Aug. 10, 1943. R. S. GOLD ET AL 2,326,635

LOCK

Filed Sept. 5, 1941

Fig. 1.

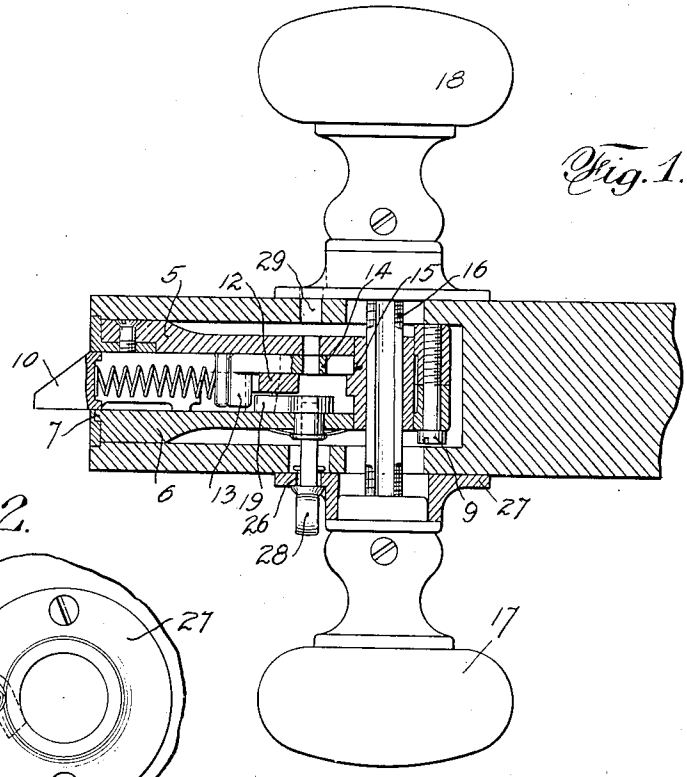


Fig. 2.

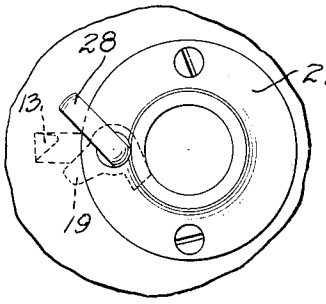


Fig. 3.

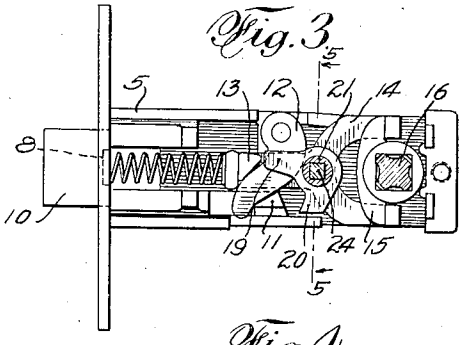


Fig. 4.

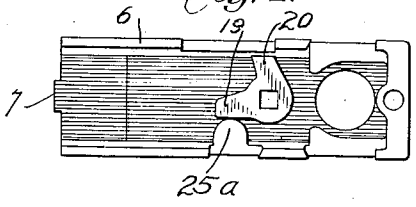
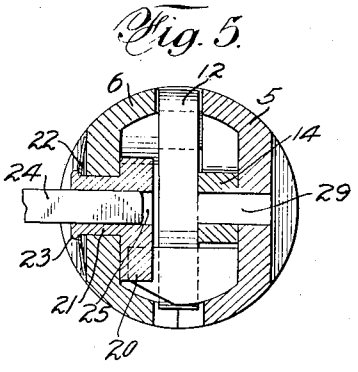


Fig. 5.



RUSSELL S. GOLD
JOHN STADLER
INVENTORS

BY Whittemore Pickard

ATTORNEYS.

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LOCK

Russell S. Gold and John Stadler, Berlin, Conn., assignors to The American Hardware Corporation, New Britain, Conn., a corporation of Connecticut

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2 Claims. (Cl. 292—167)

Our invention relates to a lock particularly, though not exclusively, adapted for bathrooms and the like.

