United States Patent

[11] **3,580,622**

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[54] **DOOR LATCH**
8 Claims, 10 Drawing Figs.

[52] **U.S. Cl.** **292/169,** 292/336.3, 292/353, 292/357, 292/359
[51] **Int. Cl.** **E05b 3/06,** E05b 9/08, E05b 15/16
[50] **Field of Search** ..... 292/169, 337, 340, 353, 359, (PLP), 356, 357, 336.3, 358; 70/451, 147, 152

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ABSTRACT: A door latch or lock to be mounted on a door having an opening therethrough adjacent one edge and having a hole in such edge into the opening, comprising two escutcheon members respectively insertable into and adapted to overlie the ends of the opening through the door, two knobs respectively mounted on the escutcheon members, a latchbolt housing insertable into the hole in the door edge and containing a latchbolt, and means connected to the knobs for retracting the latchbolt. The latchbolt housing and the escutcheon members interlock, and a single screw coaxial with the knob axis interconnects the escutcheon members to secure the escutcheon members and the latchbolt housing in assembled relation. The knobs are merely snapped into place in rotatably mounting them on the excutcheon members. The device may be used either as a simple door latch capable of being opened by rotating either knob, or it may be used as a door lock which can be locked from one side and which can be unlocked from the other side in an emergency. With two or three exceptions, all of the parts of the device are made of plastic materials, the external surfaces of the exposed parts being suitably finished.

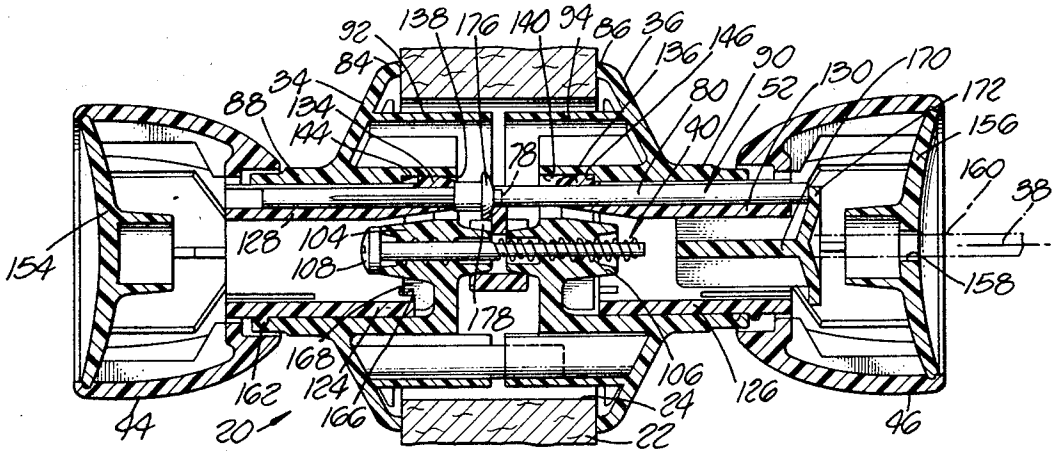
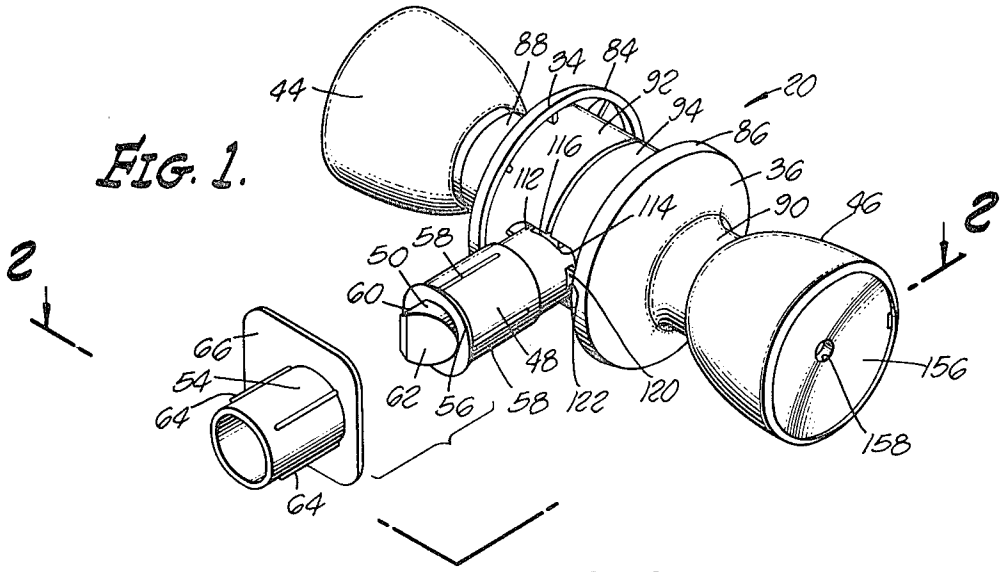


FIG. 1.



