Aug. 3, 1937. N. B. HURD 2,089,145

LOCK

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Fig. 2.

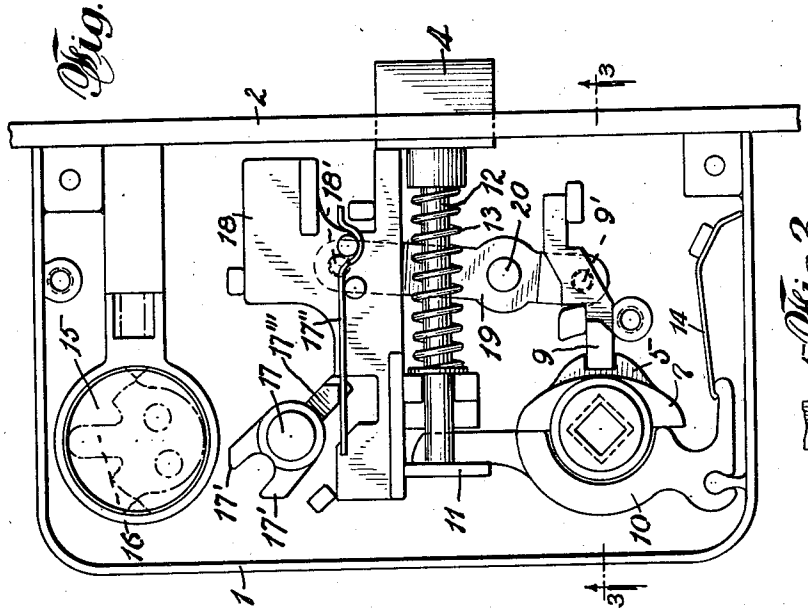
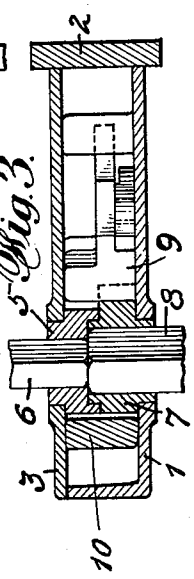


Fig. 3.



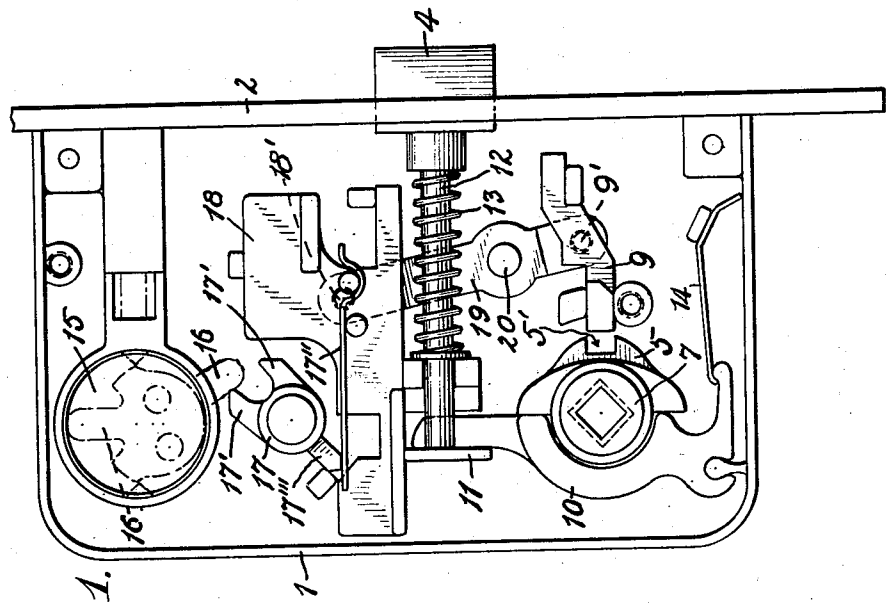


Fig. 1.

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LOCK

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11 Claims. (Cl. 70—152)

This invention relates to certain new and useful improvements in door locks.

The main object of the invention is to provide a lock especially adapted for the doors of rooms wherein persons are to be confined, the mechanism of which lock may be so set that the occupant cannot operate it from the inside of the room but which may nevertheless be quickly released from the outside to permit escape from the room in case of emergency such as a fire.

