MOUNTING ARRANGEMENT FOR A DOOR LATCH OR LOCK

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This application relates to a mounting arrangement for a door latch or lock and more particularly to door latches or locks of the type commonly known in the trade as "unit locks"; this application being a continuation-in-part of my co-pending application, Serial No. 373,144, filed August 10, 1953, and now abandoned.

Unit locks are provided in completely assembled condition ready for installation on a door and generally include a frame consisting of a housing which carries the retractor mechanism and latch bolt means, and a bearing sleeve which extends transversely through said housing and receives the retractor operating mechanism; said housing being adapted to be received in a notch cut into the edge of the door and retained therein by an inner and an outer escutcheon plate through which the bearing sleeve extends.

Doors are generally classified into four separate categories; that is, right hand regular, left hand regular, right hand reverse bevel and left hand reverse bevel. A "regular" door is hinged so that it opens inwardly while a "reverse" door opens outwardly, and the "hand" of the door is determined by the edge at which it is hinged. Unit locks heretofore produced could be used on either right or left hand doors of the same kind, but could not be interchanged between regular and reverse doors due to the frame construction employed. The manufacturer was therefore required to produce many different types of frames for such door locks which substantially increased the cost of manufacture thereof and the difficulties inherent in their sale.

The primary object of this invention is to provide a unit lock which can be used on a regular or a reverse door of either hand; this novel feature resulting particularly from the design of the frame which carries the lock mechanism; said frame being reversible relatively to the retractor operating mechanism and to the escutcheon plates which secure the lock to the door.

A further object of this invention is to provide a frame for unit locks which is considerably less expensive to produce than the one-piece cast frames heretofore used.

A still further object of this invention is to provide the housing members for such frames in different sizes for doors of different thicknesses, but which housing members are so designed that they will all accept the same component parts.

Another object of this invention is to provide a unit lock having means for positioning the exposed portion of the housing on the "stop" side of the door flush with the adjacent door surface regardless of variations from the nominal door thickness.

Further objects and advantages of this invention will be more clearly understood from the following description and the accompanying drawings in which:

Fig. 1 is an exploded isometric view of the frame for the 1¼ in. door and including the escutcheon plates used therewith.

Fig. 2 is an isometric view of the housing member for the 1¾ in. door; the other parts used therewith being the same as those illustrated in Fig. 1.

Fig. 3 is a fragmentary isometric view illustrating the manner in which the tie bar is installed in the housing member.

Fig. 4 is a sectional end view of the outer escutcheon plate.

Fig. 5 is a plan view, partly in horizontal section, illustrating the assembled frame for the 1¾ in. lock.

Fig. 6 is a similar view illustrating the assembled frame for the 1¾ in. lock.

Fig. 7 is a sectional end view of the 1¾ in. frame taken on line 7—7 of Fig. 5.

Fig. 8 is a plan view of the complete 1¾ in. unit lock installed in a regular door; parts of the lock being broken away and in horizontal section.

Fig. 9 is a sectional side view thereof taken substantially on line 9—9 of Fig. 8.

Fig. 10 is a fragmentary plan view illustrating the outer rollback of the lock in locking position.

Fig. 11 is a sectional end view illustrating the means employed for retaining the knob shanks in the bearing sleeve of the frame.

Fig. 12 is a fragmentary sectional end view further illustrating the construction of the lock.

Fig. 13 is a front end view of the lock as it would appear on a door a full 1¾ in. thick.

Fig. 14 is a similar view, on a reduced scale, illustrating the lock applied to a door that is slightly more than 1¾ in. thick.

Fig. 15 is a view similar to Fig. 14, but illustrating the lock as applied to a door slightly less than 1¾ in. thick.

Fig. 16 is a fragmentary sectional view illustrating the manner in which either the inner or the outer escutcheon plate is secured to the housing member of the frame.

Fig. 17 is a plan view of the 1¾ in. lock installed in a reverse door of the same "hand" as illustrated in Fig. 8; parts of the lock being broken away and in horizontal section.

Fig. 18 is a view similar to Fig. 8, but illustrating the 1¾ in. unit lock installed in a regular door.

Fig. 19 is a front end view of said lock, with parts broken away and in vertical section.

Fig. 20 is a plan view of the 1¾ in. unit lock installed in a reverse door of the same "hand" as that illustrated in Fig. 18; parts of said lock being broken away and in horizontal section.

