

A. MARION.
 LOCK FOR DOOR KNOBS OR HANDLES.
 APPLICATION FILED JUNE 15, 1908.

912,587.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.

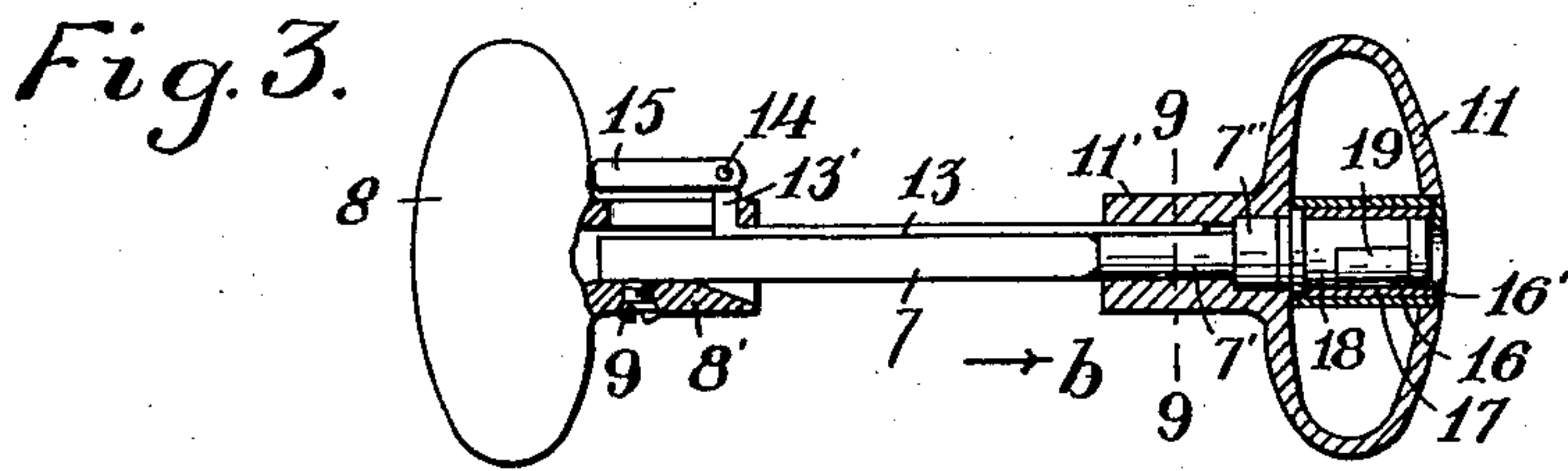
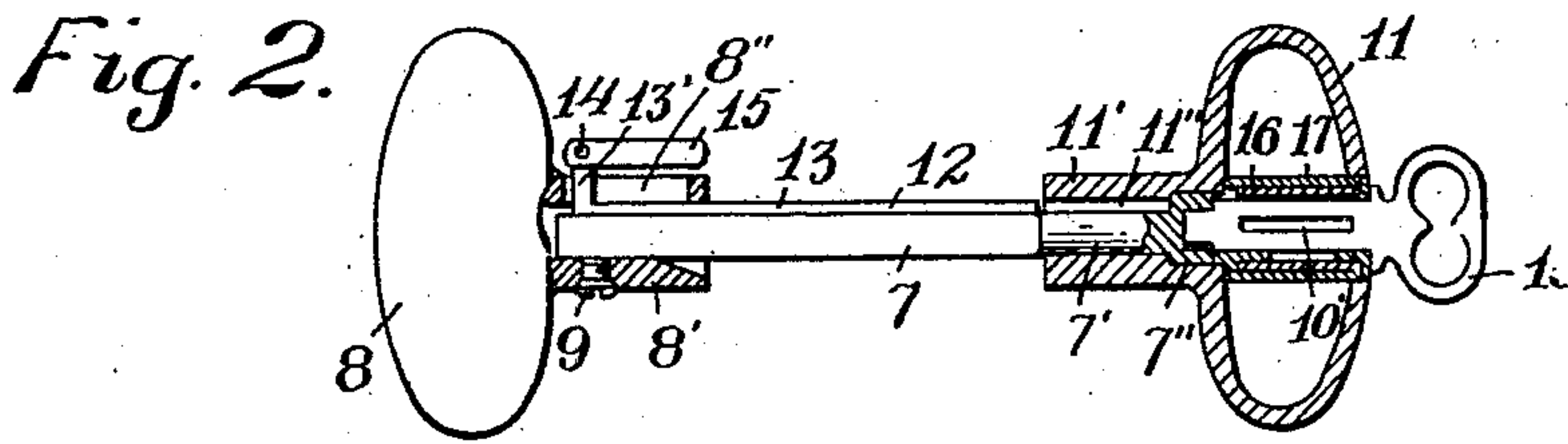
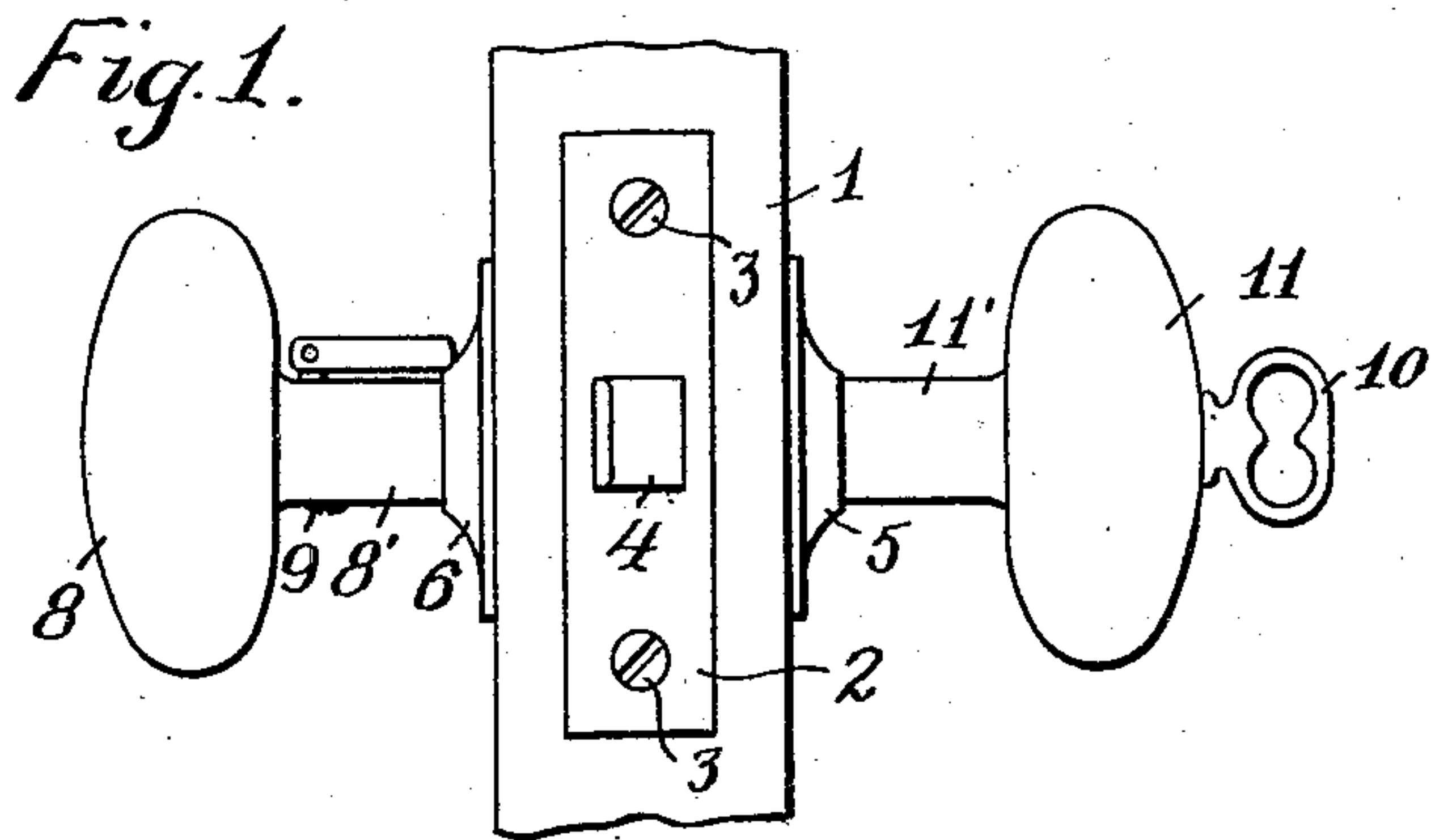


