

No. 632,295.

Patented Sept. 5, 1899.

H. G. VOIGHT.
DOOR KNOB.

(Application filed June 12, 1899.)

(No Model.)

Fig. 1.

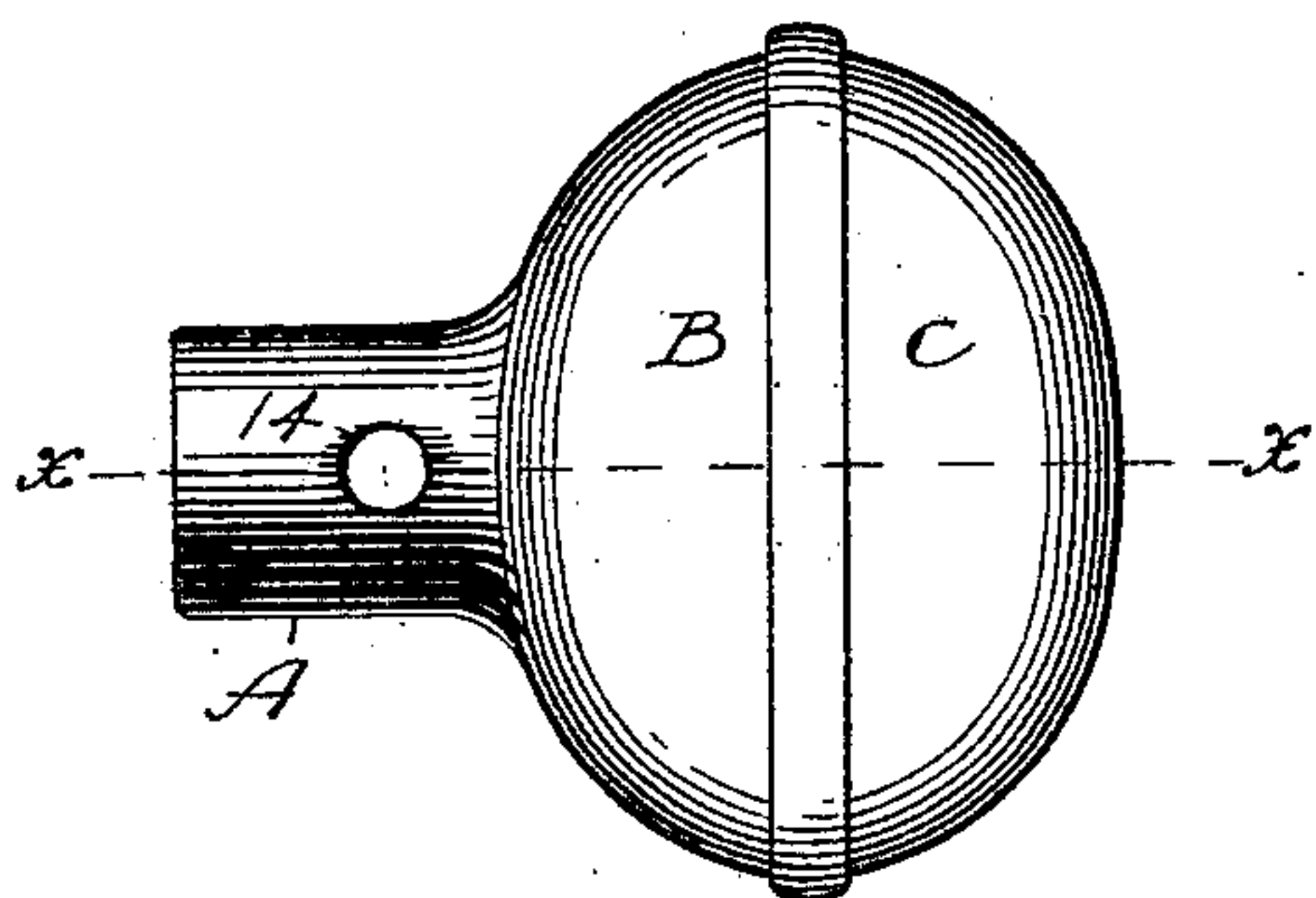


Fig. 2.