Fig. 21 is a fragmentary side view illustrating the manner in which the escutcheon plates are secured to the housing of the 1¾ in. lock.

Fig. 22 is a sectional side view taken on line 22—22 of Fig. 21.

The important advantages of my improved unit lock stem particularly from the design of the lock frames and the escutcheon plates used therewith, and, referring now to Fig. 1 of the drawings, it will be seen that the frame for the 1¾ in. lock includes an extruded housing member 5 having spaced side walls 6 and 6—a and a front end wall 7 extending therebetween and having rectangular openings 8 and 9 therethrough. A boss 10 is formed at the intersection of the front end wall 7 and the side wall 6—a and said boss is drilled longitudinally to provide a hole 11. When the openings 8 and 9 are cut into the end wall 7 flush with the inner surfaces of the side walls, portions of said boss 10 are cut away, leaving a boss adjacent each of the remaining portions of said end wall.

The side walls 6 and 6—a have oppositely disposed vertical ribs 12 and 12—a extending therefrom, respectively; the rear surfaces of said ribs providing shoulders extending perpendicularly to the side walls and lying in the same plane. The side wall 6—a is also provided with spaced
vertical pads 13, 14 and 15 whose outer flat surfaces lie in the same plane; the pad 13 being formed integrally with the rib 12-a. Said side walls contain coaxial holes 14-16-15 and 16 being rearwardly extending rectangular recesses 17-17-18 cut thereinto from which are cut the reduced end portions 18-18-19 of a tie bar 19 that extends between said end walls; said reduced ends 18-18-19 forming shoulders 20-20-a thereon which abut the inner sides of said side walls to properly space and render them parallel. Luggs 21-21-a extend from the opposite ends of said tie bar and are swaged against the outer surfaces of the side walls 6 and 6-a to secure said tie bar thereto and to urge said side walls snugly against the shoulders 20-20-a as illustrated in Fig. 3. The width of the housing 5, that is, the distance between the outer surfaces of the side walls 6 and 6-a, is equal to the nominal thickness of the door to which it is adapted to be applied, or, as above mentioned, 15 in.

A tubular bearing sleeve 22 is received in the holes 16-16-a and is secured to the housing, with its opposite ends projecting for equal distances from the side walls thereof, by means of pins 23-23-a which extend through spaced holes 24-24 in the tie bar and into holes 25-25 in said sleeve. The wall of the sleeve contains transverse slots 26-26 whose centers lie in the longitudinal center plane of the housing and from the opposite side edges of which extend diametrically opposed locking lugs 27-27 and 28-28. Said sleeve also contains annular grooves 29-29 which are disposed adjacent the outer surfaces of the side walls of the housing. A portion of the sleeve at the bottom of each of the grooves 29-29 is cut away to provide slots 30-30 (see Fig. 11) through said sleeve for a purpose to be hereinafter described.

If desired, the opposite ends of the sleeve may be of a reduced diameter to accommodate the particular decorative trim used on the door knob of the lock.

The housing 5 carries a supporting member 31 including a plate portion 32 and a supporting arm 33 which is disposed perpendicularly to the plate 32 and is provided with upper and lower offset portions 33-a and 33-b; said upper offset portion 33-a having a hole therethrough. The supporting member is fastened between the side walls of the housing by means of lugs 35-35 which extend from the plate portion 32 thereof into vertically spaced holes 36-36 in the side wall 6-a and an oppositely extending lug 37 which extends into a hole 38 in the side wall 6. A pin 39 is secured in a hole 40 in the side wall 6 and engages the upper offset portion 33-a of the supporting member and said pin is provided with a portion of reduced diameter which extends through the hole 40 therein as illustrated in Figs. 5 and 7; the purpose of the supporting member and the pin being hereinafter set forth.

The lock incorporating my novel frame is secured to a door by inner and outer escutcheon plates 41 and 42, respectively. The inner escutcheon plate 41 has a straight front edge 41-a and a marginal flange 41-b extending from its inner face 41-c; the central portion of said flange along the straight front edge 41-a being cut away to provide a notch 43 therein which is capable of receiving the side wall 6 or 6-a. The inner escutcheon plate also contains an opening 44 through which the bearing sleeve 22 is adapted to extend, and an annular groove 45 is formed therearound; said groove communicating with a rectangular rearwardly extending recess 42-a. Spaced screw holes 46-46 and 46-a extend through said plate and are countersunk from the outer surface thereof; the hole 46-a being disposed coaxially with respect to holes 47 and 47-a in the walls 6 and 6-a, respectively, of the housing when the escutcheon plate is in proper assembled position relatively thereto. A perpendicularly extending stud 48 projects from the inner face of said plate and has a hole 49 extending transversely there- through.

