

No. 626,342.

Patented June 6, 1899.

B. PHELPS.
LOCK.

(Application filed Dec. 23, 1898.)

(No Model.)

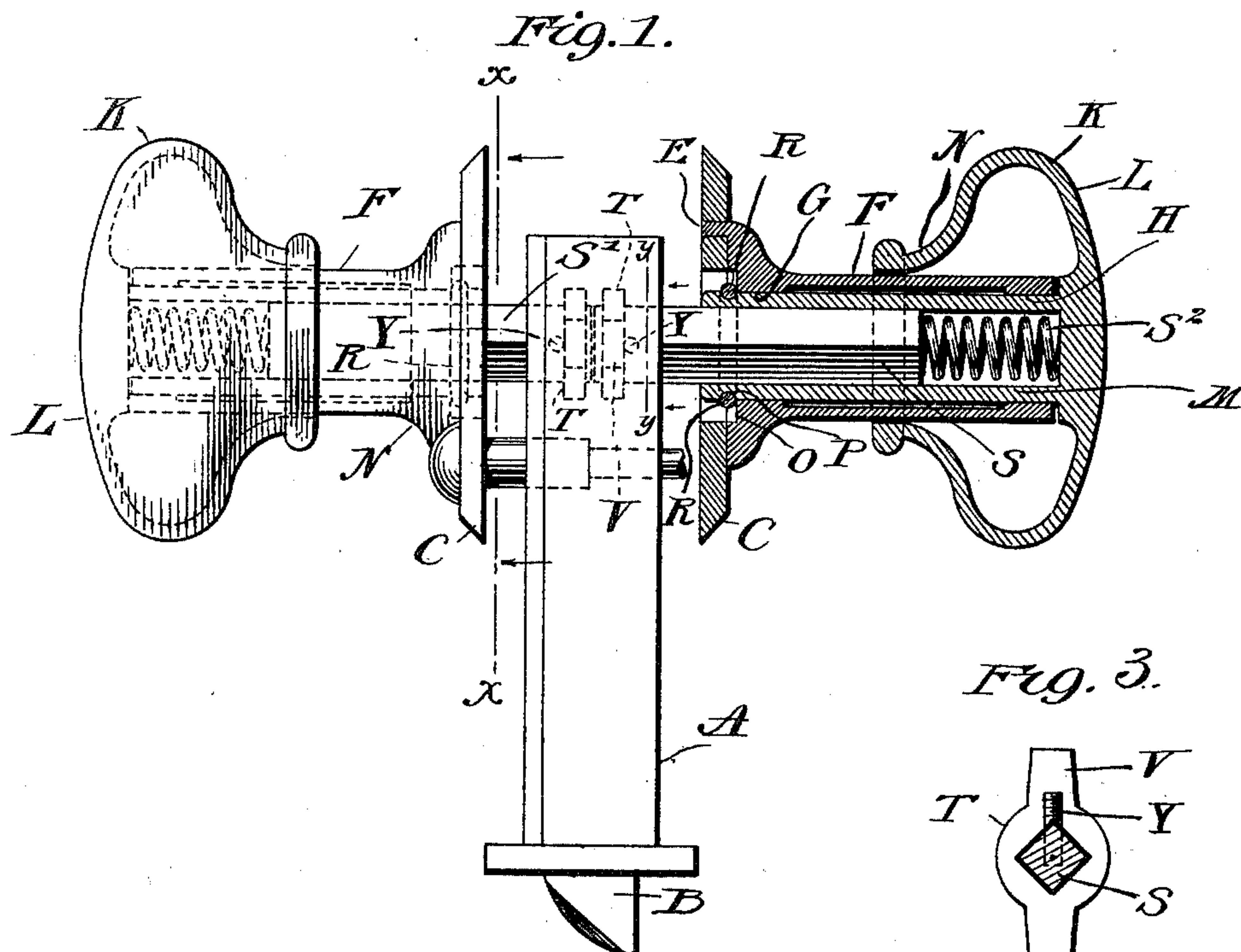


Fig. 2.