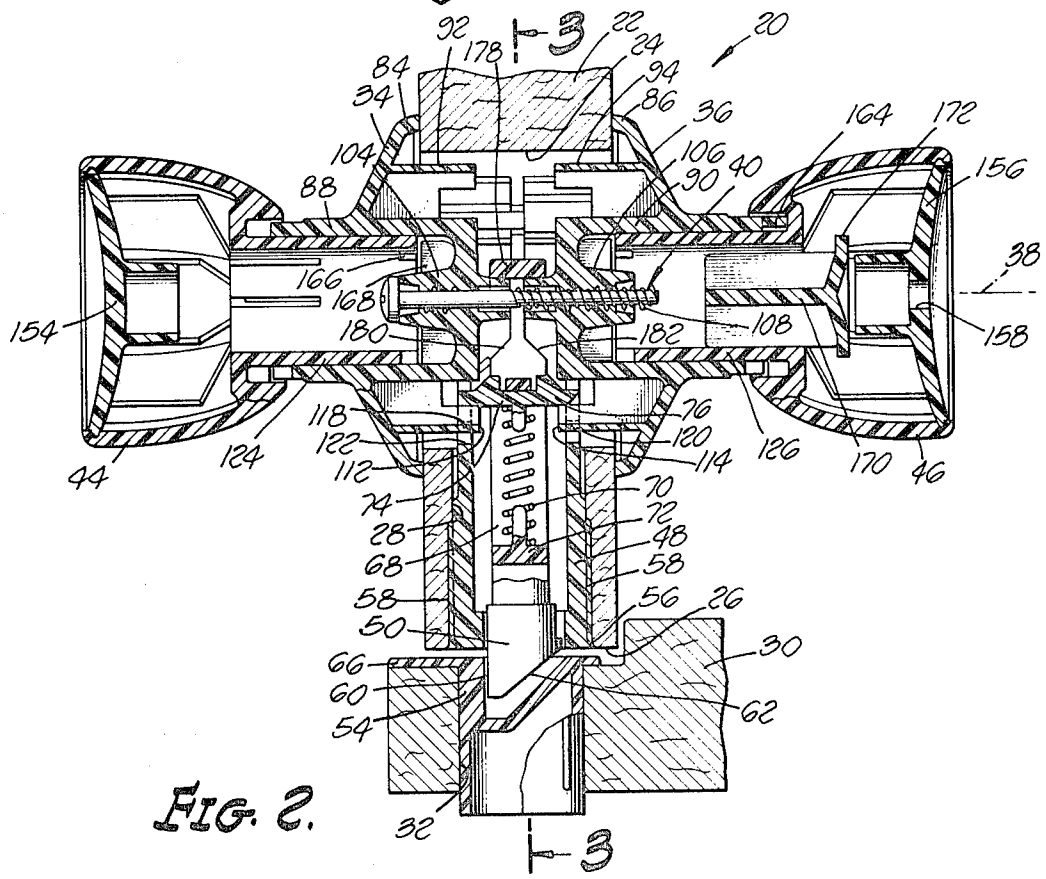
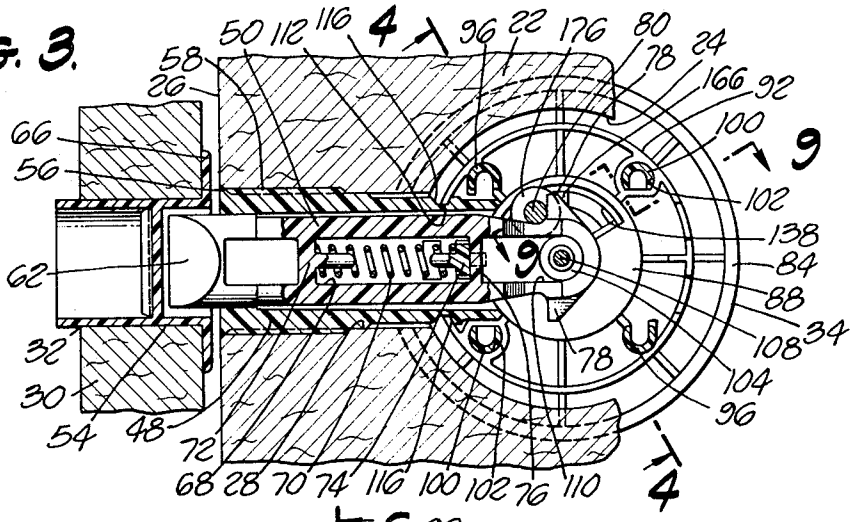


FIG. 2.

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FIG. 3.



