Aug. 29, 1933. J. P. BURKE 1,925,030

HOLLOW ARTICLE

Filed March 6, 1931

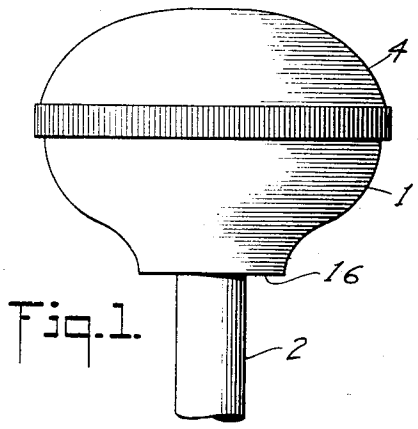


Fig. 1.

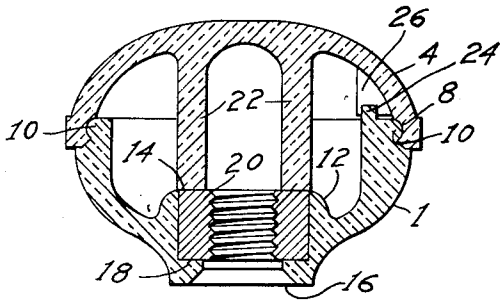


Fig. 2.

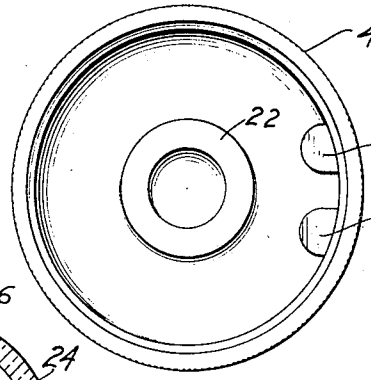


Fig. 3.

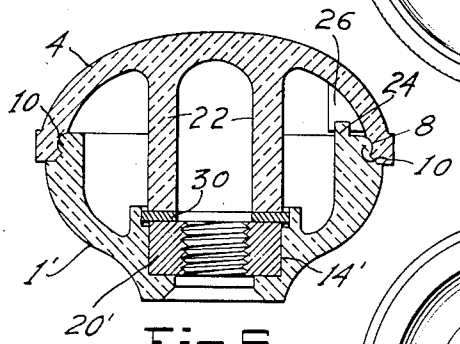


Fig. 5.

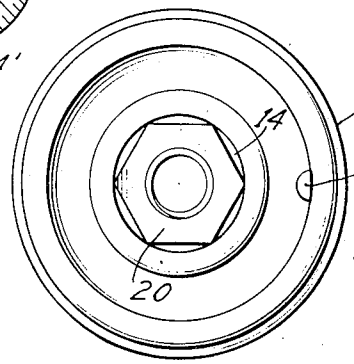


Fig. 4.

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UNITED STATES PATENT OFFICE

1,925,030

HOLLOW ARTICLE

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Application March 6, 1931. Serial No. 520,665

3 Claims. (Cl. 16—121)

This invention relates to molded articles and more particularly to molded articles such as knobs or like articles which are secured to the ends of levers or rods, particularly gear shift levers of automobiles, to furnish a readily grasped handle therefor and it is an object of this invention to provide an article of the class described of improved construction. It is also an object of this invention to provide a molded hollow article of the class described in which a threaded metallic bushing is secured in the article for use in connecting the article to the lever or rod with which it is used. It is also an object of this invention to retain the metallic bushing in position in such a way that it is securely held and it is not necessary to mold a part or parts of the article about the bushing. It is also an object of this invention to provide an improved method of manufacturing the article described.

In the drawing—

Figure 1 is a view in elevation of a molded article constructed in accordance with this invention and shown applied to a rod or lever;

Figure 2 is substantially a vertical central section of the article shown in Figure 1, the rod or lever being omitted;

Figure 3 is a plan view showing the inside of the top section of Figures 1 and 2;

Figure 4 is a plan view showing the inside of the bottom section of Figures 1 and 2; and

Figure 5 is a view similar to Figure 2 of a modified construction.

