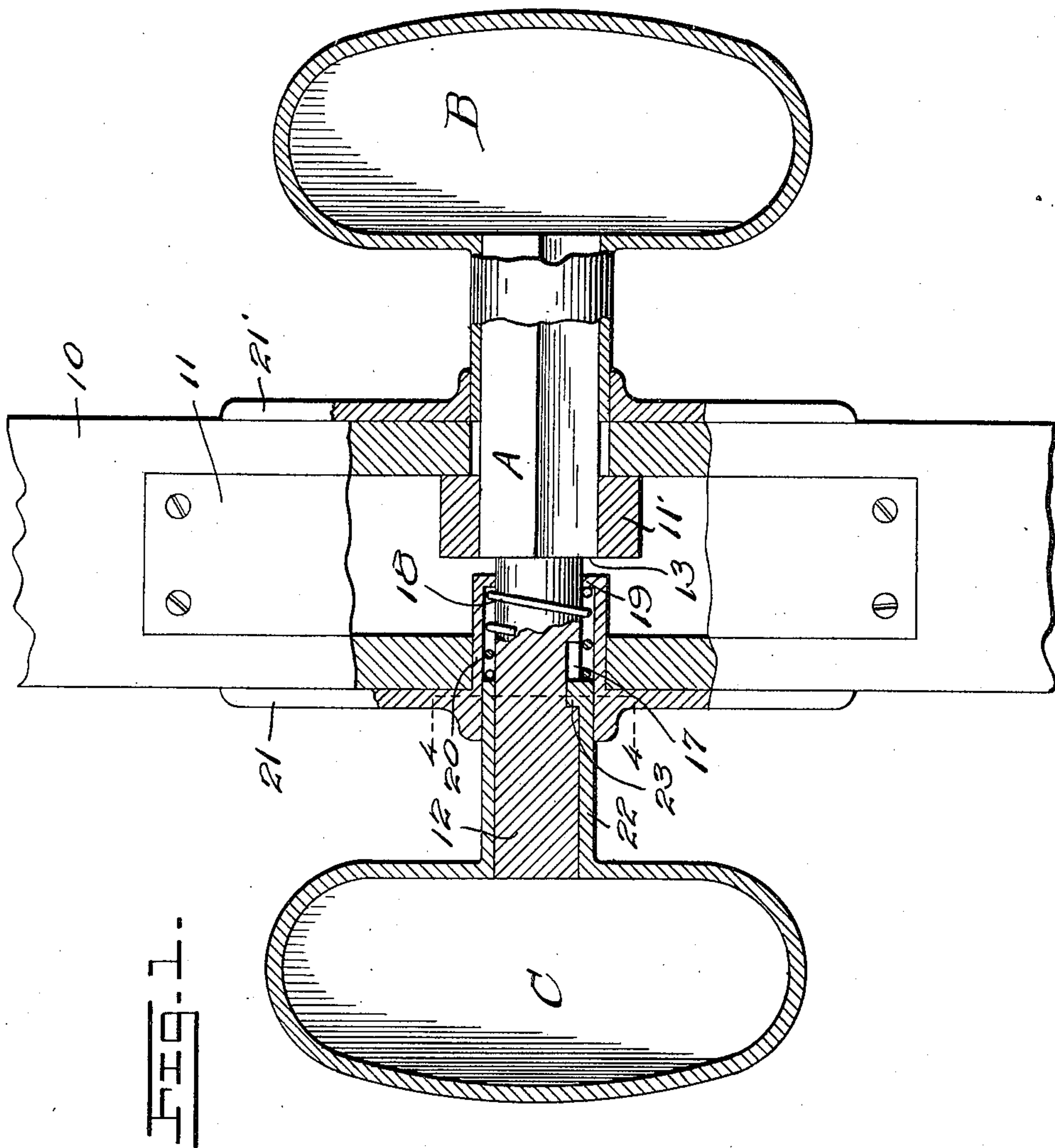


F. A. CLARK.  
 KNOB FASTENER.  
 APPLICATION FILED FEB. 7, 1910.

999,546.

Patented Aug. 1, 1911.

