E. Robinson,

Door Knob.

No. 2,904. Patented Jan. 10, 1843.

Fig. 5.

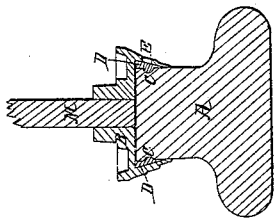


Fig. 7.

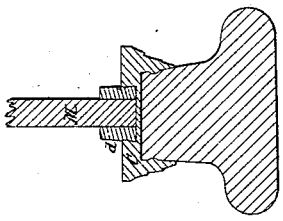


Fig. 6.

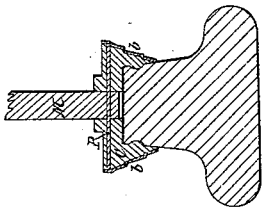


Fig. 2.

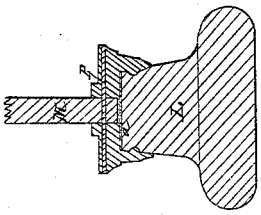


Fig. 1.

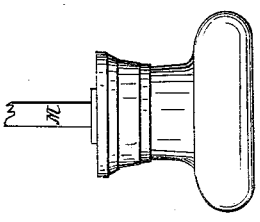


Fig. 4.

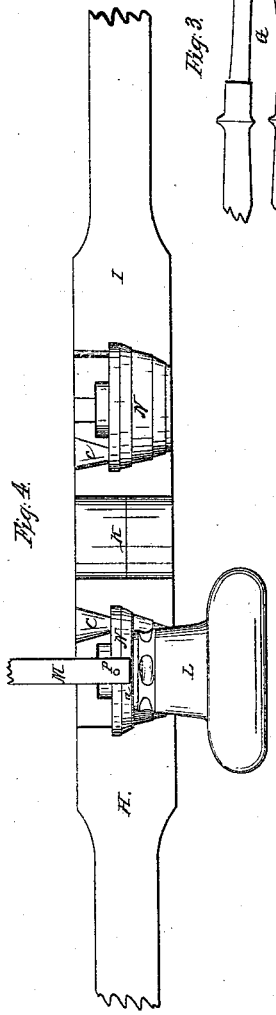
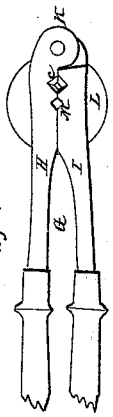


Fig. 3.



UNITED STATES PATENT OFFICE.

ENOCH ROBINSON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN THE METHOD OF ATTACHING DOOR-KNOBS TO THEIR SPINDLES.

Specification forming part of Letters Patent No. **2,904**, dated January 10, 1843.

To all whom it may concern:

Be it known that I, ENOCH ROBINSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Door-Knobs and other Articles of Similar Character; and I hereby declare that the following specification, taken in connection with the accompanying drawings, forms a full and exact description of the same.

Figure 1 of the above-mentioned drawings represents an elevation or external view of one of my improved knobs. Fig. 2 is a vertical and transverse section of the same. Figs. 3 and 4 will be hereinafter described. Fig. 5 is a vertical section of the kind of glass knob which has heretofore been and is now in general use. Figs. 6 and 7 exhibit sections of knobs manufactured according to my improved methods, all of which are hereinafter particularly explained.

