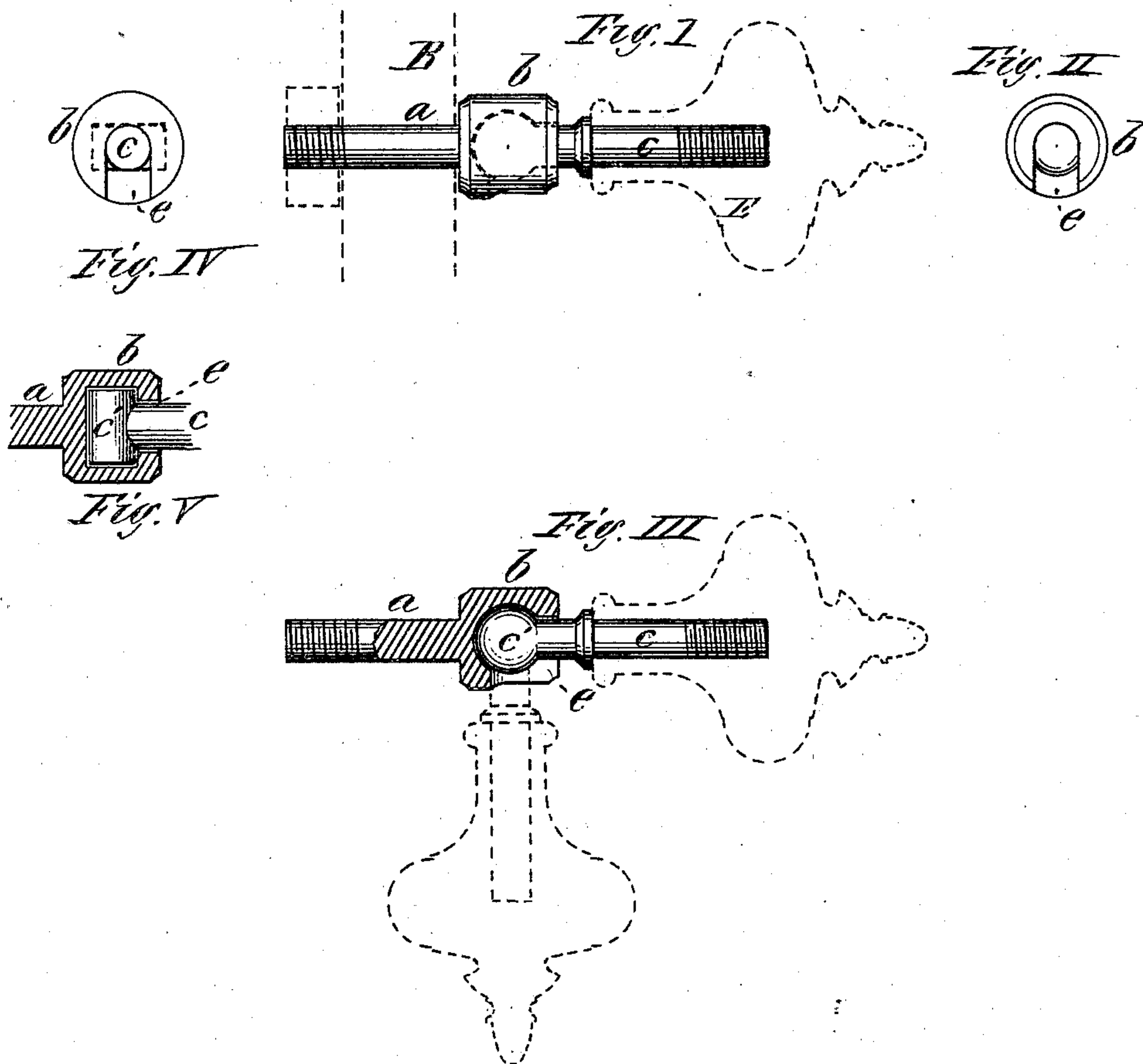


E. M. LOCKWOOD.

SWING-JOINTS FOR KNOBS AND HANDLES.

