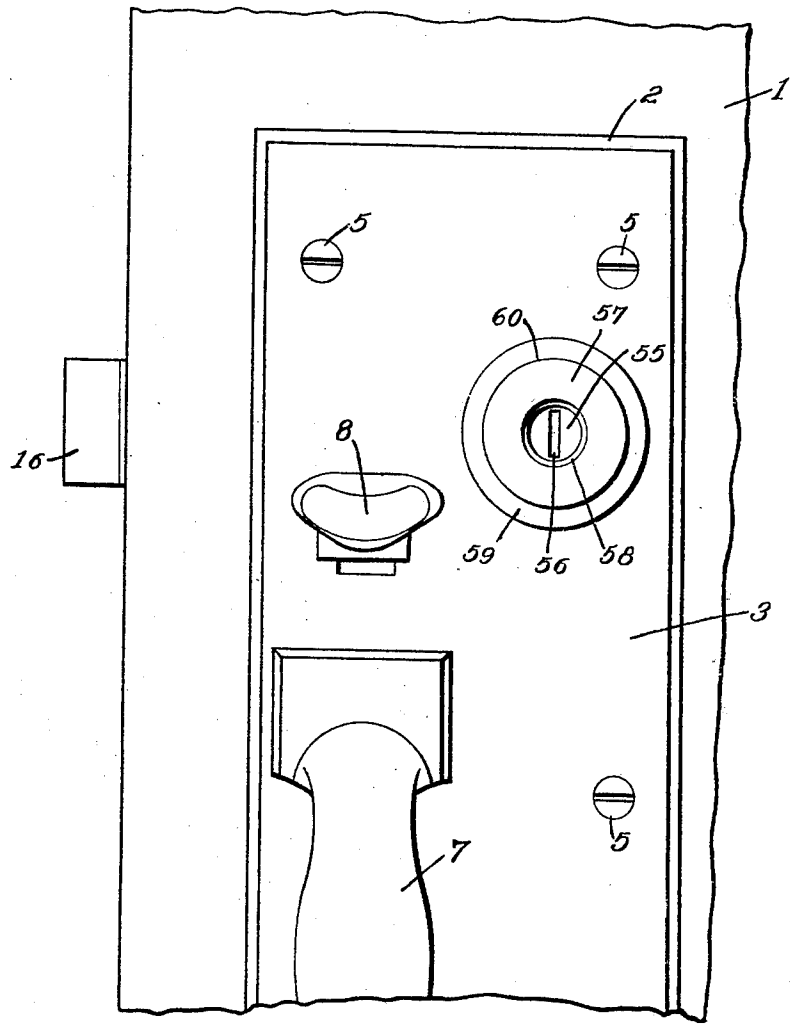


Fig. 1.

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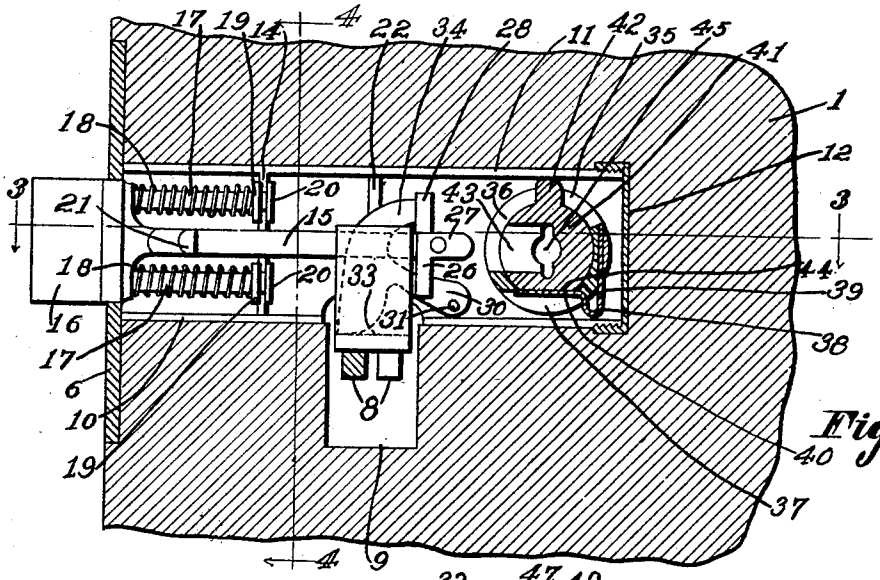


Fig. 2.

