

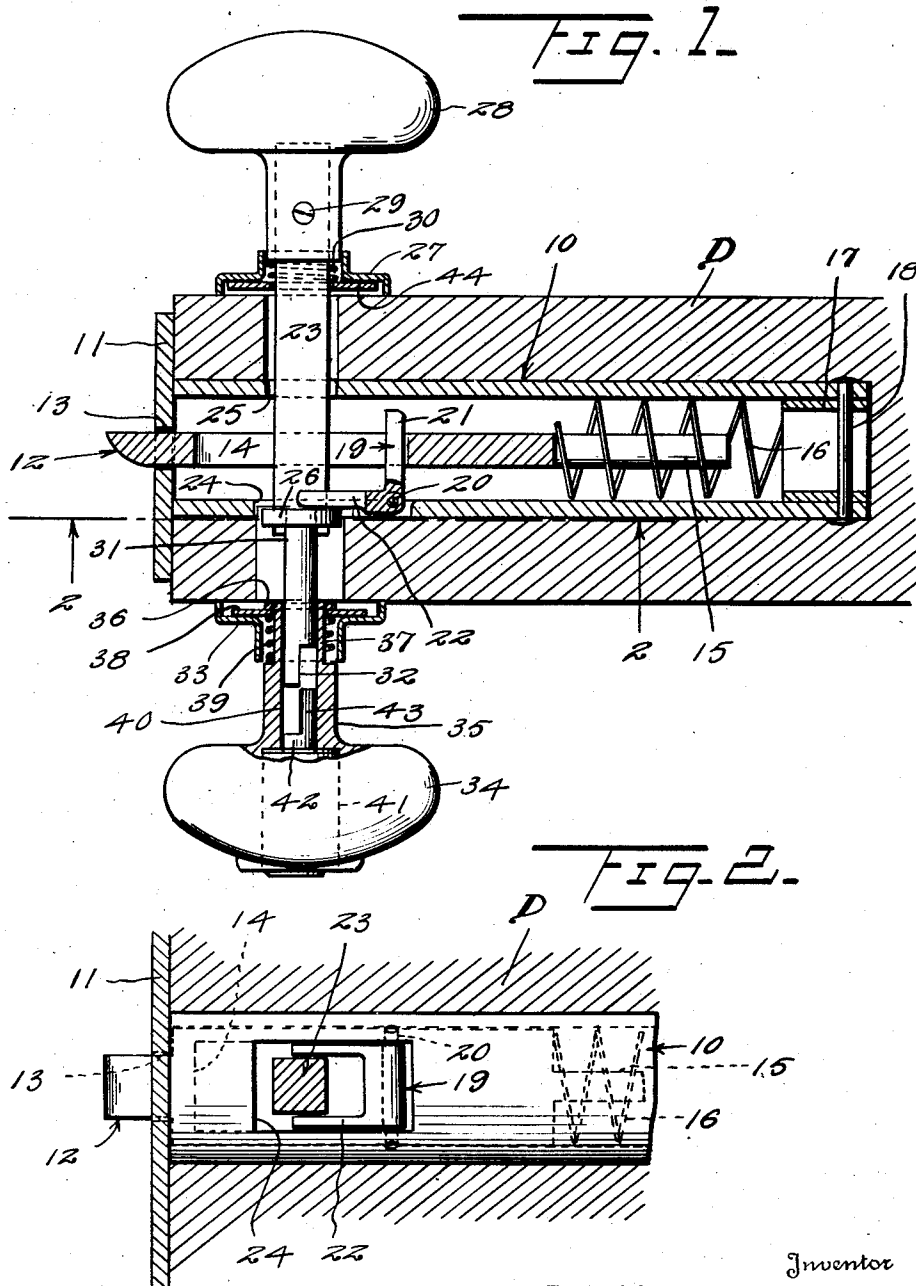
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COMBINED DOOR BOLT AND LATCH

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COMBINED DOOR BOLT AND LATCH

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4 Claims. (Cl. 70—91)

This invention relates to door bolts and latches and more particularly to a bolt and latch of the sliding type.