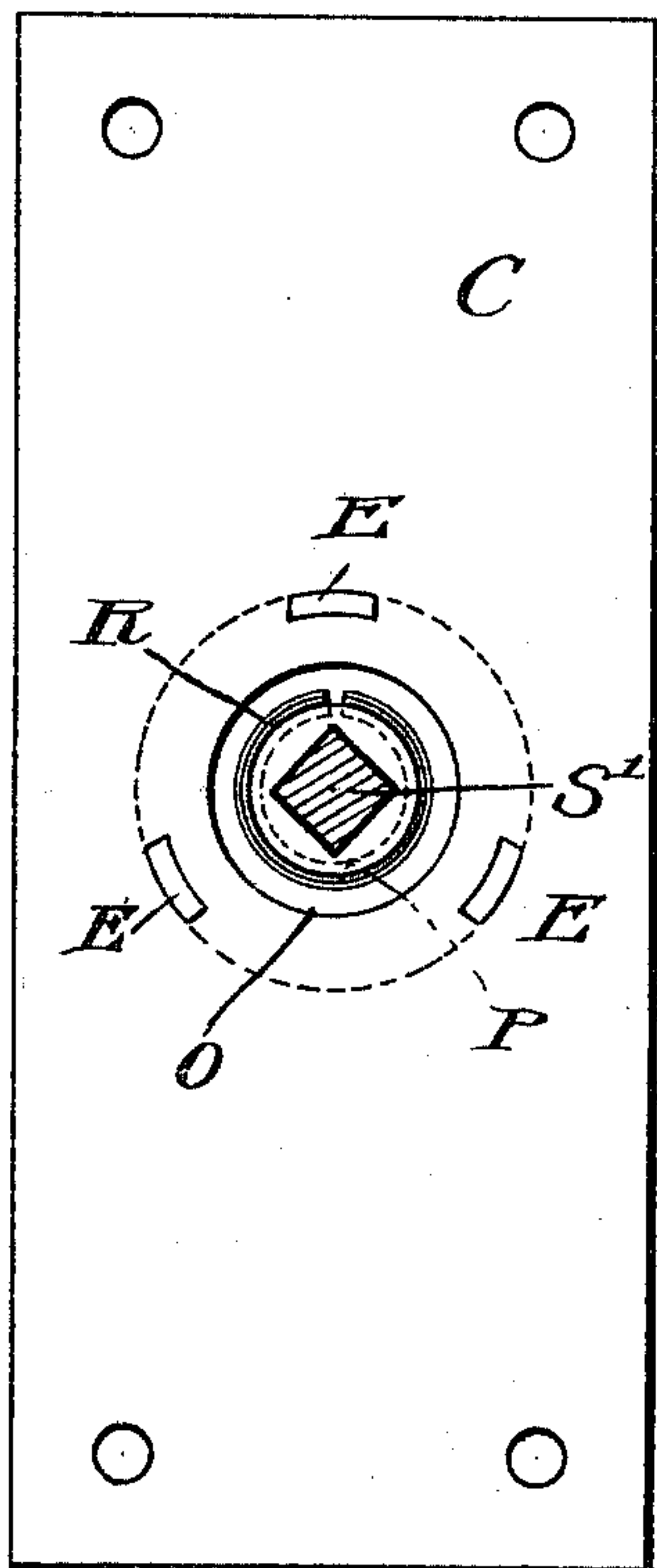


Fig. 4.

