

P. MATHES.
KNOB.

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988,364.

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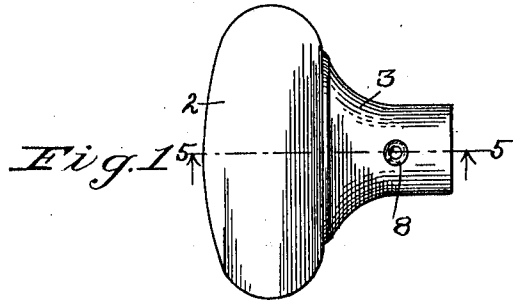


Fig. 3

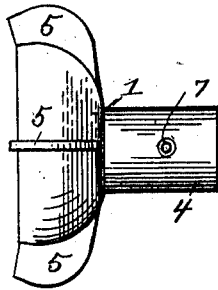


Fig. 2



Fig. 4

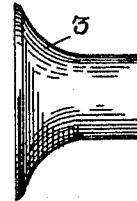
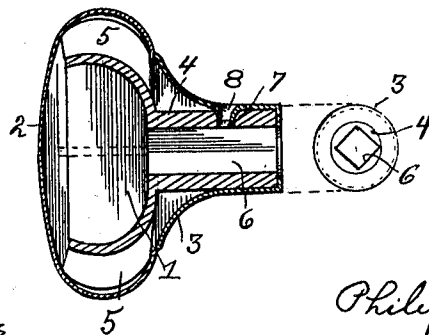


Fig. 5



Witnesses.

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UNITED STATES PATENT OFFICE.

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988,364.

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To all whom it may concern:

Be it known that I, PHILIP MATHES, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Knobs, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

While the present invention relates as indicated to door knobs, it is not intended by such designation to limit the application of the invention to use in this specific connection, since the features of construction characterizing my improved knob will be found of advantage wherever knobs of the general kind in hand may be utilized.

The object of the invention is the provision of a knob that may be more readily and inexpensively constructed and assembled than is the case with knobs of prevailing forms, while at the same time a knob superior in strength and finish to such prevailing constructions will be produced.

To the accomplishment of these and related ends said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—Figure 1 is a side elevational view of a complete knob embodying my several improvements; Fig. 2 is a part side elevation and part sectional view of the inclosing shell of the knob; Fig. 3 is a side elevation of the frame member of the knob; Fig. 4 a similar view of a sleeve or ferrule forming another part thereof; and Fig. 5 is a central sectional view of the foregoing parts in their assembled condition, corresponding to that in which they appear in Fig. 1.

The three component parts of my improved knob as shown in Figs. 2, 3 and 4 consist of a skeleton frame member 1; an outer inclosing shell 2 for the body portion of said member, such shell forming the knob proper in the assembled condition of the parts; and a sleeve or ferrule 3 that fits

over and covers the stem 4 of the frame member.

Frame member 1 is preferably cast of metal, and in order to lessen the weight, is of the hollow skeleton construction shown, the body consisting, in other words, of a central shell-like portion with a plurality of radially disposed ribs 5, the edges of which conform in general to the curved shape of the knob. The stem 4 of such frame member is of the usual length and size, and is provided with a square aperture 6 adapted to receive the latch spindle (not shown), as will be readily understood. Such stem is, furthermore, provided with a countersunk opening 7 for the set screw that is used to secure the completed knob on to said spindle.

In the course of manufacture I next inclose said frame member 1 within the shell 2 of sheet metal stamped up, as illustrated in Fig. 2, so as to just fit over said member. The inner open end of the shell is thereupon pressed, spun or otherwise turned in and down closely upon the frame member, so as to be attached thereto, it being designed that its inner edge shall more or less closely approach the stem portion 4 of said member 1. The stem, finally, as well as the opening between the same and the inturned edge of the inclosing shell is covered by the sleeve or ferrule 3 aforesaid, the base of which is flared sufficiently to thus cover such opening. Said ferrule, however, is entirely separate from the inclosing shell, being attached directly to the stem of the body member independently of said shell. Such attachment is most conveniently effected by punching the hole 8 that requires to be put therethrough for the set screw previously referred to, so that metal will be forced into the enlarged portion of the countersunk opening 7 in the stem. Thus no separate screw or attaching means is required to secure the ferrule to the shell of the knob.

From the foregoing description it should be apparent that not only is the manufacture of knobs of the class in hand considerably simplified, and the cost to a corresponding degree lessened, in the case of the knob in hand, but that also a stronger and more satisfactory article is produced at the same time. Thus the body of the knob consists in effect of the frame member and not of the inclosing shell as heretofore, which has then been attached to a stem corresponding to

the stem of the present frame member. Such attachment, whether directly had to the stem, or through the medium of the ferrule, could at best be relatively insecure.

- 5 In the present construction, no reliance is placed on the ferrule whatever to transmit torque from the knob to the spindle, while the contact between the inclosing shell and the body of the frame member is, of course, 10 ample to insure against these parts ever becoming relatively movable.

- Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the 15 following claims or the equivalent of such stated means be employed.

- I therefore particularly point out and distinctly claim as my invention: 20

1. An article of the character described, comprising a frame member provided with a stem adapted to receive the latch spindle, a sleeve surrounding the stem of said member and attached thereto, and an inclosing 25 shell attached to said member, said sleeve and shell being attached to the frame member independently of each other.

2. An article of the character described,

comprising a skeleton frame member provided with a stem adapted to receive the latch spindle, an inclosing shell of sheet metal stamped up and fitted around said member so as to be attached thereto, and a sleeve surrounding the stem of said member and attached thereto independently of said shell.

3. An article of the character described, comprising a frame member having a stem adapted to receive the latch spindle and a substantially semi-spherical portion at the end of said spindle and a plurality of radial ribs exteriorly of said portion, and a shell substantially inclosing said ribbed portion. 40

4. An article of the character described, comprising a frame member having a stem adapted to receive the latch spindle and a substantially semi-spherical portion at the end of said spindle and a plurality of radial ribs exteriorly of said portion, and an inclosing shell of sheet metal stamped up and fitted around said ribbed portion. 50

Signed by me this 18th day of May, 1910.

PHILIP MATHES.

Attested by:

D. P. DAVIES,
ROBERT M. SEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."