May 23, 1933. J. A. RYMER 1,910,859

DOORKNOB AND ESCUTCHEON MOUNTING

Filed Oct. 2, 1931

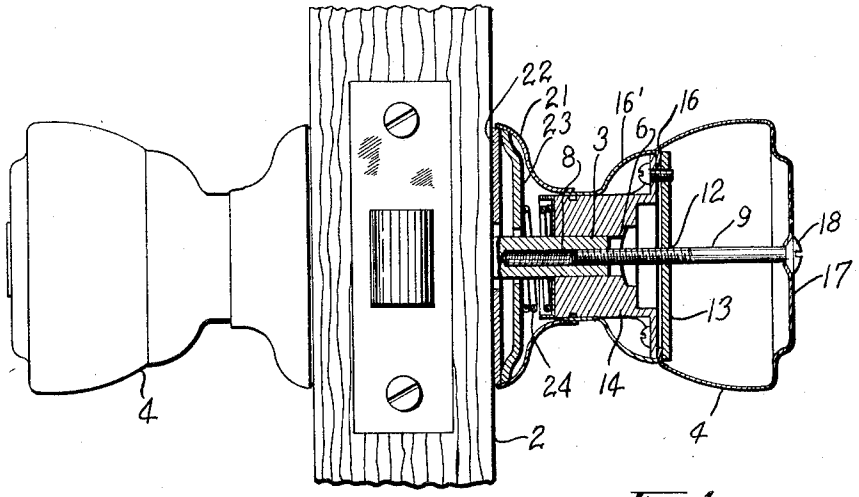


Fig. 1.

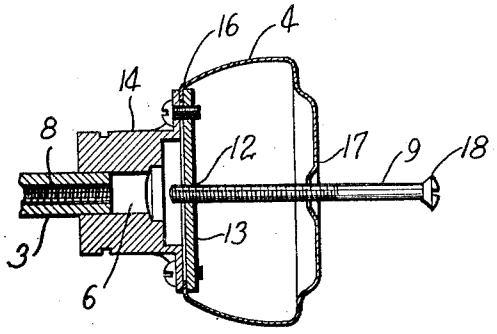


Fig. 2.

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UNITED STATES PATENT OFFICE

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DOORKNOB AND ESCUTCHEON MOUNTING

Application filed October 2, 1931. Serial No. 566,532.

The invention relates to a means of securing a door knob to a spindle of a lock or the like, and to the manner of mounting the escutcheon thereon between the knob and the door.

An object of the invention is to provide a simple and effective knob and spindle connection which will permit the same spindle and knob to be used for different thicknesses of doors without the change of any parts.

Another object of the invention is to provide a means of mounting an escutcheon about the spindle or knob whereby the escutcheon may be retained against the door or element interposed between the escutcheon and door, without the use of screws or other visible retaining means.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawing:

Figure 1 is a vertical sectional view of the means of my invention operatively positioned on a door.

Figure 2 is a sectional view of the parts of the device showing the manner of assembling together the knob and spindle.

As illustrated in the drawing the means of my invention is particularly adapted for use with a door lock having operatively associated therewith and extending through the door 2 a spindle 3 on the ends of which at opposite sides of the door are positioned knobs 4. The spindle, as customarily made, is square in cross section and arranged to slidably fit in a correspondingly shaped socket 6 formed in the knob, the socket being of such length or otherwise formed whereby the spindle may be disposed in different axial positions therein with the knob and spindle held against relative rotation.

Formed in the end of the spindle and extending longitudinally therein is a screw threaded bore 8 which is arranged for the reception of a correspondingly threaded screw 9 adapted to extend centrally through the knob. The screw 9 is insertable through the knob from the outer face thereof and as clearly shown in Figure 1 is arranged to extend into the socket so that it may enter the spindle bore. Suitably provided within the knob is a screw threaded hole 12 designed for threaded engagement by the screw 9 and as here shown disposed in a transversely positioned disc 13 which serves as one of the parts for securing the shank portion 14 of the knob to the shell or gripping portion 16 thereof. Preferably the outer end wall of the shell 16 is countersunk to permit the head 18 of the screw to nest therein when the screw is driven home.