It is the principal object of the invention to provide improved dogging means for a knob.

Another object is to provide manually operable improved dogging means, together with means for rendering the same inoperative upon retraction of the latch bolt, as when the door slams.

Another object is to provide improved dogging means in a lock operable by a rotatable member at the outside of the lock.

Another object is to provide improved dogging means of a rotary nature operable from either side of the lock.

Other objects will be hereinafter pointed out or will become apparent to those skilled in the art.

In the drawing which shows, for illustrative purposes only, a preferred form of the invention—

Fig. 1 is a horizontal section through a door and lock applied thereto illustrating features of the invention;

Fig. 2 is a view in side elevation of a part of the inner side of the door shown in Fig. 1, the knob being removed;

Fig. 3 is a view in side elevation of the lock case, the cover being removed and parts carried thereby being shown in one position occupied thereby when the cover is in place;

Fig. 4 is an inside view in elevation of the lock case cover and dogging means carried thereby; and

Fig. 5 is an enlarged transverse sectional view taken substantially in the plane of the line 5—5 of Fig. 3.

The lock illustrated is a so called "tubular" lock, which may be slipped into a round hole in the edge of the door. Such locks in general are well known. The lock illustrated includes a lock case 5 and a lock case cover 6, which may be held together, as by means of the lug 7 on the cover fitting into a notch 8 in the lock case and by means of a single screw 9 at the opposite end. The latch bolt 10 which is spring-urged to its advanced position is suitably guided in the case and a rearwardly projecting portion thereof has an upstanding lug 11 thereon, engageable by the tail of the latch lever 12. The latch lever 12 is movable to retracted position, as by means of an upstanding lug 13 on the latch slide or bolt retracting slide 14, which may be actuated in the usual manner by a knob rollback 15. As illustrated the lug 13 has an inclined rear face or cam face, against which the inclined and substantially radial forward edge of lever 12 normally rests. The knob rollback is actuated by a spindle 16, fastened in the inside knob 17 and the outside knob 18, as will be understood. Locks of the general type thus far described are well known.

Our invention relates particularly to means for dogging the latch bolt retracting mechanism so as to dog at least the outside knob and preferably both knobs. In the preferred form of our invention we employ rotatable dogging means within the lock case, which is movable to operative and inoperative positions by a thumb piece or the like at the inside of the door. Our improved dogging means, in addition, preferably is so arranged as to be thrown to inoperative position when the latch bolt is moved to retracted position, as when the door slams.

In the form shown our improved dogging means includes a dogging member having a dogging lug 19 and a throw-off or retracting lug or tail 20. The dogging member is rotatably mounted in a part of the lock case, in the present instance in the cover 6, as by means of a journal member 21, extending through an aperture in the cover 6. The dogging member is preferably frictionally held, as by means of a cupped spring washer 22 fitting between the outside of the lock case and the spun upset or overhead 23 on the journal member. The dogging member is rotatable, as by means of an angular shank or spindle 24 fitting within a correspondingly shaped aperture 25 in the dogging member. The operative position of the dogging lug 19 is determined by a stop 25a at the inside of the cover 6 and movement in the opposite direction may be limited by engagement of dogging lug 19 with lug 11 on the latch bolt. It will be seen that the dogging member is in the form of a bell crank of which one arm is the dogging lug 19 and the other arm is the tail 20. The shank or dogging spindle 24 passes through an aperture in the door and is preferably journaled in an aperture 26 in the inside rosette 27. A thumb piece 28 is attached to the spindle 24 at the outside of the rosette and beneath the knob.

When the thumb piece 28 is turned so as to position the dogging lug 19 as shown in Fig. 3 it will be clear that such dogging lug 19 will lie directly behind the upstanding lug 13 on the latch slide 14, which normally retracts the latch bolt. The lug 13 is of course wide enough to engage both lever 12 and lug 19 which are arranged side

by side. With the lug 19 positioned neither knob can be turned, since the latch slide 14 cannot be retracted. When the dogging lug 19 is moved to its out-of-the-way position, as shown in Fig. 2, the latch bolt may be retracted in a normal manner by means of the latch slide, as will be understood.