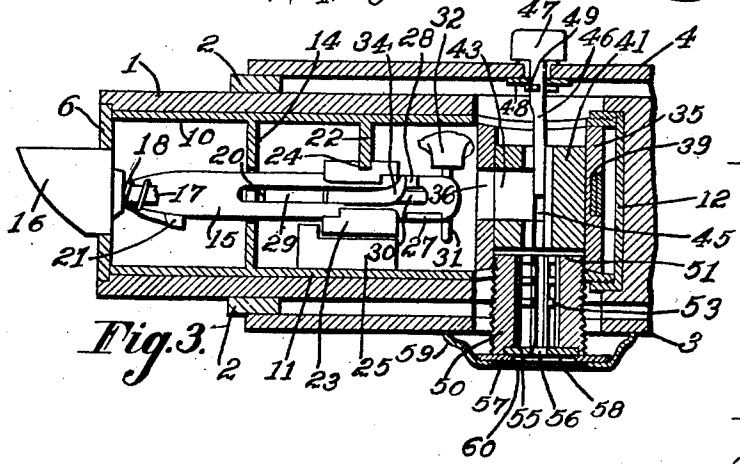


Fig. 3.

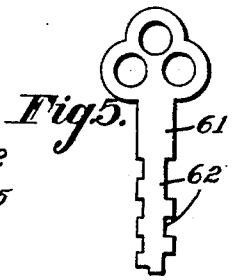


Fig. 5.

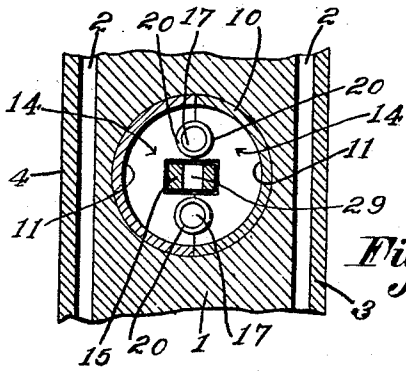


Fig. 4.

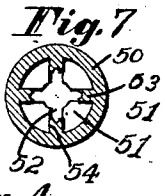
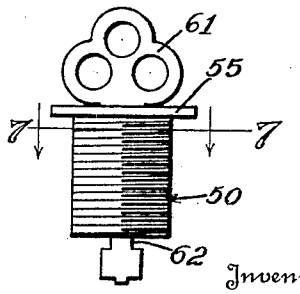


Fig. 7.

Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT L. HAMPTON, OF MARIANNA, ARKANSAS.

LOCK.

Application filed October 6, 1921. Serial No. 505,797.

To all whom it may concern:

Be it known that I, ROBERT L. HAMPTON, a citizen of the United States, residing at Marianna, in the county of Lee and State of Arkansas, have invented a new and useful Lock, of which the following is a specification.

The device forming the subject matter of this application is a lock, and one object of the invention is to provide novel means for actuating the locking bolt, from either side of the door by a pair of operating members when the bolt is not in locked position, the bolt then serving as an ordinary latch.

Another object of the invention is to provide novel means under the control of an operator whereby the locking bolt can be held against movement, so as to hold the door or other closure in locked position.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in elevation, a portion of a door or other closure whereon the device forming the subject matter of this application has been mounted; Figure 2 is a vertical section taken through the door and the lock, parts appearing in elevation; Figure 3 is a section on the line 3—3 of Figure 2; Figure 4 is a section on the line 4—4 of Figure 2; Figure 5 is a plan of the key; Figure 6 is an elevation showing the extension of the barrel; Figure 7 is a section on the line 7—7 of Figure 6.

The numeral 1 marks a door or other closure, which may be provided on its opposite surfaces with offset frames 2 against which abut face plates 3 and 4, held upon the door 1 by securing elements 5. A guide plate 6 is seated and held in the edge of the door 1. The face plates 4 and 3 are provided, each, with a handle 7. Operating members 8 are located above the handles 7 and are mounted on the said face plate 3 for vertical swinging movement, the members being in the form of levers, the inner ends of the levers or operating members being received in a recess 9 formed in the door 1.

