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**LATCH RELEASING DOOR HANDLE**

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This invention relates to improvement in latch releasing door handles.

The main objects of this invention are:

First, to provide a door handle of the push button type which is easy to operate and one in which the finger piece is positioned so that it is protected by the grip or handle member.

Second, to provide a door handle having few parts and these parts are relatively rugged and easily assembled.

Third, to provide a door handle having these advantages which is very economically produced and at the same time is attractive in appearance.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary view of a door handle embodying my invention installed upon a door, the handle being shown mainly in longitudinal section, parts of the door and an associated latch mechanism being conventionally illustrated.

Fig. 2 is a fragmentary front elevational view with parts shown in longitudinal section.

Fig. 3 is a fragmentary view in section to correspond with Fig. 1 and with the parts in actuated position.

Fig. 4 is a cross sectional view on a line corresponding to line 4—4 of Fig. 1.

Fig. 5 is a cross sectional view on a line corresponding to line 5—5 of Fig. 1.

Fig. 6 is a perspective view of the bracket member of my door handle.

In the accompanying drawing 1 represents the panel of a metallic door and 2 an edge wall thereof with which the latch mechanism designated generally by the numeral 3 is associated and 4 represents an actuated member of the latch.

My handle assembly in the embodiment illustrated comprises a supporting plate 5 mounted on the inner side of the door panel 1 and having front and rear openings 6 and 7 therein. At its forward end the plate is provided with a wing or lug 8 to receive the attaching screw 9. The handle member of the embodiment illustrated comprises a body member 10 of inwardly facing channel section and generally bowed to provide a grip intermediate its ends. The back plate 11 has inwardly offset flanges 12 which are disposed on the inner edges of the side flanges of the body member and secured thereon by means of the sheath 13 which embraces the body member and has inturned flanges 14 clampingly retaining the back member 11. The bracket member designated generally by the numeral 44 has a cupped body portion 15 disposed in the opening 6 of the supporting plate, the front wall of the cupped portion having a flanged threaded opening 16 therein for the screw 9.

At its inner end the web of the handle member is conformed to provide a recess 17 receiving the inner end of the lug member 18, the outer end of which projects rearwardly and forwardly to engage with the edge of the opening 7 in the supporting plate as is shown in Fig. 1 and coacts with the screw 9 in clampingly securing the handle member to the door. The bracket is provided with an arm 19 which is secured at 20, desirably by spot welding, to an inset portion 21 in the web of the body member. The bracket arm 22 is secured at 23,

preferably by spot welding, to the inward inset portion 24 of the web of the handle member.

The bracket member is provided with a slot 25 through which the latch actuating member 26 is slidably disposed.

5 The inner end of the member 26 is slotted at 27 to engage the bight portion 28 of the crank arm 29 of the rockshaft 30. This rockshaft is journaled at 31 and 32 in the walls of the handle member (see Fig. 2) and is provided with a lever-like finger piece 33 which is disposed on the underside of the handle member. The latch actuating member 26 is provided with shoulders 26' coacting with the cupped body portion 15 at the ends of the slot 25 therein to limit the stroke of the latch actuating member. The sheath 13 for the body member 10 covers the bearing opening in the upper wall of the handle.

The coiled spring 34 is provided with an arm 35 which is secured in supported engagement with the bracket arm 19 by means of a bolt or rivet 36 through the arm 19 and engaged over the end of the arm 35 (see Fig. 1). The arm 37 of the spring is engaged with the inner end of the actuating member 26 so that the spring serves to retract the rockshaft and also the member 26. The finger piece 33 is disposed on the underside of the handle member and is guarded thereby and is in a convenient position to be operated by the thumb of the hand grasping the handle. This loop-like crank arm serves to hold the inner end of the member 26 against lateral movement.

The parts may be produced very economically and they are easily assembled and not likely to become inoperative in use. In the embodiment illustrated the finishing plates 38 and 39 are disposed between the ends of the handle member and the door panel and they are provided with outwardly projecting flanges which closely embrace the ends of the handle member providing an attractive finish therefor.

The edge wall of the door has an opening 40 therein providing access to the screw 9. This, however, is inaccessible when the door is closed.

