

(No Model.)

W. A. GAY.

DOOR KNOB.

No. 366,950.

Patented July 19, 1887.

Fig. 1.

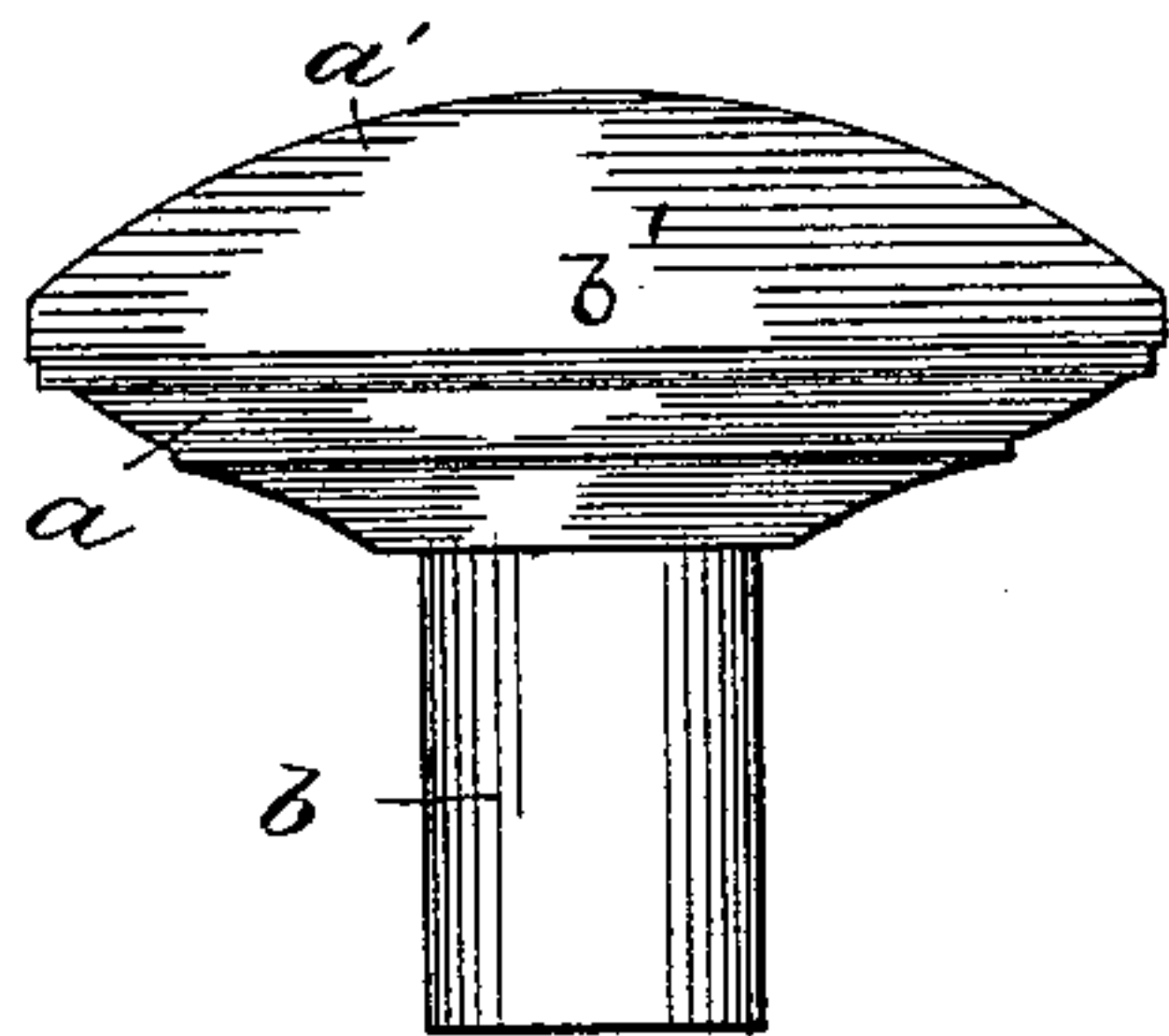


Fig. 2.