2 SHEETS—SHEET 1.



Witnesses  
*L. L. Cunningham*  
*M. L. Lowry*

*F. A. Clark,* <sup>Inventor</sup>

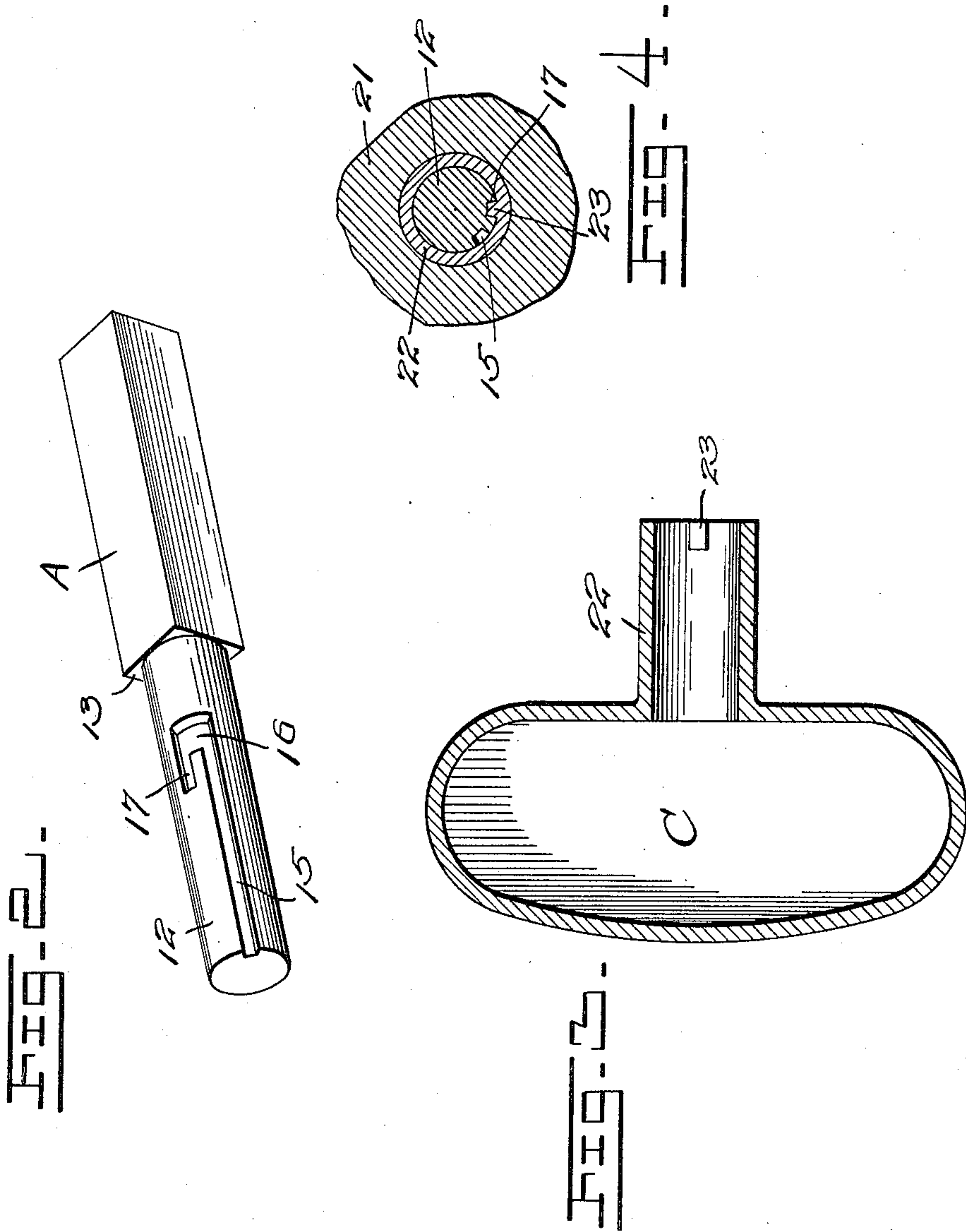
By *Stoddard & Chandler*  
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2 SHEETS—SHEET 2.



Witnesses  
*P. H. Cunningham*  
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 Attorneys



# UNITED STATES PATENT OFFICE.

FRANK A. CLARK, OF SAN FRANCISCO, CALIFORNIA.

KNOB-FASTENER.

999,546.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed February 7, 1910. Serial No. 542,431.

*To all whom it may concern:*

Be it known that I, FRANK A. CLARK, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Knob-Fasteners, of which the following is a specification.

This invention relates to knob fasteners, and has for its object to provide means of simple construction adapted to allow the quick engagement or disengagement of knobs from a latch spindle without the use of special tools.

Another object is to provide a novel form of spindle which may be manufactured in an economical manner and a knob arranged for interlocking engagement therewith, which knob may be formed in the usual method of manufacture of such devices without the provision of special machinery or implements.

An important object is to provide a connection which will perform the double function of retaining a knob in secure engagement with the spindle of the latch, while at the same time preventing loose play thereof.

