

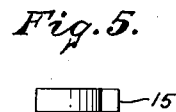
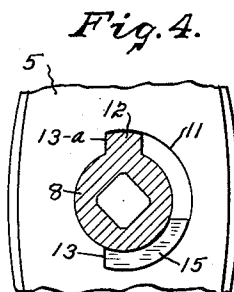
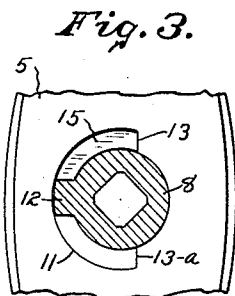
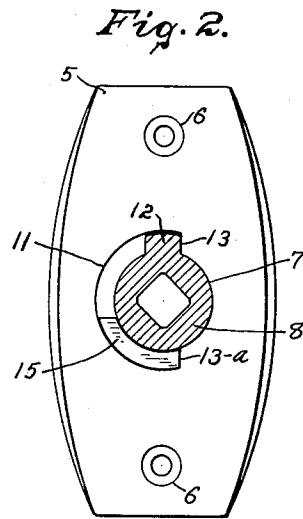
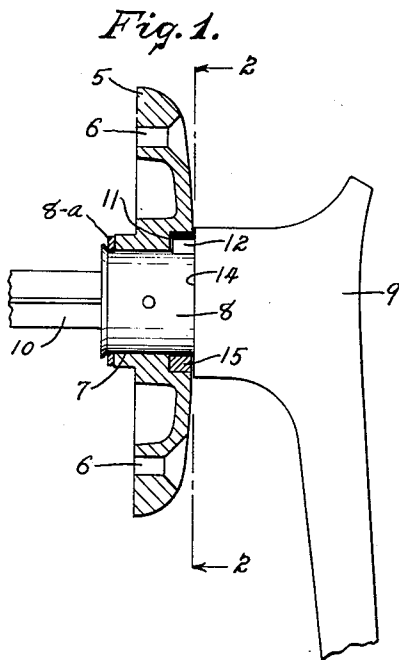
Dec. 26, 1961

N. A. WELCH ET AL

3,014,748

OPERATING HANDLE ASSEMBLY FOR LATCH OR LOCK MECHANISM

Filed Sept. 21, 1959



INVENTORS  
NICHOLAS A. WELCH.  
CARL A. VAHLSTROM.  
BY *Louis V. Lucia*  
ATTORNEY.

1

2

3,014,748

**OPERATING HANDLE ASSEMBLY FOR LATCH OR LOCK MECHANISM**

Nicholas A. Welch, West Hartford, and Carl A. Vahlstrom, New Britain, Conn., assignors to The American Hardware Corporation, New Britain, Conn., a corporation of Connecticut

Filed Sept. 21, 1959, Ser. No. 841,252

6 Claims. (Cl. 292—356)

This invention is embodied in an operating handle and escutcheon plate assembly for latch or lock mechanisms, and relates particularly to improved stop means for such an assembly for controlling the direction and degree of rotation of the operating handle.

Heretofore, stop means have been provided in an escutcheon plate or mounting panel for a latch or lock handle to limit the direction of rotation of the handle and the number of degrees through which it turned. However, in such prior devices the stop means were either an integral part of the escutcheon plate or were permanently secured thereto so that the direction and degree of rotation of the handle was fixed. As a result, such prior handles could not be used with both right-hand and left-hand operated latch or lock mechanisms or with mechanisms which required rotation of their handles for different amounts.

The primary object of this invention, therefore, is to provide stop means for an operating handle which permit said handle to be used with latch or lock mechanisms whose spindles rotate in opposite directions and/or for a different number of degrees.

A further object of this invention is to provide stop means which may be initially assembled to permit rotation of the handle in a right-hand or a left-hand direction.

A still further object of this invention is to provide stop means, including a removable stop member, which may be initially assembled to permit rotation of the handle in either direction for 90° or for 180°.