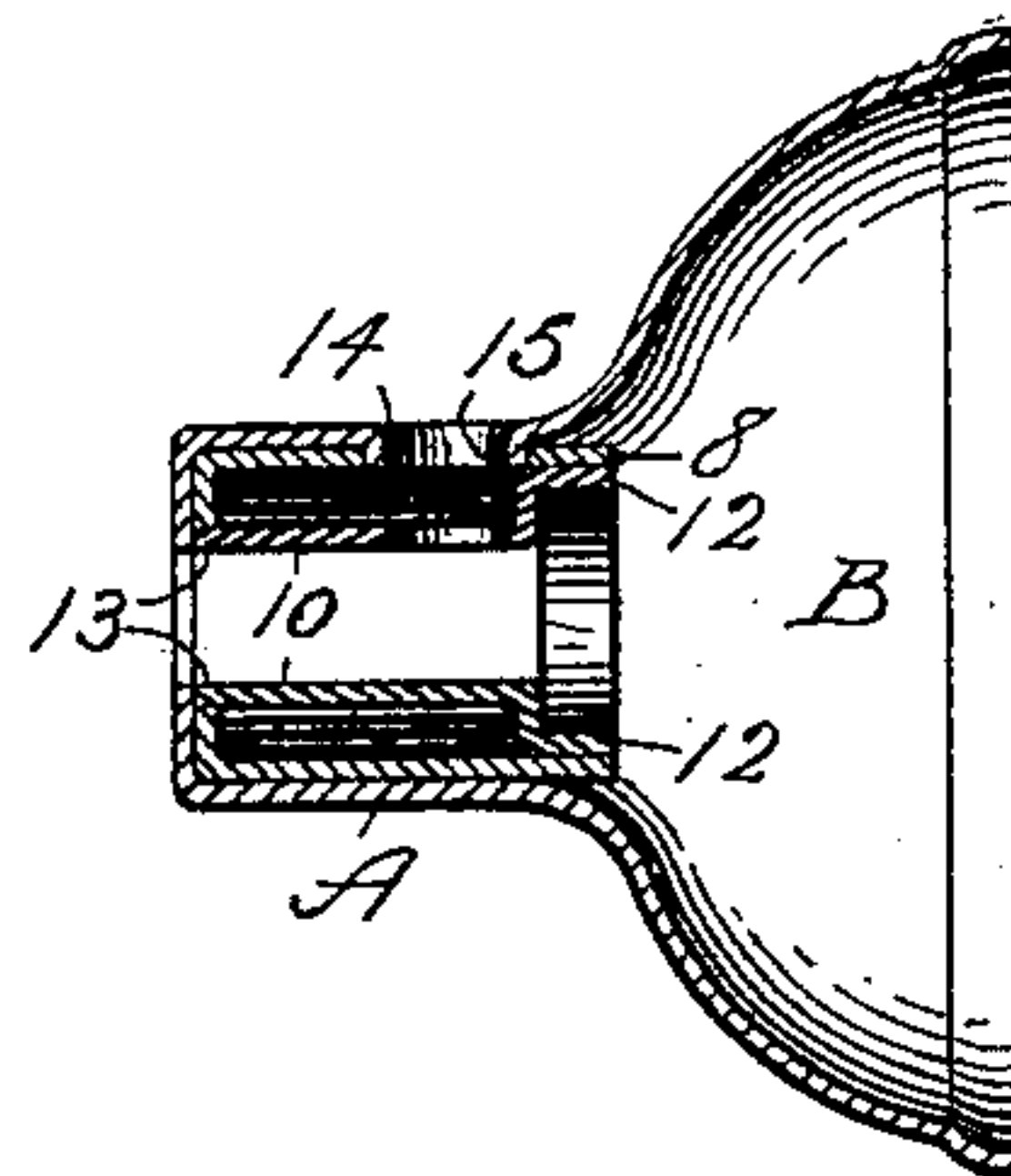


Fig. 3.

