W. K. EARLE.

HANDLE AND LATCH OPERATING DEVICE.

APPLICATION FILED APR. 7, 1920.

1,383,088. Patented June 28, 1921.

Fig. 1.

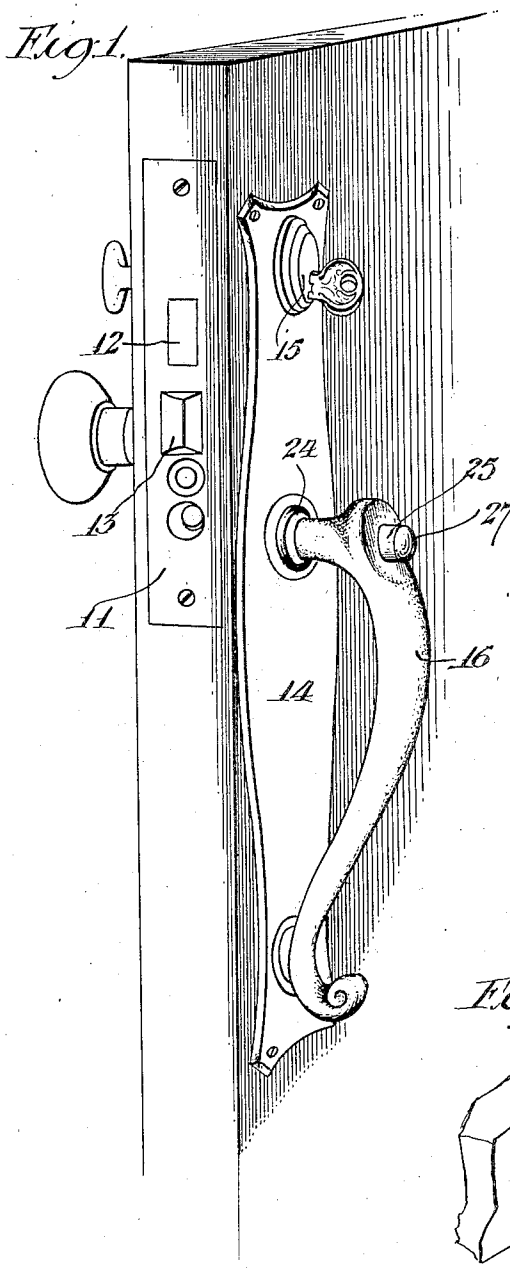


Fig. 2.

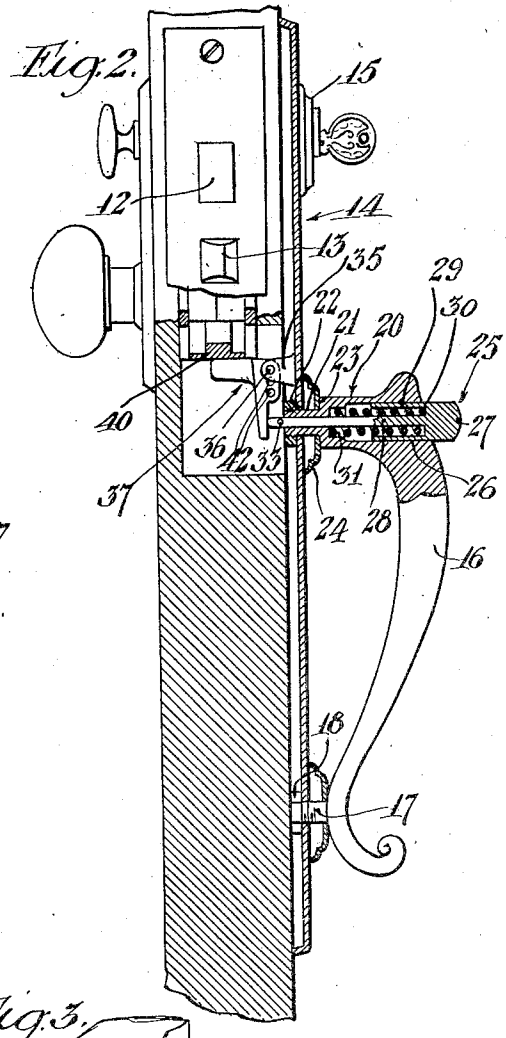
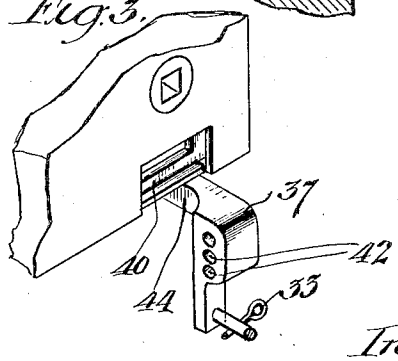


Fig. 3.



Inventor

William K. Earle

by Graham + Dunn

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM K. EARLE, OF OCEAN PARK, CALIFORNIA, ASSIGNOR TO EARLE HARDWARE MANUFACTURING CO., A CORPORATION OF CALIFORNIA.

HANDLE AND LATCH OPERATING DEVICE.