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

FIG. 1 is an elevational view, partly in central vertical section, of an operating handle and escutcheon plate assembly embodying our improved stop means.

FIG. 2 is a sectional front view thereof taken on line 2—2 of FIG. 1.

FIG. 3 is a fragmentary sectional front view showing the stop member of our improved stop means in a different position from that shown in FIG. 2.

FIG. 4 is a similar view showing the stop member and the escutcheon plate in another position.

FIG. 5 is a plan view of the stop member provided by our invention.

FIG. 6 is an elevational view of said stop member.

In the drawing, we have illustrated our invention in an operating handle and escutcheon plate assembly of a type commonly provided for use with latch or lock mechanisms, but it will be understood that our novel stop means may be readily used in conjunction with other types of latch or lock operating devices without departing from the spirit of the present invention.

As illustrated in the drawing, the numeral 5 denotes an escutcheon plate which may be secured to the surface of a door or other closure by means of screws inserted through holes 6—6 in said plate. The said escutcheon plate has a centrally located, round opening 7 extending therethrough which rotatably receives a hub 8 on a handle 9. The end of said hub is flared and engages a bearing washer 8a to prevent axial movement of the handle relatively to the escutcheon plate 5.

In the disclosed embodiment of our invention, the handle 9 carries a conventional latch or lock operating spindle 10

which is square in cross-section. Said spindle is non-rotatably secured to the hub 8 and extends axially therefrom, as shown in FIG. 1, so that it may be inserted into the complementary opening usually provided in the roll-back of a conventional latch or lock mechanism, not shown, to permit operation of said mechanism upon rotation of the handle 9 in the proper direction and for the required number of degrees.

In accordance with the present invention, the escutcheon plate 5 is provided with a narrow, arcuate recess 11 in its outer face which is disposed concentrically of and partially surrounds the opening 7 therein. The recess 11 is located in the marginal edge portion of said opening and receives a stop lug 12 extending radially from the hub 8; the opposite end walls of said recess providing abutment surfaces 13 and 13a which are engageable by said stop lug to normally limit rotation of the handle 9 to 180° relatively to the escutcheon plate. The recess 11 and the stop lug 12 are normally concealed from view by an annular shoulder 14 which is formed on the handle 9 around the hub 8 as shown in FIG. 1.

In order to further limit rotation of the handle 9, we provide a separate, arcuate stop member 15 which, as best shown in FIGS. 2 through 6, has the same radius of curvature as the recess 11 and is adapted to fit therein with one end disposed against either of the abutment surfaces 13 or 13a at the ends of the recess 11 and its opposite end positioned for engagement by the stop lug 12 on the handle 9. It will be seen from FIG. 1, that the stop member is retained in the recess 11 by the annular shoulder 14 on the handle 9.

When the stop member 15 is installed in the recess 11 in the position shown in FIG. 2, the handle 9 can be rotated 90° in a counterclockwise direction from a normally vertical position, such as shown in FIG. 1, or 90° in a clockwise direction from a normally horizontal position; the degree of rotation in either direction being limited by engagement of the stop lug 12 with the abutment surface 13 and the free end of the stop member 15.

When the stop member 15 is installed in the recess 11 in the position illustrated in FIG. 3, the handle 9 is conditioned for 90° rotation in a counterclockwise direction from a normally horizontal position, as shown, or for 90° rotation in a clockwise direction from a normally upwardly extending vertical position. In either case, the stop lug will move between the free end of the stop member 15 and the abutment surface 13a defining the lower end of the recess 11.

The handle 9 may be conditioned to rotate in opposite directions from those allowed by the arrangements shown in FIGS. 1 to 3 by inverting the escutcheon plate 5 to position the recess 11 on the opposite side of the handle 9 as shown in FIG. 4. When in this position, the stop member may be inserted into the lower quadrant of the recess to provide for rotation of the handle for 90° in a clockwise direction from a normally vertical position or for 90° in a counterclockwise direction from a normally horizontal position. The stop member may also be inserted into the upper quadrant of the recess 11 or may be omitted entirely when it is desired to provide for 180° rotation of the handle.