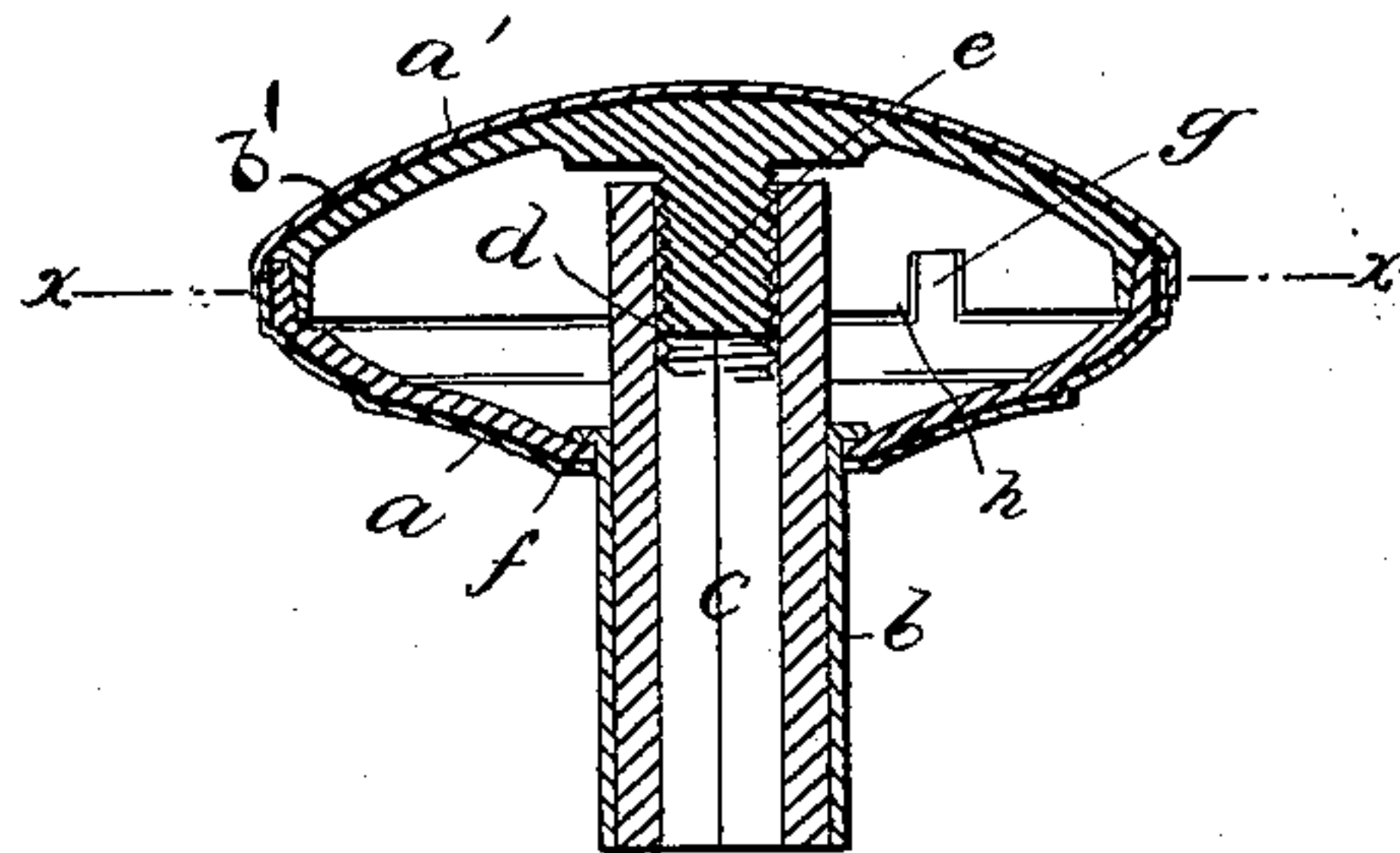


Fig. 5.

