Feb. 28, 1928. 1,660,800

R. MARPLE

LOCKING DOOR HANDLE

Filed Feb. 5, 1926

Fig. 1.

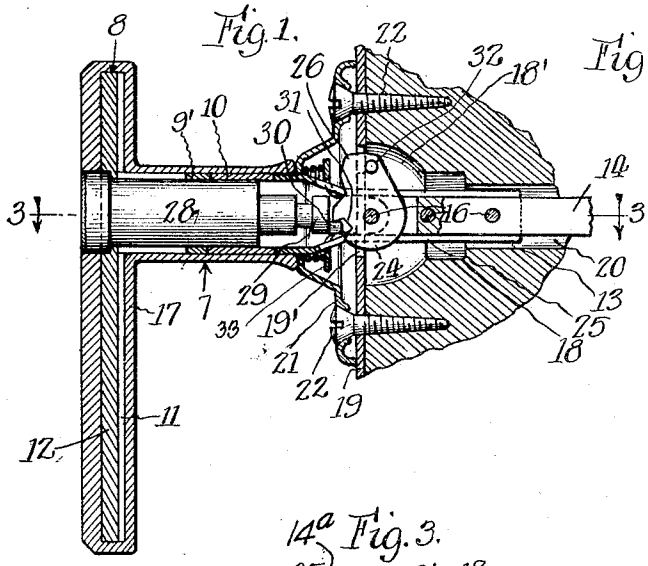


Fig. 2.

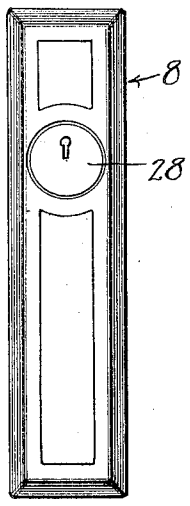


Fig. 3.

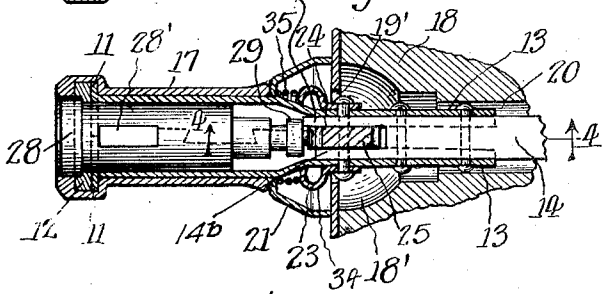


Fig. 4.

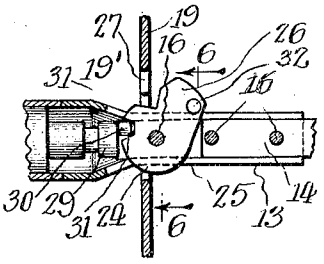


Fig. 5.

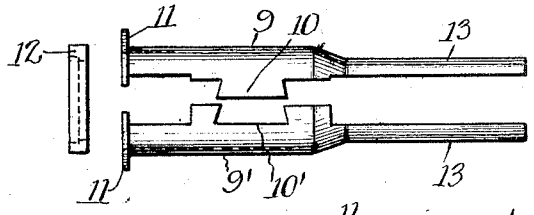


Fig. 6.

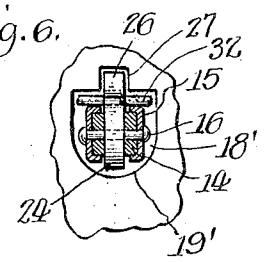


Fig. 7.

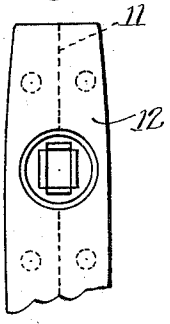
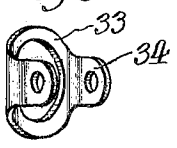


Fig. 8.



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UNITED STATES PATENT OFFICE.

ROLLO MARPLE, OF CHARLOTTE, MICHIGAN, ASSIGNOR TO HANCOCK MANUFACTURING CO., OF CHARLOTTE, MICHIGAN, A CORPORATION OF MICHIGAN.

LOCKING DOOR HANDLE.

Application filed February 5, 1926. Serial No. 86,115.

The invention relates to a door handle having embodied therein a lock for the door; and the object of the invention generally stated is to produce a handle lock which is simple in construction, effective in operation and capable of being manufactured at a low cost.