An object of this invention is to provide an improved door bolt and latch wherein the bolt operating member is slidable transversely of the door or closure to which it is attached and wherein the operating member on one side of the door closure may be readily locked against sliding movement.

Another object of this invention is to provide in a door bolt and latch of this type an exceedingly simple bolt operating means so that the device can be readily mounted in doors of varying thicknesses.

The above and various other objects and advantages of this invention will in part be described and in part be understood from the following detailed description of the present preferred embodiment, the same being illustrated in the accompanying drawing wherein:—

Figure 1 is a horizontal section partly in detail taken through a device constructed according to the preferred embodiment of this invention, showing the device mounted in a door which is shown in fragmentary sectional form.

Figure 2 is a sectional view partly in detail taken on the line 2—2 of Figure 1.

Referring to the drawing wherein like characters of reference designate corresponding parts throughout the views, the letter D designates generally a door or closure of conventional construction and the numeral 10 designates generally a housing which is mounted in the door D and provided on the free edge of the door with a facing plate 11 having an opening 13 therethrough. A bolt generally designated as 12 is slidably disposed in the housing 10 and extends through the opening 13 and provided on its outer end with the usual inclined face portion. The bolt 12 on the inside of the housing 10 is provided with an elongated opening or slot 14 and at its inner end has a reduced portion or stem 15 about which a spring 16 engages. The spring 16 engages at its inner end against a plug or abutment 17 secured as by a rivet 18 to the housing 10.

In the present instance, the housing 10 is constructed in cylindrical form although I, of course, do not wish to be limited to the particular transverse configuration of the housing. The housing 10 at a point intermediate the ends thereof has an L-shaped rock lever 19 which is mounted on a shaft or pin 20. One leg 21 of the rock lever 19 is disposed in the elongated opening 14 and

the other leg 22 extends longitudinally of the housing 10 and in its normal position will be substantially flush with the outer surface of the housing 10. This other leg 22 of the lever 19 is bifurcated and disposed between the bifurcations is a bolt operating member generally designated as 23. The housing 10 has a pair of aligned openings 24 and 25 through which the bolt operating member or lever rocking member loosely extends.

The member 23 has secured thereto an outstanding rib 26 which is adapted to engage against the arms of the bifurcated leg 22 so that the lever 19 will be rocked inwardly of the housing 10 upon movement of the member 23 in one direction. An escutcheon plate 27 is secured to one side of the door or closure D and the member 23 is slidable therethrough. A door knob 28 is secured as by a screw 29 to the end of the member 23 extending through the plate 27, and a spring 30 is interposed between the inner end of the door knob 28 and the plate 44. The opposite end of the bolt operating member 23 is reduced, as at 31, and extends outwardly through the opposite side of the door or closure D. This reduced end 31 has a cut out portion 32 at its outer end, the purpose for which will be hereinafter described.

A second escutcheon plate 33 is secured to the opposite side of the door D and a door knob 34 having a stem 35 provided with a collar 36 is rotatably carried by the plate 33. The door knob 34 with the stem 35 has a reduced shank 37 engaging a plate 38 carried by the escutcheon plate 33 and preferably, this shank 37 is square or of such construction that it will not turn relative to the plate 38 although the stem 37 can move transversely of the plate 38.

A spring 39 engages at one end against the inner end of the stem 35 and at the other end against the outer surface of the plate 38 and constantly urges the knob 34 and the stem 35 outwardly. The stem 35 has a bore 40 therethrough and the knob 34 has a locking means 41 in the form of a cylinder lock of conventional construction which has the usual tumblers and mechanism conventional to the cylinder lock structure mounted therein.

The locking member 41 is shown here only diagrammatically and as it is of conventional construction, further description thereof is believed unnecessary.