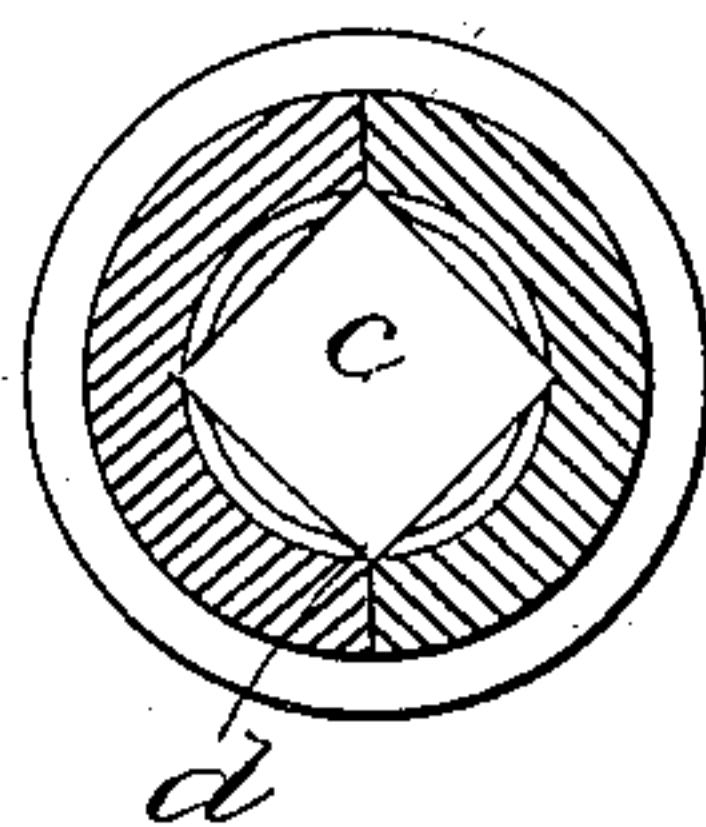


Fig. 3.

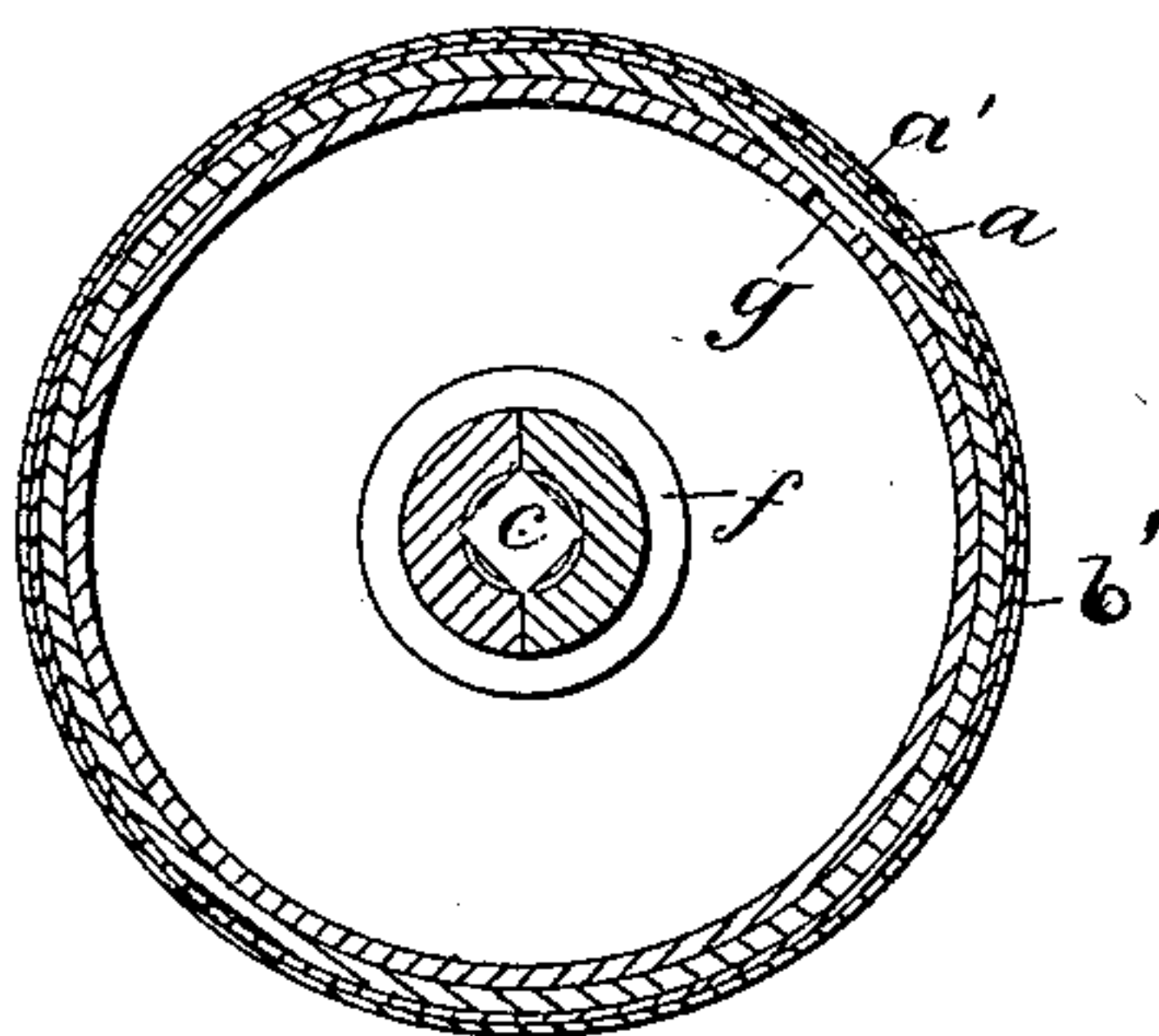


Fig. 4.