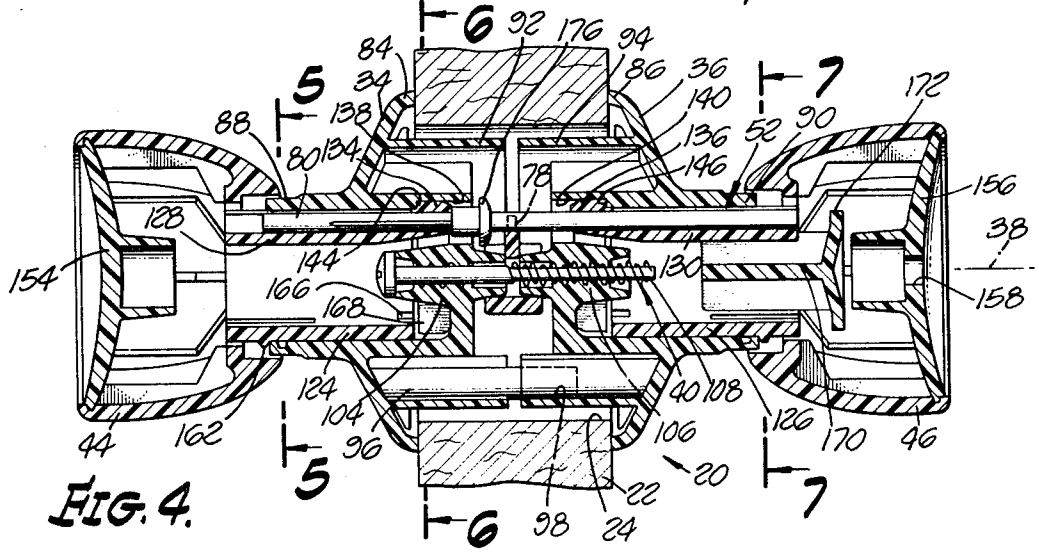


FIG. 4.

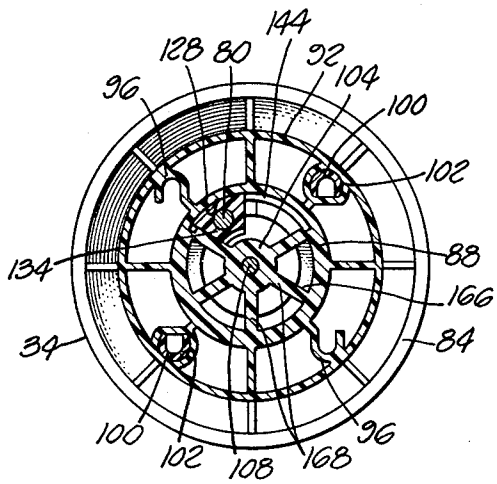


FIG. 6.

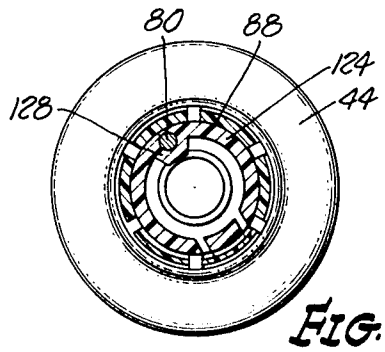
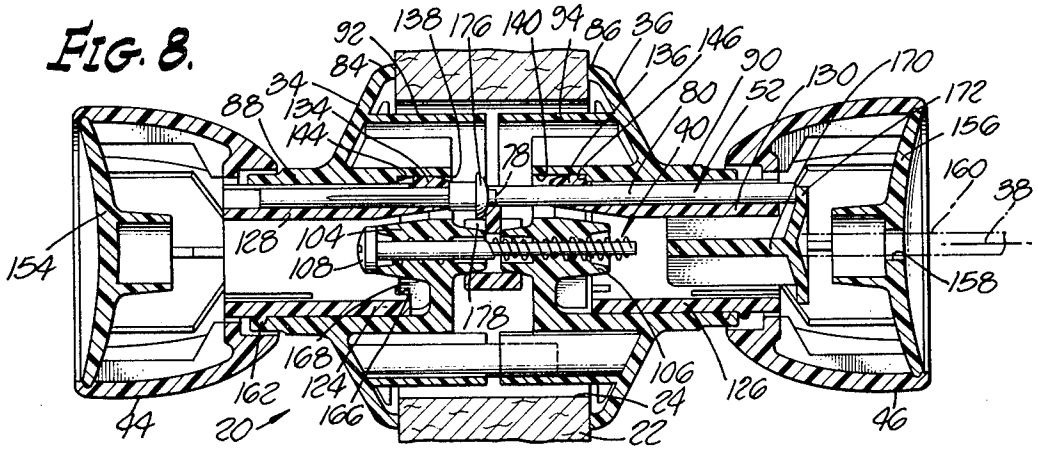


FIG. 5.

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FIG. 8.



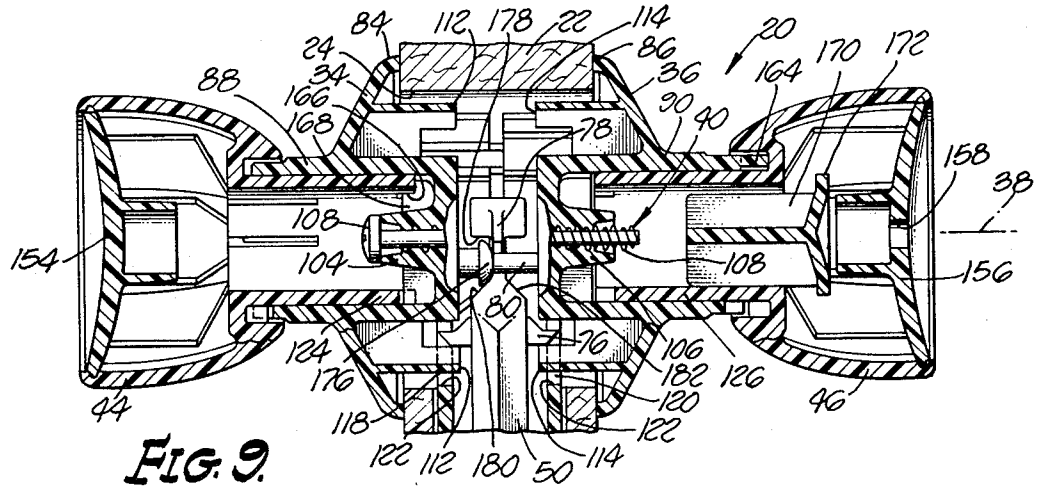


FIG. 9.