A tubular casing 10 is mounted in the door 1. The casing may be made up of two trough-shaped parts 11, as indicated in Figure 4, the said parts being held together by a cap 12 threaded thereon. The casing 10 has a cross wall or guide 14, composed of two cooperating members carried by the parts 11 of the casing 10. In the cross wall or guide 14, a locking bolt 15 is mounted for right line movement, the locking bolt having a head 16 received slidably in the guide 6. The head 16 is supplied with inwardly projecting arms 17, received slidably in the cross wall 14.

Compression springs 18 are mounted on the arms 17 and abut at their outer ends against the head 16. The inner ends of the springs 18 abut against washers 19 which, in their turn, are pressed by the springs 19 against the cross wall 14. The function of the springs 18 is to thrust the locking bolt 15 and its head 16 outwardly into the position shown in Figure 2, outward movement of the locking bolt being limited, because the arms 17 are provided at their inner ends with enlargements 20 which engage the cross wall 14. The locking bolt 15 is supplied with a lug 21 which, cooperating with the cross wall 14 limits the inward movement of the locking bolt.

A guide rib 22 extends inwardly from one of the parts 11 of the casing 10. A U-shaped rider 23 is disposed transversely of the locking bolt 15 and overhangs the same, as indicated in Figure 3. The rider 23 operates in the recess 9 in the door 1, the inner ends of the operating members 8 extending beneath the rider. The rider 23 is provided with a notch or guideway 24 receiving the edge of the guide rib 22. A fin 25 extends longitudinally of the casing 10 and cooperates with the rider 23, to hold the same slidably mounted on the rib 22. The construction is such that the rider 23 is held for right line sliding movement transversely of the locking bolt 15. A depending angular finger 26 is secured at 27 to one side of the locking bolt 15 at the inner end thereof. An upstanding finger 28 is secured to the other side of the locking bolt 15 at the inner end thereof. When the device is put together as shown in the drawings, the

finger 28, alone, has a function in the operation of the lock. The finger 26 comes into play, only, when the locking bolt is reversed, so that the slant of the head 16 (Figure 3) slopes in a direction opposite to that indicated in Figure 3. With this explanation, the finger 26 will be dismissed from further consideration.

The locking bolt 15 is equipped with a longitudinal slot 29 into which a T-shaped lever 30 extends. The stem of the lever 30 is fulcrumed on a transverse pin 31 secured as shown at 32 in Figure 3 to one of the parts 11 of the casing 10. One end of the head of the lever 30 rests, as shown at 33 in Figure 2, on the bottom of the rider 23. The upper end of the head of the lever 30 is extended laterally as shown at 34 in Figure 3, and lies in the path of the finger 28 on the locking bolt 15 (compare Figures 3 and 2).

The operation of the device as thus far described is as follows:—

It will be clear that when either of the operating members 8 is swung downwardly at its outer end, the inner end thereof will be raised, the rider 23 sliding upwardly on the guide rib 22. When the rider 23 is raised, the lever 30 will be swung on its fulcrum 31, because the lower end 33 of the head of the lever rests on the bottom of the rider 23. When the lever 30 swings upwardly as aforesaid, the part 34 of the lever, cooperating with the finger 28 on the locking bolt 15, retracts the locking bolt and the head 16 thereof, the springs 18 being compressed. When the operating member 8 is released, the springs 18 will restore the parts to the positions shown in Figure 2. Since the locking bolt 15 is yieldably mounted through the instrumentality of the springs 18, it is clear that the head 16 of the bolt will engage automatically with a keeper (not shown) on the door jamb when the door is slammed shut.

A barrel 35 is mounted in the casing 10 and extends transversely thereof, the barrel being provided with a circumferential slot 36 and with a bottom opening 37. An angular spring 38 is provided, one arm 39 of the spring being secured to the outer surface of the barrel 35, and the other arm 40 of the spring extending into the bottom opening 37 of the barrel.

