Feb. 13, 1940. S. ROSSMAN 2,190,485

EMERGENCY LOCK KNOB FOR BATHROOM DOORS

Filed March 16, 1939 2 Sheets-Sheet 1

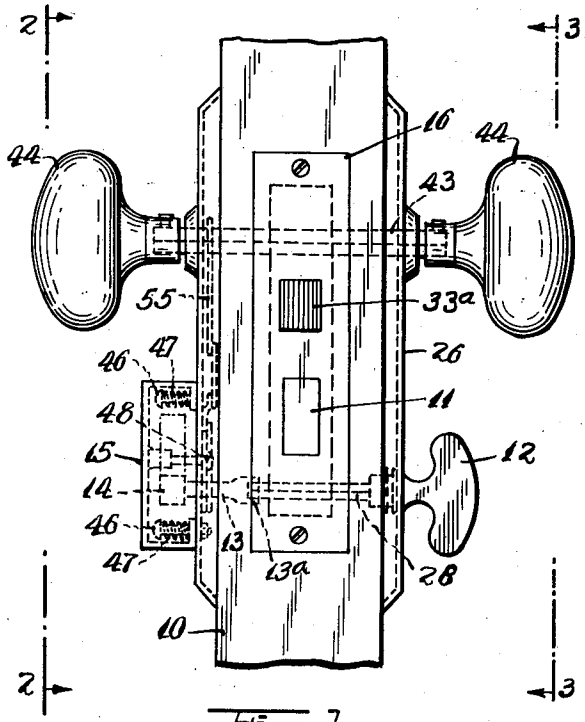

Fig. 1.

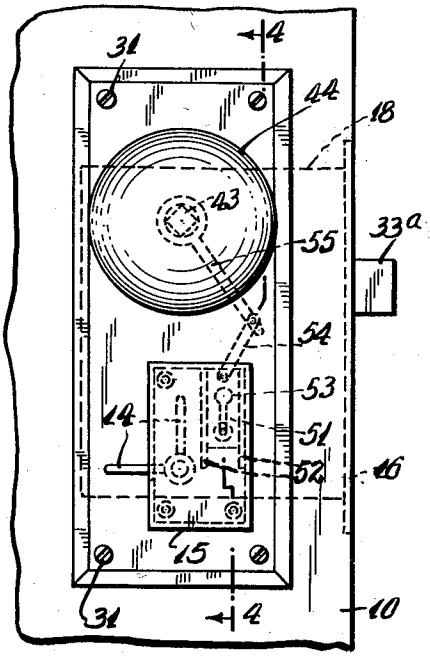

Fig. 2.

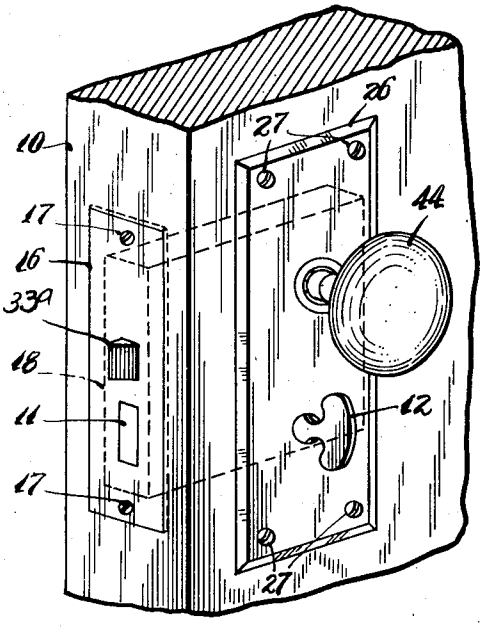

Fig. 3.