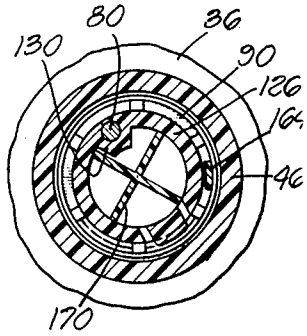


FIG. 7.

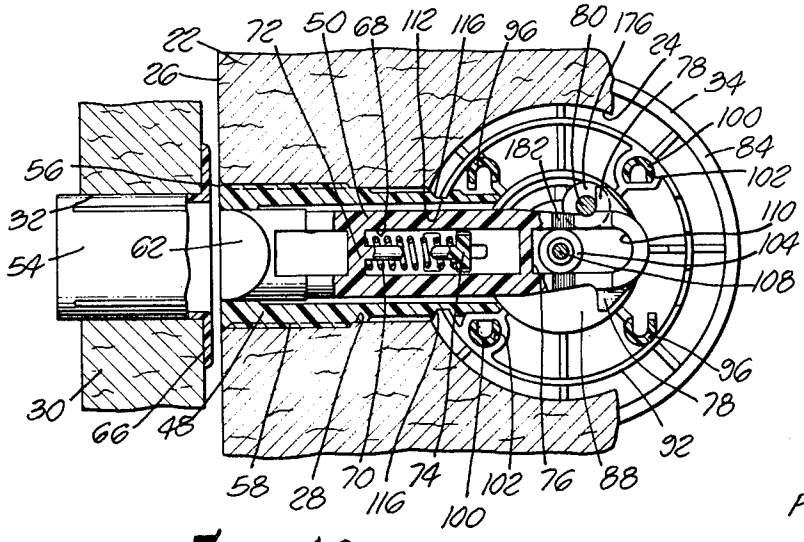


FIG. 10.

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DOOR LATCH

BACKGROUND OF THE INVENTION

The present invention relates in general to door latches or locks and, more particularly, to a device to be mounted on a door having an opening therethrough adjacent one edge and having a hole in such edge into the opening, comprising: two escutcheon members respectively insertable into and adapted to overlie the ends of the openings through the door and providing a knob axis; a latchbolt housing containing a latchbolt and insertable into the hole in the door edge; two knobs respectively mounted on the escutcheon members for rotation about the knob axis; and means connected to the knobs for retracting the latchbolt in opposition to the action of a spring biasing same into an extended position for engagement with a latch or strike plate mounted on a doorjamb.

SUMMARY AND OBJECTS OF THE INVENTION

A primary object of the invention is to provide a latch of the foregoing nature having a single connecting means on the knob axis for interconnecting the escutcheon members.

More particularly, a primary object of the invention is to provide a device wherein the escutcheon-member-interconnecting means comprises a single screw coaxial with the knob axis, such screw being carried by and having a head engaging one of the escutcheon members and being threadable into the other escutcheon member.

An important object of the invention is to provide a door latch or lock which includes interengageable means on the escutcheon members and the latchbolt housing for interlocking these components in assembled relation.

With the foregoing construction, since the escutcheon members and the latchbolt housing are interlocked, the single screw for interconnecting the two escutcheon members acts to secure the escutcheon members and the latchbolt housing together in assembled relation. This is an important feature of the invention since it avoids the necessity for plural screws, or the like, to secure the escutcheon members together, or to secure them to the door, and to secure the latchbolt housing to the door. With the present invention, a single screw performs all of these functions.

Another important object of the invention is to provide snap-acting latching means integral with the escutcheon members and the knobs for rotatably connecting the knobs to the escutcheon members. With this construction, the knobs are merely snapped into place in the escutcheon members to facilitate assembly, which is an important feature.

Another object is to provide a door latch or lock wherein the snap-acting latching means for the knobs include integral, shouldered, flexible latching tongues on the knobs paralleling the knob axis and engageable with complementary, integral shoulders on the escutcheon members, and wherein the latchbolt retracting means includes a pin paralleling the knob axis and extending through the knob latching tongues to reinforce and stiffen same.

Still another object of the invention is to provide a device which may be used as a door lock to achieve privacy. In this connection, an object is to provide a device wherein one of the knobs is axially movable relative to its escutcheon member, and wherein a locking means on such knob and its escutcheon member responds to axially inward movement of this knob to lock both knobs against rotation so as to prevent retraction of the latchbolt. A further object in this setting is to provide means carried by the other knob, and accessible from the exterior thereof in an emergency, for moving the first knob axially outwardly to release its locking means so that both knobs can be rotated to permit retraction of the latchbolt.