Fig. 6.

7" 7"

Fig. 4.

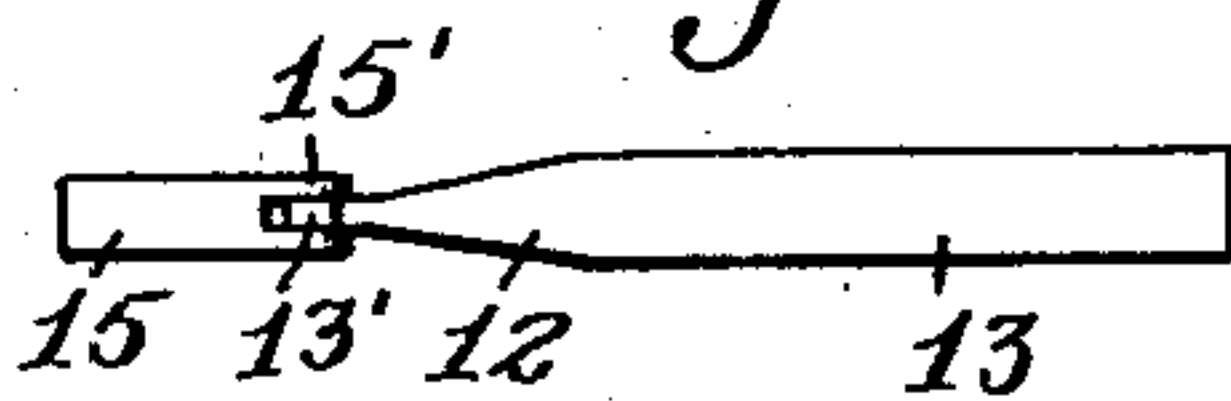


Fig. 5.

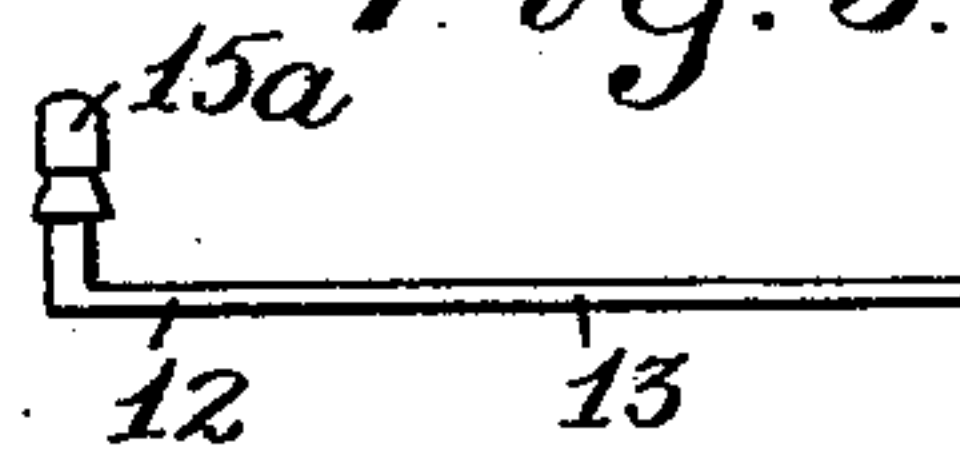


Fig. 8.