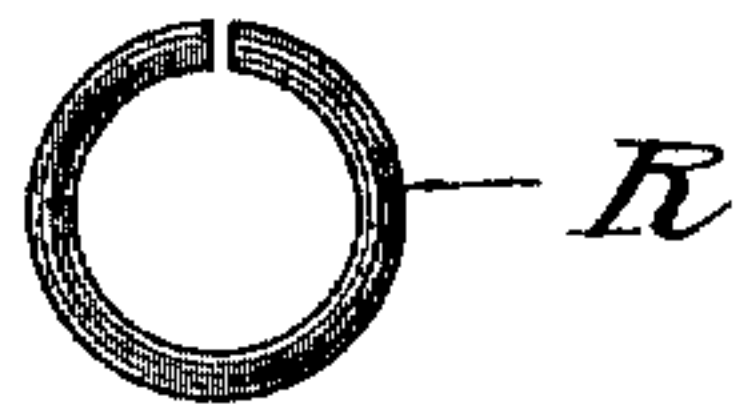
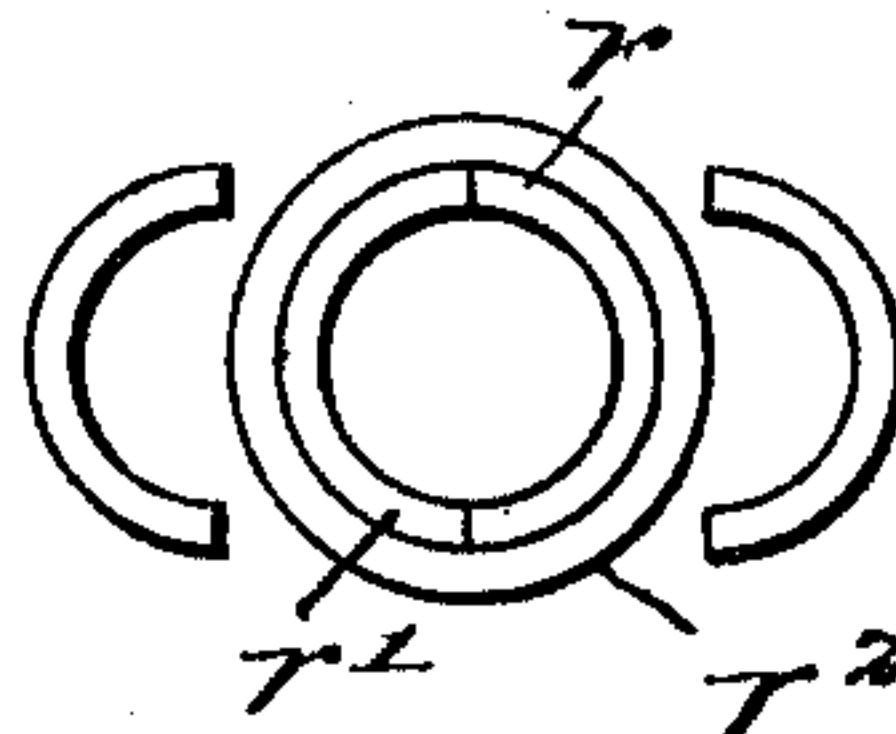


Fig. 5.



WITNESSES:

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LOCK.

SPECIFICATION forming part of Letters Patent No. 626,342, dated June 6, 1899.

Application filed December 23, 1898. Serial No. 700,112. (No model.)

To all whom it may concern:

Be it known that I, BYRON PHELPS, a citizen of the United States, residing at Seattle, King county, Washington, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks; and my object is to provide a knob which may be easily attached, yet not easily removed from the outside, and to further improve the spindle and roll-back construction. Other advantages will appear from an inspection of the following specification.

In the preferred embodiment of my invention shown in the drawings, Figure 1 shows a plan view, partly in section, of my invention. Fig. 2 shows a vertical section on the line X X of Fig. 1. Fig. 3 shows a section of the spindle and roll-back, taken on the line Y Y of Fig. 1. Fig. 4 shows a detail. Fig. 5 shows a modification.

In the above embodiment of my invention, A represents a frame for the latch mechanism. B represents the latch-bolt.

C C are escutcheon-plates having a bearing in the present embodiment fastened to the escutcheon-plates, as by fastenings E E, and which is extended into a long bearing F. This bearing is hollow and has preferably two annular inward projections G and H at opposite ends thereof.