The outer escutcheon plate 42 is of the same shape as the inner escutcheon plate 41 above described and has a straight front edge 42-a and a marginal flange 42-b extending from its inner face 42-c; said flange having a notch 52 therein similar to the notch 43 and being adapted to receive either of the side walls of the housing.

Boses 53-53 and 53-a extend from said plate and contain threaded holes for the reception of the fastening screws which extend through the holes in the inner escutcheon plate. A stud 54 projects from the inner face of the escutcheon plate 42 and contains a hole 55 therethrough; said studs 48 and 54 are adapted to be received in either of the holes 56 or 56-a in the side walls 6 and 6-a, respectively, of the housing. An opening 58 is provided in said outer escutcheon plate, and said opening is surrounded by an annular groove 59 in the inner face of the plate which communicates with a recess 59-a.

In Fig. 2 of the drawing I have shown the housing for the frame for the 1½ in. door. Said housing, indicated generally at 60, is also an extrusion and is very similar to the housing for the 1½ in. frame above described and includes side walls 61 and 61-a and a front end wall 62 having openings 63 and 63-a therethrough. Bosses 65 are formed at the intersection of said front end wall with the side wall 61-a and said bosses contain coaxial holes 66. The side walls 61 and 61-a have vertically extending ribs 67 and 68 projecting therefrom; the rear surfaces of said ribs providing shoulders extending perpendicularly to said side walls and lying in the same transverse plane.

The portion of the housing forwardly of the ribs 67 and 68, including said side walls and the front end wall, is 1½ in. wide, but behind said ribs the side walls are inwardly offset equal amounts and are spaced apart a distance equal to the spacing of the side walls of the 1½ in. housing. It is determined standard selected for all of the housings, thereby making it possible to insert the same parts into both housings. In other words, it is not necessary to provide any special parts for use in the 1½ in. housing since the portions of the side walls disposed rearwardly of the ribs 67 and 68 are formed identically to the corresponding portions of the side walls of the 1½ in. housing above described so that the same supporting member 31, tie bar 19, and bearing sleeve 22 may be used therewith. Thus, the side walls 61 and 61-a contain openings 69 and 70, respectively, for the reception of the lugs 37 and 38 on the opposite sides of the supporting member 31, and the side wall 61 also contains an opening 71 therethrough for the pin 39 and coaxial openings 72 and 73 to accommodate the boss 53-a extending from the outer escutcheon plate. The coaxial openings 74-75 in said side walls and their adjacent recesses 76-77 are provided for the reception of the bearing sleeve 22 and the tie bar 19.

The pads 13, 14 and 15 on the 1½ in. housing disclosed in Fig. 1 project beyond the outer surface of the side wall 6-a a distance equal to the height of the flanges 41-b and 42-b on the inner and the outer escutcheon plates, and in order to provide for the use of the same escutcheon plates with the 1½ in. housing, the surfaces of the pads 78, 79 and 80 thereon project outwardly beyond the outer surface of the portion of the side wall 61-a forwardly of the rib 68 an equal amount.

The side wall 61 and the pad 79 are provided with coaxial openings 70-70-a for the reception of the studs 48 and 54 on the inner and the outer escutcheon plates, respectively, and the inner surface of the wall 61-a contains a vertical slot 83 which is disposed centrally of the pad 79 so as to reduce the thickness of the pad to the same thickness as the corresponding pad 16 on the 1½ in. housing.

The completed frames illustrated in Figs. 5 and 6 are assembled in the same manner, and it will be noted from Figs. 8, 9 and 18 that said frames are designed to accept the same latch or lock mechanism. This mechanism is...
conventional in unit locks heretofore produced and forms no part of the present invention, but in order to clearly illustrate the advantages of my novel frames, it will be briefly described.

The locking mechanism carried by the housings includes a retractor 84 having a forwardly extending bar 85 that projects through a slot 86 in the plate portion 32 of the supporting member 31 and is pinned to a main latch bolt 87 that is pivotally mounted in the large opening in the front end wall of the frame on a pin 88 extending through the holes in the housing adjacent the front wall; said retractor and latch bolt being urged into normal projected position by a spring 89 which surrounds said bar and is disposed between the pin in the latch bolt and the plate portion 32 of the supporting member 31.

