Jan. 5, 1926. 1,568,883

E. G. DANIELSON

KNOB

Filed July 14, 1925

FIG. 1.

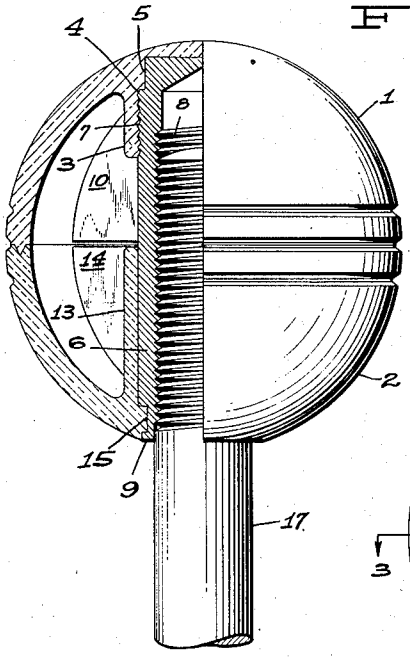


FIG. 2.

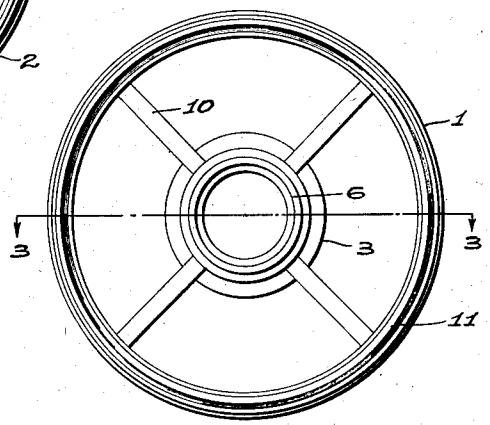


FIG. 4.

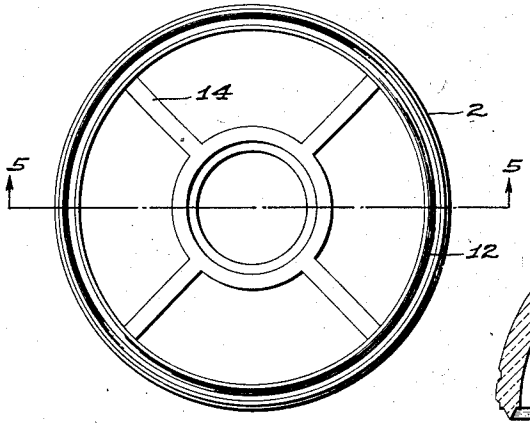


FIG. 3.

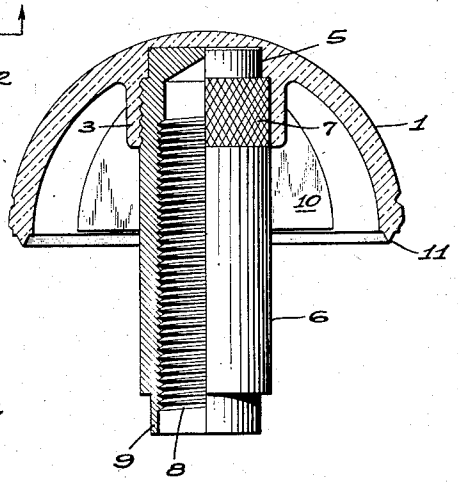
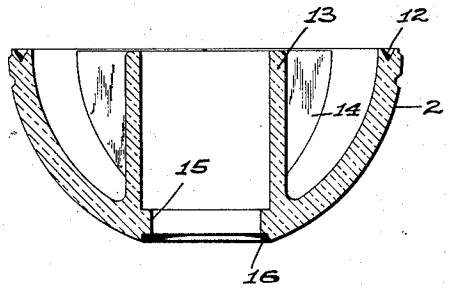


FIG. 5.



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UNITED STATES PATENT OFFICE.

ERNEST G. DANIELSON, OF SAN FRANCISCO, CALIFORNIA.

KNOB.

Application filed July 14, 1925. Serial No. 43,471.

To all whom it may concern:

Be it known that I, ERNEST G. DANIELSON, a citizen of the United States, and a resident of the city and county of San Francisco, in the State of California, have invented a new and useful Knob, of which the following is a specification.

This invention relates to knobs for operating or controlling members, such as gear shifting levers on automobiles, and the like, although not limited to such uses, and has for its object the provision of an improved device of this character. More particularly, the invention relates to knobs formed of synthetic resin molding material, which material is generally known as bakelite, and for convenience I shall hereinafter refer to material of this character as bakelite. Heretofore, in the manufacture of bakelite knobs, it has been the practice to use a wooden core, a wooden ball being used in the cases of round knobs, and to cover the core with a layer of bakelite such as by molding the same thereon, solid knobs of bakelite being too expensive. It was found that knobs manufactured in this manner very often crack or break open due to the warping or swelling of the wooden core occasioned by climatic conditions. It is therefore an object of this invention to provide a hollow bakelite knob which overcomes or eliminates this difficulty.

