Aug. 10, 1943. J. HILLGREN 2,326,646

DOOR KNOB

Filed June 29, 1940

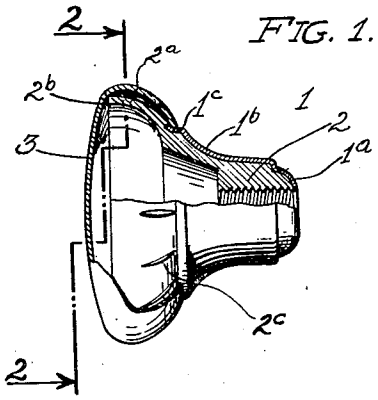


FIG. 1.

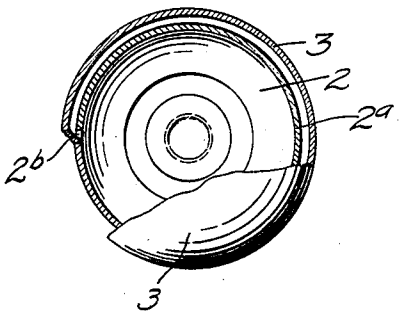


FIG. 2.

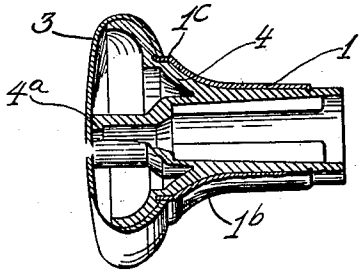


FIG 3.

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DOORKNOB

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4 Claims. (Cl. 292—347)

This invention relates to door knobs, and particularly to door knobs fabricated from sheet metal.

One of the principal objects of this invention is to provide a door knob of this class in which the principal portions are formed from sheet metal, and in which the same are rigidly but economically secured relative to each other.

Another important object of this invention is to provide a ferrule having a soft cast metal core around which is formed the knob member, the knob member being rigidly secured to the ferrule by the core.

Another important object of this invention is to provide a knob of this class in which the knob member is formed around a shank in such a manner that it is fixed against axial movement or loosening relative to the shank.

A further important object of this invention is to provide a door knob of this glass in which the knob member may be made of relatively thin gauge sheet metal, but which is prevented from inward collapse by a bracing construction of the core.

With these and other objects in view, as will appear hereinafter, I have devised a door knob having certain novel features of construction, combination, and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawing and to the characters of reference thereon which form a part of this application, in which:

Fig. 1 is a longitudinal elevation of one form of my door knob, with the upper portion thereof broken away and in section to facilitate the illustration;

Fig. 2 is a partial end and partial sectional view thereof taken substantially through 2—2 of Fig. 1; and,

Fig. 3 is a view similar to that of Fig. 1 but showing a slightly modified form of construction.

My door knob, as shown in the drawing, consists essentially of three parts, namely a ferrule 1, a core 2, and a knob member 3. The ferrule 1 and the knob member 3 are formed of relatively thin sheet metal and are secured relative to each other by the cast metal core 2, which is preferably a soft and light metal, such as that commonly used in die casting. The knob, when completed, presents substantially the same appearance as other door knobs in common use.

The ferrule 1 forms the outer wall of the shank of the knob, the inner end 1^a being slightly contracted, and the outer end being flared to a larger diameter at 1^b. The extreme outer end of the flared portion is substantially cylindrical, as indicated by 1^c. The core 2 is molded or cast within the ferrule, but the outer portion 2^a, which is a torus-shaped ring or shell, is of considerably larger diameter and extends axially beyond the ferrule. This larger diameter ring or shell is molded around or encloses the outer end of the ferrule, as shown in both Figs. 1 and 3.

The knob member 3 is formed substantially as an oblate spheroid, the peripheral portion being located around the enlarged diameter portion 2^a. The inner end of the knob member is formed around and engages the ferrule and core 2 at the juncture of the two latter members. The axially outer edge 2^b of the core engages the inner wall of the knob member near its peripheral portion. Thus, when pressed into place, the knob member is rigid with respect to the ferrule and core, and is not permitted to be loosened readily. Around the outer surface of the enlarged portion of the core are a plurality of longitudinal ribs 2^c, which facilitate the location of the knob member around the core, and permit the ribs readily to be deformed to insure proper seating of the knob member around the core. These ribs or ridges 2^c, when tightly embraced by the knob member 3, tend to bite into or distort the latter, or at least so intimately engage the latter that the slightest relative movement of the core and knob member is reduced to a minimum.

In the modified structure shown in Fig. 3, the central portion of the core is provided with a slightly different recess for the reception of a knob spindle, different from that shown in Fig. 1, in which the core is provided with a threaded central recess. But the principal difference is that the core 4 in Fig. 3 is provided with an axial elongation 4^a at its outer end. This elongation engages the inner side of the central portion of the knob member so as to prevent ready collapse or deformation of the outer end of the knob member.

Though I have shown and described a particular construction, combination, and arrangement of parts and portions and a modification thereof, I do not wish to be limited to the same, but desire to include in the scope of my invention the construction, combination, and arrangement substantially as set forth in the appended claims.

I claim:

1. In a door knob, a ferrule having a flared outer end, a core member anchored within the

ferrule and having its outer end flared beyond the flared end of the ferrule and extending axially outwardly therefrom, the flared end of the ferrule being anchored within the flared outer end of the core member and a knob member pressed around the outer flared portion of the core member and with its inner edge in engagement with the outer side of the flared portion of the ferrule.

2. In a door knob, a ferrule, a core member anchored within the ferrule, said core member being flared at its outer end and having an outwardly extending axial portion, and a knob member having its peripheral portion pressed over the flared end of the core member, the axial portion of the core member engaging the central portion of the inside of the outer end wall of the knob member.

3. In a door knob, a ferrule having at its outer end an outwardly diverging flange, a core member anchored within the ferrule and having its outer end flared diametrically and axially beyond the outer end of the ferrule with the outer portion of the flange anchored within the flared portion of the core member, and a knob member pressed around the flared portion of the core member and with its inner edge in engagement with the exterior portion of the flange.

4. In a door knob, a shank having a flared outer end and also having an outwardly extended axial portion, and a knob member at the outer end of the shank, said member being pressed around the outside of and in engagement with the flared outer end portion, the outer end of the axial portion of the shank engaging the central portion of the inner side of the outer end wall of the knob member.

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