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EMERGENCY LOCK KNOB FOR BATHROOM DOORS

Filed March 16, 1939 2 Sheets-Sheet 2

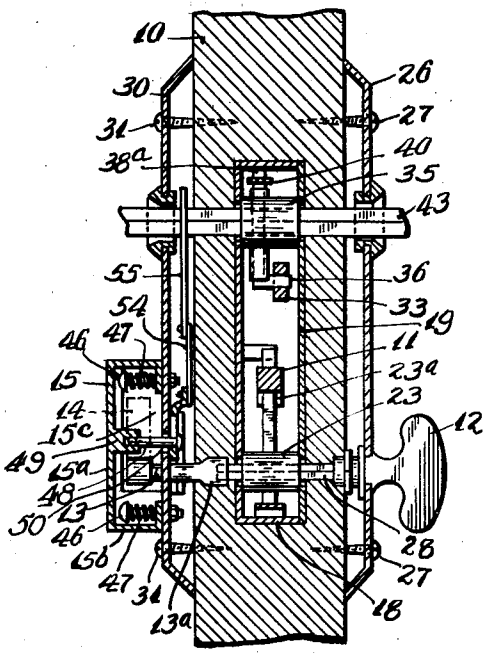

Fig. 4.

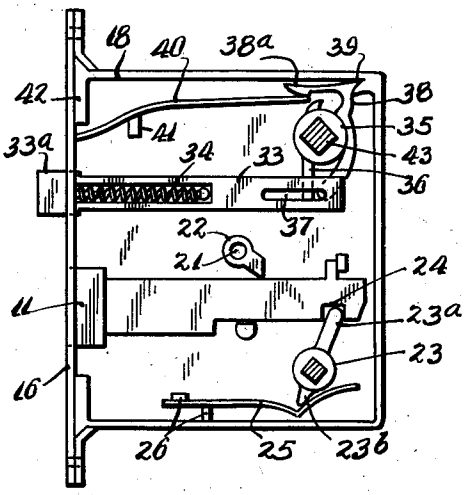

Fig. 5.

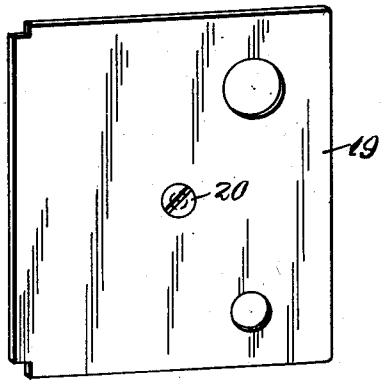

Fig. 6.

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UNITED STATES PATENT OFFICE

2,190,485

EMERGENCY LOCK KNOB FOR BATHROOM DOORS

Solly Rossman, Brooklyn, N. Y.

Application March 16, 1939, Serial No. 262,129

6 Claims. (Cl. 292—92)

This invention relates to new and useful improvements in an emergency lock knob for bathroom doors.

The invention has for an object the construction of a lock which is capable of being operated from the inside of the door, and in emergency, to be opened from the outside of the door.

More specifically, the invention contemplates the provision of a shield mounted on the outside of the door and engaging over a control handle by which the lock may be opened, and arranged in a manner to render the control handle slightly inacessible to prevent accidental unlocking of the door from the outside.

The invention is particularly intended to open doors which are locked by children who thereafter become panicky and do not know how to reopen them. The invention is also useful in cases where a person who locks himself in the bathroom or other place, thereafter becomes ill or has some other accident which prevents him from reopening the door.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure—

Fig. 1 is an edge elevational view of a door equipped with an emergency lock according to this invention.

Fig. 2 is an elevational view looking in the direction of the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary perspective view looking in the direction of the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary sectional view taken on the line 4—4 of Fig. 2.

Fig. 5 is a side elevational view of a portion of the lock illustrated with a front plate thereof removed.

Fig. 6 is a perspective view of the front plate which has been removed from the lock shown in Fig. 5.

The emergency lock for bathroom doors or other places is used in combination with a door 10. This door is equipped with a lock mounted thereon and having an operative bolt 11 operative from the inner side of the door by a control handle 12. A stem 13 is connected with the lock for opening the bolt 11 from the outer side of the door. This stem is provided with a handle 14 which is normally disposed, when the lock is locked within a shield 15 which is mounted on the outside of the door. This shield is arranged in a manner so as to make the handle slightly inaccessible to prevent accidental unlocking of the door from the outside.