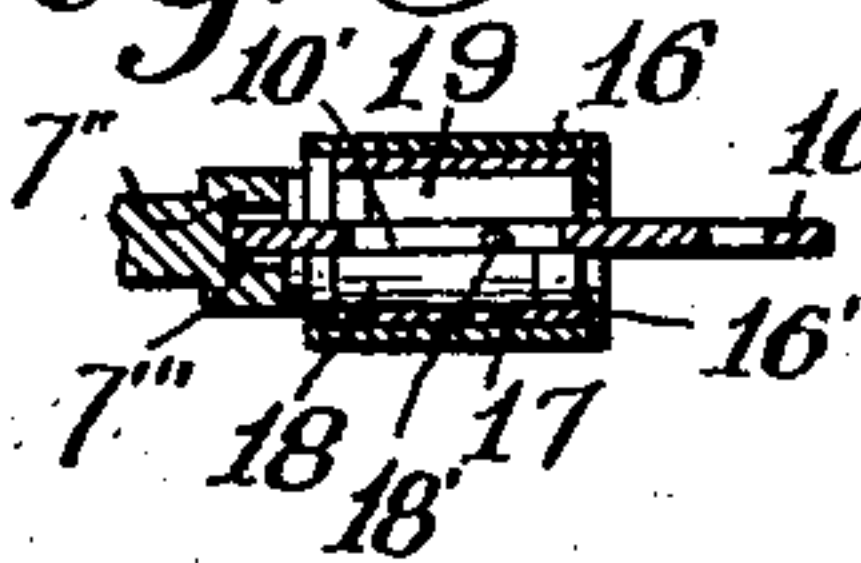


Fig. 9.

