June 27, 1939. N. B. HURD 2,164,290

LOCK

Filed May 13, 1938

Fig. 1.

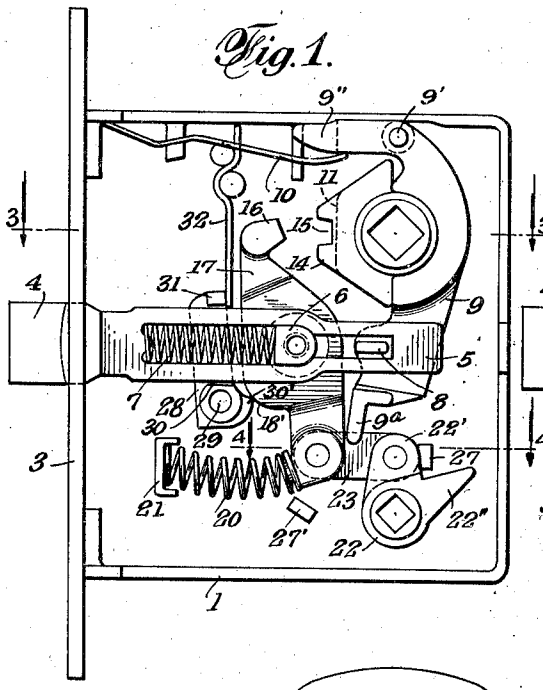


Fig. 2.

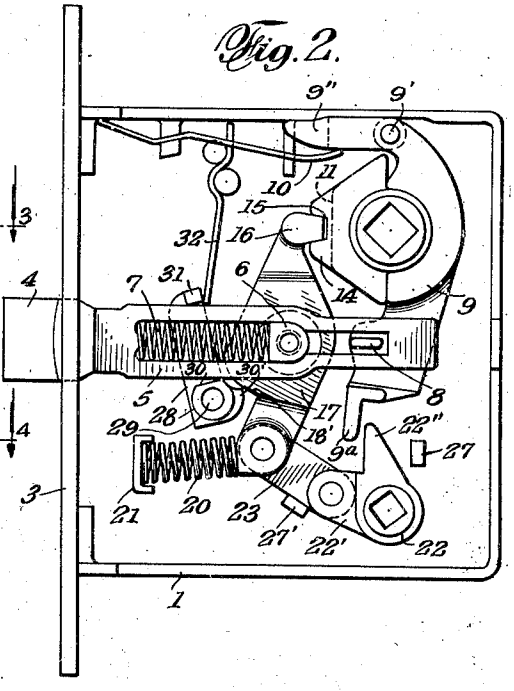


Fig. 3.

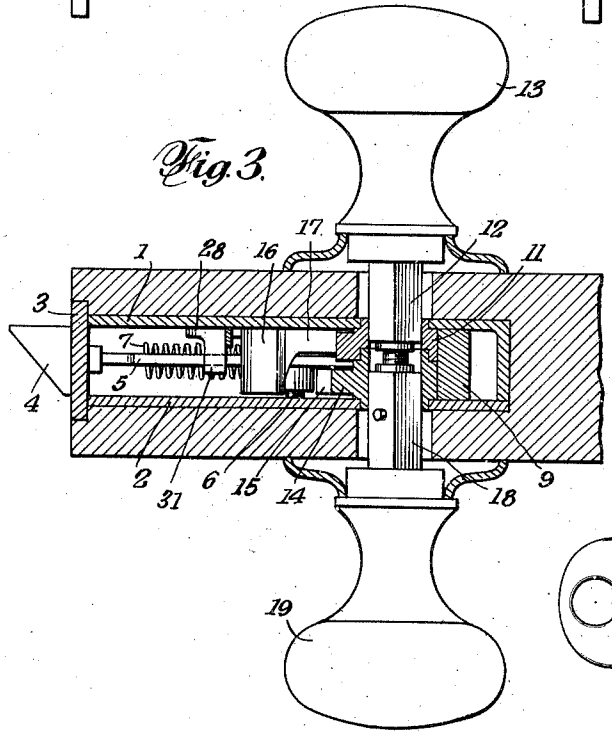


Fig. 4.

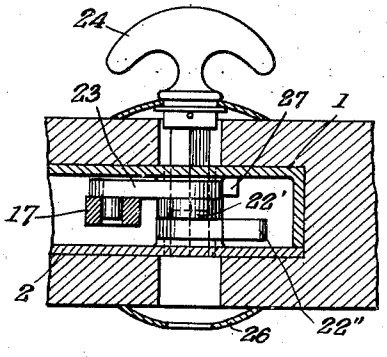
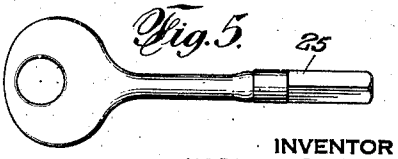


Fig. 5.