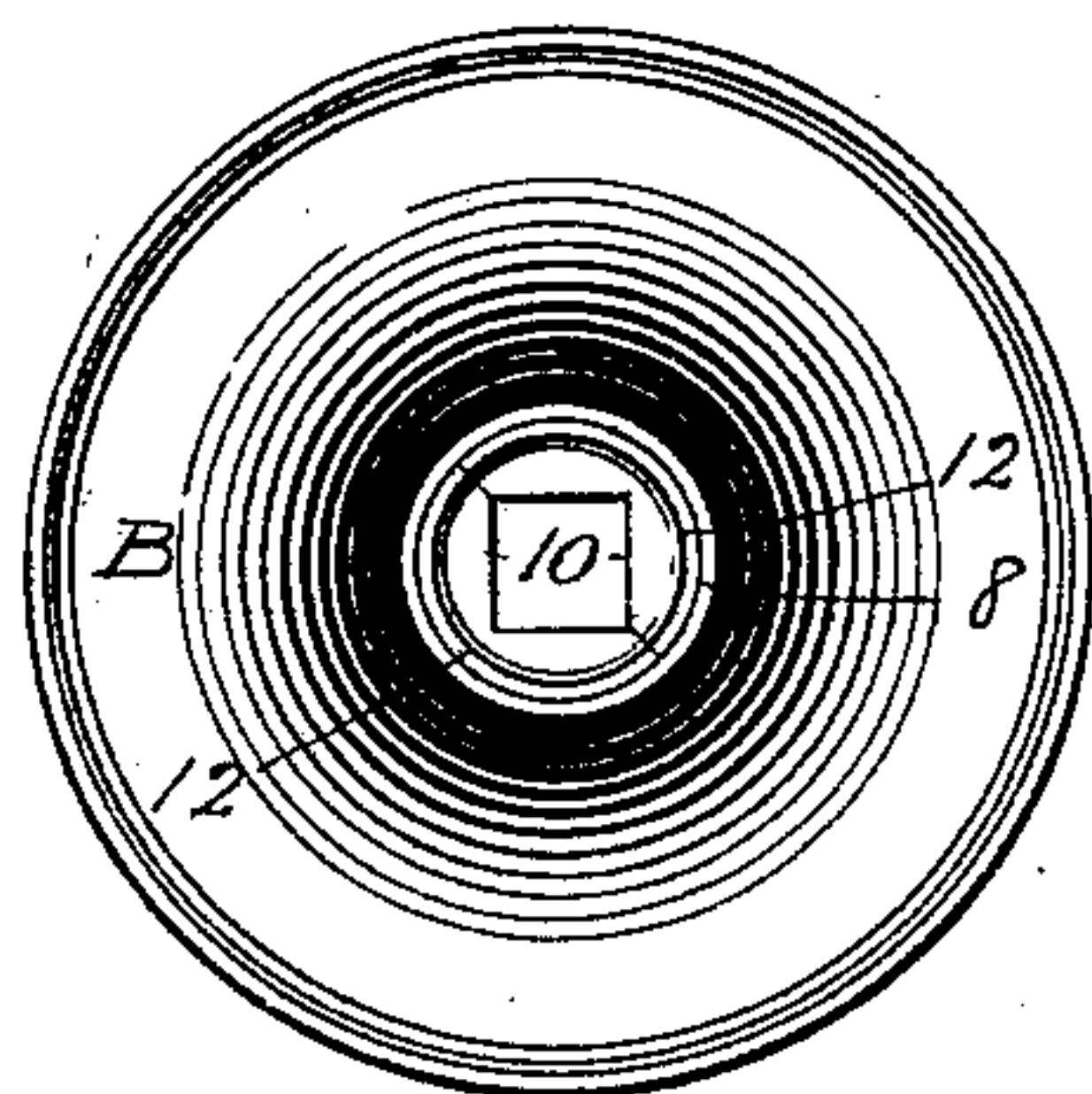


Fig. 4.



Fig. 5.

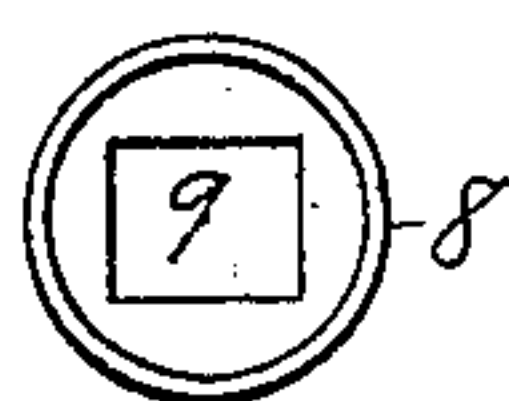


Fig. 6.