In the accompanying drawing I have shown only one preferred form of my invention, in which—

Fig. 1 is a side elevation of the lock with the cap removed and viewed from the indoor side;

Fig. 2 is a similar view with parts in a different position;

Fig. 3 is a section on line 3—3 of Fig. 2, looking in the direction of the arrows.

Before describing in detail the construction, it should be observed that the lock shown is of the spring latch-bolt type and is equipped with inside and outside latch retracting knobs. It is also equipped with a key controlled locking mechanism which when "on" prevents latch retraction by the indoor knob. When this key actuated mechanism is "off", the bolt may be retracted by either knob to permit the door to be freely opened from the indoor side. When the key actuated mechanism is "on", it may be quickly released or thrown "off" by merely turning the outside knob, thereby saving the time and labor that would otherwise be required were it necessary to use a key. As a specific example. Assume that the entrance doors of a large number of rooms holding mentally ill patients are equipped with locks of this type. When a patient is to be confied in his or her room, an attendant, by means of a key, may shift the mechanism so that escape from the room cannot be effected by turning of the indoor knob to retract the bolt. In the event of fire, however, any attendant may run rapidly through the corridors and by simply turning the knob at the outdoor side of each room may thereby reverse the key actuated locking mechanism and leave the door free to be opened from the inside to allow the occupant to escape. Were a key required in each such instance, it is obvious that much valuable time would be wasted and the lives of many occupants gravely endangered. Having thus pictured one specific application of the lock made the subject matter thereof, I will now proceed to describe the construction shown in the drawing.

In that particular form that I have elected to show herein, the lock is of the so-called "mortise" type in which 1 is a case, 2 a face-plate, 3 a removable cap, and 4 a spring latch-bolt normally projected through the face-plate to engage with the usual keeper plate (not shown) located on the door casing. 5 represents a roll-back mounted in the case and designed to receive the spindle end 6 of an ordinary inside knob (not shown). 7 represents a roll-back designed to receive the spindle end 8 of an ordinary outside knob (not shown). The roll-back 5 is provided with the usual notch 5' into which the nose of a locking dog 9 may be projected to lock the inside knob spindle against turning. When this dog is out of said notch, the latch bolt 4 may be retracted by turning either of said knob spindles since both of the roll-backs engage wtih the usual latch retracting lever 10, one end of which is mounted in the case, while the other end engages a shoe 11 at the rear end of the latch-bolt tail 12. The usual spring 13 is provided to normally project the latch bolt. A spring 14 coacts with the latch retracting lever 10 to normally press it toward both roll-backs in the usual manner.

The key controlled mechanism shown and described herein is of the cylinder type. 15 represents the body of the usual cylinder having the usual key rotatable plug (not shown) on the inner end of which is mounted a roll-back 16, outlined in dotted lines in Figs. 1 and 2 in its normal position, the end of the roll-back arm being shown in full lines in Fig. 2 when turned and about to engage the roll-back hub 17 later described. This cylinder is mounted at the outdoor side of the lock and, in the preferred form, is threaded into the cap 3 in the usual manner well known in the art. 17 represents a key controlled hub mounted within the case and having a yoke at one side providing two spaced shoulders 17'—17' with either of which the roll-back 16 may engage to rock said hub. 17'' is the spring therefor. At the other side of the hub 17 is an arm 17''' which engages a slide 18 to advance or retract the latter. 19 is a lever pivoted at 20 intermediate its length in the case. One end of this lever is suitably connected as by a stud 18' to the slide 18, while the other end is connected as by a stud 9' to the locking dog 9. When the cylinder roll-back 16 has been turned to advance the slide 18 and "dog" the inside knob roll-back 5, the forward end of said slide will stand close to the rear of the latch-bolt head 4 as shown in Fig. 2. With the parts in this position, the indoor knob spindle 6 cannot be turned. Thus the

occupant of the room cannot open the door. If, however, any emergency should arise calling for the free opening of the door from the inside, an attendant at the outside may simply turn the outside knob spindle 8, the effect of which will be to retract the latch-bolt which will push back the slide 18 and retract the dog 9 through the medium of the lever 19, freeing the inside knob spindle so that the occupant of the room may open the door. This lock has the further advantage of permitting a doctor or other attendant to quickly enter the room should occasion require without the necessity of using a key. It thus cares for an emergency occurring either inside or outside the room.

