(No Model.)

E. THISTLE.

DOOR KNOB.

No. 337,093. Patented Mar. 2, 1886.

Fig: 1.

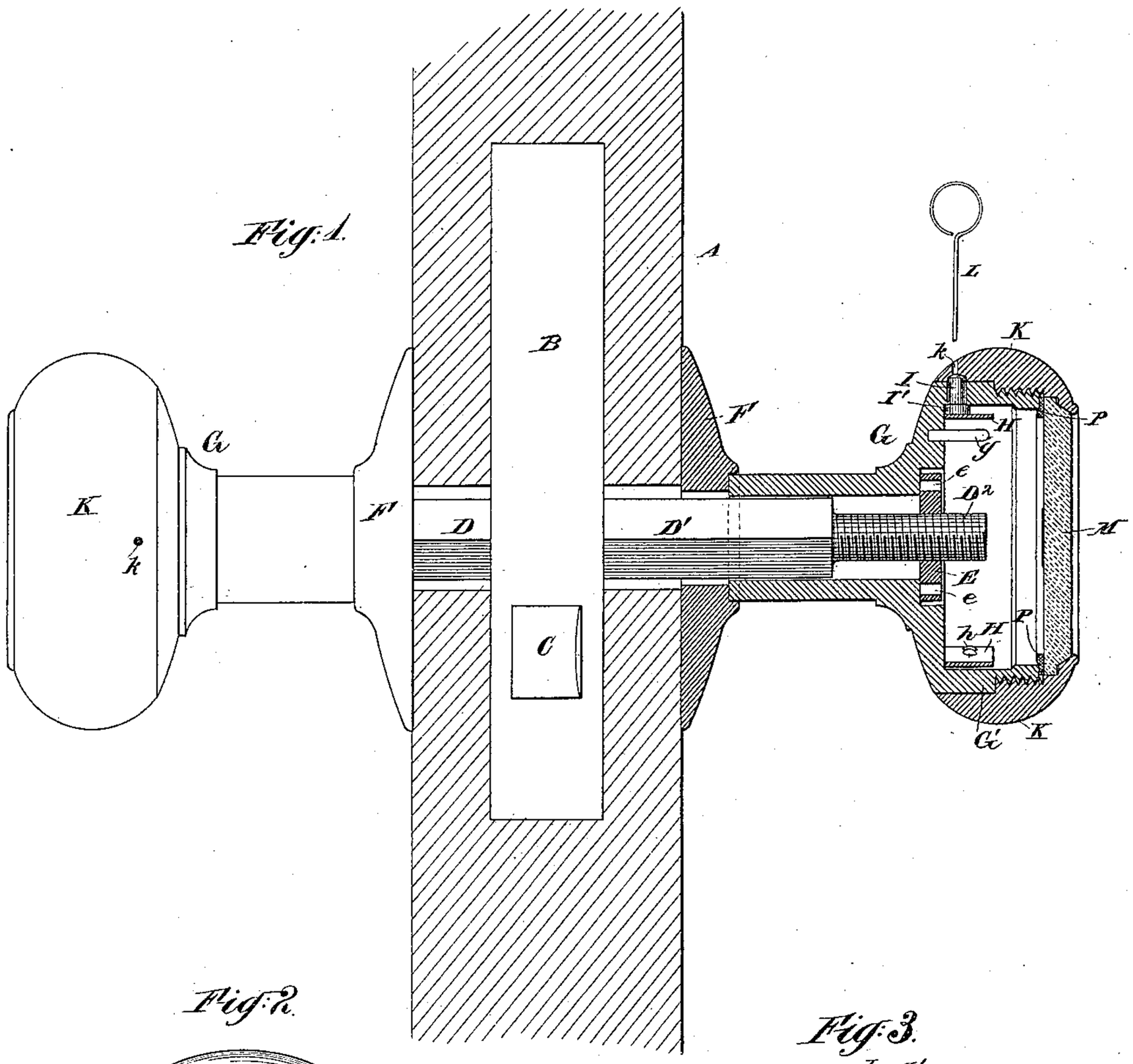


Fig: 2.