A dead-locking lever 90 is pivotally mounted on the portion of the pin 39 extending through the upper offset portion of the arm 33 on the member 31 and is controlled by an auxiliary latch bolt 91 that is pivotally mounted on the pin 88 in the small opening in the front end wall of the frame; said auxiliary latch being urged into projected position by a compression spring 92 which is disposed between said latch bolt and the plate portion of the supporting member 31 as clearly illustrated in Fig. 9. The retractor 84 is actuated by conventional inner and outer rollbacks 93 and 94, respectively, which project through the transverse slots 26-26 in the opposite sides of the bearing sleeve 22 and are carried by inner and outer rollbacks. Each of the tubular knob shanks 95 and 96, respectively, that are rotatably mounted in said bearing sleeve and to which inner and outer knobs 97 and 98, respectively, are secured. Each of the tubular knob shanks 95 and 96 is retained against axial movement in the bearing sleeve by a snap-ring 99 which is disposed in a groove in the sleeve 22 in the bearing sleeve and has a portion extending through the slot 30 therein and into an annular groove in the knob shank as illustrated in Figs. 11 and 12.

The unit locks illustrated in the accompanying drawings are particularly adapted for use on front or exterior doors and each contains a locking mechanism of conventional form including a turnpiece 100 which projects from the inner knob 97 and is adapted, upon rotation, to move a spindle 101 that extends longitudinally through the knob shanks and carries the outer rollback 94; the axial movement of said spindle causing movement of the inner rollback relative to the outer knob shank 96 and into the opposed locking slots 28-28 in the bearing sleeve, as shown in Fig. 10, to thereby prevent rotation of said rollback and, consequently, of said outer knob shank and the outer knob. The outer door knob 98 contains a cylinder lock having a key-plug 102 that is rotatable by a suitable key and is connected to said spindle. The inner rollback 93 is non-rotatable relatively to the spindle and when said spindle is rotated by rotating the key-plug 102, said inner rollback actuates the retractor to thereby permit retraction of the latch bolt from the outer side of the door when the outer knob is dogged against operation. The locking mechanism above described forms no part of the present invention, but has been disclosed merely to illustrate the purpose of the locking slots 27-27 and 28-28 in the bearing sleeve 22.

Many different types of locking mechanisms may be inserted into the tubular knob shanks of the door locks depending upon the particular locking function required, and in some functions both sets of locking slots are utilized to dog their respective rollbacks and door knobs against operation. For passage doors, however, no locking devices and the locking slots are not used at all. It will be particularly noted that the tubular knob shanks 95 and 96 are of the same length and that either of the shanks may therefore be received in either end of the bearing sleeve as will hereinafter more fully described.

In both regular and reverse applications of my improved unit locks, the side wall of the housing adjacent the pivot pin 88 will be disposed toward the door stop 103, and it is therefore important that the exposed outer surface of this side wall forwardly of the rib thereon lie flush with the surface of the door to permit proper engagement with the stop. If the side wall projected beyond the surface of the door, it would engage the stop and prevent the door from fully closing against it. If the said side wall were disposed behind the surface of the door, an unsightly space would be visible when the door was closed. My improved unit lock is so constructed that the said surface of the side wall will always be disposed flush with the face of the door even when it is slightly over or under size.

When it is desired to assemble a 1% in. lock for use on a regular door, the outer escutcheon plate 42 is placed over the end of the bearing sleeve projecting from the side wall 6-a of the housing and the knob shank 96 is inserted into said end of the bearing sleeve and retained therein by the snap-ring 99. The forward boss 53-a and the stud 54 on said outer escutcheon plate are inserted into their respective openings 47-a and 56-a in the side wall 6-a and in the pad 14 and the inner face 42-c of the plate 42 is brought up against the surfaces of the pads 13, 14 and 15. In this position, a pin 104 is inserted through the transverse hole 55 in the stud 54 as clearly illustrated in Figs. 8 and 16, and said pin engages the inner surface of the side wall 6-a to secure the outer escutcheon plate 42 to the frame with its inner face disposed against the surfaces of the pads 13, 14 and 15 thereon and its front edge positioned behind the rib 12-a. The pad 13 is received in the notch 52 in the flange on said escutcheon plate, and the rib 12-a extends outwardly over the front edge of the plate to conceal the said notch. Since the thickness of said pads above the surface of the side wall is equal to the height of the flange 42-b above the inner face of the escutcheon plate, it will be understood that the face of said flange which engages the door will lie in the same plane as the outer surface of the side wall 6-a. The inner escutcheon plate 41 is, prior to the installation of the lock on the door, loosely retained over the adjacent end of the bearing sleeve by three screws 105 which pass through the holes 46-46 and 46-a therein and are threaded into the aligned bosses on the outer escutcheon plate, which is secured to the side wall 6-a by the pin 104; the forward screw 105 extending through the hole 46-a, the hole 47 in the side wall 6, across the housing and into the boss 53-a projecting through the hole 47-a in the side wall 6-a.