We claim:

1. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having a face portion, an opening extending therethrough from said face portion and a recess in said face portion concentric with said opening, said recess having an end wall providing an abutment surface, a handle adjacent said face portion including a hub portion rotatable in said opening, a stop lug extending from said handle into said recess for angular movement therein upon rotation of said handle, and a stop member seated in said recess with one end engaging

3

said abutment surface and its opposite end disposed for engagement by said stop lug to limit rotation of said handle.

2. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having an opening therein and a recess in the marginal edge portion of said opening extending partly therearound and terminating in an end wall providing an abutment surface, a handle having a hub portion rotatable in said opening, a stop lug extending from said hub portion into said recess for angular movement therein upon rotation of said handle, and a stop member seated in said recess with one end engaging said abutment surface whereby said stop member is immovably positioned in said recess, the opposite end of said stop member being disposed for engagement by said stop lug to limit rotation of said handle.

3. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having an opening therein and a recess in the marginal edge portion of said opening extending partly therearound and having end walls at its opposite ends providing angularly spaced abutment surfaces, a handle having a hub portion rotatable in said opening, a stop lug extending from said hub portion into said recess for angular movement therein upon rotation of said handle, and a stop member adapted for insertion into said recess in either one of two inverted positions for controlling the direction and degree of rotation of said handle, said stop member, in either of its said positions, being immovably positioned in said recess through engagement of one of its ends with one of said abutment surfaces and having its opposite end spaced from the other abutment surface and disposed for engagement by said stop lug.

4. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having a front face, an opening extending therethrough from said front face and a recess in said front face concentric with said opening, said recess having an end wall providing an abutment surface, a handle disposed in front of said escutcheon plate and having a hub portion rotatable in said opening, a stop lug extending from said hub portion into said recess for angular movement therein upon rotation of said handle and being engageable with said abutment surface whereby to limit rotation of said handle, and

4

an annular shoulder on said hub portion opposed to said front face of the escutcheon plate, said shoulder overlying said recess and said abutment surface and concealing them from view.

5. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having a front face, an opening extending therethrough from said front face and a recess in said front face concentric with said opening, a handle disposed in front of said escutcheon plate having a hub portion rotatable in said opening, a stop lug extending from said hub portion into said recess for angular movement therein upon rotation of said handle, a stop member disposed in said recess for engagement by said stop lug to limit the rotation of said handle, and an annular shoulder on said hub portion opposed to said front face of the escutcheon plate and overlying said recess to retain said stop member therein.

6. In an operating handle assembly for a latch or lock mechanism; an escutcheon plate having a front face containing an opening therein and an arcuate recess in the marginal edge portion of said opening concentric therewith, said recess having a substantially radially disposed end wall providing an abutment surface, a handle disposed in front of said escutcheon plate having a hub portion rotatable in said opening, a stop lug extending radially from said hub portion into said recess for angular movement therein upon rotation of said handle, an arcuate stop member conforming to the shape of said recess seated therein with one end engaging said abutment surface whereby movement of said stop member in said recess is prevented, the opposite end of said stop member being disposed for engagement by said stop lug to limit rotation of said handle, and an annular shoulder on said handle surrounding said hub and opposed to said front face, said shoulder overlying said recess and retaining said stop member therein.

#### References Cited in the file of this patent

#### UNITED STATES PATENTS

|           |        |               |
|-----------|--------|---------------|
| 1,764,945 | Flynn  | June 17, 1930 |
| 1,904,210 | Eichel | Apr. 18, 1933 |
| 2,804,765 | Biblin | Sept. 3, 1957 |
| 2,919,570 | Crew   | Jan. 5, 1960  |