INVENTOR
NORMAN B. HURD

BY

Mitchell & Becker

ATTORNEYS

Patented June 27, 1939 2,164,290

UNITED STATES PATENT OFFICE

2,164,290

LOCK

Norman B. Hurd, Newington, Conn., assignor to The American Hardware Corporation, New Britain, Conn., a corporation of Connecticut

Application May 13, 1938, Serial No. 207,680

8 Claims. (Cl. 292—165)

This invention relates to locks of a type particularly useful for bathroom doors.

The object is to provide a construction whereby when the door is locked on the inside, either intentionally or unintentionally, it can be unlocked from the outside by the use of a special key in the event the person in the room is incapacitated, or in the event such person is a little child incapable of understanding how to get out. It is a further object to provide means whereby if a little child is playing with the door and should accidentally dog the roll-back for the outside knob and then close the door from the inside, the latch bolt will remain retracted so that the door may be freely pushed open from the inside.

These and other advantages will be apparent to the mechanic skilled in this art from a reading of the following specification and an examination of the accompanying drawing in which I have shown a preferred form of my invention and in which—

Fig. 1 is a side elevation showing the internal lock parts, the cap of the lock case being removed;

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

Fig. 3 is a section on the plane of the line 3—3 of Fig. 1;

Fig. 4 is a section substantially on the plane of the line 4—4 of Fig. 1;

Fig. 5 is a side elevation of an emergency key.

1 represents a mortise lock case, 2 the cap, and 3 the face-plate. 4 is a latch-bolt. The tail 5 of this latch-bolt is provided with a slot which embraces a lug 6 on the latch case, which lug acts as a guide for the latch and as an abutment for a latch spring 7 which is located in said slot, its rear end abutting against said lug 6 and its forward end against the end wall of said slot. The tail of the latch-bolt at the rear of the lug 6 is likewise slotted to receive a tenon 8 on the side of a latch retracting lever 9, which latter is fulcrumed at 9' in the case. The lever 9 has a radial arm 9'' and 10 is a spring bearing against said arm to normally hold the retracting lever 9 in its inactive position shown in the drawing. 11 is the usual roll-back mounted in the lock case and cooperating with the retracting lever 9 when it is desired to retract the latch. This roll-back itself is operated by the spindle 12 of an inside knob 13. 14 is another roll-back also cooperating with the latch retracting lever and mounted in the cap 2 in the usual manner. This roll-back is extended on its front side and has a notch 15 to receive the nose 16 of a dogging lever 17 when the outside knob is to be locked. The lever 17 is pivoted intermediate its length in the case in the region of lug 6. This outside roll-back 14 is operated by the spindle 18 of an outside knob 19. 20 is a spring bearing at one end against an abutment 21 and at the other end against the lower end of lever 17. This spring normally holds this lever in a position in which its dogging nose is disengaged from the roll-back 14 (see Fig. 1). 22 is a roll-back mounted in the case and having one arm 22' connected by a link 23 with the lower end of the dogging lever 17. The roll-back 22 may be oscillated from inside the door by the spindle of a thumb piece 24. In the outside wall of the door and in line with the roll-back 22 I provide a hole large enough to permit the end of an emergency key 25 to be entered so that this roll-back may be actuated from the outside in the case of an emergency. In this instance this key has a squared end corresponding substantially in size to the spindle passage in roll-back 22. 26 is a finishing piece or escutcheon for the emergency keyhole. 22' is a second arm on the roll-back 22 and 9^a is an extension on the lower end of the latch retracting lever, which extension stands in front of the arm 22''. 27 is a stop in the lock case against which the arm 22' may abut when the roll-back 22 is swung to its non-dogging position (see Fig. 1). 27' is a stop to check the movement of the arm 22' when swung to its dogging position. The arm 22'' is offset so that when this roll-back is oscillated this arm will pass freely over the top of the stop 27. 28 is a friction piece which in this instance is in the form of a lever. 29 is a pivot therefor. 30 is a cam on the side of the hub of the friction piece 28, said cam facing one edge of the latch-bolt tail. 31 is an offset shoulder on the other end of the friction piece 28, said shoulder overstanding the opposite edge of said latch-bolt tail. 30' is an offset shoulder or short arm at one side of the hub of the friction piece. The adjacent side of the dogging lever 17 is shaped to provide a cam surface 18' to coact with the arm 30' to normally hold the friction piece free of the latch tail (see Fig. 1). When the dogging lever is advanced to the dogging position shown in Fig. 2, it moves away from the arm 30' and permits the friction piece to be swung by spring 32 to the position shown in Fig. 2 wherein the latch tail will be frictionally engaged by the cam 30 or the shoulder 31, or both, which friction is sufficient to prevent the latch,

if repressed independently of the retracting lever 9, from being projected by spring 7.