The door 106 is prepared for the reception of the lock by cutting a notch 107 into the edge thereof to a depth slightly greater than the length of the housing and by drilling holes 108-108 through the door above and below the slot to receive the two vertically adjacent screws 105; said holes being large enough to accommodate the bosses 53.

The unit lock is secured to the door by first removing the screws 105 and then placing the housing 5 into the notch 107 and positioning it so that the outer escutcheon plate 42 is disposed against the outer face of the door with the bosses 83-833 thereon projected into the holes 108-108. The inner escutcheon plate 41 is then moved into engagement with the inner face of the door and the screws 105 is inserted through the holes therein and are threaded into the bosses on the outer escutcheon plate 42; the stud 40 on the inner escutcheon plate being received in the hole 56 in the side wall 6. It will be understood that since the outer escutcheon plate 42 is pinned to the side wall 6-a and the face of the flange 42-b thereon is in engagement with the surface of the door, the outer surface of the wall 6-a forwardly of the rib 12-a will lie flush with the outer surface of the door. If the door is a full 1½ in. the exposed outer surface of
the inner side wall 6 forwardly of the rib 12 will also lie in the same plane as the inner surface of the door and said rib will extend outwardly over the notch in the front edge of the inner surface of the door as illustrated in Fig. 13.

Since, in a "regular" application, the relationship of the inner escutcheon plate to the outer side wall 6-a of the housing is fixed, and the outer surface of the side wall 6-a will always lie flush with the outer face of the door, it will be understood that if the lock is to be adjustable to doors which vary from the nominal thickness, any such adjustment must be made with the inner escutcheon plate. The notch 43 in the flange 41-e of the inner escutcheon plate is adapted to receive the side wall 6 of the housing, and the face of said flange can therefore be located inwardly of the outer surface of said side wall and against the face of an undersize door, as illustrated in an exaggerated manner in Fig. 15. If the door is oversize, as shown in Fig. 14, the face of the flange 41-b will lie outwardly of the surface of the side wall. In either position, the rib 12 will overlie the front edge of the escutcheon plate and will conceal the notch therein. The range of adjustment is limited only by engagement of the inner face of the escutcheon plate with the front edge wall or by the width of the rib 12; it being noted that the recesses 45 and 45-a adjacent the hole 44 in the plate provide clearance for the snap-ring 99 and the end of the tie bar when the inner face of the escutcheon plate is disposed close to the side wall 6.

The 1¾ in. lock illustrated in Fig. 18 is applied to a regular door in the same manner as the 1¾ in. lock above described, and with the same inner and outer escutcheon plates 41 and 42; it being noted that the stud 54 on the outer escutcheon plate 42 extends through the opening 52 in the pad 59 and that said escutcheon plate is secured to the side wall 61-a with its inner face abutting the surface of the pads 78, 79 and 80 by means of the pin 104 which engages the bottom of the slot 83 in the inner surface of side wall 61-a. When so pinned, the face of the flange 42-b thereon is disposed flush with the outer surface of the side wall 61-a forwardly of the rib 68 so that said surface of the side wall is disposed flush with the outer face of the door regardless of the thickness thereof. The inner escutcheon 41 is adjustable relatively to the inner side wall 61 to permit installation of the lock on oversize or undersize doors in the same manner above described.

The numerous important advantages afforded by my invention stem particularly from the design of the frames; it being understood that since the front ends of the housing thereof are of approximately the same width as the width of the doors to which they are adapted to be applied, and the locking slots in the bearing sleeve are disposed symmetrically with respect to the longitudinal center plane of the said housings and, therefore, of the door, the frame and the retractor mechanism carried thereby may be reversed 180° relatively to the inner and outer knobs, their shanks, the rollbacks and the locking mechanism that extends through the knob shanks for moving the outer rollback into locking position. In other words, the retractor operating mechanism may be assembled into the bearing sleeve in the reverse of that shown in Figs. 8 and 18.