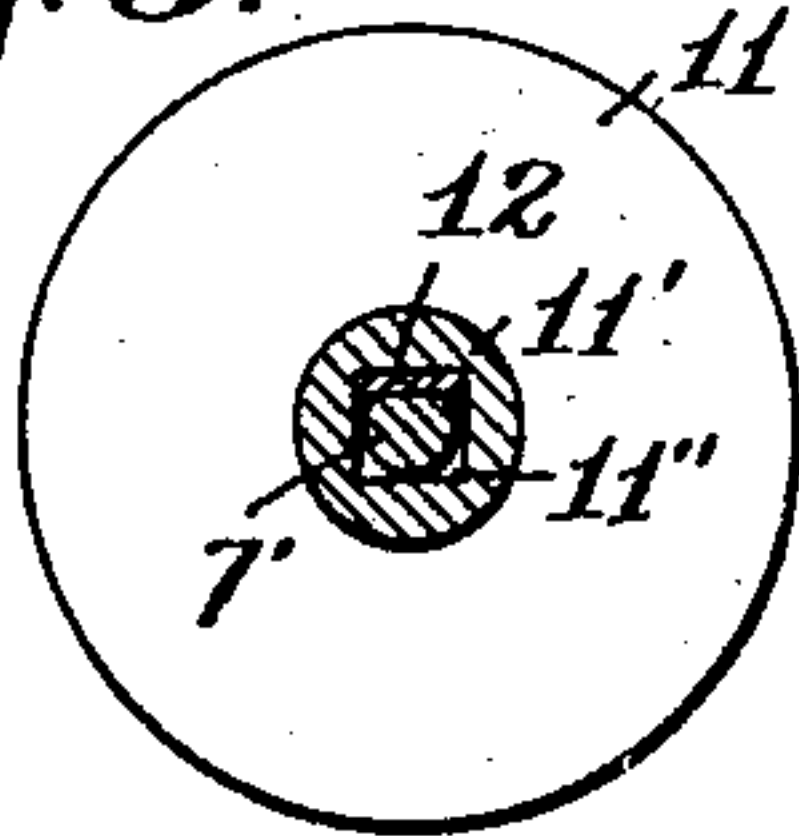
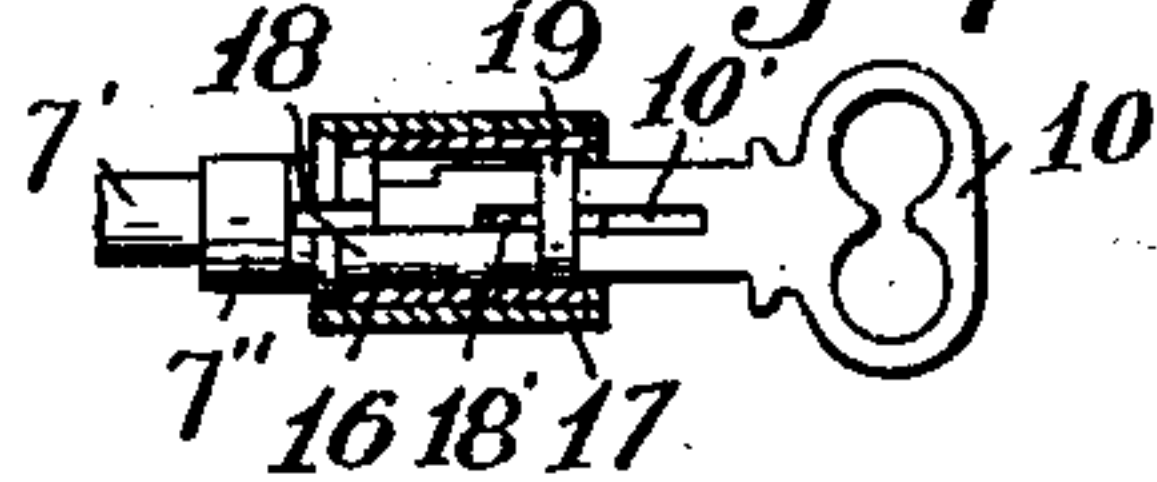


Fig. 7.



Witnesses

R. D. Tolman
 W. Haas

Inventor

A. Marion.

By John E. Dewey.
 Attorney

A. MARION.
LOCK FOR DOOR KNOBS OR HANDLES.
APPLICATION FILED JUNE 15, 1908.

912,587.

Patented Feb. 16, 1909.
2 SHEETS—SHEET 2.

Fig. 10.