The particular lock illustrated on the drawings is of the type which engages into the door from one edge thereof. This lock has a door jamb plate 16 through which the bolt 11 is extendible. This plate 16 is held upon the door by several screws 17. The plate 16 also connects with the body 18 of the lock. The bolt 11 is slidably mounted within the body 18. Normally, the body 18 is closed by a plate 19 which is held in position with a screw 20 adapted to threadedly engage an opening 21 formed in the boss 22 formed upon the body 18.

A member 23 is rotatively supported through the body 18 and is provided with a finger 23 engaging a cutout 24 formed in one side of the bolt 11 and by which the bolt may be moved inwards and outwards. This member 23 has a tail portion 23^b engaged by a leaf spring 25 suitably supported by lugs 26. This leaf spring is adapted to hold the member 23 in one position in which the bolt 11 is retracted, or in a second position in which the bolt is extended. This construction is conventional.

The handle 12 is rotatively supported on a door plate 26 which is secured upon the inner face of the door 10 by several screws 27. The handle 12 is provided with a stem 28 upon its inner end, which is of square shape in transverse cross section and which engages into a square socket opening formed in the member 23. The arrangement is such that the handle 12 may be rotated through substantially 90° for closing or opening the bolt 11.

The stem 28 extends completely through the body 18 of the lock and projects from the outer face thereof. The stem 13 is formed with a socket portion 13^a which engages the outer end of the stem 28. The handle 14 is mounted upon the extended end of the stem 13. The shield 15 has a face wall 15^a which extends over the stem 13 and the handle 14 when the bolt 11 is extended. The shield 15 also has side walls 15^b extending towards the outer face of the door. A plate 30 is secured upon the outer face of the door by several screws 31. The shield 15 is mounted upon this plate 30. One side wall of the shield 15 is formed with an opening 15^c through which the handle 14 is extended when the bolt 15 is retracted.

The door lock is provided with a latch bolt 33 slidably mounted within the body 14 and having

a bevelled extended end 33a. A spring 34 urges this latch bolt 33 into an extended position. A turnable member 35 is mounted through the body 18 and is provided with fingers 36 engaging within a slot 37 formed in the inner end of the bolt 33 by which the bolt 33 may be retracted. Another finger 38 is pivotally supported at the point 39 and has one end 38a engaged by a leaf spring 40 supported upon lugs 41 and 42 formed on the body 18. This spring 40 tends to normally urge the rotative member 35 into a position in which the bolt 33 is extended. This member 35 is formed with a square opening through which a bar 43 engages. This bar 43 extends completely through the door. Knobs 44 are mounted upon the ends of the bar. The arrangement is such that the knobs 44 may be turned to retract the latch bolt 33. This is conventional construction in locks.

The shield 15 is movably mounted upon the plate 30 to be moved to a position further spaced from the plate to give space to one attempting to move the handle 14 to open the lock. A means is provided for normally latching the shield 15 against motion.

More specifically, the shield 15 at three of its corners, is provided with lugs 45. Bolts 46 pass through these lugs and are fixedly mounted on the plate 30. Expansion springs 47 are coaxially mounted on the bolts 46 and act between the heads of the bolts and the lugs 45 for normally urging the shield 15 into intimate contact with the plate 30.

A bolt 48 is fixedly mounted upon a boss 49 formed upon the inside of the shield 15. This bolt 48 extends through an opening 50 formed in the plate 30 so that its head is disposed immediately adjacent the inner face of the plate 30. A catch plate 51 is slidably supported upon the inner face of the plate 30 by reason of engaging between tracks 52 mounted on the plate 30 and directed towards each other. The catch plate 51 is formed with a bayonet opening 53 arranged to engage over the head of the bolt 48. When the small end of the bayonet opening engages the head 48 the shield 15 is locked and cannot be moved. However, when the catch plate 51 is moved to a position in which the large end of the bayonet slot 53 engages over the head 48, the shield is free. A link 54 pivotally connects with the catch plate 51 and pivotally connects with a lever 55 fixed upon the rod 43. This lever 55 is disposed within a hollow of the plate 30.