I claim:

1. A door lock comprising, a bolt, two roll-backs for independently retracting said bolt from opposite sides of the lock, means operable by a key from the outdoor side of the lock for dogging the roll-back operable from the indoor side of said lock, and means for turning the roll-back operable from the outdoor side for both retracting said bolt and undogging the other roll-back.

2. A door lock comprising, a bolt, two roll-backs for independently retracting said bolt from opposite sides of the lock, means operable by a key from the outdoor side of the lock for dogging the roll-back operable from the indoor side of said lock, means for turning the roll-back operable from the outdoor side for both retracting said bolt and undogging the other roll-back, said means including linkage between said bolt and said dog.

3. A door lock comprising, a bolt, two roll-backs for independently retracting said bolt from opposite sides of the lock, means operable by a key from the outdoor side of the lock for dogging the roll-back operable from the indoor side of said lock, means for turning the roll-back operable from the outdoor side for both retracting said bolt and undogging the other roll-back, said means including linkage between said bolt and said dog, said linkage including a slide at the rear of the bolt for movement thereby in one direction, and a lever pivoted intermediate its length and connected at one end to said slide and at the other to said dog.

4. A door lock comprising, a bolt, two roll-backs for independently retracting said bolt from opposite sides of the lock, means operable by a key from the outdoor side of the lock for dogging the roll-back operable from the indoor side of said lock, means for turning the roll-back operable from the outdoor side for both retracting said bolt and undogging the other roll-back, said means including linkage between said bolt and said dog, said linkage including a slide at the rear of the bolt for movement thereby in one direction and a lever pivoted intermediate its length and connected at one end to said slide and at the other to said dog, said linkage being movable in the opposite direction by the key operable means.

5. In a lock, a case, a bolt, two knobs on opposite sides of said lock for retracting said bolt, a key operable means movable by a key insertable from the outdoor side to prevent the bolt from being retracted by the knob on the indoor side, and means operable by the knob on the outdoor side to reverse the movement of said key operable means and permit bolt retraction by the inside knob.

6. In a lock, a case, a bolt, two knobs on opposite sides of said lock for retracting said bolt, a key operable means movable by a key insertable from the outdoor side to prevent the bolt from being retracted by the knob on the indoor side, and means operable by the knob on the outdoor side to reverse the movement of said key operable means and permit bolt retraction by the inside knob, said means permitting at all times the retraction of said bolt by the outside knob.

7. A door lock comprising, a bolt, means manually operable from both sides of a door for retracting said bolt, means operable by a key from the outside of the door for preventing the retraction of said bolt by the manually operable indoor bolt retracting means but leaving the manually operable outdoor bolt retracting means free to function, and mechanism associated with said last mentioned means for freeing the manually operable indoor bolt retracting means when the bolt is retracted by said outside means.

8. In a door lock, a case, a bolt, means at the indoor side of the lock for manual retraction of said bolt, key actuable means operable at the outdoor side of said lock for dogging said indoor retracting means, and means at the outdoor side manually operable independently of a key for undogging the first mentioned means.

9. In a door lock, a case, a bolt, means at the indoor side of the lock for manual retraction of said bolt, key actuable means operable at the outdoor side of said lock for dogging said indoor retracting means, and means at the outdoor side manually operable independently of a key for undogging the indoor retracting means and also operable to retract said bolt.

10. A door lock, comprising a bolt, a roll-back for retracting said bolt from one side of said lock, another roll-back for retracting said bolt from the opposite side thereof, key-operable means operable from one side of said lock for dogging and undogging the roll-back on the other side of said lock, and means operated by the last mentioned roll-back to undog the dogged roll-back in addition to retracting said bolt.

11. A door lock comprising a bolt, a roll-back for retracting said bolt from the outdoor side of the lock, another roll-back for retracting said bolt from the indoor side thereof, key operable means for dogging the inside roll-back from the outdoor side of the lock, and means operable by the outside roll-back to undog the inside roll-back in addition to retracting the bolt.

NORMAN B. HURD.