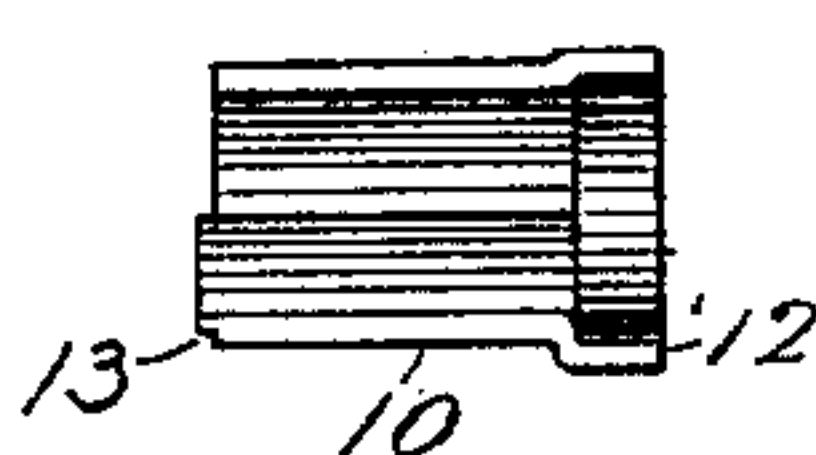
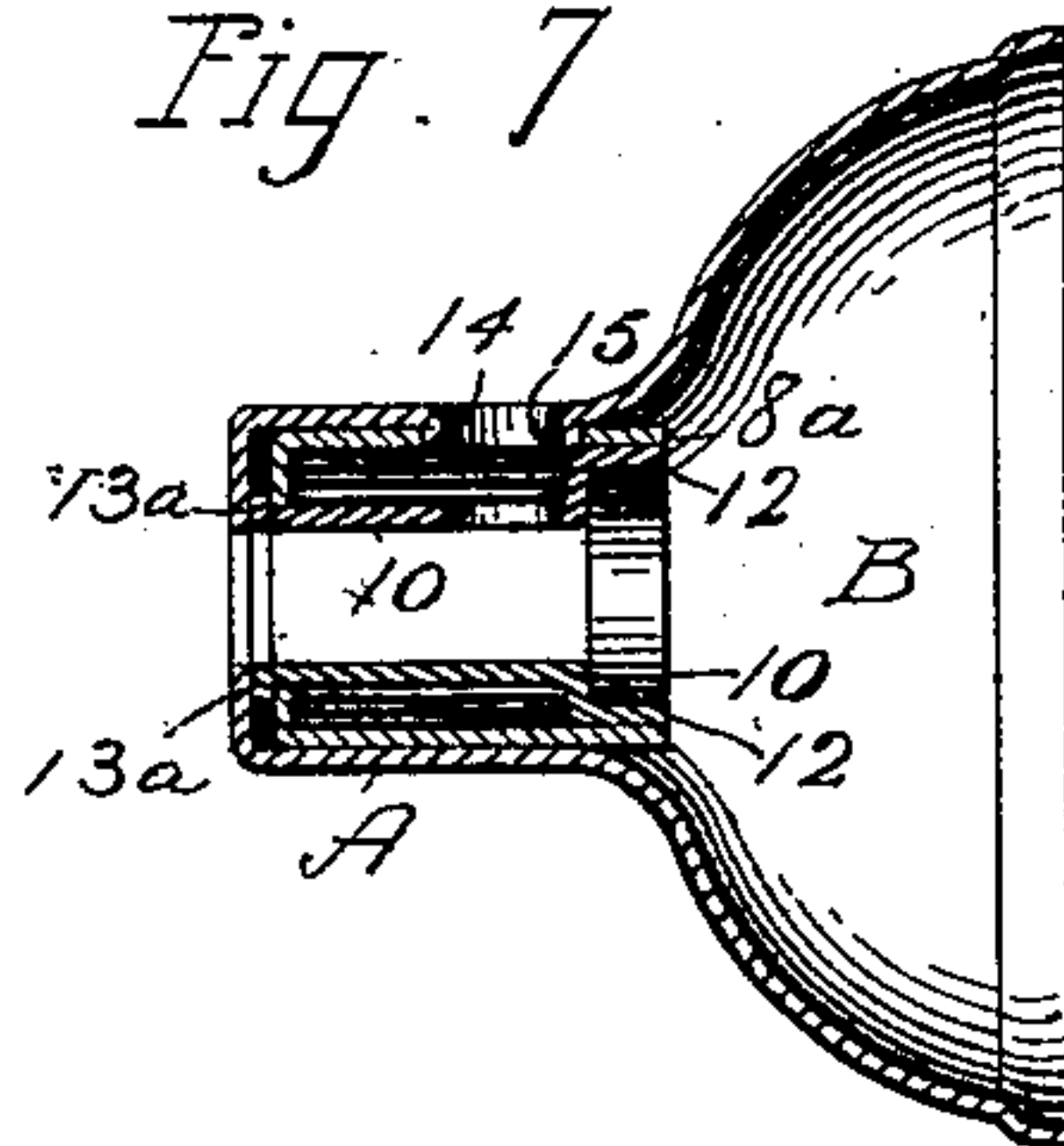


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

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DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 632,295, dated September 5, 1899.