Yet another object of the invention is to provide a device wherein the latchbolt housing may be installed in its hole in the door edge with the latchbolt facing in either direction, depending on which way the door swings, and wherein the latchbolt is provided with oppositely extending lugs either of which is engageable by the latchbolt-retracting pin interconnecting the two knobs, the pin engaging one lug in one angular position of the latchbolt housing and engaging the other lug in the other angular position thereof.

The foregoing objects, advantages, features and results of the present invention, together with various other objects, advantages, features and results which will be evident to those skilled in the door latch or lock art in the light of this disclosure, may be achieved with the exemplary embodiment of the invention described in detail hereinafter and illustrated in the accompanying drawings.

DESCRIPTION OF DRAWINGS

In the drawings:

FIG. **1** is an exploded perspective view on a reduced scale showing a door lock or lock set which embodies the invention;

FIG. **2** is a sectional view taken as indicated by the arrowed line **2–2** of FIG. **1**, except that the lock is shown installed with all of its components shown in their actual relative positions;

FIG. **3** is a sectional view taken as indicated by the arrowed line **3–3** of FIG. **2**;

FIG. **4** is a sectional view taken as indicated by the arrowed line **4–4** of FIG. **3**;

FIGS. **5**, **6** and **7** are sectional views respectively taken along the arrowed lines **5–5**, **6–6** and **7–7** of FIG. **4**;

FIG. **8** is a view similar to FIG. **4**, but showing the door lock of the invention locked from the inside and showing how it can be unlocked from the outside in an emergency;

FIG. **9** is a sectional view taken approximately as indicated by the arrowed line **9–9** of FIG. **3**; and

FIG. **10** is a view similar to FIG. **3**, but showing a latchbolt of the device in its retracted position.

DESCRIPTION OF EXEMPLARY EMBODIMENT OF INVENTION

Illustrated in the drawings is a door lock or lock set **20** of the invention which, as will be explained, can be locked from one side for privacy. As will also be explained, the lock **20**, with a very few minor modifications, can be used as a simple door latch.

More particularly, the door lock **20** is adapted to be mounted on a door **22** having an opening **24** therethrough adjacent the vertical edge **26** opposite the hinged edge, not shown, of the door. The door edge **26** has a hole **28** perpendicular to and communicating with the opening **24**. When the door **22** is closed, its edge **26** registers with a jamb **30** having a cavity **32** therein. Various parts of the lock **20** are installed in the opening **24**, the hole **28** and the cavity **32**. These are all simple bores of circular cross section and represent the only preparations of the door **22** and the jamb **30** required for installation of the lock **20**. In other words, only simple boring operations are required, no mortising operations, or the like, being necessary.

The door lock **20** includes as its primary components the following: inside and outside escutcheon members **34** and **36** respectively inserted into and overlying the ends of the opening **24** on the inside and the outside, respectively, of the door **22**, the escutcheon members providing a knob axis **38**; a single connecting means **40** coaxial with the knob axis and interconnecting the escutcheon members; inside and outside knobs **44** and **46** respectively rotatably mounted on the inside and outside escutcheon members for rotation about the knob axis; a housing **48** for a spring-extended latch bolt **50** inserted into the hole **28** in the door edge **26** and interlocked with the escutcheon members; means **52** interconnecting the knobs and engaging the latchbolt for retracting same; and a latch plate **54** inserted into the cavity **32** in the jamb **30** and receiving latchbolt in its extended position.

When installing the door lock **20**, the subassembly comprising the latchbolt **50** and its housing **48** must be installed first. Consequently, this subassembly will be considered first for convenience.

The latchbolt housing 48 is substantially cylindrical and is provided at its outer end with an external annular flange 56. This flange is relatively small and tapers outwardly to a sharp edge. Inwardly of the flange 56 are circumferentially spaced, longitudinal ribs 58 which also taper outwardly to sharp edges. In installing the latchbolt housing 48 and the parts contained therein, it is merely necessary to tap on the outer end of this subassembly with an ordinary hammer to drive the latchbolt housing into its hole 28, continuing this driving operation until the flange 56 seats itself, as shown, for example, in FIGS. 2, 3 and 10. During this driving process, the ribs 58 cut their own grooves in the wall of the hole 28. Thus, no mortising operation is necessary.

The latchbolt 50 has a flat longitudinal side 60 which must be so positioned that it faces the inside of the door 22. Thus, a beveled face 62 of the latchbolt 50 faces the outside of the door.

The latch plate 54 is complementary to the latchbolt 50, as perhaps best shown in FIG. 2, and must be complementarily oriented angularly in a cavity 32 in the jamb 30. The latch plate 54 also has circumferentially spaced, longitudinally extending, sharp-edged, external ribs 64 which form their own grooves in the wall of the cavity when the latch plate is driven in a manner similar to the latchbolt housing 48. Thus, no mortising operations are required. Also, no screws for securing the latch plate are necessary. The latch plate 54 is provided with a striker portion 66 which is engageable by the latch bolt 50 and which overlies the surface of the jamb 30 adjacent the cavity 32.

The latchbolt 50 is provided therein with a central longitudinal slot 68, FIGS. 2, 3 and 10, containing a coiled compression spring 70 seated at one end against a spring seat 72 on the latchbolt and at its other end against a spring seat 74 on the latchbolt housing. As will be apparent, the spring 70 biases the latchbolt 50 toward its extended position, movement in this direction being limited by engagement of a transverse stop web 76 on the latchbolt with the spring seat 74 on the latchbolt housing, as best shown in FIG. 2.