More specifically the invention has for a primary object the provision of a lock in a door handle which is adapted to interengage with the door proper in the operation of locking the door in closed position.

Another object is the provision of a lock which in the locking position is adapted to interengage with the door proper to prevent its removal from the door.

A further object is to provide a construction for the handle which lends itself readily to the incorporation therein of the lock.

In the accompanying drawings, I have illustrated a preferred embodiment of my invention, but it should be understood that it is contemplated that various changes may be made in the construction and arrangement set forth without departing from the spirit and scope of the invention as expressed in the appended claims.

Figure 1 of the drawings is a fragmentary section in elevation of my improved handle mounted in an automobile door.

Fig. 2 is a front view of the door handle.

Fig. 3 is a fragmentary sectional view taken approximately in the plane of line 3—3 of Fig. 1.

Fig. 4 is a fragmentary vertical sectional view taken approximately in the plane of line 4—4 of Fig. 3.

Fig. 5 is a disassembled view of certain parts of the handle structure.

Fig. 6 is a transverse sectional view taken in the plane of line 6—6 of Fig. 4.

Fig. 7 is a fragmentary front or face view of the handle with the covering shell removed.

Fig. 8 is a perspective view of one of the parts.

My improved handle comprises a tubular stem generally designated by the numeral 7 and having rigidly secured at its outer end a cross bar 8. The stem is constructed in the form of two metal stampings providing two interfitting sections 9 and 9′ for convenience in assembling the locking means. The two halves have interfitting tongues and notches 10 and 10′, and at their outer ends have wing portions 11 upon the front face of which is welded or otherwise secured a bar 12. The two sections are thus secured together by the interfitting tongues and notches 10, 10′ and by the bar 12 connecting the wing portions 11, thus forming the tubular stem 7 and cross bar 8.

At the other or inner end of the stem the two sections 9 and 9′ are extended to form arms 13 between which the square lock-operating rod or shank 14 is entered. These arms are preferably channel shaped as shown at 15 (Fig. 6) so as to fit the shank 14 snugly and the parts are rigidly secured together by rivets 16.

A suitable shell or covering 17 formed from either pressed metal or a moulded composition such as rubber or bakelite encloses the stem 7 and cross bar 8.

18 designates a portion of an automobile door having a front panel 19 provided with a hole 19′ of substantial size opening into a recess or chamber 18′ in the door. Opening rearwardly from the chamber 18′ is a hole 20 through which the rod or shank 14 extends for operative association with the usual latch (not shown). An escutcheon plate 21, preferably in the form of a metal stamping, encircles the stem 7 of the handle and is secured to the door by means of screws 22. This escutcheon plate forms with the panel a chamber 23 for enclosing a part of the locking means.

The locking means comprises a pivoted member or pawl 24 mounted on one of the rivets 16 within a slot 25 formed in the outer end of the latch-operating shank 14, and movable within a hemispherical portion of the recess or chamber 18′. Said pawl has a tail piece 26 projecting from one side of the stem between the arms 13, and this tail piece of the pawl is adapted to be moved into and out of engagement with the door to lock the handle against turning. Herein the tail piece 26 is arranged to engage in a notch 27 formed in the panel 19 at one side of the aperture 19′.

The means for operating the pawl 24 may comprise a key-operated cylinder lock 28 of ordinary construction mounted within the stem 7 and having the usual key-operated tumblers normally engaging in slots 28′ in the stem. At its inner end the cylinder has

a disk 29 carrying an eccentric pin 30 which engages in a notch 31 formed in the forward edge of the pawl 24, the latter as shown in Fig. 2 being of substantial thickness. The arrangement is such that when the cylinder 28 is turned by means of a key, the pawl is swung to carry its tail piece 26 either into or out of engagement with the notch 27 in the panel. Obviously, when thus engaging in the notch 27, the handle is positively locked against turning.

As may be seen in Fig. 3, one side, 14^a, of the split shank 14 is preferably formed somewhat longer than the opposite side, 14^b, to provide a stop against which the eccentric pin 30 is adapted to abut. This abutment insures that in either locked or unlocked position of the pawl the eccentric pin will be positively in engagement with the notch 31 in the pawl. The shorter side, 14^b, of the shank permits the passage of the pin 30 in the locking and unlocking movement thereof.