The ordinary mode of confining the glass or mineral handle of a knob to its metallic socket has been to insert the glass handle A, Fig. 5, in the socket B, and to pour melted lead or other suitable metal, D D, between the socket and glass, or through a hole, E, (bored through the socket) into a circular or other proper shaped groove, C C, cut in or around the glass, as seen in Fig. 5. In this method of connecting the parts, the contraction of the melted metal in cooling causes it to shrink tightly around the glass and away from the interior circumference of the metallic socket, the effect of this contraction being to render the glass handle liable to become more or less loosened in its socket, thereby admitting air and moisture, which, tarnishing the foil on the bottom of the glass, destroys or injures the beauty of the knob. Besides, as the metallic socket must be first cast, turned, or properly prepared and fitted to the glass, as well as to the shank which passes through the door, much expense and labor are requisite, which, in a very great degree, is saved by my improved mode of operating. My new method consists in casting the whole of the metallic socket directly upon the glass handle; and for this purpose I prepare a suitable mold, G, (the same being seen in top view in Fig. 3,) formed of two parts, H I, connected together at their extremities by a hinge-joint, K, and in other respects resembling an ordinary bullet-mold. This mold is exhibited in Fig. 4 as open, so as to display its interior arrangement and the manner in which the glass handle L is inserted therein preparatory to casting the socket. Suitable spaces, N N, each corresponding in shape to one-half of the socket, are cut out of the adjacent or inner sides of the pieces H I, the same constituting the matrix for the formation of the socket. The foot of the neck of the glass handle L, Figs. 2 and 4, (the same having a small disk, *a*, of foil properly placed and secured thereon, and said neck being properly grooved or scored in the ordinary manner,) is to be inserted in the mold, as seen in Fig. 4. The shank M, (by which the knob is secured to the door or other article of furniture,) having a pin, *p*, Figs. 2, 4, passing through it, is also to be placed in its proper position in the mold, the same being represented in Fig. 4. The halves or parts H I of the mold are then to be closed together, all of which being accomplished, melted type-metal or other suitable metal is next to be poured into the mold through an orifice, C, until the matrix is filled and the socket formed about the foot of the neck of the glass, and the shank M and pin *p* passing through the latter. Thus it will be seen that by this mode of forming the socket and attaching it to the glass handle and shank it becomes much more strongly fixed thereto than by any method heretofore practiced, as by the contraction of the metal (constituting the socket) in cooling it so firmly grasps or is secured to the neck of the glass that no moisture or air can obtain access to the silver-foil, and no looseness of the parts, comparatively speaking, can take place. After the socket is removed from the mold and is suitably trimmed or prepared, it should be bronzed or painted over in the usual manner.

To remove the shank M from the socket it is only necessary to take out the pin *p*, which may be accomplished by means of a punch and hammer, when the shank and socket may be easily separated from each other.

If it is desirable to plate the exterior surface of the trimming or socket with silver or any other metal, a thin piece or shell of plate, *b b*, (seen in section in Fig. 6, and previously suitably formed by means of dies to correspond with the interior of the mold,) may be introduced into the mold at the same time

with the other parts, and the metal *c*, Fig. 6, cast therein in the mold, as before set forth. When the knob is removed from the mold, the exterior of the socket will thus be plated or finished in the manner required; or, should it be found that the cast metal is too soft or yielding to hold the shank with the requisite degree of strength, a brass or hardened metallic or other proper socket, *d*, (seen in section in Fig. 7,) for holding the foot of the shank, may be placed in the mold and the metal *c* cast about the same, as seen in Fig. 7.

From the above it will be seen that the glass or mineral part of the knob is firmly secured to the socket by the contracting-power of the whole of the metal forming the socket, whereas by the ordinary method of constructing the socket and connecting it to the knob this effect is not produced. Besides, the shank, which passes through the door, or by which the knob is fastened to any article of furniture, is secured directly to the metal which binds upon the glass, or to a socket inserted and retained therein by the contracting-power of the metal as it cools, whereas in such a knob as is represented in Fig. 5 such is not the case.

Having thus set forth the nature and principles of my invention, by which they may be distinguished from others of like character, I shall now proceed to point out such parts thereof as I claim and consider new.

1. The above-specified improvement in forming the metallic socket upon the mineral or glass handle of a door-knob, or of uniting the glass handle to the shank by which the knob is connected with a door or other article of furniture—viz., by casting type or other suitable metal directly around said glass handle or about the same and the shank while they are placed in a mold or matrix, as above set forth, thus completing the socket or confining the glass handle and shank together at one operation.

2. The combining with the cast metallic socket C, Fig. 7, of another socket, *d*, of metal or other suitable material, which is introduced into the matrix, and on which the metallic socket C is cast, so as to encompass it, the whole being accomplished substantially in the manner and by the means above set forth.

In testimony that the foregoing is a true description of my said invention and improvement I have hereto set my signature this 2d day of December, in the year 1842.

ENOCH ROBINSON.

Witnesses:

R. H. EDDY,

E. LINCOLN, Jr.