Referring particularly to FIGS. 3 and 10, the latchbolt 50 is provided at its inner or rearward end with two hooklike lugs 78 on opposite sides thereof, i.e., angularly spaced apart by 180°. Either of these lugs 78 may be engaged by a latchbolt-retracting pin 80 constituting the latchbolt-retracting means 52, depending upon the angular orientation of the latchbolt housing 48 when it is driven into the hole 28 in the door edge 26. Thus, as will be apparent, the latchbolt subassembly may be installed in either of two positions angularly spaced 180° apart, depending on which way the door 22 swings, it being understood that the beveled face 62 of the latchbolt 50 must face in the direction of closing movement of the door. In one angular orientation of the latchbolt subassembly, the retracting pin 80 engages one of the lugs 78. In the other angular orientation of the latchbolt subassembly, the retracting pin 80 engages the other lug. Thus, the latchbolt subassembly is reversible so that the lock 20 will accommodate either left-hand or right-hand doors.

Turning now to the escutcheon members 34 and 36, they respectively include external annular rosette flanges 84 and 86 seated against the inner and outer sides of the door 22 around the inner and outer ends of the opening 24 therethrough. The escutcheon members 34 and 36 also respectively include central hubs 88 and 90 the inner ends of which are encircled by skirts 92 and 94. Radial webs interconnect the corresponding skirts and hubs.

The escutcheon member 34 includes two longitudinally extending, diametrically opposed posts 96 insertable into complementary sockets 98 in the escutcheon member 36. Conversely, the escutcheon member 36 includes two diametrically opposed, longitudinally extending posts 100 capable of being plugged into complementary sockets 102 in the escutcheon member 34, the posts and sockets 100 and 102 being angularly displaced from the posts and sockets 96 and 98 by 90°. These posts and sockets are formed integrally with certain of the aforementioned radial webs interconnecting the hub and skirt 88 and 92 of the escutcheon member 34 and the hub and skirt 90 and 94 of the escutcheon member 96.

Integral with the inner ends of the hubs 88 and 90 are central bosses 104 and 106 coaxial with the knob axis 38. The connecting means 40 comprises a single screw 108 coaxial with the knob axis 38 and interconnecting the two bosses 104 and 106. More particularly, the screw 108 has a head seated against the boss 104 on the hub 88 of the escutcheon member 34, and is threaded into the boss 106 on the hub 90 of the escutcheon member 36. Preferably, the screw 108 is a self-tapping screw capable of forming its own threads in the bosses 104 and 106.

As will be apparent, the single screw 108 forms the sole interconnecting means between the escutcheon members 34 and 36 so that these members can be interconnected very quickly and easily, which is an important feature. The screw 108 may be driven after the knob 44 is mounted on the escutcheon member 34, but before an end cap 154 forming part of the knob 44 and described hereinafter is installed.

It will be noted that the inner end of the latchbolt 50 is provided with a longitudinal slot 110 into which the inner ends of the central bosses 104 and 106 on the escutcheon members 34 and 36 project. This relationship assists in properly positioning relative to each other the escutcheon members 4 and 36 and the assembly comprising the latchbolt housing 48 and the latchbolt 50.

The escutcheon-member skirts 92 and 94 are provided with diametrically opposed notches 112 and 114. The inner end of the latchbolt housing 48 is receivable in one of the notches 112 and the corresponding notch 114, depending on whether the door 22 is a left-hand or a right-hand door. The latchbolt housing 48 and the edges of the pair of notches 112 and 114 in which it is disposed constitute a means for interlocking the latchbolt housing and the escutcheon members 34 and 36 so that the single screw 108 holds the escutcheon members and the latchbolt housing in assembled relation, which is an important feature of the invention.

Considering this interlocking means in more detail, it includes edges of the notches 112 and 114 insertable in diametrically opposed grooves 116 formed in the latchbolt housing 48 and paralleling the knob axis 38. This interlocking means also includes, as shown in FIG. 2, prongs 118 and 120 respectively forming parts of the escutcheon-member skirts 92 and 94 and respectively insertable into diametrically opposed, complementary holes 122 in the latchbolt housing 48. With this interlocking means, the escutcheon members 34 and 36 and the latchbolt housing 48 are precisely positioned relative to each other and are secured in the correct relative positions by the single screw 108 coaxial with the knob axis 38.

The knobs 44 and 46 are hollow and include integral tubular shafts 124 and 126 respectively journalled in the hubs 88 and 90 of the escutcheon members 34 and 36. The shafts 124 and 126 are provided on one side thereof with aligned ribs 128 and 130 having therein bores paralleling the knob axis 38 and receiving therein the ends of the latchbolt-retracting pin 80. The ribs 128 and 130 terminate at their inner ends in integral, shouldered, flexible latching tongues 134 and 136 respectively inserted into arcuate openings 138 and 140 in the escutcheon members 34 and 36, which openings limit the angular throws of the knobs 44 and 46. The shoulders on the latching tongues 134 and 136 are respectively engageable with shoulders 144 and 146 on the escutcheon members 34 and 36 to prevent axial disengagement of the knobs 44 and 46 from the escutcheon members 34 and 36. The latching tongues 134 and 136 respectively cooperate with the shoulders 144 and 146 to provide snap-acting latching means for automatically latching the knobs 44 and 46 in place when they are displaced axially inwardly relative to the respective escutcheon members 34 and 36.