I have illustrated and described a highly practical embodiment of my invention. I have not attempted to illustrate or describe other embodiments or adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. A door handle comprising a supporting plate having spaced front and rear openings therein and provided with an inwardly projecting lug adjacent the front opening, a chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and having a cupped portion between its arms disposed in the front opening in said supporting plate, said bracket being slotted to receive and slidably support a latch actuating member, an attaching screw carried by said lug and threadedly engaging said bracket, a plate engaging lug projecting from the inner end of said handle member into engagement with said supporting plate and coacting with said screw in clampingly securing the handle member to the supporting plate, a rockshaft journaled in the walls of said handle member and having an offset loop therein disposed within the handle member and constituting a crank arm, said rockshaft being provided with an integral arm constituting a finger piece disposed on the underside of said handle member, a latch actuating member disposed in said handle member to project through said slot in said bracket and slotted at its inner end to receive said crank arm on said rockshaft, said actuating member being provided with shoulders constituting stops coacting with said bracket to limit the stroke of the actuating member, and a coiled spring having arms at its ends, one arm being disposed in supported engagement with and secured to an arm of said bracket, the other being engaged with the inner end of said actuating member to yieldingly retract the same, said handle member including a sheath covering the bearing opening for the upper end of said rockshaft.

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2. A door handle comprising a supporting plate having spaced front and rear openings therein and provided with an inwardly projecting lug adjacent the front opening, a chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and slotted to receive and slidably support a latch actuating member, an attaching screw carried by said lug and threadedly engaging said bracket, a plate engaging lug projecting from the inner end of said handle member into engagement with said supporting plate and coacting with said screw in clampingly securing the handle member to the supporting plate, a rockshaft journaled in the walls of said handle member and having an offset loop therein disposed within the handle member and constituting a crank arm, said rockshaft being provided with a finger piece disposed on the underside of said handle member, a latch actuating member disposed in said handle member to project through said slot in said bracket and slotted at its inner end to receive said crank arm on said rockshaft, said actuating member being provided with stops coacting with said bracket to limit the stroke of the actuating member, and a retracting spring for said actuating member.

3. A door handle comprising a supporting plate having spaced front and rear openings therein and provided with an inwardly projecting lug adjacent the front opening, a chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and having a cupped portion between its arms disposed in the front opening in said supporting plate, said bracket being slotted to receive and slidably support a latch actuating member, an attaching screw carried by said lug and threadedly engaging said bracket, a supporting plate engaging lug at the inner end of said handle member coacting with said screw in securing the handle member to the supporting plate, a rockshaft journaled in said handle member and having a crank arm within said handle member, said rockshaft being provided with a finger piece, a latch actuating member slidable through said slot in said bracket and engaged with said crank arm, said actuating member being provided with stops coacting with said bracket to limit the stroke of the actuating member, and a coiled spring having arms at its ends, one arm being engaged with said bracket and the other with the inner actuating member to yieldingly retract the same.

4. A door handle comprising a supporting plate having spaced front and rear openings therein and provided with an inwardly projecting lug adjacent the front opening, a chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and slotted to receive and slidably support a latch actuating member, an attaching screw carried by said lug and threadedly engaging said bracket, a supporting plate engaging lug at the inner end of said handle member coacting with said screw in securing the handle member to the supporting plate, a rockshaft journaled in said handle member and having a crank arm within said handle member, said rockshaft being provided with a finger piece, a latch actuating member slidable through said slot in said bracket and engaged with said crank arm, and a retracting spring for said actuating member and rockshaft.

5. A door handle comprising a supporting plate having spaced front and rear openings, a chambered handle member, a bracket disposed within and secured to said handle member, an attaching screw carried by said supporting plate threadedly engaging said bracket, a supporting plate engaging lug at the inner end of said handle member coacting with said screw in securing the handle member to the supporting plate, a rockshaft journaled in said handle member and having a crank arm, said rockshaft being provided with a finger piece disposed at one side of said grip member, a latch actuating member slidably supported by said bracket and engaged with said crank arm, said actuating member being provided with stops coacting with said bracket to limit the stroke of the actuating member, and a coiled spring having arms at its ends, one arm being engaged with said bracket and the other with the inner actuating member to yieldingly retract the same.

6. A door handle comprising a supporting plate having spaced front and rear openings, a chambered handle member, a bracket disposed within and secured to said handle member, an attaching screw carried by said sup-

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porting plate threadedly engaging said bracket, a supporting plate engaging lug at the inner end of said handle member coacting with said screw in securing the handle member to the supporting plate, a rock shaft journaled in said handle member and having a crank arm, said rockshaft being provided with a finger piece disposed at one side of said grip member, a latch actuating member slidably supported by said bracket and engaged with said crank arm, and a retracting spring for said rockshaft and actuating member.