K is a knob, preferably hollowed out, having a head L, to the inside of which is attached a hollow shank M. The knob also has an extension N, which incloses the shank for a certain distance. This long bearing affords a particularly strong construction and is especially advantageous over the usual construction, where a knob is merely supported by a comparatively thin rosette. In the present embodiment the shank is supported at two points G and H, comparatively remote from each other, and as the outer end of the bearing is inside of the knob in this embodiment the knob may be brought close to the escutcheons and yet the shank have a long and extremely strong support.

O is an abutment preferably formed by one end of the bearing F.

P is a seat formed in this embodiment by a

circular groove in the shank, and in this seat is a retaining device R in the form of a split spring ring, as shown in Fig. 4. When this spring is expanded and slipped over the end of the shank, it will spring into and hold itself in place in this groove and will prevent the shank from being withdrawn on account of its contact with the abutment O. This dispenses with any necessity of employing screws or other attachment outside of the escutcheon-plate, as has been common heretofore. These screws outside of the escutcheon-plate have been particularly disadvantageous, as the same might be surreptitiously removed and the knob stolen. They also become loose and allow the knob to rattle. In this feature of my invention I provide a construction in which the knob is easily and quickly fastened in place and in which this fastening is entirely on the inside of the escutcheons, so that the parts may be assembled before being attached to the door, and then the frame and locking mechanism may be slipped into the stile of the door, as broadly claimed in my former application, filed March 10, 1897, renewed December 5, 1898, Serial No. 698,371. Fig. 5 shows a modification of this attaching means, in which the retaining device is formed of a split ring $r r'$; placed in the groove and held in place by the spring-ring r^2 outside of the same.

Extending from each side of the frame containing the latch mechanism is a split—that is, a divided—spindle formed by the separate spindles S S'. These are preferably annular and extend into an annular hollow opening in the shank M and are longitudinally movable, but preferably not rotatable therein. S² is a spring in said shank to press said spindle inward. The two halves of the spindle preferably abut against each other, as shown, and in this embodiment each forms an abutment for the end of the other to limit the inward movement thereof, and each of them carries a roll-back T, having an extension V, which is held in place by a stop Y—in this embodiment a pin in the spindle pressing against the roll-back. This split-spindle construction is particularly advantageous where two holes have to be bored in the door to insert the two parts of the spindle. If these

holes are not exactly opposite each other, the spindle will bind on rotation; but by this construction the holes might be considerably out of alinement without interfering with the operation of the latch, as the spindles would still abut against each other.

In this specification when I speak of the knob as "hollowed" out I do not mean that it must necessarily be hollowed out so that the outside thereof is formed of a thin material; but in this embodiment practically the same result will be accomplished if the knob were only hollowed out by a hole in the same a little larger than the bearing F.

What I claim is—

1. In combination, an escutcheon-plate, a hollowed-out knob, a shank extending into said knob and attached to the inside of the head thereof, and a hollow bearing extending outwardly from said escutcheon-plate and surrounding said shank and supporting the same close to said escutcheon-plate, said hollow bearing also extending into said knob and supporting said shank within said knob.

2. In combination, a knob, a shank attached thereto and extending therefrom, a bearing for said shank, an abutment on said bearing, a curved and grooved seat on said shank, and a retaining device carried by said shank

and located between said seat and abutment adapted to contact with said abutment and hold said knob and shank in place.

3. In combination, a knob, a shank attached thereto and extending therefrom, a bearing for said shank, an abutment on said bearing, a curved and grooved seat on said shank, and a retaining device consisting of a spring-ring carried by said shank in said seat and projecting therefrom, and adapted to contact with said abutment and hold said knob and shank in place.

4. In a lock in combination, a pair of shanks, a pair of spindles movable longitudinally but not rotatably therein, springs to move said spindles inward toward each other, said spindles adapted to abut against each other, stops on each of said spindles a short distance from their inner ends and a roll-back for each spindle located between the end of said spindle and the stop thereon and narrower than the distance between said stop and the end of said spindle.

Signed at New Britain, Connecticut, this 8th day of November, 1898.

BYRON PHELPS.

Witnesses:

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