As shown in the drawing the molded hollow article is of the general construction of the article shown in the application of Donald S. Kendall, Serial No. 350,843, filed March 29, 1929 and comprises a bottom section 1 which is attached to the rod or lever 2 and a top section 4 secured to the bottom section 1. The sections are molded of suitable compositions and are formed with complemental beads or flanges 8 and 10 which are engaged to secure the two parts together in the manner described in the Kendall application Serial No. 350,843.

In order to provide means for readily and securely attaching the article or knob to a rod or lever, the bottom section has usually been threaded, but threads formed of the composition are considered undesirable. It has also been proposed to mold a metal bushing in the bottom section as that is molded but in practice this is found to unduly complicate and increase the expense of the molding process. To remedy the objections to the prior constructions, the bottom section 1 is formed with an inwardly projecting boss 12 having an inwardly opening recess 14, shown in the drawing as of hexagonal shape, which extends substantially the full depth of the boss 12 and in the bottom 18 of the recess 14 is an outwardly flaring opening 16 extending to the outside of the bottom section 1. Seated on the bottom 18 of the recess 14 is a hexagonal nut 20 which fits the recess 14 and has a thickness substantially equal to the depth of the recess 14. While the recess 14 and nut 20 have been shown of hexagonal shape, it will be understood they can have other shapes so long as the shapes are such as to keep the nut from turning in the recess.

The top section 4 is formed with an inwardly extending projection 22 of such size as to cause it to engage with the nut 20 when the sections 1 and 4 are assembled to form the complete knob or article.

In the modification shown in Figure 5 the bottom section 1′ is formed with a recess 14′ to receive a metal filler 20′ of similar shape which is of less thickness than the depth of the recess. Above the filler 20′ the recess 14′ is widened and can be of a different shape, as circular, to receive a filling or packing washer 30 of yielding or cushioning material which is placed between the filler 20′ and the projection 22 on the top section 4 and compensates for any irregularities in the heights of the projection 22 and filler 20′.

In manufacturing the article, the sections 1 or 1′ and 4 will be molded in the manner set forth in the Kendall application Serial No. 350,843, the nut 20 or 20′ placed in the recess 14 or 14′ of the bottom section 1 or 1′ and the top section 4 snapped on the bottom section as described in the Kendall application Serial No. 350,843. In assembling the top and bottom sections 4 and 1 or 1′ respectively the sections are placed so that the projecting lug 24 on the bottom section 1 or 1′ is placed between the lugs 26 on the top section 4 thus preventing relative rotation of the top and bottom sections.

When the article is assembled, the nut 20 or 20′ is held against rotation in the recess 14 or 14′ by engagement with the walls of the recess, and it is held in the recess by the projection 22 on the top section 4. The nut 20 or 20′ can be cold and the bottom section 1 or 1′ can be warm when the nut 20 or 20′ is placed in position so that the shrinkage of the bottom portion 1 or 1′ in cooling will tend to cause the walls of the recess to seize the nut 20 or 20′ and aid in securing the nut in position. The method of attaching the top and bottom sections causes them to be securely held together and the interlock-

ing lugs 24, 26 permit of the knob or article being rotated by grasping the top section 4 to attach the knob or article to the rod or lever 2.

What is claimed is:

1. A hollow article comprising a cup-shaped section having an inwardly extending projection thereon, said section having an opening therethrough extending axially of said projection, said opening having a shoulder intermediate its length and being of polygonal shape for a portion of its length, a polygonal nut fitting said polygonal portion of said opening and engaging said shoulder, a second cup-shaped section secured to said first section at their meeting edges, a projection on said second section securing said nut in position and interlocking means on said sections preventing relative rotation thereof.

2. A hollow article comprising a cup-shaped section having an inwardly extending projection, said section having an opening extending axially of said projection, said opening having a shoulder intermediate its length and being of angular shape for a portion of its length, an angular metallic filler fitting said angular portion of said opening and engaging said shoulder, a second cup-shaped section interlocking with said first section at their meeting edges and a projection on said second section holding said filler in engagement with said shoulder.

3. A hollow article comprising a cup-shaped section having a thickened portion, said section having an opening extending through said thickened portion, said opening having a shoulder intermediate its length and being of angular shape for a portion of its length, an angular metallic filler fitting said angular portion of said opening and engaging said shoulder, a second cup-shaped section interlocked with said first section at their meeting edges and a projection on said second section holding said filler in engagement with said shoulder.

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