No. 794,757. PATENTED JULY 18, 1905.

H. G. VOIGHT.

COMPENSATING KNOB BEARING.

APPLICATION FILED JULY 14, 1904.

Fig. 1.

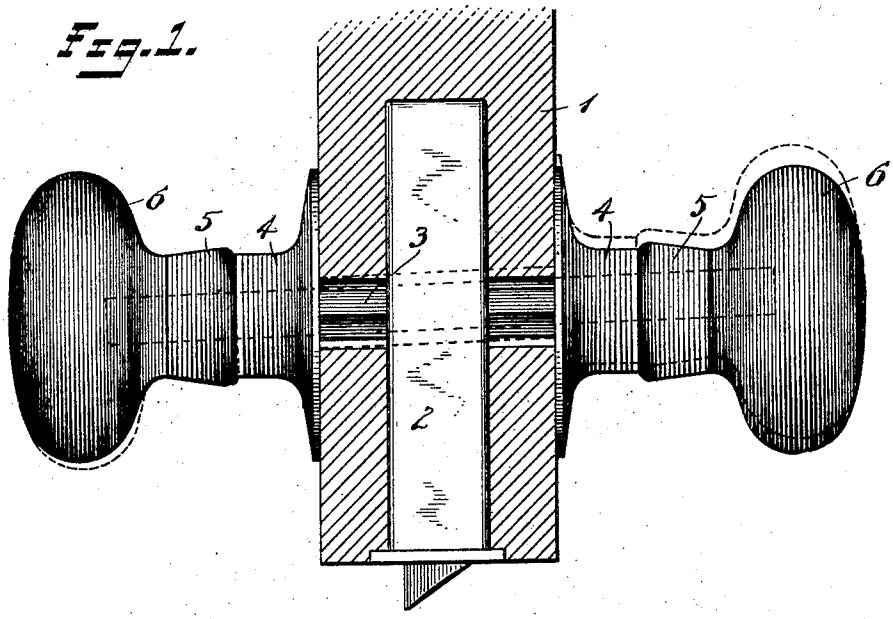


Fig. 2.

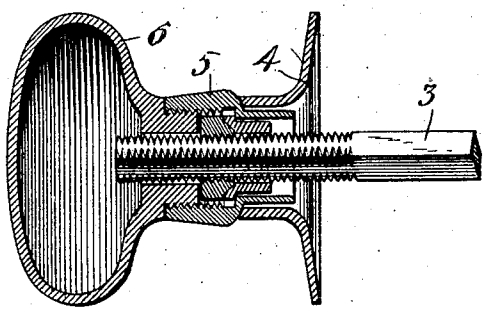


Fig. 3.

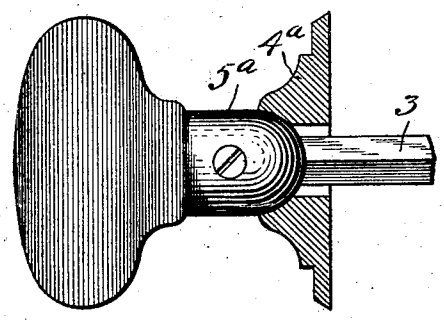
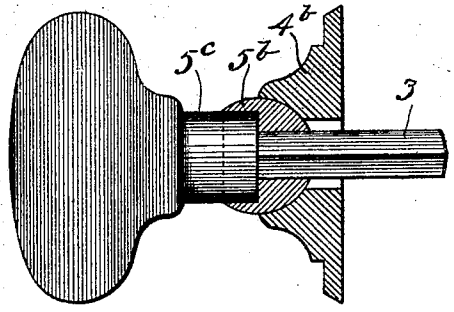


Fig. 4.



Witnesses,
Geo. V. Ragmussen
R. P. S. Allyn

Inventor
Henry G. Voight.
By his Attorneys
Baxter Brownell & Church

ANDREW B. GRAHAM CO., LITHOGRAPHERS, WASHINGTON, D. C.

No. 794,757. Patented July 18, 1905.

UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

COMPENSATING KNOB-BEARING.

SPECIFICATION forming part of Letters Patent No. 794,757, dated July 18, 1905.

Application filed July 14, 1904. Serial No. 216,462.

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Compensating Knob-Bearings, of which the following is a full, clear, and exact description.