Operation.—If the parts are in the normal unlocked position shown in Fig. 1, the door may be freely opened and closed from either side by turning one or the other of the knobs 13—13. Assuming that such a lock is associated with the bathroom door, anyone entering the room and closing the door may throw the dogging means "on" and lock it by simply turning the thumb piece 24, thereby dogging the outer knob. The person on the inside may freely leave the room by turning the inside knob. This act simultaneously reverses the position of the roll-back 22, which reverses the dog and restores the parts to the normal unlocked or "off" position shown in Fig. 1. If, perchance, the person within the room should become incapacitated while the door is locked, or if it should be a little child unable to understand how to escape, the holder of the emergency key may unlock the door by reversing the roll-back 22 and turning the outer knob. If a small child should be playing with a lock while the door is open and should inadvertently turn the thumb piece, dogging the outer knob, and should then enter the room and close the door, the closing movement of the door would cause the latch to be repressed by the well known strike-plate (not shown), which latch under such conditions would be held repressed by the piece 28 so that the child could freely push the door open.

I claim:

1. In a door lock having independent means for retracting the latch-bolt from the outside and inside of the door, a case, a spring latch-bolt, means operable from the indoor side for dogging the outside latch retracting means, and means coacting the the latch-bolt for holding it retracted when repressed by means other than the last-mentioned retracting means while the latter is dogged.

2. In a door lock, a case, a spring latch-bolt, latch retracting means operable from outer and inner sides of a door, means operable from the indoor side for dogging the outside latch retracting means, and means coacting with the latch-bolt for holding it retracted when repressed by means other than the first mentioned retracting means while the latter is dogged, said latch holding means being released by the operation of the indoor latch retracting means.

3. In a door lock having independent means for retracting the latch-bolt from the outside and inside of the door, a case, a spring latch-bolt, a latch retracting lever, a pivoted dogging lever for the outside latch retracting means, with means for operating said dogging lever from the indoor side of the lock, and means coacting with the latch-bolt for holding it retracted when repressed by other means than the latch retracting lever and while the outside operated retracting means is dogged.

4. In a door lock having independent means for retracting the latch-bolt from the outside and inside of the door, a case, a spring lach-bolt, a latch retracting lever, a dog for the outside latch retracting means, with means for operating said dog from the indoor side of the lock, means coacting with the latch-bolt for holding it retracted when repressed by other means than the latch retracting lever and while the outside operated latch retracting means is dogged, said dog having means cooperating with the latch holding means to free the latch-bolt when the dog is disengaged from the outside latch retracting means.

5. In a door lock having independent means for retracting the latch-bolt from the outside and inside of the door, a case, a spring latch-bolt mounted therein, a latch retracting lever, an outer roll-back coacting with said latch retracting lever and operable from the outside of the door, a dog for holding the outside roll-back from operation when said dog is moved to its "on" position, another roll-back operable from the indoor side of the lock and connected with said dog to move it to the "on" or "off" position, a device for frictionally engaging and holding the latch-bolt retracted when repressed by other means than the outer roll-back, said latch holding device being released from said latch holding position by and when the first mentioned dog is moved to the "off" position.

6. In a door lock, a case, a spring latch-bolt mounted therein, a latch retracting lever, an inner and an outer roll-back coacting independently with said latch retracting lever and independently operated from the opposite sides of a door, a dog for holding the outside roll-back from operation when said dog is moved to the "on" position, a third roll-back operable from the indoor side of the lock for moving said dog to the "on" or "off" position, a device for engaging and holding the latch-bolt retracted when repressed by other means than the said roll-backs, said latch holding means being released from said latch holding position by and when said dog is moved to the "off" position, and said latch holding device being movable to the "off" position by the latch retracting lever when the inside roll-back is operated to retract said latch.

7. In a door lock having independent means for retracting the latch-bolt from the outside and inside of the door, a case, a spring latch-bolt, manually operable dogging means for preventing at will the retraction of said bolt from the outdoor side, and means engaging and holding the latch-bolt retracted when repressed independently of the outside latch retracting means while the latter is dogged.

8. In a door lock, a case, a spring latch-bolt, independent means for retracting said latch-bolt from the outside and inside of a door, manually operable dogging means for preventing at will the retraction of said bolt from the outdoor side, means engaging and holding the latch-bolt retracted when repressed independently of the first mentioned latch retracting means while the outside latch retracting means is dogged, said latch holding means being releasable by the operation of the indoor latch retracting means.

NORMAN B. HURD.