To prevent the handle from being removed from the door when locked, I also utilize the pawl 24. For this purpose the pawl has a transverse pin 32 which in the locked position of the door engages with the inner side of the panel at opposite sides of the notch 27 of the aperture 19'. Thus it will be seen that the pawl not only locks the handle against turning, but effectively prevents the removal of the handle from the door rendering unnecessary the use of the usual fastening means in the end of the handle shank. To prevent withdrawal of the handle from the door when the pawl is in its unlocked position, I provide a collar 33 rigidly secured to the arms 13 on opposite sides of the shank 14, as by means of a pair of wings 34 which are fastened by the rivet 16 which forms the pivotal axis of the pawl 24. Between this collar and the escutcheon plate 21 is a stiff coiled spring 35 acting to hold the inner end of the shell 17 of the handle in operative relation to the escutcheon plate and thereby retaining the handle in the door.

The construction provided is, it will be seen, extremely simple employing few parts and capable of manufacture at small cost and capable of being quickly and easily assembled. The locking pawl is firmly secured to the handle and by engaging with the door proper serves effectually to hold the handle against turning and to prevent its removal from the door.

I claim as my invention:

1. A locking door handle comprising a tubular stem having a pair of extended arms rigid therewith, a latch-operating shank rigidly secured between said arms, a locking pawl pivoted in said shank and movable into and out of engagement with the door to hold the shank against turning, and key-operated means for moving said pawl.

2. A locking door handle comprising a tubular stem having a pair of extended arms rigid therewith, a latch operating shank entered between and rigidly secured to said arms, said shank having a slot therein, a member pivoted in said slot and having a portion projecting from one side thereof so as to be movable into engagement with the door whereby to prevent the shank from turning, and a key-operated cylinder mounted in the tubular stem and operatively engaging said member to move it.

3. A locking door handle having a latch-operating shank, a member mounted to turn with said shank, and key-operated means for actuating said member, said member having a part adapted to engage with the door to hold the shank against turning, and a part adapted to engage with the door to prevent removal of the handle from the door.

4. A door handle adapted to receive a locking mechanism comprising a tubular stem formed from two interfitting segmental sections rigidly secured together and having spaced inward extensions, and a latch-operating member rigidly secured between said extensions.

5. A locking door handle comprising a tubular stem formed from two substantially segmental sections rigidly secured together, a latch-operating shank rigid with said stem, a locking member arranged to turn in the rotation of the stem and shank and adapted to engage with a fixed part of the door to hold the handle against turning, and means for actuating said member, said member also having a part adapted to engage with a fixed part to prevent removal of the handle from the door.

6. A locking door handle comprising a tubular stem formed from two substantially segmental sections each having a rigid extension, a latch-operating shank entered between said extensions, means rigidly securing said extensions and the operating shank together, and key-operated means mounted between said sections including a member mounted to turn with the handle and movable into holding engagement with the door.

7. A door handle adapted to receive a locking mechanism comprising a stem formed from two segmental sections, a hand portion including parts formed integral with said sections and a cross bar, said parts and cross bar being rigidly secured together, and a latch-operating shank rigid with the stem.

8. A door handle adapted to receive a locking mechanism comprising a tubular stem formed from two interfitting segmental sections, and a hand portion including parts integral with the said section and rigidly secured together.

9. A door handle having a locking pawl of substantial thickness mounted to turn therewith, and a key-operated cylinder hav-

ing an eccentric pin, said pawl having a notch in one edge adapted to receive said pin.

10. The combination with a door having a recess in its outer face, of a door handle mounted in the door and having a locking pawl arranged to turn therewith and movable in said recess, said door having a part adapted to receive said pawl in one position thereof to hold the handle against turning.

11. The combination with a door having a recess in its outer face, of a door handle mounted in the door and having a locking pawl arranged to turn therewith in said recess, and a plate rigid with the door and having a notch in which the pawl is adapted to engage to hold the handle against turning, said pawl having a pin adapted in the locking position of the pawl to engage with said plate laterally of the notch so as to prevent withdrawal of the handle from the door.

12. The combination with a door having a recess in its outer face, of a door handle mounted in the door and having a locking pawl arranged to turn therewith in said recess, said door having a panel with which said pawl is adapted to engage to lock the handle against turning and to prevent withdrawal from the door.

In testimony whereof, I have hereunto affixed my signature.

ROLLO MARPLE.