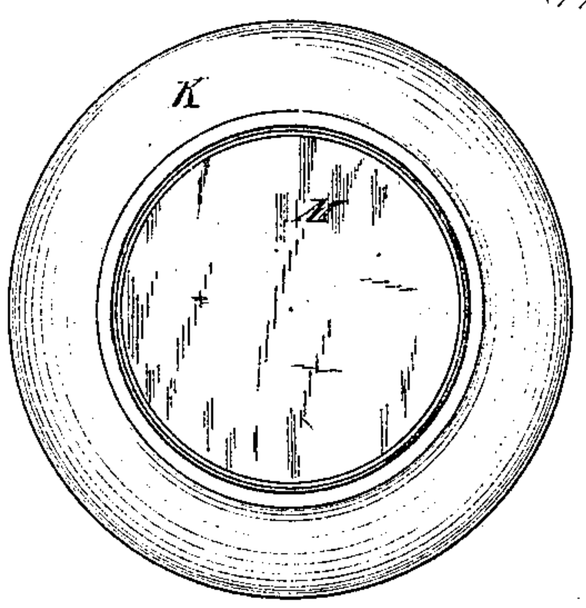
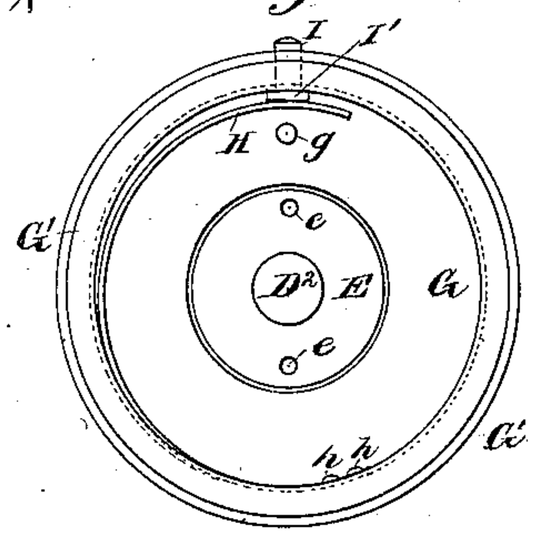


Fig: 3.



Witnesses:

Charles R. Searle,

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Inventor:

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by his attorney

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UNITED STATES PATENT OFFICE.

EDWARD THISTLE, OF WEST HOBOKEN, NEW JERSEY.

DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 337,093, dated March 2, 1886.

Application filed July 30, 1885. Serial No. 173,052. (No model.)

To all whom it may concern:

Be it known that I, EDWARD THISTLE, of West Hoboken, Hudson county, in the State of New Jersey, have invented a certain new and useful Improvement in Door-Knobs, of which the following is a specification.

I have devised and practically wrought out means for opening and closing the front and efficiently securing the body of the knob on the shank when it is in the open condition without presenting any projection or roughness on the exterior of the knob or shank.

The construction allows unusual facilities for successfully applying, removing, and exchanging at will a transparent face plate, which may have its back silvered or lettered, or both.

The general effect, and also the specific construction, mode of operation, and points of novelty will be fully set forth below.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a vertical section showing a knob constructed according to my improvement, with the adjacent parts of a door and an elevation of a corresponding knob of the opposite face of the door. Fig. 2 is a face or end view of my knob complete. Fig. 3 is a corresponding view showing the knob in the open condition, exposing the large nut or threaded plate which confines the knob to the spindle.

Similar letters of reference indicate corresponding parts in all the figures where they occur.

A is the door; B, a mortise-lock therein; C, the bolt of the lock, and D the knob-spindle, certain portions of the latter being distinguished by additional marks, as D′ D^2, when necessary.

D′ is the main body of the spindle, rectangular in cross-section and engaging in a corresponding hole in the hub of the lock. (Not represented.)