In mounting the knob on the spindle, assuming the latter is in a fixed position, the former is inserted over the spindle as clearly shown in Figure 2, and held thereon in desired relation to the door, the screw being sufficiently retracted to avoid interference with the proper positioning of the spindle in the socket. With the knob thus held, the screw is then rotated to enter the bore 8 and progress therein until head 18 firmly seats against the wall 17. It will thus be evident that any adjusted relation between the spindle and knob may be effected by merely holding the latter in desired position and then rotating the screw home, it being noted that since the screw has a threaded engagement in the knob, retention of the parts in set position is obtained as soon as the screw becomes engaged with a thread in the bore. It will further be noted that, owing to the relative thinness of the wall 17 and the space existing adjacent the inner side thereof, there will occur a slight inward deflection of the wall incident to a forced rotation of the screw after the latter has been driven home. Such a deflection, it will be apparent, will, due to the inherent springyness of the metallic wall, serve to positively bind the screw in fixed engagement with the threaded portions on the knob and spindle. To release the knob from the spindle, it is of course only

necessary to disengage the screw from the spindle.

As is the style in most types of locks, a rose or escutcheon 21 is mounted about the spindle for the purpose usually to cover the latter and the portion of the door through which it extends. In the present instance such rose is arranged to surround the spindle and slidably fit over the shell portion 16′ so as to readily permit the adjustable positioning of the knob while affording full concealment of the spindle and the inner end of the knob. The rose also, as here shown, is designed to cover a plate 22 through which the spindle extends and forms a part of the clamping and holding means of the lock. In most of the locks heretofore made, the rose, escutcheon, or like shield, was arranged to be held against the door or other element such as the plate, by the use of screws or other visible securing means. In the mounting of my invention the rose or the like is held in proper position both without screws or any means visible from the exterior of the rose or related parts. As clearly shown in Figure 1, there is provided on the exterior of the rose and affixed thereto a cross member 23 through which the spindle is arranged to pass. This member is arranged to set against the door, or rather as here shown against the plate 22 and is resiliently held thereagainst by a spring 24 which encircles the spindle and is interposed between said wall and the inner end of the knob. The portion of the member engaging the plate is preferably in such relation to the portion of the rose arranged to lie closest to the door that the rose will not actually contact with the door and thereby avoid possible mutilation of the surface thereof in the event the rose is turned. It will be seen that the rose shell fully encloses the member 23 and spring 24 and that thus by a very simple arrangement the rose will be effectively held in proper position with no retaining means visible.

It should be clear that while I have here shown the rose as designed to set against the portion of the lock, such rose may be designed to set against other parts, such as for example directly against the door or against a separate escutcheon.

I claim:

1. In a mounting of the character described, a spindle having a screw threaded bore extending axially inward from an end thereof, a tubular member surrounding and slidably carried by said spindle, a plate secured to the outer end of said member and having a centrally disposed threaded bore in axial alignment with said first bore, a handle knob secured between said plate and said member and provided with an opening in the outer side thereof in alignment with said bores, and a headed screw inserted through said opening and having the threaded shank portion arranged to simultaneously operatively engage in said spindle and plate threaded bores and the head thereof arranged to abut against the outer side of the knob when the shank is operatively engaged as aforesaid.

2. In a mounting of the character described, a spindle having a screw threaded bore extending axially inward from the end thereof, a tubular member surrounding and slidably carried by said spindle and provided at the outer side thereof with an outwardly extending flange, a plate secured to said flange and provided with a centrally disposed threaded bore in alignment with said spindle bore, a hollow open ended shell disposed with its walls clamped between said plate and flange and having an opening in the outer extremity thereof in alignment with said bores, and a headed screw inserted in said opening and arranged to simultaneously operatively engage in said spindle and plate threaded bores and the head thereof arranged to abut against said outer extremity of the shell when the screw is operatively engaged as aforesaid.

In testimony whereof I have hereunto set my hand at Oakland, California, this 16 day of September 1931.

JOHN A. RYMER.