In Figs. 8 and 18, the locks are illustrated in a regular door which opens inwardly, it being noted that the pivot pin 85 for the latch bolts is adjacent the outer side of the door. In order to adapt the locks for use on reverse doors, it is only necessary to reverse the frame and the retractor mechanism carried thereby 180° from the position illustrated in said figures and to assemble the retractor operating mechanism in the bearing sleeve. In Figs. 17 and 20, which illustrate the reverse door application, it will be noted that the pivot pin 88 is now disposed on the inner side of the door. Since the diametrically opposed slots in the bearing sleeve are disposed symmetrically with respect to the longitudinal center plane of the frame, said sleeve is capable of receiving the retractor operating mechanism in either of the two required positions.

In Fig. 17, wherein a portion of the dust cover 109 normally applied to the housing has been broken away, it will be seen that when the 1¾ in. lock is applied to a reverse door, the lug 48 extending from the inner side of the inner escutcheon piece 41 now extends through the hole 56-a in the side wall 6-a of the housing and that said inner escutcheon piece is now pinned to said side wall by the pin 104 to position the surface of the side wall forwardly of the said inner escutcheon plate with the inner surface of the door; the said inner surface being that which engages the stop 103-a in a reverse door application.

The outer escutcheon plate 42 is secured against the outer surface of the door by the screws 105 and is adjustable relatively to the housing since it is not pinned thereto in a reverse application, and the lug 54 thereon merely extends through the hole 56 in the side wall 6 of said frame. The notch 52 in the flange 42-b on said escutcheon piece will receive the side wall 6 of the frame if the door is slightly undersize, but if said door is oversize said said plate lies outwardly of the outer surface of the side wall 6, the rear portion of the said oversize being covered by the rib 12 in the same manner as described in connection with the regular door application.

In Fig. 20, also having portions of the dust cover 109-a broken away, I have illustrated the 1¾ in. lock applied to a reverse door and it will be noted that the relationship of the frame and the inner and the outer escutcheon plates 41 and 42 relatively to the door and each other is the same as that above described in connection with the 1¾ in. lock.

It will be understood from the above description that my invention provides a unit lock which may be used on a regular reverse door and, by providing means on both the inner and the outer escutcheon plates for securing them to the "stop" side of the housing, the portion of the side wall forwardly of the rib on said "stop" side is always disposed flush with the adjacent surface of the door.

I claim:

1. A door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and side walls extending rearwardly from the opposite side edges thereof, at least the front portion of said housing, from said front end wall to a point intermediate the ends of said side walls, being of constant height and of a width equal to the thickness of the door to which the frame is adapted to be applied, whereby said housing is adapted to be inserted into a notch extending into said door from an edge thereof and when so mounted the exterior surfaces of the front portions of said side walls are disposed flush with the inner and outer faces of the door; a bearing sleeve extending through said side walls adjacent the rear end of said housing and adapted to support a retractor operating mechanism, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said intermediate point and each having a face engageable with the face of the door adjacent said notch, means for detachably connecting said outer escutcheon piece to said housing, and screw means for connecting said escutcheon plates together and clamping the same against the opposite faces of the door to thereby secure the housing in said notch.

2. A door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and side walls extending rearwardly from the opposite side edges thereof, at least the front portion of said housing, from said front end wall to a point in-
terminate the ends of said side walls, being of constant height and of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, whereby said housing is adapted to be received in a notch extending from said frame and spaced rearwardly extending side walls; said housing having being of a width substantially equal to the nominal thickness of the door to which the frame is adapted to be applied, an interior and an outer escutcheon plate adapted to overlie portions of said side walls and each having a door engaging face adapted to receive either of the opposite faces of the door, having the opposite faces of the door engaging face, means on each of said escutcheon plates on one of said side walls permitting selective attachment of either of said escutcheon plates thereto, and means on one of said side walls permitting selective attachment of either of said escutcheon plates thereto, and means on one side wall for positioning the escutcheon plate attached thereto with its door engaging face flush with the surface of the side wall at the front end portion of the housing.

8. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, said housing being of a width substantially equal to the width of the door to which the frame is adapted to be applied, means on said housing for supporting a retractor operating mechanism, an interior and an outer escutcheon plate adapted to overlie portions of said side walls and to engage the opposite faces of the door; each of said escutcheon plates having a notch therein adapted to receive a side wall of said housing, cooperative means on each of said escutcheon plates and on one of said side walls permitting selective attachment of either of the escutcheon plates thereto, and means on said one side wall engageable by the attached escutcheon plate to locate its door-engaging face in the same plane as the outer surface of said one side wall; the opposite side wall being receivable in the notch in the adjacent escutcheon plate to permit application of said frame to an undersize door.

9. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, said housing being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, means on said housing for supporting a retractor operating mechanism, a pair of escutcheon plates adapted to overlie portions of said side walls and to engage the opposite faces of the door, cooperative means on at least one side wall of said housing for the housing permitting attachment of said escutcheon plate thereon; the other of said escutcheon plates having a notch in its door-engaging face adapted to receive the adjacent side wall of said housing to permit engagement of said face with the surface of an undersize door.

6. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, said housing being of a width substantially equal to the nominal thickness of the door to which the frame is adapted to be applied, an inner and an outer escutcheon plate adapted to overlie portions of said side walls and each having a door engaging face adapted to receive either of the opposite sides of the housing, cooperative means on each of said escutcheon plates and on one of said side walls of the housing permitting selective attachment of either of said escutcheon plates thereto, the opposite side wall of said housing being receivable in the notch in the adjacent escutcheon plate to permit application of said frame to a door which is narrower than said housing.

7. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, the front end portion of said housing from said front end wall to an intermediate point on said side walls being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, an inner and an outer escutcheon plate adapted to overlie portions of said side walls, said escutcheon plates having a notch therein adapted to receive a side wall of said housing, cooperative means on each of said escutcheon plates and on one of said side walls permitting selective attachment of either of said escutcheon plates thereto, and means on said one side wall for positioning the escutcheon plate attached thereto with its door engaging face flush with the surface of the side wall at the front end portion of the housing.

4. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and side walls extending rearwardly from the opposite side edges thereof, at least the front portion of said housing, from said front end wall to a point intermediate the ends of said side walls, being of constant height and of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, whereby said housing is adapted to be received in a notch extending into said door from an edge thereof and when so mounted the front portions of said side walls are disposed substantially flush with the inner and outer faces of said housing adjacent the rear end thereof and adapted to support a retractor operating mechanism, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said front end portion and to engage the opposite faces of the door, and cooperative means on each of said escutcheon plates and on one of said side walls permitting selective attachment of either of said escutcheon plates thereto.

3. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls; the front end portion of said housing from said front end wall to an intermediate point and each having a face engageable with the surface of the door adjacent said notch, means for detachably securing either of said escutcheon plates to the housing, and screw means for connecting said escutcheon plates together and clamping them against the opposite faces of the door to thereby secure the housing in said notch.

5. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls; said housing being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, means on said housing for supporting a retractor operating mechanism, an inner and an outer escutcheon plate adapted to overlie portions of said side walls and each having a door engaging face adapted to receive either of the opposite sides of the housing, cooperative means on each of said escutcheon plates and on one of said side walls of the housing permitting selective attachment of either of said escutcheon plates thereto, and means on said one side wall for positioning the escutcheon plate attached thereto with its door engaging face flush with the surface of the side wall at the front end portion of the housing.
ed to engage the inner face of the adjacent escutcheon plate to position the door-engaging face of the flange thereon in the same plane as the outer surface of said one side wall; the stud on the escutcheon plate adjacent said one side wall extending through an opening therein, and a pin extending through the transverse hole in said stud and engaging the side wall to secure the escutcheon plate thereto.

10. For a door latch or lock of the character described, a frame including in combination a housing member adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, the front end portion of said housing member from said front end wall to a point intermediate the ends of said side walls being of a width equal to the nominal thickness of the door to which the frame is adapted to be applied; means on said housing member for supporting a retractor operating mechanism, a rib projecting from each of said side walls at said intermediate point and providing shoulders thereon lying in the same transverse plane and projecting outwardly beyond the surfaces of said walls forming the front end portion of the housing member, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said shoulder; each of said escutcheon plates having a front edge portion adapted to be positioned behind its respective rib, and means for securing said escutcheon plates to the door.