D^2 is a screw-threaded end of the spindle, adapted to engage with a circular nut, E, formed with holes *e*, whereby it may be turned by a suitable key (not represented) when the front face of the knob is removed.

F is the ordinary rose interposed between the knob and the door.

G is the main body of the knob, certain portions being designated, when necessary, by additional marks, as G′. It is made of brass or other suitable strong material capable of being nicely finished. It covers the end of the spindle, its shank matching closely on the square portion D′, and forms a bearing for the nut E. In the considerable cavity presented within its projecting front rim, G′, is mounted a curved spring, H, secured by rivets *h* and pressing outward with constant force against the bolt I, which is formed with a head, I′, on its inner end and is free to move radially to a small extent in the periphery of the frame, being pressed outward by the spring H, so that its smaller end protrudes. A portion of the exterior of rim G′ is screw-threaded.

K is a ring, which performs important functions. Its exterior is finished spheroidally. Its inner face is screw-threaded to engage with the screw-threads in the rim G′. Its front edge overlaps on a glass front plate, M, which, when the parts are properly adjusted and screwed home, holds the glass front plate, M, against the front of the body G, through the intervention of a thin washer, P, of leather or other slightly-yielding material. A hole, *k*, is drilled or otherwise produced through the ring K, in line with the pin I. The main body of this hole may be considerably smaller than the pin. The inner end of the hole must be sufficiently large to receive the end of the pin as it is pressed outward by the force of the spring.

The parts being properly made and matched together, make a strong and rigid knob, the exterior of which may be smoothly finished and plated, or variously ornamented, if desired. The glass front plate, M, may be ground or otherwise made opaque at the back, thus concealing the interior work, or it may be silvered or variously colored, or otherwise decorated. I propose, in some cases, to letter the inner face of the glass by machinery or by hand, as indicated by Fig. 2. The door-knob may thus show the name of the owner or the number of the house, or, if used in the interior of houses, the number of the room. It may carry any ornamental or distinguishing device. The front plate, M, is so secured that it cannot be removed, except by removing the ring K. The latter is strongly held by the

screw-threads. The ring cannot be turned to disengage these screw-threads so long as the pin I is engaged in the hole *k*.

When it is desired to open the knob, a sufficient pressure, which may exerted by a strong wire, L, inserted through the hole *k*, drives inward the pin I against the force of the spring. When this is sufficiently forced inward, the ring K may be turned on the body G to disengage the screw-threads. A difficulty will be met by the engagement of the wire L with the frame or body G, if the pin I is forced in too far. This is effectually guarded against by the stop *g*, so placed as to arrest the spring H, and consequently the pin I, when the latter has been forced inward to a sufficient extent.

Modifications may be made in the forms and proportions without departing from the principle or sacrificing the advantages of the invention.

The front plate, M, may be made of metal or other opaque material instead of glass, if preferred in any case.

Instead of the thin nut E, I can use a thicker one.

I can, if preferred, apply a nut and jam-nut, screwing the latter tightly against the former.

I claim as my invention—

1. In a door-knob, the spring-actuated locking-pin I, in combination with the screw-threaded ring K and correspondingly screw-threaded body G, arranged for joint operation, as herein specified.

2. In a door-knob, the ring K, having the hole *k*, engaged with the body G by screw-threads, as shown, in combination with such body, and with the pin I and spring H, all arranged for joint operation, as herein specified.

3. In a door-knob, the stop *g*, in combination with the spring H, pin I I′, ring K, having the hole *k*, and body G, as herein specified.

4. In a door-knob, the front plate, M, ring K, body G, spindle D, and nut E, in combination with each other, and with a locking-pin, I I′, and spring H, said ring formed with a hole, *k*, whereby the parts may be disengaged when desired, all substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, New York, this 28th day of July, 1885, in the presence of two subscribing witnesses.

EDWARD THISTLE.

Witnesses:

JOSEPH W. BUDD,

MANIERRE ELLISON.