

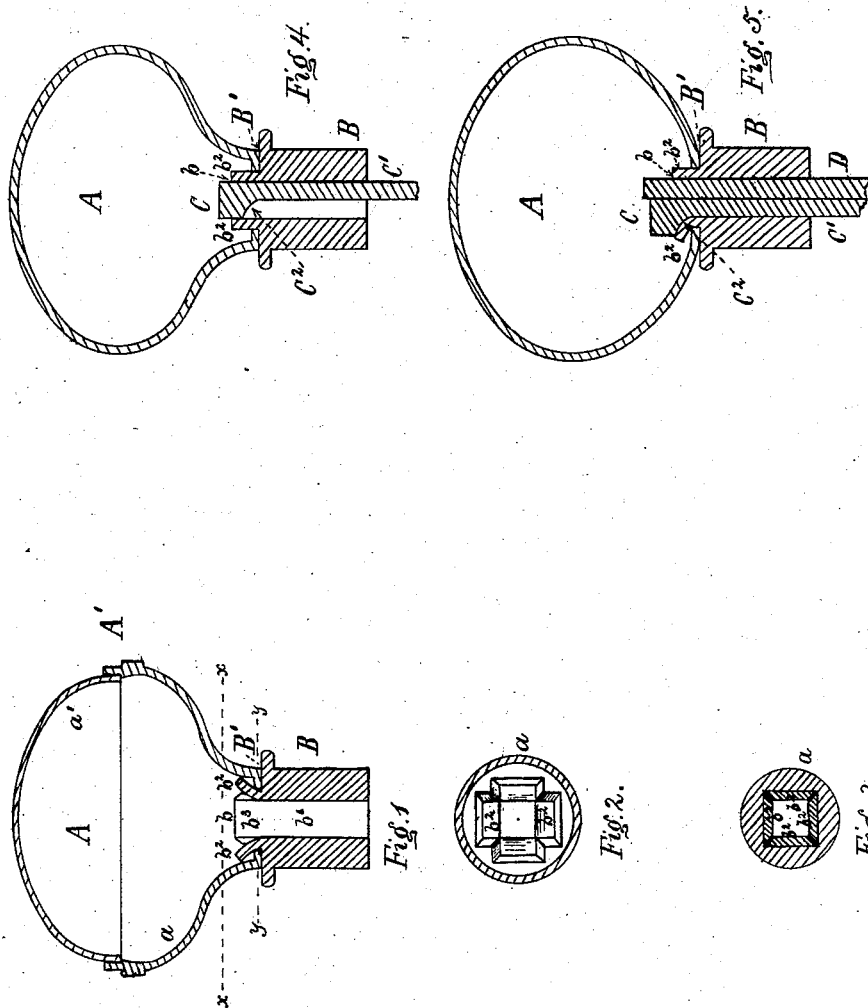
(No Model.)

J. COLLINS.

DOOR KNOB.

No. 260,347.

Patented June 27, 1882.



Witnesses:
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UNITED STATES PATENT OFFICE.

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DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 260,347, dated June 27, 1882.

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To all whom it may concern:

Be it known that I, JOHN COLLINS, of Newark, New Jersey, have invented a certain Improvement in Door-Knobs, of which the following is a specification.

My invention relates to the mode of fastening the hollow metallic bulb of a door-knob to the shank in which the end of the square shaft or spindle is inserted. Heretofore such bulbs have been screwed onto their shanks. This mode of construction is expensive and subject to the objection that in use the bulb is liable to become unscrewed.

The object of my invention is both to simplify and to increase the permanency of the connection between the bulb and the shank. To this end I form upon the end of the shank a shoulder, which serves as a bearing for the portion of the bulb adjoining the edge of the opening into which the shank is inserted, and I form the inner end of the shank into tongues by longitudinally slitting it, and then, having inserted it into the bulb, secure it by bending the tongues outward. Portions of the shell of the knob or bulb adjoining the opening into which the shank is inserted are thus tightly confined between the outwardly-bent tongues and the annular shoulder formed upon the exterior of the shank. The knob may be cast, spun, or struck up in dies in two suitably-formed cups united by a joint which occupies a plane perpendicular to the axis of the shank; or the knob may be cast in one piece over a suitable core. When the knob is formed in two pieces the shank is secured by bending out the tongues before the two pieces of the knob are brazed together. When the hollow knob is formed in one piece the tool for bending over the tongues is inserted through the spindle-opening, and is brought into operative position by means of a loose gib inserted alongside of its shank.

The accompanying drawings, illustrating my invention, are as follows:

Figure 1 is a central axial section of a door-knob the bulb of which is composed of two cups brazed together. Fig. 2 is a transverse section through the line *x x* on Fig. 1. Fig. 3 is a transverse section through the line *y y* on Fig. 1. Fig. 4 is a central axial section of a

door-knob the bulb of which is formed in one piece, showing the manner of introducing the tool for bending over the tongues successively. Fig. 5 is a section similar to Fig. 3, showing a gib inserted through the spindle-opening for holding the bending-tool in its operative position.

A simple form of carrying out my invention is illustrated in Fig. 1, in which the knob or bulb A is composed of two metallic shells or cups, *a a'*, which are ultimately fastened together by brazing the circumferential joint A'. The inner cup, *a*, is centrally perforated, preferably with a square hole, to admit the end *b* of the shank B. The shank is of the usual cylindrical form, longitudinally perforated with the square hole *b'* to receive the spindle. The end *b* of the shank, which projects into the cup *a*, is preferably made square in cross-section, to fit the square hole in the cup. At the base of the square part of the shank there is therefore formed the shoulder B', against which the cup *a* bears. The inwardly-projecting end *b* of the shank is longitudinally slit to form the tongues *b²*, which, after the end of the shank has been inserted through the hole in the bottom of the cup *a*, are respectively bent outwardly against the interior surface of the cup *a*, and portions of the shell adjoining the opening through which the shank is inserted are thus tightly confined between the tongues and the shoulder B'.

The bending outward of the tongues *b²* is easily effected by means of a pyramidal wedge, which is driven into the end *b³* of the spindle-hole after the end *b* of the shank is inserted into the cup. The other cup, *a'*, is then applied to the cup *a*, as shown, and the joint A' is brazed or soldered in the usual manner.

If the hollow bulb or knob is cast or formed in a single piece, as shown in Figs. 4 and 5, the tongues *b²*, after the shouldered end of the shank has been inserted into the knob, as shown, are bent over singly by means of the inverted wedge C, which is inserted butt-end first through the spindle-opening, as shown in Fig. 4. The stem C', affixed to the apex of the inverted wedge C, is made thinner in one direction than the width of the spindle-opening, and after the insertion of the wedge the

gib D is inserted alongside of it, and the wedge C is thus brought into operative position, so that when it is forced outward the inclined or curved face C² bears upon and wedges over one of the tongues b², as shown. The gib D and the wedge C are then successively removed, and the wedge C is then moved around and again inserted in position to enable it by its outward movement to bend over one of the other tongues, and so on until all the tongues are bent over and the bulb secured to the shank in the same manner as that shown in Fig. 1.

What I claim as my invention is—

15 A door-knob composed of a hollow metallic

bulb perforated to receive a shank the end of which is slit longitudinally, and thereby formed into tongues, which, after the insertion of the shank into the opening in the bulb, are bent outwardly against the interior surface of the bulb, the shank being provided near its end with a shoulder which forms a bearing for the exterior of the bulb, and between which and the bent-over tongues portions of the shell of the bulb are securely confined, substantially as shown and described. 25

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