My invention possesses other advantageous features, some of which with the foregoing will be set forth at length in the following description, where I shall outline in full that form of the invention which I have selected for illustration in the drawings accompanying and forming part of the present specification. Although I have shown in the drawings but one form of my invention, I do not desire to be limited thereto, since the invention as set forth in the claims may be embodied in a plurality of other forms.

Referring to the drawings:

Figure 1 is a view of a knob embodying my invention shown partly in section and partly in elevation on the end of a rod.

Fig. 2 is a plan view of the top member of the knob as seen from its bottom or open end.

Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2 with a part shown in elevation.

Fig. 4 is a view similar to Fig. 2 of the lower member of the knob; and

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4.

A knob embodying my invention comprises two cup-shaped members, namely a member 1 which forms the top portion of the knob and a member 2 which forms the lower portion of the knob. In the drawings I have shown a knob of the spherical type, in which case the members 1 and 2 are in the form of hemi-spheres. It is to be understood, however, that the knob may assume other forms. The members 1 and 2 are hollow and formed of synthetic resin molding material or bakelite. As shown in Figs. 1, 2 and 3, the top member 1 is formed on its interior surface with a central boss or hub 3, which is formed with a bore 4 and counter-bore 5 adapted to receive a member 6, which is preferably metallic and which locks the two hemi-spherical members 1 and 2 together and provides means for mounting the knob on a rod or the like. The member 6 is in the form of a hollow stem which is provided with an external knurled portion 7 adapted to fit the bore 4. The upper end of the member 6 adjacent the knurls 7 is closed and adapted to fit the counter-bore 5. The inner surface of the member 6 is provided with screw threads 8. Adjacent its free or open end, the member 6 has been turned to reduce its outside circumference and to make its wall thinner as indicated at 9 for a purpose hereinafter described. The member 1 is reinforced by a series of radiating ribs 10, as best shown in Fig. 2. Preferably, these ribs extend to the plane of the periphery of the member 1. On its edge, the member 1 is formed with a ridge 11, preferably triangular in cross-section, adapted to fit a cooperating groove 12 in the member 2. The member 2 is similar to the member 1 in that it also is provided with a central hollow boss 13 and reinforcing ribs 14 radiating therefrom. The inner portion of the boss 13 communicates with a reduced opening 15 in the member 2, which opening is formed with a counter-bore 16 at its outer edge. The hollow boss 13 is adapted to receive the member 6, the opening 15 being adapted to receive the reduced portion 9 of the same. From the foregoing, it will be seen that a knob embodying my inven-

tion comprises three members, the members 1 and 2 being molded of synthetic resin molding material and the metallic member 6. The parts are assembled by positioning the metallic member 6 within the top member 1 as best shown in Fig. 3, the member 6 being rigidly secured thereto by means of the knurls 7. The lower member 2 is slipped over the metallic member 6 so that its groove 12 receives the ridge 11 as shown in Fig. 1. The reduced portion 9 of the member 6 is then flared or spun outwardly into the counter-bore 16, thereby locking the members 1 and 2 together as shown in Fig. 1. The unit thus assembled may then be mounted on any operating rod or lever 17 which is provided with suitable threads to engage the threads 8 of the member 6.

I claim:

1. A knob comprising a cup-shaped member, a hollow member having internal threads, said hollow member being secured centrally within said cup-shaped member and projecting therefrom, and a cup-shaped member having a central opening adapted to receive said hollow member, said cup-shaped members being formed of synthetic resin molding material and held together by spinning the edge of said hollow member over the edge of said central opening.

2. A knob comprising a hollow member having a hollow boss on its inner surface, an internally threaded hollow metallic member fixed within said boss, and a second hollow member having a hollow boss on its inner surface adapted to receive the free end of said metallic member and formed with an opening through which said metallic member extends, said two hollow members being molded of synthetic resin molding material.

3. A knob comprising two hollow members of synthetic resin molding material, each of said members having a hollow boss on its inner surface, an internally threaded hollow metallic member fixed within the boss of one of said members, and projecting out of the same, the other of said hollow members being formed with a central opening communicating with its hollow boss and adapted to receive the projecting end of said metallic member, the two hollow members being secured together by spinning the edge of said projecting end over the edge of said central opening.

4. A knob comprising a hollow member having a hollow boss on its inner surface, an internally threaded hollow metallic member fixed within said boss, and a second hollow member having a hollow boss on its inner surface adapted to receive the free end of said metallic member and formed with an opening through which said metallic member extends, said two hollow members being molded of synthetic resin molding material and formed with reinforcing ribs radiating from their hollow bosses.

In testimony whereof, I have hereunto set my hand.

ERNEST G. DANIELSON.