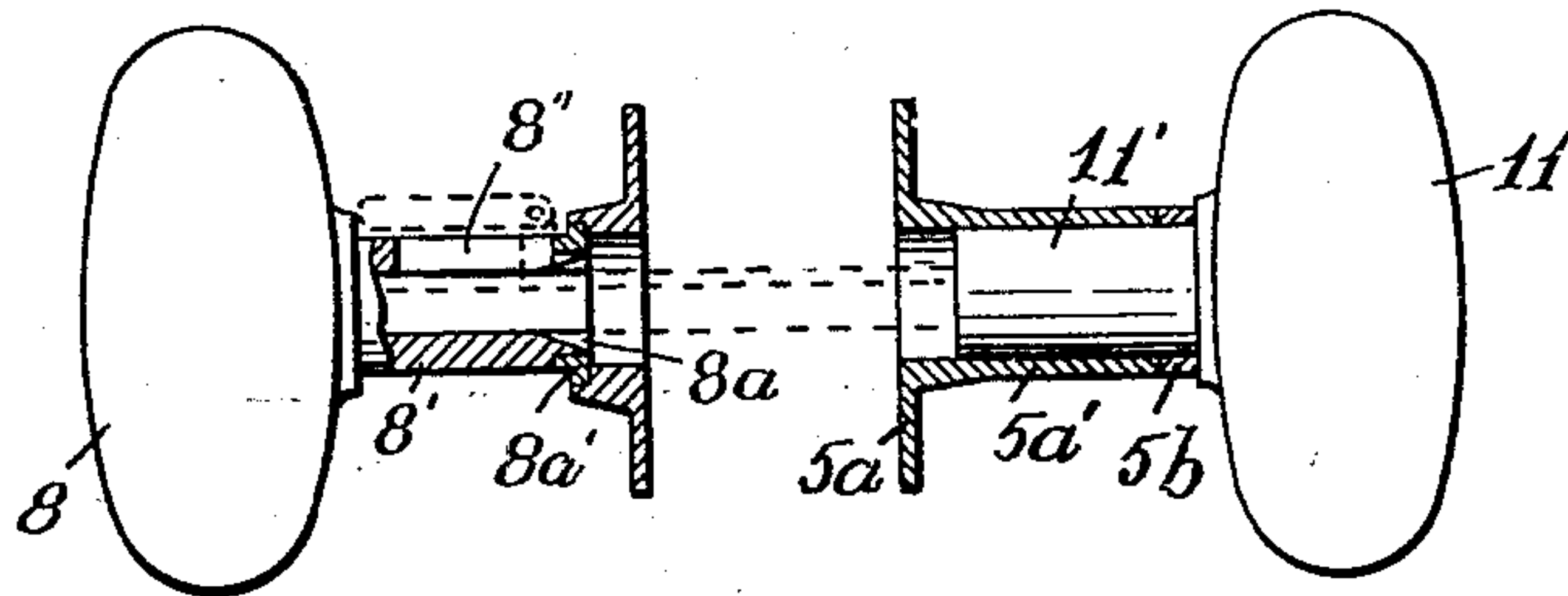
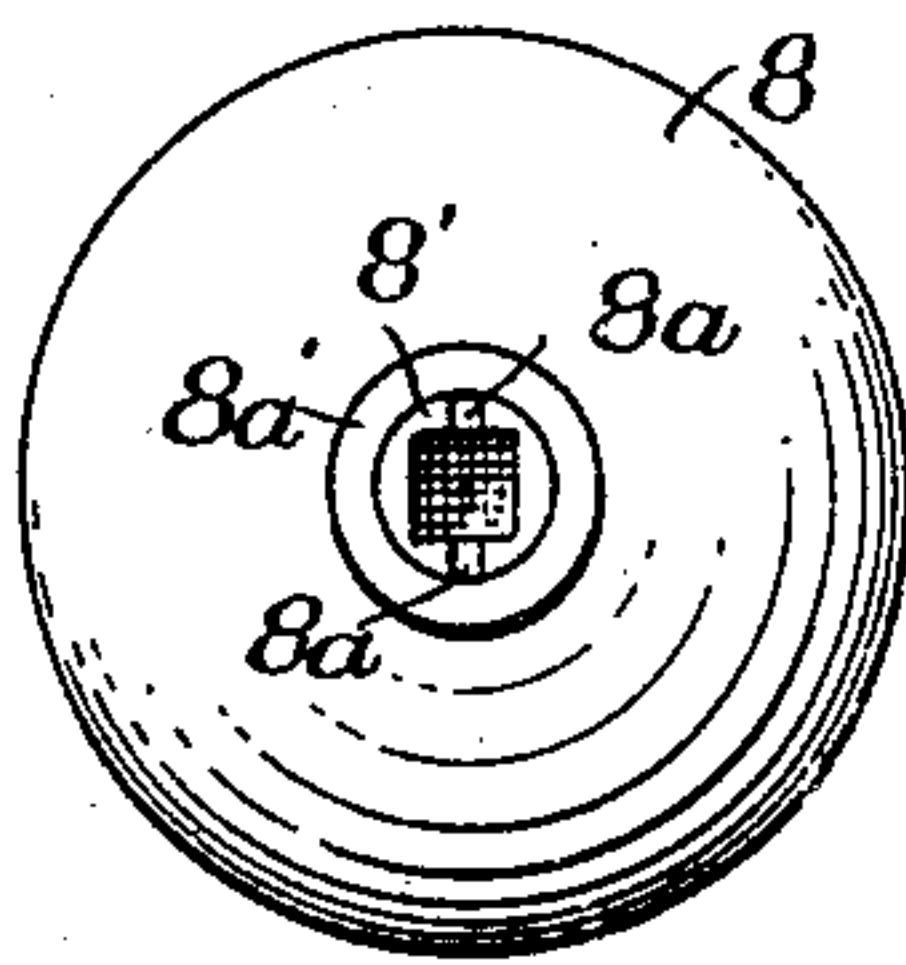