A further important object is to provide such a device requiring the use of a minimum number of parts, this end being attained to the extent that but three elements are utilized in accomplishing the function of my invention, these being adapted to be assembled without the use of any tools, and yet being held securely in operative relation until purposely disengaged.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is a sectional view of a door and latch having the spindle applied thereto. Fig. 2 is a detail perspective view of the spindle. Fig. 3 is a detail sectional view of the detachable knob. Fig. 4 is a section on the line 4—4 of Fig. 1.

Referring to the drawings, there is shown a door 10 having a latch 11 of any ordinary type mortised therein, in which is engaged the spindle A of the present invention. The spindle carries the knob B at one end which may be secured rigidly thereon, or may be attached in the manner subsequently to be

described. The central portion of the spindle is rectangular for engagement in the usual roll back or equivalent movable member of the latch. The end 12 of the spindle opposite the knob B is cylindrical and of a diameter less than that of the rectangular portion, a shoulder 13 thus being formed at the junction thereof with the angular portion as may be observed.

As shown, the rectangular portion of the spindle A is engaged with the roll back member 11' of the latch, the shoulder 13 being disposed flush with one face of the roll back member as shown. Formed in the periphery of the cylindrical portion 12, there is a longitudinally extending channel 15, stopping a spaced distance from the shoulder 13, and being extended laterally as shown at 16, and continued a short distance outwardly from the outer end of this extension of the slot, forming a blind slot 17 parallel with the slot 15. Mounted upon the cylindrical portion of the spindle and over the inner end of the channel 15 there is a helical spring 18 bearing against the inner end of the knob shank 22 at one end, the opposite end of said spring bearing against an inwardly projecting annular flange 19 formed on the inner end of a short sleeve 20 formed upon the escutcheon plate 21. The action of the spring tends to force the knob C outwardly, but this movement is limited by the engagement against the opposite side of the flange 19 of the shoulder 13. A lug 23, formed upon the inner end of the knob shank 22 engages against the outer end of the blind slot 17, when said shank is forced outward by the spring 18, thus retaining the shank in position. This lug is oblong and by its engagement with the opposite sides of the blind slot 17 communicates rotation of the knob B to the spindle A. It will thus be seen that the knob C is held upon the spindle A by the expansive force of the spring 18.

The means for operating the latch of the door comprise but three elements, the spindle A carrying the knob B, the knob C and its shank 22 engaged slidably on the spindle, and third the spring 18. The knob shank 22 and knob C may be cast integral, the lug 23 being also formed integrally in the same operation. The knob B may be secured in a manner similar to that employed for the connection of the knob C to the spindle, or it may be fixed rigidly upon the spindle



in any suitable manner. It will be observed that by the construction employed the spindle and attached knobs are adapted for use with any thickness of door without special  
5 adjustment.

In detaching the knobs and spindle, it is simply necessary to press inwardly upon the knob C, when the spring 18 will be compressed against the flange 19. The knob  
10 shank 22 thus moved inwardly is turned to allow lateral movement of the lug 23 through the slot 16 and into the channel 15, when the knob C assisted by the spring 18, may be readily withdrawn, the lug passing  
15 through the journal 15. The spindle A may be then withdrawn from the opposite side of the door.

A suitable escutcheon plate 21' is secured to the side of the door adjacent to the knob  
20 B, this plate not requiring the sleeve 20 and flange 19, as but one such element is required for the retention of the spindle in proper operative position.

From the foregoing it will thus be seen  
25 that I have provided a simple and effective device for retaining a knob in operative position on a shank.

What is claimed is:

1. A device of the class described comprising a spindle having a shoulder and a  
30 cylindrical member extending therefrom, said cylindrical member having a longitudinally extending channel and an outwardly extending blind slot communicating laterally  
35 therewith, a knob shank engaged over the

cylindrical portion and having a lug engaged in the blind slot, an escutcheon having a flanged tubular member, and resilient means interposed between the end of the shank and the flange on said tubular member for retaining the lug in engagement  
40 with the blind slot.

2. The combination with an escutcheon plate having a tubular extension, provided with a terminal inwardly directed flange,  
45 of a spindle having a shoulder and a reduced cylindrical portion extending outwardly therefrom and engaged slidably and revolubly through said tubular extension, said cylindrical portion having a longitudinal  
50 extending channel and having also a blind slot extending longitudinally outward therein and communicating laterally at its inner end with said channel, a knob shank engaged slidably over the  
55 cylindrical portion and having an inwardly projecting lug, engaging in the blind slot, said shank adapted to be moved to move the lug from the blind slot, into the channel, for withdrawal of said shank, and resilient  
60 means encircling said cylindrical portion and bearing against said shank and said inwardly directed flange.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK A. CLARK.

Witnesses:

F. J. SILVEY,  
J. D. BROWN.