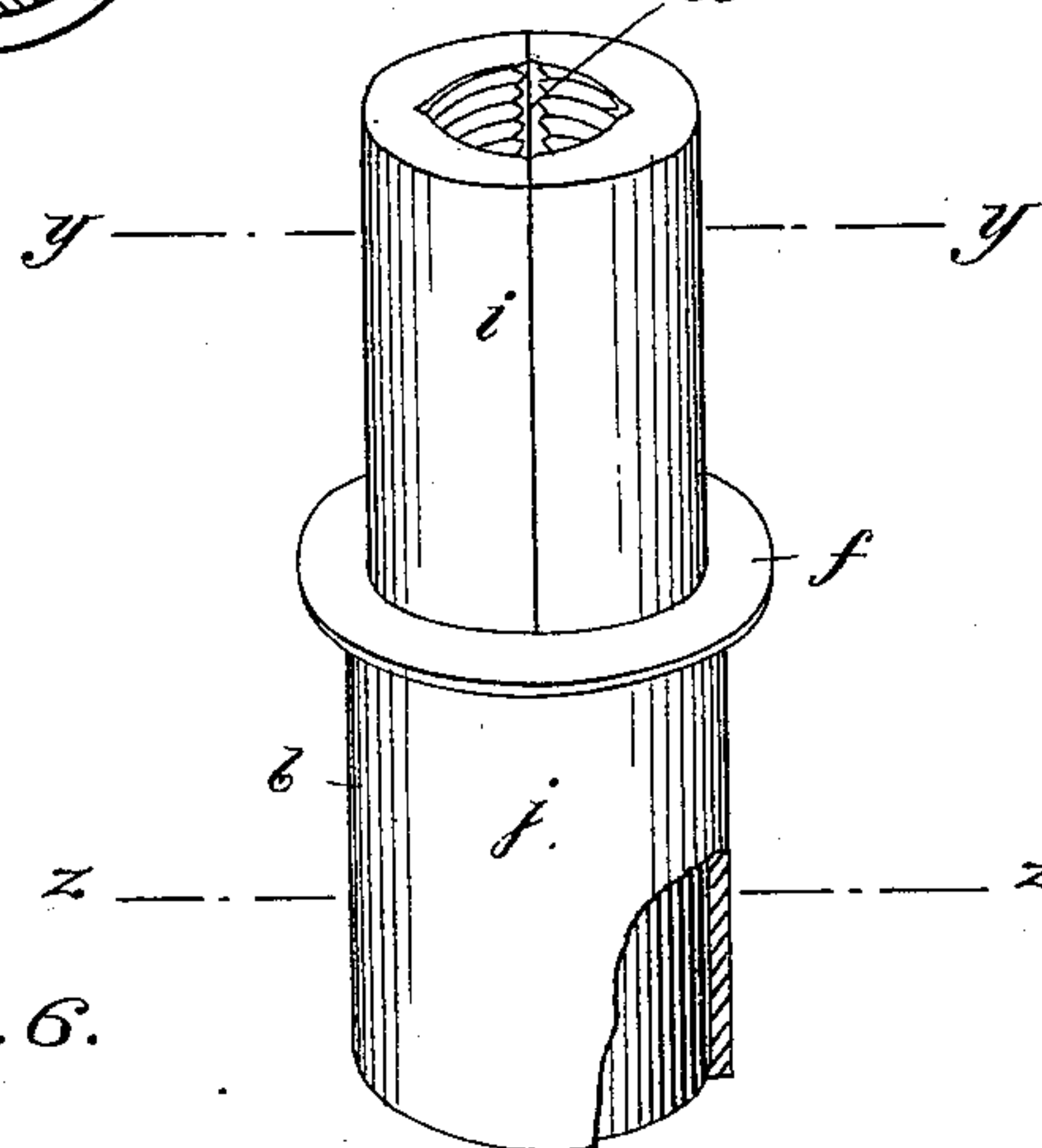
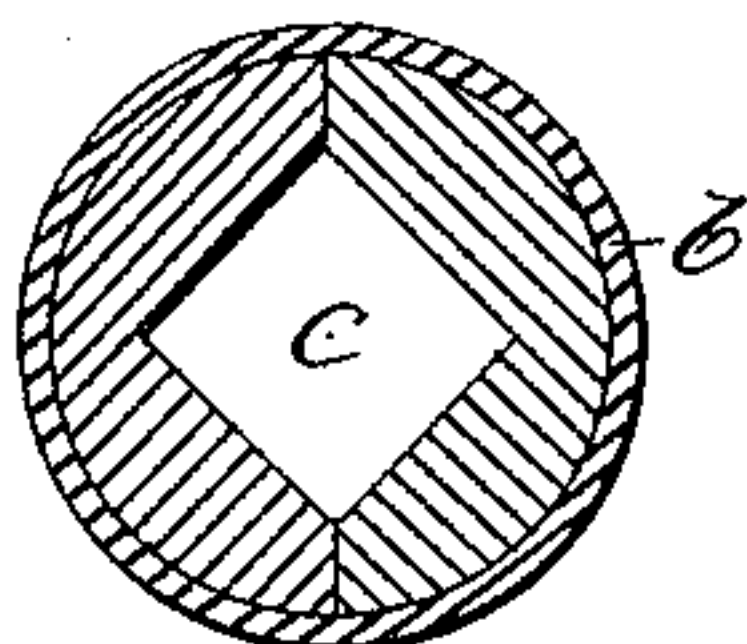