Fig. 11.



Witnesses

A. D. Tolman
M. Haas

Inventor

A. Marion

By John E. Dewey.
Attorney

UNITED STATES PATENT OFFICE.

ARTHUR MARION, OF FITCHBURG, MASSACHUSETTS.

LOCK FOR DOOR KNOBS OR HANDLES.

No. 912,587.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed June 15, 1908. Serial No. 438,501.

To all whom it may concern:

Be it known that I, ARTHUR MARION, a citizen of the United States, residing at Fitchburg, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Locks for Door Knobs or Handles, of which the following is a specification.

My invention relates to improvements in locks for door knobs or handles, and to that class of locks which are combined with the knobs or handles, and are adapted to be used with the ordinary door latch bolt mechanism, to lock said bolt, and my invention particularly relates to improvements upon the lock for door knobs, shown and described in my U. S. Letters Patent, No. 797,137. In my said patent I use a lock slide, which extends within a longitudinal recess or groove in one side of the handle spindle.

In my present improvements I do away with the longitudinal recess or groove in the spindle, and I use a flat lock slide, which extends upon, and has a longitudinal movement on one side of the spindle, which is preferably square in cross section for a portion of its length.

I also provide a lock mechanism for the key, of improved construction, and with which only a key of a particular construction can be used, but by changing the relative position of the pins of the lock mechanism, different keys may be used without substituting a new lock mechanism.

My invention consists in certain novel features of construction of my improvements, as will be hereinafter fully described.

Referring to the drawings:—Figure 1 is a front edge view of a portion of a door having an ordinary latch bolt mechanism applied thereto, and a rotatable knob spindle, and knobs or handles embodying my improvements combined therewith. Fig. 2 shows the knob spindle, and knobs or handles shown in Fig. 1, detached, and the lock mechanism at the right in section. Fig. 3 corresponds to Fig. 2, but shows the opposite position of the lock slide, and the lock mechanism without the key. Fig. 4 is a plan view of the lock slide, detached. Fig. 5 shows a modified construction of the lock slide with a rigid handle. Fig. 6 is an end view of the knob spindle, into which the end of the key is inserted to turn the knob. Fig. 7 shows the lock mechanism shown in Fig. 2, de-

tached, and in a different position. Fig. 8 corresponds to Fig. 7, but shows a different position of the lock tumbler, and of the key. Fig. 9 is a section, on line 9, 9, Fig. 3, looking in the direction of arrow *b*, same figure. Fig. 10 shows a modified construction of the handle shown in Fig. 2. Fig. 11 is an inner end view of the handle shown at the left in Fig. 10.

In the accompanying drawings, 1 is a detached portion of the edge of a door, having a recess therein to receive the latch bolt mechanism, which may be of the ordinary and well known construction, having a front plate 2, secured to the edge of the door by screws 3, and a latch bolt 4, which is connected with and moved by the turning of a rotatable knob spindle, in the ordinary and well known way.

5 and 6 are plates or disks surrounding the rotatable knob spindle, and secured upon the sides of the door, in the usual and well known way.