1,383,088. Specification of Letters Patent. Patented June 28, 1921.

Application filed April 7, 1920. Serial No. 372,374.

To all whom it may concern:

Be it known that I, WILLIAM K. EARLE, a citizen of the United States, residing at Ocean Park, in the county of Los Angeles and State of California, have invented a new and useful Handle and Latch Operating Device, of which the following is a specification.

My invention relates to locks, being more particularly a device for operating the latch mechanism of a door, embodied in the handle construction.

The principal object of my invention is to produce a latch operating mechanism of simple form and construction which may be embodied in the grip or handle used for opening the door, such latch operating mechanism being adaptable to different forms of locks and handles.

Other objects and advantages will appear hereinafter from the following description and drawings.

Referring to the drawings, which are for illustrative purposes only,

Figure 1 is a perspective view of a portion of a door showing a device embodying a form of my invention mounted thereon.

Fig. 2 is an end view of the door shown in Fig. 1, a portion of the device mounted thereon being shown in section to better illustrate the invention, and

Fig. 3 is a perspective view of the latch arm lever and the associated parts of the lock.

11 designates a lock casing which may be of any standard form of construction, such lock casing being fitted into the door in the usual manner and being provided with a lock bolt 12 and a latch bolt 13, the lock bolt 12 being operated by the usual key mechanism and the latch bolt mechanism within the casing 11 being of the usual form of construction.

Mounted upon the face of the door in the usual manner is an escutcheon or base plate 14 having key mechanism 15 mounted therein for operating the lock bolt 12. 16 designates a grip or handle, the lower end of which is secured to the plate 14 by means of a threaded stud 17 one end of which is secured to the grip 16 and the other end of which extends through the plate 14, being secured thereto by means of a suitable nut 18. The upper end of the grip 16 terminates in an inwardly extending hollow stud or post 20 having a reduced stem 21 formed thereon which extends through an opening in the plate 14, the inner end of the stem 21 being threaded to receive a nut 22 which nut 22 seats a shoulder 23 formed on the stud 20 against a ferrule 24 which is seated against the outer face of the plate 14.

25 designates a thumb piece in the form of a push button slidably mounted in a chamber 26 formed in the grip 16. The thumb piece consists of a rounded head 27 having formed thereon a shank or rod 28 which rod 28 extends through a central opening in the stud 20 and stem 21 as clearly shown in Fig. 2. The head 27 is recessed as shown at 29 to receive a coiled spring 30 the inner end of which is seated against the inner end of a counter bore 31 formed in the stud 20. 33 designates a cotter pin mounted in the rod 28 for the purpose of preventing displacement of the thumb piece by the spring 30. Mounted upon lugs 35 by means of a pin 36 is a latch operating lever 37, one arm 38 of which extends into the path of the inner end of the rod 27, the other end 39 extending under and lifting the latch arm 40 forming part of the mechanism in the casing 11 for operating the latch bolt 13. The lever 37 is provided with additional perforations 42 to receive the pin 36 so that the position of the lever 37 may be changed to accommodate the latch operating mechanism with respect to the position of the casing 11 and parts therein.

It will readily appear from the above description and drawings that the operation of the latch is extremely simple as the push button is so placed on the handle that it is in the natural position of the thumb of the operator. A slight pressure by the thumb on the push button in a horizontal direction operates the lever 37 through the medium of the rod 28, the lever 37 operating the latch arm 40.

The lever 37 is preferably made wide enough to insure a long bearing on the pin 36 whereby twisting movement of the lever is eliminated but the end 39 of the lever is preferably reduced in width as indicated at 44 so that in the event handles or grips are placed on both sides of the door sufficient room is left in the opening 45 in the casing 11 to permit the lever on the grip on the inside of the door to extend along side

the lever on the grip on the outside of the door whereby the latch arm may be operated from either side of the door.

What I claim is:—

1. In combination with the latch operating arm of a door latch, an escutcheon plate mounted on the door, a hand grip on said plate, a stud formed on the hand grip extending through said plate, means for securing said stud to said plate, a recessed push button slidably mounted in said stud, a rod formed on said button slidably extending through the inner end of said stud, a coiled spring on said rod extending into the recess in said button arranged to elastically force said push button outwardly, a pin in said rod for limiting the outward movement of said button, a lug on said escutcheon plate, a lever having a plurality of perforations thereon and a pin in said lug extending through one of the perforations in said lever, said lever having a downwardly extending arm arranged to be engaged by the inner end of the rod on said push button and an inwardly extending arm arranged to extend under the latch arm of the lock.

2. In combination with the latch arm of a door latch, an escutcheon plate mounted on a door, a hand grip, a stud on said hand grip, means for securing said stud to said plate, a push button slidably mounted in said stud, a spring in said stud for elastically moving said button outwardly, a rod on said button, means for limiting the outward movement of said button, and a bell crank lever pivotally mounted on said plate having one arm extending under the latch arm of the lock and the other arm arranged to be engaged by said rod.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 1st day of April, 1920.

WILLIAM K. EARLE.