11. For a door latch or lock of the character described, a frame including in combination a housing member adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, the front end portion of said housing member from said front end wall to a point intermediate the ends of said side walls being of a width equal to the nominal thickness of the door to which the frame is adapted to be applied; means on said housing member for supporting a retractor operating mechanism, a rib projecting from each of said side walls at said intermediate point and providing shoulders thereon lying in the same transverse plane and projecting outwardly beyond the surfaces of said walls forming the front end portion of the housing member, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said shoulders; cooperative means on at least one of said escutcheon plates and its adjacent side wall for securing said escutcheon plate thereto with its front edge disposed behind the shoulder thereon, the other of said escutcheon plates being adapted to be secured adjacent the opposite side wall of said housing with its front edge disposed behind the shoulder thereon.

12. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, a bearing sleeve extending transversely through said side walls and for equal distances therebetween and having diametrically opposed centrally located transverse slots therein; said bearing sleeve being adapted to receive a retractor operating mechanism, a rib extending from each of said side walls and providing shoulders thereon lying in the same transverse plane; the portion of said housing rearwardly of said ribs being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said shoulders and having outwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing; a tie-bar joining said side walls and extending closely adjacent said bearing sleeve, and means securing said sleeve to said tie-bar for preventing movement of said sleeve relatively to said housing.

13. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls, a bearing sleeve extending transversely through said side walls and for equal distances therebetween and having diametrically opposed centrally located transverse slots therein; said bearing sleeve being adapted to receive a retractor operating mechanism, a rib extending from each of said side walls and providing shoulders thereon lying in the same transverse plane; the portion of said housing rearwardly of said ribs being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said shoulders and having outwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing; a tie-bar joining said side walls and extending closely adjacent said bearing sleeve, and means securing said sleeve to said tie-bar for preventing movement of said sleeve relatively to said housing.

14. For a door latch or lock of the character described, a frame including a housing adapted to receive a latch bolt and a retractor therefor, and having a front end wall and spaced rearwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing, a tie-bar joining said side walls and extending closely adjacent said bearing sleeve, and means securing said sleeve to said tie-bar for preventing movement of said sleeve relatively to said housing.

15. For a door latch or lock of the character described, a frame including a housing adapted to receive a latch bolt and a retractor therefor, and having a front end wall and spaced rearwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing, a tie-bar joining said side walls and extending closely adjacent said bearing sleeve, and means securing said sleeve to said tie-bar for preventing movement of said sleeve relatively to said housing.

16. For a door latch or lock of the character described, a frame including a housing adapted to receive a latch bolt and a retractor therefor, and having a front end wall and spaced rearwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing and projecting for equal distances beyond the opposite sides thereof; said side walls having one of said escutcheon plates having a notch therein adapted to receive the adjacent side wall of said housing when applied to an undersize rib on the adjacent side of said housing extending outwardly over the front end of said escutcheon plate to conceal said notch.

17. For a door latch or lock of the character described, a frame including in combination a housing adapted to receive a latch bolt and a retractor therefor, and having a front end wall and spaced rearwardly extending side walls, a bearing sleeve extending transversely through said side walls and for equal distances therebetween and having diametrically opposed centrally located transverse slots therein; said bearing sleeve being adapted to receive a retractor operating mechanism, a rib extending from each of said side walls and providing shoulders thereon lying in the same transverse plane; the portion of said housing rearwardly of said ribs being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, an inner and an outer escutcheon plate adapted to overlie the portions of said side walls rearwardly of said shoulders and having outwardly extending side walls, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing; a tie-bar joining said side walls and extending closely adjacent said bearing sleeve, and means securing said sleeve to said tie-bar for preventing movement of said sleeve relatively to said housing.
bolt and a retractor therefor and having a front end wall and spaced rearwardly extending side walls; the front end portion of said housing being of a width substantially equal to the thickness of the door to which the frame is adapted to be applied, a tubular bearing sleeve extending through coaxial openings in said side walls adjacent the rear end of said housing and projecting for equal distances beyond the opposite sides thereof; said side walls having recesses therein communicating with said openings, a tie bar extending between said side walls closely adjacent said bearing sleeve and having reduced end portions disposed in said recesses and providing shoulders thereon adapted to abut the inner surfaces of said side walls; said tie bar and said bearing sleeve having coaxial holes therethrough for the reception of pins for securing said bearing sleeve in said frame; the portion of said bearing sleeve between said side walls having diametrically opposed transverse slots therein.

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