As will be apparent, the knobs 44 and 46 can be assembled with the respective escutcheon members 34 and 36 very simply by merely displacing the knobs axially inwardly relative

to the respective escutcheon members until the flexible latching tongues **134** and **136** respectively snap behind the corresponding shoulders **144** and **146** on the escutcheon members **34** and **36**.

One end of the latchbolt-retracting pin **80** is driven into the bore in the rib **128** of the knob **44** with a press fit. In assembling the two knob-escutcheon combinations, the other end of the latchbolt-retracting pin **80** is inserted into the bore in the rib **130** of the knob **46**, in which it has a sliding fit, as the two knob-escutcheon combinations are inserted into opposite ends of the opening **24** through the door **22**. At the same time, the two escutcheon members **34** and **36** are interlocked with the latchbolt housing **48** in the manner hereinbefore discussed. The subsequent driving of the single screw **108** then interlocks all of these components, viz., the two escutcheon members **34** and **36** and the latchbolt housing **48**.

It will be noted that, since the latchbolt-retracting pin **80** extends longitudinally through the ribs **128** and **130**, and the latching tongues **134** and **136** forming inward extensions of these ribs, the pin rigidifies the flexible latching tongues, after assembly, so that the knobs **44** and **46** cannot be detached from the corresponding escutcheon members **34** and **36** by pulling outwardly thereon. In other words, once the components of the door lock **20** have been assembled, as shown in the drawings, the latchbolt-retracting pin **80** keeps the latching tongues **134** and **136** from flexing inwardly so that they cannot become disengaged from the corresponding shoulders **144** and **146** on the escutcheon members **34** and **36**. It will be noted that the latchbolt-retracting pin **80** is fixedly connected to the knob **44**, but is axially movable relative to the other knob **46**. This relationship enters into the mode of operation of a locking means to be described hereinafter.

After the two knob-escutcheon combinations and the latchbolt housing **48** have been assembled and secured together by driving the screw **108**, the outer end of the knob **44** may be closed by snapping thereinto the end cap **154**, the knob **44** being provided therein with an internal annular groove for the purpose. Similarly, the outer end of the other knob **46** may be closed by snapping thereinto an end cap **156**. The end cap **154** is imperforate, but the end cap **156** has a central opening **158** for the admission of a suitable tool **160** for emergency unlocking of a locking means which will now be described.

To achieve privacy, the door lock **20** is adapted to be locked from the inside by axially displacing the knob **44** inwardly, i.e., toward the door **22**, until a detent **162** on the tubular shaft **124** of the knob **44** snaps into a complementary recess in the outer end of the hub **88** of the corresponding escutcheon member **34**, as shown in FIG. **8**. (Similar axially inward movement of the outside knob **46** is prevented by a tab **164**, FIGS. **2** and **9**, on the escutcheon member **36**. Originally, the two escutcheon members were identical, and a similar tab was broken off the escutcheon member **34** to permit axially inward, locking movement of the inside knob **44**.)

A locking means on the inside knob **44** and its escutcheon member **34** responds to axially inward movement of this knob into its locking position to lock both knobs **44** and **46**, through the latchbolt-retracting pin **80**, against rotation so as to prevent retraction of the latchbolt **50**. This locking means comprises notches **166** which are formed in the inner end of the tubular shaft **124** of the knob **44** and which are adapted to receive therein complementary radial webs **168** formed at the inner end of the hub **88** of the escutcheon member **34**. When this occurs as the result of axially inward displacement of the knob **44** toward the door **22**, both knobs **44** and **46** are locked against rotation to prevent retraction of the latchbolt **50**. The interlocking of the notches **166** and the webs **168** is visible in FIGS. **8** and **9** of the drawings.

As will be evident from a comparison of FIGS. **4** and **8**, axially inward, locking displacement of the inside knob **44** toward the door **22** results in axially outward projection of the right end of the latchbolt-retracting pin **80** beyond the axially outer end of the rib **130** of the tubular shaft **126** of the outside knob **46**. This condition is shown in FIG. **8** of the drawings. An emergency release button **170** is disposed in and is movable axially of the tubular shaft **126** of the outside knob **46**, and is provided with an external annular flange **172** engageable with the axially projecting end of the latchbolt-retracting pin **80**. The emergency unlocking tool **160**, which may be anything available of a size to be admitted by the opening **158**, is seatable in a central recess in the outer end of the emergency release button **170**.

As will be apparent, with the tool **160** inserted as shown in FIG. **8**, it can e displaced axially inwardly toward the door **22** to displace the emergency release button **170** axially inwardly, and to concurrently displace the latchbolt-retracting pin **80** to the left. This pin, being rigidly connected to the inside knob **44**, displaces it axially outwardly away from the door **22** into its unlocked position, wherein the notches **166** are clear of the webs **168**. Only a relatively small force applied to the tool **160** is required to overcome the detent **162** tending to retain the inside knob **44** in its locked position.