A shaft 42 is secured to the locking means 41 and has a reduced inner end portion 43 which is complementary to the reduced portion 32 and confronts the reduced portion 32 when the locking member 41 is in locked position. In the draw-

ing, the reduced portion 43 is shown in released position so that when the knob 34 and the stem 35 are pushed inwardly of the door D, the bolt operating member 23 will not be actuated. Preferably, the bolt operating member 23 is held against turning movement by means of a plate 44, which is carried by the escutcheon 27 and is provided with an angular or square opening to slidably receive the member 23 and hold this member 23 against turning movement.

In the use and operation of the door bolt and latch herein disclosed, the door knob 28 will preferably be disposed on the inside of the door and this door knob 28 is adapted to be pulled away from the adjacent face of the door D. Movement of the knob 28 will pull the operating member 23 so that the rib or shoulder 26 will rock the lever 19 and rocking of this lever 19 will swing the leg 21 in a manner to shift the bolt 12 inwardly of the housing 10 against the tension of the spring 16.

When a person is on the opposite side of the door D and desires to enter and the reduced portion 43 is in released or inoperative position, the usual key is inserted in the locking mechanism 41 and the shaft 42 turns so that the end of the reduced portion 43 will confront the adjacent end of the reduced portion 32 of the operating member 23. In this position, the inward movement of the knob 34 and the stem 35 will cause movement of the operating member 23 as hereinbefore stated. When the locking mechanism 41 is in locked position, the reduced portion 43 of the shaft 42 will be in offset position to the reduced portion 32 so that it will slide past this reduced portion 32 and will not actuate the operating member 23.

It is, of course, understood that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims.

What is claimed is:—

1. A device as set forth comprising a housing, a bolt slidable in the housing, a bolt operating member slidable transversely of the housing, said bolt having an elongated opening therethrough, a rock lever carried by the housing having a portion disposed in said bolt opening and engaging against the inner end of said bolt opening, means carried by the operating member for engagement with the lever to rock said lever upon movement of the operating member in one direction, a knob fixedly carried by the inner end of said operating member, a second knob on the outer end of the operating member, a locking means in said second knob, and complementary means carried by said locking means and the outer end of said operating

member to permit the slidable movement of said operating member from the outer side of the closure.

2. A device as set forth, comprising a housing, a bolt slidable in the housing, a bolt operating member slidable transversely of the housing, a rock lever carried by the housing and engaging the bolt to move the bolt inwardly of the housing upon rocking of the lever, means carried by the operating member and engaging the lever to rock said lever upon movement of the operating member through the housing in one direction, a knob fixed to the inner end of the operating member, an outer knob, means for mounting said outer knob for slidable movement longitudinally of the outer end of the bolt operating member while holding said outer knob against rotation, and coacting means carried by the outer end of the operating member and the knob to move the operating member inwardly on inward movement of the outer knob.

3. A device as set forth, comprising a housing, a bolt slidable in the housing, a bolt operating member slidable transversely of the housing, a rock lever carried by the housing and engaging the bolt to move the bolt inwardly of the housing upon rocking of the lever, means carried by the operating member engaging the lever to rock said lever upon slidable movement of the operating member in one direction, a knob fixed to the inner end of the operating member, an outer knob, means for slidably mounting said outer knob on the outer end of the operating member while holding the outer knob against rotation, a locking means carried by the outer knob, a reduced extension carried by the outer end of the operating member, and a complementary reduced extension carried by the locking means within the outer knob, said extension of said locking means when in locked position being disposed laterally of the extension of the operating member and disposed in substantial alignment with the extension of the operating member when in released position.

4. A device as set forth, comprising a housing, a bolt slidable in the housing, a bolt operating member slidable transversely of the housing, means engaging the operating member and the bolt to move the bolt inwardly of the housing upon movement of the operating member in one direction, a reduced extension carried by an end of the operating member, a sleeve slidable on the operating member and surrounding said reduced extension, and a complementary reduced extension carried by the locking means, said extension of said locking means when in locked position being disposed laterally of the extension of the operating member and disposed in substantial alignment with the extension of the operating member when in released position.

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