Application filed June 12, 1899. Serial No. 720,204. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing in New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Knobs, of which the following is a specification.

My invention relates to improvements in door-knobs; and the object of my improvement is economy in construction in the production of an efficient article with the entire shank formed of sheet metal.

In the accompanying drawings, Figure 1 is a side elevation of the complete knob. Fig. 2 is a sectional view of a part of the same on the line *xx* of Fig. 1. Fig. 3 is a front elevation of the part shown in Fig. 2. Fig. 4 is a detached side elevation of the tubular lining for the knob-shank. Fig. 5 is an end view of the same. Fig. 6 is a detached side elevation of one part of the spindle-socket sides; and Fig. 7 is a sectional view corresponding with Fig. 2, but showing a slight modification thereof.

The outer surface or shell A of the shank and the adjacent half-knob B are formed in one piece of sheet metal by means of suitable dies, and the cap C is secured thereto in any proper manner. My improvement relates to the construction of the knob-shank on the half-knob B. After forming the said shell A of the shank integral with the half-knob B, I reinforce the said shell to complete the knob-shank in the following manner:

I form a tubular lining or inner sleeve 8 of a size that will snugly fit and fill the interior of the shell A, one end of said sleeve being open and the other closed or partially closed after the manner of the solid end of a drawn-up tube. In this end I form a rectangular hole 9, as best shown in Fig. 5. This hole in its lesser dimension is of a size to receive and fit the ordinary knob-spindle and in its greater dimension is of the same size plus two thicknesses of the metal employed for the spindle-socket sides 10. The sleeve 8 has also in one side a perforation 11 to receive the ordinary knob-fastening screw. The spindle-socket sides are made in two parts, the same being

of a right-angular V-shaped form in cross-section for the greater portion of their length, while at one end there is a semitubular flange 12. The end opposite the flange 12 is provided with a lip or end 13, that will just fill the hole 9 in its lesser dimension, the rest of that end being cut away so as to abut against the metal on the inside at the end of the said sleeve 8. One part of the spindle-socket sides will also be perforated to receive the ordinary knob-fastening screw before named, which hole will register with the hole 11 of the sleeve 8 and the screw-hole 14 in the knob-shank shell A.

The two parts 10 forming the spindle-socket sides are placed face to face and then inserted into the sleeve 8. The flanges 12 are of a size to snugly fill the front or open end of the sleeve 8, and when the lips 13 are entered in the hole 9 they will fill the same at each end of the said rectangular hole 9 and form, with the rest of said hole, a square opening for the knob-spindle. The end of the knob-shank shell also has a square spindle-hole formed in it. The combined sleeve and socket sides are then forced into the shell A in the position shown. I prefer to form the screw-hole 14 in the knob-shank shell smaller than the hole 11 in the sleeve, so that after the latter is inserted a flange may be turned in from around the said screw-hole into the hole 11, as shown at 15 in Fig. 2. The two thicknesses of metal in the knob-shank shell A and the sleeve will prevent the screw-head from crushing in the side of the knob-shank, especially when the screw-hole is adjacent to the flange 12.

In Fig. 7 I have shown substantially the same construction, the only difference being that the sleeve 8^a is made a little shorter and the lips 13^a a little longer, so that they may be headed over on the end of the sleeve 8^a to secure the socket sides in place by something other than friction.

It is apparent that some changes from the specific construction herein disclosed may be made, and therefore I do not wish to be understood as limiting myself to the precise form of construction shown and described,

but desire the liberty to make such changes in working my invention as may fairly come within the spirit and scope of the same.

By my improvement I reinforce the sheet-metal knob-shank shell by sheet metal at a very small cost and in a substantial manner.

I claim as my invention—

A door-knob, having the sheet-metal knob-

shank shell, in combination with a reinforcing-sleeve within said shell and the socket sides within the said sleeve, substantially as described.

HENRY G. VOIGHT.

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