A rotatable locking member 41 is journaled in the barrel 35, the locking member having a projection or detent 42 mounted to move in the circumferential slot 36 of the barrel 35. The rotatable locking member 41 is supplied with a recess 43, and has a flat side 44 against which the arm 40 of the spring 38 bears. The arm 40, cooperating with the flat side 44 of the rotatable member 41 holds the rotatable member in such a position that the recess 43 of the rotatable member is alined with the rear end of the locking bolt 15. Consequently, it is possible to slide the locking bolt 15 inwardly, when the parts are arranged as shown in Figure 2 and in Figure 3, thereby to permit a retraction of the head 16 of the locking bolt with respect to the keeper wherewith the head engages. The rotatable member 41 has a longitudinal key-way 45.

A shaft 46 is journaled for rotation in the face plate 4, the inner end of the shaft being received in the key-way 45 of the rotatable member 41. The shaft 46 is provided with an external button 47 for the manipulation of the shaft. A washer 48 is held to the shaft 46 by a pin 49 and is located inside of the plate 4, the washer and the button 47 preventing the shaft 46 from moving endwise.

By means of the button 47 and the shaft 46, rotation may be imparted to the member 41, the projection or detent 42 moving downwardly in the slot 36 of the barrel 35 until the projection is alined with the locking bolt 15. Then, the locking bolt cannot be retracted sufficiently so to permit the head 16 of the locking bolt to be retracted from the keeper (not shown). The shaft 46 and the button obviously constitute a part of a dead-latch mechanism whereby a person within a building may lock the bolt 15, at will, against retraction through the instrumentality of either of the operating members 8.

The numeral 50 marks a detachable extension for the barrel 35, the extension being threaded into one end of the barrel, if desired, as shown in Figure 3. The extension 50 may be considered to be a part of the barrel 35. A plate 51 is secured in the inner end of the extension 50 and is provided with a cruciform opening 52. The element 50 is supplied with inwardly projecting wards 53 having longitudinal guideways 54 in their inner ends. A plate 55 is rotatable in the outer end of the extension 50 and has a slot 56. A disk 57 engages or is secured to the outer end of the extension 50 and is supplied with an opening 58. A cap 59 is attached to the face plate 3 and overlaps the disk 57, the cap having an opening 60. The numeral 61 marks a key having notches 62.

The key 61 is slid into the guideways 54 of the wards 53 until the inner end of the key is engaged with the key-way 45 in the rotatable member 41. When the key 61 is positioned properly, the wards 53 of the member 50, and the plate 51, will be alined with the notches, and, then, the key may be rotated. When the key is rotated, rotation is imparted to the member 41, and the detent 42 may be moved into and out of alinement with the locking bolt 15, thereby holding the locking bolt against movement, or permitting the locking bolt to be slid inwardly.

The invention, obviously, thus embodies key-operated means whereby a person on the outside of a building may control the sliding movement of the locking bolt 15.

I claim:—

1. In a device of the class described, a supporting structure, a bolt slidable therein; a U-shaped rider mounted on the supporting structure for right line sliding movement transversely of the locking bolt, the locking bolt sliding in the rider, and the locking bolt having a slot, a lever fulcrumed on the supporting structure, one end of the lever resting on the rider and the other end of the lever coacting with the locking bolt; and means for operating the rider.

2. In a device of the class described a supporting structure, a bolt slidable therein, a U-shaped rider mounted on the supporting structure for right line sliding movement transversely of the locking bolt, a lever fulcrumed on the supporting structure and cooperating with the locking bolt, the lever resting upon the rider and being located within the rider, and a latch fulcrumed for swinging movement, the latch extending beneath the rider and being located substantially at right angles to the line of reciprocation of the locking bolt, the latch constituting means for actuating the rider.

3. In a device of the class described, a barrel having an opening, a rotatable member journaled in the barrel and provided with an opening, a bolt mounted for sliding movement and adapted to enter the openings, when the rotatable member is turned so as to aline the openings, a spring secured to the barrel, the rotatable member having a flat side, the spring extending into the barrel and engaging the flat side of the rotatable member to hold the same against turning, thereby to aline the openings for the reception of the locking bolt, freely rotatable means for turning said rotatable member at one end thereof, and lock and key means for turning said rotatable member at the other end thereof.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROBERT L. HAMPTON.

Witnesses:

T. F. CLAYWELL,

H. A. MCVEIGH.