It will be noted that the latch bolt itself is not dogged in the illustrative lock shown and therefore is free to move to retracted position regardless of the position of the dogging lug 19. Therefore, if a person should inadvertently turn the thumb piece so as to move the dogging lug into operative position, as shown in Fig. 3, while the door is open, both knobs will be locked against rotation. In order to prevent a person from locking himself out we have provided means for throwing the dogging lug 19 to inoperative position when the latch bolt 10 is moved to retracted position, as when the door slams. In the form shown the dogging member has the retracting lug 20 positioned in the path of the upstanding lug 11 on the latch bolt, so that when the latch bolt 10 is moved to retracted position the lug 11 will engage the retracting lug 20 on the dogging member and move the dogging lug 19 to its inoperative position, for example, as shown in Fig. 2. In the event that the retracting movement of the latch bolt 10 is not sufficient to move the dogging member to its final inoperative position, operation of one of the knobs will effect movement of the dogging member to final inoperative position by the camming action of the lug 13 on the dogging lug 19.

In a bathroom lock or the like it is often desirable to provide means to throw the dogging means from the outside. In the present instance the lock case at the outside is provided with an aperture 29, and the outside rosette as well as the latch slide 14 is provided with registering recesses. The dogging member has its angular bore in registry with those recesses, so that an angular tool may be inserted from the outside so as to move the dogging member to inoperative position in case of emergency.

It will be seen that we have provided exceedingly simple means for dogging one or both knobs, and means which in no wise interfere with other parts of the lock. No changes need be made in the knobs or other parts, other than the making of a small hole in one or possibly both rosettes.

The dogging member is preferably secured in the cover, so that there is no possibility of its becoming lost or being omitted should the lock be taken apart. The dogging means in the preferred form dogs not only the outside knob but also the inside knob, so that when the inside knob is dogged it cannot be turned and the person at the inside is sure that the outside knob is also dogged.

By our improved arrangement the mere act of slamming the door, with consequent retraction of the latch, will throw the dogging means to inoperative position, so that even if the dogging means have previously been in dogging position there is no possibility of a person locking himself out.

While the invention has been described in considerable detail and the preferred form illustrated, it is to be understood that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

We claim:

1. In a lock of the tubular type, the combination with a lock case, a latch bolt spring-urged to advanced position and provided at its rear with a lug through which it is retracted, and bolt retracting means operable on said lug to retract the bolt, of a cover for said case, a dogging member in the form of a bell crank pivoted frictionally on said cover at the inside thereof, one arm of said bell crank serving as a dogging lug and the other as a retracting lug to be engaged and actuated by the lug on the bolt when the bolt is pressed back, a stop on said cover to determine the operative position of said dogging lug, movement of the dogging lug in the opposite direction being limited by said lug on the bolt, and means for operating said dogging member from the outside of said case including a spindle coaxial with said pivot.

2. In a lock of the tubular type, the combination with a lock case, a latch bolt spring-urged to advanced position and provided at its rear with a lug through which it is retracted, and bolt retracting means including a lever pivoted at one end and engaging at its other end the front of the lug on the bolt, the front edge of said lever being inclined forwardly from the pivot toward the other end, and a knob-operated retracting slide having a lug engaging the front of the lever, the rear face of the lug being inclined so that the forward edge of the lever normally lies therealong, of a cover for said case, a dogging member in the form of a bell crank pivoted frictionally in said cover at the inside thereof, one arm of said bell crank serving as a dogging lug and the other as a retracting lug to be engaged and actuated by the lug on the bolt, and means for operating said dogging member to and from operative position with the dogging lug against the upper end of the lug on the retracting slide in said operative position of the dogging member, the inclined rear face of the lever retracting lug serving to complete the movement of the dogging lug to inoperative position if only partly shifted from operative position.

RUSSELL S. GOLD.
JOHN STADLER.