The operation of the device is as follows:

When the door 10 is closed the bolt 11 may be extended and retracted from the inner side of the door by operating the handle 12. In the retracted position of the bolt 11 the handle 14 will be extended from the shield 15 as illustrated in Fig. 2. In the extended position of the bolt 11 the handle 14 will be in the position indicated by the dot and dash lines in Fig. 2. In this latter position it is disposed within the shield 15. The opening 15c in the side wall of the shield is so small that the handle 14 is not readily accessible. However, the handle may be fished out through the opening 15c by the use of a hair pin or other suitable implement.

The handle 14 may also be fished out with the little finger provided that the shield 15 is first moved away from the plate 30. To do this it is required that one of the knobs 44 be turned to a position in which the latch bolt 33 is retracted. In this position the rod 43 will be in a turned position in which the lever 55 is in a position substantially aligned with the link 54 so that the catch plate 51 is lowered. In the lowered position of the catch plate the large end of the bayonet opening 53 will be over the head of the bolt 48. While the person holds the knob 44 with one hand, he may with the other hand grip the shield 15 and pull it outwards. The springs 47 will compress while this is being done. Then the person may release the knob and use his little finger to reach the handle 14 and move the handle downwards to open the bolt 11.

When the shield 15 is released the springs 46 will urge it against the plate 30. The knob 44 must be turned to move the catch plate 51 downwards so that the head of the bolt 48 may pass through the large end of the bayonet slot 53. When the knob 44 is released the spring 40 will rotate it back to its original position in which the latch bolt 33 is extended and then the parts are back to the positions as originally shown.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said bolt and extending to the outer side of said door, a handle on said stem, and a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, said shield comprising a hollow shell having a face wall spaced from the door and side walls, one of said side walls having an opening through which said handle may be engaged.

2. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said bolt and extending to the outer side of said door, a handle on said stem, and a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, and said shield being movably mounted to be movable to a position to make said handle accessible, resilient means urging said shield back to its original position.

3. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said bolt and extending to the outer side of said door, a handle on said stem, and a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, and said shield being movably mounted to be movable to a position to make said handle accessible, resilient means urging said shield back to its original position, and means for latching said shield in its original position.

4. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said

bolt and extending to the outer side of said door, a handle on said stem, and a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, and said shield being movably mounted to be movable to a position to make said handle accessible, resilient means urging said shield back to its original position, and means for latching said shield in its original position, said means being operable from a rotative handle to release the shield.

5. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said bolt and extending to the outer side of said door, a handle on said stem, a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, and said shield being movably mounted to make said handle accessible, and means for locking said shield in its initial position comprising a turnable knob, a lever movable by said knob, a link pivotally connected with said lever, a large catch plate pivotally connected with the link and movable thereby and having a key-hole shaped opening, and a bolt mounted on said shield and having a head cooperative with said opening for latching or releasing the shield.

6. In a lock, a lock body for engagement on a door, a bolt slidably mounted in said body and operative from the inner side of said door, a stem connected with said bolt for operating said bolt and extending to the outer side of said door, a handle on said stem, a shield mounted on the outer side of said door and engaging over said stem and handle making same inaccessible when said door is locked to prevent accidental unlocking of the door from the outside, and said shield being movably mounted to make said handle accessible, and means for locking said shield in its initial position comprising a turnable knob, a lever movable by said knob, a link pivotally connected with said lever, a large catch plate pivotally connected with the link and movable thereby and having a key-hole shaped opening, and a bolt mounted on said shield and having a head cooperative with said opening for latching or releasing the shield, said catch plate being slidably supported.

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