7. A chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and slotted to receive a latch actuating member, a rockshaft journaled in the walls of said handle member and having an offset loop therein disposed within the handle member and constituting a crank arm, said rockshaft being provided with an integral arm constituting a finger piece disposed on the underside of said handle member, a latch actuating member slidably disposed in said handle member to project through said slot in said bracket and slotted at its inner end to receive said crank arm on said rockshaft, said actuating member being provided with shoulders constituting stops coacting with said bracket to limit the stroke of the actuating member, and a coiled spring having arms at its ends, one arm being disposed in supported engagement with and secured to an arm of said bracket, the other being engaged with the inner end of said actuating member to yieldingly retract the same, said handle member including a sheath covering the bearing opening for the upper end of said rockshaft.

8. A chambered handle member, a bracket provided with attaching arms disposed within and secured to said handle member and slotted to receive a latch actuating member, a rockshaft journaled in the walls of said handle member and having an offset loop therein disposed within the handle member and constituting a crank arm, said rockshaft being provided with an integral arm constituting a finger piece disposed on the underside of said handle member, a latch actuating member slidably disposed in said handle member to project through said slot in said bracket and slotted at its inner end to receive said crank arm on said rockshaft, said actuating member being provided with shoulders constituting stops coacting with said bracket to limit the stroke of the actuating member, and a retracting spring for said rockshaft and actuating member.

9. A chambered handle member, a bracket provided within said handle member, a rockshaft journaled in said handle member and having a crank arm, said rockshaft being provided with a finger piece disposed on the underside of said handle member, a latch actuating member slidably disposed through said bracket and engaged with said crank arm on said rockshaft, said actuating member being provided with shoulders constituting stops coacting with said bracket to limit the stroke of the actuating member, and a coiled spring having arms at its ends, one arm being disposed in supported engagement with and secured to said bracket, the other being engaged with said actuating member to yieldingly retract the same.

10. A chambered handle member, a bracket provided within said handle member, a rockshaft journaled in said handle member and having a crank arm, said rockshaft being provided with a finger piece disposed on the underside of said handle member, a latch actuating member slidably disposed through said bracket and engaged with said crank arm on said rockshaft, and a coiled spring having arms at its ends, one arm being disposed in supported engagement with and secured to said bracket, the other being engaged with said actuating member to yieldingly retract the same.

11. A chambered handle member, a bracket provided within said handle member, a rockshaft journaled in said handle member and having a crank arm, said rockshaft being provided with a finger piece mounted thereon and disposed on the underside of said handle member and disposed outwardly of the chamber of the handle member to be engaged by the hand of the operator, a latch actuating member slidably disposed through said bracket and operatively engaged with said crank arm on said rockshaft, and a retracting spring for said rockshaft and actuating member, said rockshaft and actuating member constituting means to which the spring is connected for

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retracting the rockshaft and actuating member, said spring being mounted in the chamber of the handle and being biased to retract the rockshaft and actuating member, the actuating member being biased by the spring inwardly of the chamber.

12. The combination with a chambered handle member constituting a grip, of a rockshaft journaled in said handle member and having an offset loop therein disposed within the handle member and constituting a crank arm, said rockshaft having an integral arm constituting a finger piece disposed on the underside of said handle member, a slidably supported latch actuating member slotted to engage said crank arm and provided with shoulders constituting stops limiting the stroke thereof, and a retracting spring for said rockshaft and actuating member.

13. The combination with a chambered handle member constituting a grip, of a rockshaft journaled in said handle member and having a crank arm disposed within the handle member and having a member constituting a finger piece mounted thereon and disposed on the outer side of the chamber of the handle member to be engaged by the hand of the operator, a slidably supported latch actuating member operatively engaged with said crank arm, and a retracting spring for said rockshaft and actuating member, said rockshaft and actuating member constituting means to which the spring is connected for retracting the rockshaft and actuating member, said spring being mounted in the chamber of the handle and being biased to retract the rockshaft and actuating member, the actuating member being biased by the spring inwardly of the chamber.

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14. In combination an elongated handle member having an offset chambered base portion at one end thereof, a rockshaft journaled in the base portion and having a finger piece mounted on one end thereof, said finger piece being disposed outwardly of the chamber of the base portion at one side of the base portion to be operatively engaged by the hand of the operator, a latch actuating member guidingly supported for movement inwardly and outwardly of the chamber of the base member, and connected to said rockshaft to be operated thereby, a retracting spring for the rockshaft and actuating member, the rockshaft and actuating member constituting means to which the spring is connected for retracting the rockshaft and actuating member, the spring being mounted in the chamber of the base portion and being biased to retract the rockshaft and actuating member, the actuating member being biased by the spring inwardly of the chamber of the base portion, said finger piece being operable against the force of the spring for moving the actuating member outwardly of the chamber of the base portion.

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