Fig. 6.



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DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 366,950, dated July 19, 1887.

Application filed September 23, 1886. Serial No. 214,307. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GAY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Door-Knobs, of which the following is a true, full, and exact specification.

My invention relates to improvements in door-knobs; and it consists in making knobs of an internal core or foundation composed of two cup-shaped sections of cast-iron or other cheap metal, and so connected with each other and the shank as to be capable of being expanded or forced apart, and in uniting to the surface of such core a finer metal, as brass, silver, &c.

In the accompanying drawings, which fully illustrate the novel features of my invention, Figure 1 is a side elevation of a knob made according to my improvement. Fig. 2 is a longitudinal section of the same. Fig. 3 is a cross-section of the knob, taken on the line *xx* of Fig. 2. Fig. 4 is an enlarged view in side elevation of the shank. Fig. 5 is a cross-section taken on the line *yy* of Fig. 4. Fig. 6 is a similar section taken on the line *zz* of the same figure.

Let *a a'* represent two cup-shaped pieces of cast-iron having their edges formed to fit one within the other to constitute the core or foundation of the knob.

b is the shank, provided with a square hole, *c*, to receive the spindle. This hole extends through the shank from end to end, and is screw-threaded, as shown at *d*. On the inner surface of one of the sections or pieces composing the core is formed a stem, *e*, having screw-threads, which screws into the shank *b*. The piece *a* is mounted on the shank and abuts against a shoulder or flange, *f*, formed on the same. A lug, *g*, on one of the pieces fits into a corresponding recess, *h*, in the other piece or section. The two sections are forced apart by screwing down the shank.

The shank *b* is composed of two cylindrical portions, *i* and *j*, inserted one within the other. The inner tube, *i*, is formed of two semi-cylindrical parts, drawn up or otherwise formed,

and held together by the tubular portion *j*, which is forced over them. The square opening in the tube *i* is provided with a screw-thread, and screws onto the stem *e* of the core.

To the outer surface of the core is applied a coating of solder or asphalt in solution, or other composition of a like character, and then the same is covered with thin brass or other fine metal by the well-known process of drawing or of spinning. After the metal casing is applied to the core, the shank is turned sufficiently to force the section *a'* tightly against the covering *b'* and strain the metal over the core. The knob thus formed is then subjected to a degree of heat sufficient to fuse the interposed solder or other material and unite the core with the covering. As the covering is expanded under the action of the heat the section *a'* may be forced up against it, so as to keep the metal tightly strained until its expansion is complete. The section *a'* is then secured to the shank by filling the interstices around the stem *e*, formed by the square opening, with solder or some other easily-fused alloy.

By my construction the objections heretofore found in knobs formed of a core of cast-iron and incased in a metallic covering by reason of the unequal expansion and contraction of the different metals under certain atmospheric conditions are entirely overcome.

What I claim as new, and desire to secure by Letters Patent, is—

1. A door-knob consisting of a divided expansible core of metal with a covering of thin metal distended under heat, substantially as set forth.

2. The method of constructing metal knobs, which consists in covering a sectional core with a thin sheet of metal by spinning or drawing, expanding the same by means of heat, then forcing apart such sections to take up said expansion and strain the covering, and securing the same, as set forth.

WILLIAM A. GAY.

Witnesses:

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