The door lock **20** is also provided with a cam means for preventing accidental locking if the door **22** is closed inadvertently with the inside knob **44** in its locking position. More particularly, the latchbolt-retracting pin **80** has secured thereon a collar provided with a frustoconical cam **176**, FIGS. **4**, **8** and **9**, which, as best shown in FIG. **9**, is receivable in a notch **178** in the latchbolt **50** when the knob **44** is in its locking position. If the door **22** is inadvertently closed under such conditions, a cam surface **180** forming one wall of the notch **178** acts on the frustoconical cam **176**, as the latchbolt **50** is retracted upon engaging the latch-plate-striker portion **66**, to move the knob **44** outwardly into its nonlocking position. Thus, accidental locking is prevented. To permit this cam means to function if the latchbolt housing **48** is installed 180° from the position shown, to accommodate a door which opens outwardly, the opposite side of the latchbolt **50** is provided with a symmetrical cam notch.

The door lock **20** may be converted to a simple door latch by leaving in place the tab on the escutcheon member **34** corresponding to the tab **164** on the escutcheon member **36**, thereby preventing axially inward displacement of the knob **44** toward the door **22**. Also, the button **170** may be omitted and the end cap **156** replaced by an imperforate one.

Preferably, with the exception of such parts as the latchbolt spring **70**, the latchbolt-retracting pin **80** and the single interconnecting screw **108**, all components of the door lock **20** are made of suitable plastic materials. Such exposed parts as the escutcheon members **34** and **36** and the knobs **44** and **46** may be made of a plastic material capable of accepting metal-simulating finishes. Also, this plastic material must have the degree of flexibility necessary to permit snapping the latching tongues **134** and **136** and the locking detent **162** into place. Examples of suitable plastic materials are nylon, various styrene polymers and copolymers, and the like.

Although an exemplary embodiment of the invention has been disclosed herein for purposes of illustration, it will be understood that various changes, modifications, and substitutions may be incorporated in this embodiment.

I claim as my invention:

1. In a door latch to be mounted on a door having an opening therethrough adjacent one edge and having a hole in such edge into the opening, the combination of:

a. two escutcheon members respectively insertable into and adapted to overlie the ends of the opening through the door and providing a knob axis;

b. a single connecting means coaxial with said knob axis for interconnecting said escutcheon members;

c. a latchbolt housing containing a latchbolt and insertable into the hole in the door edge;

d. two knobs respectively mounted on said escutcheon members for rotation about said knob axis;

e. means connected to said knobs for retracting said latchbolt; and

f. said latchbolt having an elongated opening through which said single connecting means extends.

2. A door latch as defined in claim 1 wherein said connecting means comprises a single screw coaxial with said knob axis and carried by one of said escutcheon members and threadable into the other.

3. A door latch according to claim 2 wherein said escutcheon members are provided with central bosses coaxial with said knob axis and facing each other and through which said screw extends, said latchbolt having a slot receiving said facing bosses therein.

4. A door latch as set forth in claim 2 including interengageable means on said escutcheon members and said latchbolt housing for interlocking same so that said single screw holds said escutcheon members and said latchbolt housing in assembled relation.

5. A door latch according to claim 1 for use with a doorjamb having a cavity aligned with the hole in the door edge when the door is closed, including a latch plate driven into said cavity with no separate securing means.

6. In a door latch to be mounted on a door having an opening therethrough adjacent one edge and having a hole in such edge into the opening, the combination of:

a. two escutcheon members respectively insertable into and adapted to overlie the ends of the opening through the door and providing a knob axis;

b. means for interconnecting said escutcheon members;

c. a latchbolt housing containing a latchbolt and insertable into the hole in the door edge;

d. two knobs respectively mounted on said escutcheon members for rotation about said knob axis;

e. means connected to said knobs for retracting said latchbolt;

f. snap-acting latching means integral with said escutcheon members and said knobs for rotatably connecting said knobs to said escutcheon members;

g. said snap-acting latching means including integral, shouldered, flexible latching tongues on said knobs paralleling said knob axis and engageable with complementary, integral shoulders on said escutcheon members; and

h. said latchbolt-retracting means including a pin paralleling said knob axis and extending through a closely fitting bore in one latching tongue of each of said knobs thus rigidifying these latching tongues.

7. In a door latch to be mounted on a door having an opening therethrough adjacent one edge and having a hole in such edge into the opening, the combination of:

a. two escutcheon members respectively insertable into and adapted to overlie the ends of the opening through the door and providing a knob axis;

b. means for interconnecting said escutcheon members;

c. a latchbolt housing containing a latchbolt and insertable into the hole in the door edge;

d. two knobs respectively mounted on said escutcheon members for rotation about said knob axis;

e. means interconnecting said knobs for retracting said latchbolt, comprising a pin parallel to and spaced from said knob axis;

f. locking means responsive to movement of one of said knobs toward the other along said knob axis from a nonlocking position to a locking position;

g. said pin being rigidly connected to said one knob and being longitudinally slidable relative to the other; and

h. means for displacing said pin longitudinally thereof in a direction to cause it to move said one knob into its nonlocking position.

8. A door latch according to claim 7 wherein said unlocking means comprises cam means on said latchbolt and said pin and responsive to retraction of said latchbolt.