My invention relates to certain new and useful improvements in knob-bearings, the object being to provide a construction whereby the knob will turn freely whether the escutcheons or rose-plates have been applied to the door with the accuracy ordinarily required in applying such devices.

In the accompanying drawings, Figure 1 is a plan view of my invention assembled, the door being shown in horizontal section. Fig. 2 is a longitudinal section of one form of my invention. Fig. 3 is a side elevation of the knob with an associated part in section and illustrative of a modification. Fig. 4 is a similar view showing still another modification.

Heretofore door-knobs have been provided with knob-shanks which have had flat end bearings against the rose or escutcheon plates commonly employed therewith. The result has been that if a carpenter should carelessly apply the said plates to a door so that they are not exactly opposite it will cause the knob-spindle, which supports the knobs, to pass through the door in an oblique line, twisting the knobs correspondingly relatively to the rose-plates or escutcheons, so as to cause binding. This twisting of the knobs relatively to the rose-plates also causes one side of said bearing to gap open. By my invention this inaccurate fitting is compensated for, so that, even though the escutcheon or rose plates are not applied correctly, this binding or cramping will not take place. This I accomplish, preferably, by rounding the bearing portion of the knob-shank where it engages the escutcheon or rose, thus permitting a universal action and correspondingly free movement between the parts.

In the drawings, 1 represents a portion of the door; 2, a lock; 3, a knob-spindle; 4 4, escutcheons or rose-plates; 5 5, knob-shanks; 6 6, knobs. The knob-shank 5 takes an endwise bearing against the rose-plate 4, and said bearing is rounded, as best seen in the section Fig. 2. In Fig. 1 the solid lines represent the rose-plates as being placed strictly opposite one another and in such a position that there would be no danger of cramping of the knob relative thereto, even though the knob were of ordinary form. In dotted lines I have indicated the position of the knobs should one of the rose-plates be out of the correct position. In this position it will be seen that the rounded bearing of each knob-shank compensates for this inaccurate fitting of the parts.

In Fig. 3 I have shown a modification in which the entire end of the knob-shank is rounded or semispherical. In this figure, 5^a represents the knob-shank, 4^a the rose-plate, and 3 the spindle, as before.

In Fig. 4 I have provided an independent rounded bearing 5^b directly upon the end of the knob-shank 5^c. This bearing 5^b fits into a suitable cavity in the rose or escutcheon 4^b. In Fig. 4, 3 represents the spindle, as before.

In Fig. 2 the knob shown is of the so-called "screwless" pattern, which enables the knob to be adjusted to and fro on the spindle 3 without the use of washers.

I prefer to employ a screwless type of knob, since it permits of a much finer adjustment of the parts, which is particularly essential if the other parts of the mechanism are poorly set up or adjusted. In the modification shown in Fig. 4 the knob is of the ordinary pattern, and the usual washers may be provided between the knob-shank 5^c and its ball-like end 5^b for the purposes of adjustment.

What I claim is—

1. In a device of the character described, the combination of a continuous spindle, a door-knob secured on each end of said spindle and compensating bearings for each end of said spindle constructed to be arranged on each side of a door to afford even bearings

and prevent binding or cramping while permitting angular displacement of said spindle relatively to said bearings.

2. A device of the character described comprising, the combination of a continuous spindle, a knob secured on each end of said spindle, a rose-plate or escutcheon for each knob said knobs and plates having rounded bearings to permit the spindle to turn without causing said parts to bind when out of alinement.

3. In knob-and-spindle construction, the combination of a continuous spindle provided with a screw-threaded portion on one end, a pair of rose-plates, a pair of knobs, a screw-threaded means of connection for one of said knobs to coöperate with the screw-threaded portion of said spindle, said knobs and rose-plates being provided with coöperating bearing-surfaces permitting angular displacement of said spindle without binding said bearings.

4. In a knob-and-spindle construction, the combination of a continuous spindle, a knob secured on one end of said spindle and having a suitable bearing, a second knob provided with a screw-threaded means of connection for the other end of said spindle and a curved bearing-seat for said second knob for the purpose specified.

Signed at New Britain, Connecticut, this 12th day of July, 1904.

HENRY G. VOIGHT.

Witnesses:

M. S. WIARD,

C. E. RUSSELL.