No. 171,027.

Patented Dec. 14, 1875.



Witnesses,
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UNITED STATES PATENT OFFICE.

EDWARD M. LOCKWOOD, OF MERIDEN, CONNECTICUT, ASSIGNOR TO HIMSELF AND CHARLES PAGE.

IMPROVEMENT IN SWING-JOINTS FOR KNOBS AND HANDLES.

Specification forming part of Letters Patent No. **171,027**, dated December 14, 1875; application filed September 25, 1875.

To all whom it may concern:

Be it known that I, EDWARD M. LOCKWOOD, of Meriden, in the State of Connecticut, have invented a new and useful Improved Swing-Joint for Knobs and Handles; and that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to provide a joint for knobs and handles which will allow the latter to swing freely, to drop, and yet so that the knob or handle will be attached securely to the stationary part or socket without being riveted thereto; and to this end my invention consists of a shank having upon one end a ball or other protuberance, as hereinafter described, around which ball or protuberance a socket is cast, having a stem by which to secure the whole to the article to which the knob or handle is to be attached, no rivets being required to secure the two parts of the joint together.

Figure I represents a side view of my invention. Fig. II is a front-end view of the same. Fig. III is a longitudinal section through the socket, showing the joint as cast and secured together. Fig. IV is an end view of the same invention, with a cylindrical protuberance and socket to form the joint; and Fig. V is a longitudinal section of said socket, showing the two parts of the joint secured together.

In the drawing, *c* represents the shank, to which the knob or handle is attached, or upon which it may be made, and upon the end of which shank is a protuberance, *c'*, which may be in the shape of a ball, as in Figs. I and II, or in the shape of a cylinder, as shown in Figs. IV and V, or of any other form which will allow the shank *c* to swing freely. In constructing this joint I take this shank *c* and dip the ball or protuberance *c'* into a solution of lime or plaster, or of any other suitable material, or otherwise cover it with a thin coating or film, and when this is dry I place the protuberance in a mold in which the socket is cast, the protuberance being placed in that part of the mold which gives form to the head *b*, and I then cast the head or socket *b*, upon which is also the stem *a*, to secure it

to the desired article, the metal in casting flowing around the protuberance *c'*, but not uniting with it on account of the thin covering or film, and leaving, by the formation of the mold, a space, *e*, through which the shank *c* may swing downward. After this is done and the metal is sufficiently cool, the protuberance is moved or worked a little in the socket, and the dry substance forming the covering or film is loosened or falls out of the joint, and the protuberance and its shank will then swing freely, to allow the knob or handle to drop into the position shown in dotted lines in Fig. III. When used to pull out a drawer, open a door, or for any other similar purpose, the knob or handle is grasped and raised into the horizontal position shown in Fig. III.

It is evident that this joint may be used either double, as in the case of many kinds of handles, or singly, as in the case of knobs, both kinds being used, according to fancy.

This joint is a great improvement over the joint now in use, in which the shank which swings, and to which the knob is attached, is secured in the socket or stationary part by a pivot or rivet, upon which the knob swings, whereas this joint has no fastening whatever to secure the parts of the joint together, and the protuberance may be of any desirable form which will permit the knob or handle to swing freely.

I am aware that a ball-and-socket joint has heretofore been made in which the socket is made in two parts, and secured together after the ball has been placed in the recess, and I do not claim the same; but,

Having described my invention, what I claim as new is—

A swing-joint for knobs and handles, consisting of the shank *c*, having a protuberance, *c'*, upon or around which protuberance is cast, in one piece, the socket *b*, provided with a stem, *a*, so that the said shank and protuberance will swing freely in said socket and be held securely therein, substantially as described.

EDWARD M. LOCKWOOD.

Witnesses:

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