7 is a rotatable spindle, preferably made in one piece, and having one or more holes therethrough at one end, which end is adapted to receive the shank 8' of a knob or handle 8, which is rigidly attached to the spindle 7 by a screw 9, which extends through a hole in the shank 8', and into one of the transverse holes in the end of the spindle 7, in the usual way. The spindle is preferably non-circular in cross section, except at its lock mechanism end, which end is circular in cross section, as shown at 7', except on one side which is made flat, the flattened portion being in longitudinal alignment with one flat side of the spindle. The end 7' has the enlarged circular end 7'', with an axial opening 7''' therein, which is preferably of elliptical shape, as shown in Fig. 6, to receive the end of a key 10, and prevent the end from turning around therein, so that the turning of the key, when it enters the opening 7''' in the end 7'' on the spindle 7, will turn said spindle and operate the latch bolt 4, without turning either knob or handle.

The knob or handle 11, which contains the lock mechanism, has its shank 11' with an opening 11'' therein, of square shape in cross section, see Fig. 9, to receive the rounded end 7' of the spindle 7. A lock slide 12, consisting preferably of a flat metal bar 13 having a lug or extension 13' on one end thereof, to the upper end of which is

pivotaly attached, by a pin 14, the slotted or yoke-shaped end 15' of a handle or engaging end 15. The lug 13' on the slide 12 extends through an elongated opening 8'' in the shank 8' of the handle 8, see Fig. 2. The lock slide 12 is of such a length, that when it is moved outwardly away from the handle 11, as shown in Fig. 2, the end thereof will be free of the shank 11' of the handle 11, so that said handle will be free to turn on the rounded end 7' of the spindle 7. The free end of the handle 15, when the slide 12 is in its outward position, is preferably adapted to engage the plate or disk 6, see Fig. 1, which acts to lock said slide 12 in its outward position. When the slide 12 is moved away from the handle 8, and toward the handle 11, it will enter the square opening in the end of the shank 11' of the handle 11, and move along the flat side of the circular end 7' of the spindle 7, to lock the shank 11' of the handle 11 to the spindle 7, as shown in Fig. 3. The handle 15 may be bent downwardly, as shown in Fig. 3, with its free end in engagement with the free side of the knob 8, so as to lock the slide 12 in its inward position. Instead of having the lock slide 12 with a movable handle, as shown, and above described, it may be made with a rigid handle 15^a, as shown in Fig. 5, and in case of using a lock slide 12 with a rigid handle 15^a, the shank 8' of the handle 8 is preferably made, as shown in Figs. 10, and 12, with the elongated opening 8'' extending through the inner end of the shank 8', and a slot or groove 8^a in the inner end of the shank, see Fig. 12. A ring 8^a', see Figs. 10, and 12, may be placed on the inner end of the shank 8' of the handle 8, to close the opening 8'' therein. To increase the length of the shank 8', one or more rings 8^a' of different thickness may be used.

The lock mechanism is contained within a central opening in the handle 11, and preferably consists of a bushing 16, which extends within the knob 11, and has an end 16' thereon, which is flush on its outer side with the outer side of the knob 11. Upon the bushing 16 is preferably fast a sleeve 17. Within the bushing 16 extends a tumbler for the key 10, made in two parts 18, and 19, and properly slotted longitudinally to receive the key 11, which is first inserted through a longitudinal opening in the outer part of the tumbler, and then said part of the tumbler turned to allow the key to pass into the other part of the tumbler, and have the pin 18' on the part 18 extend into the longitudinal slot 10' in the key 10, as shown in Fig. 7.

In connection with the bushing 16, and the sleeve 17, I may use tumblers for the key of different length, and with one or more pins 18' in different positions therein, so

that different keys may be used, and a key of a special shape or construction will have to be used to pass through the tumbler mechanism and have its inner end extend into the opening 7''' in the spindle end 7'', to turn said spindle.

The operation of my improvements in lock for door knobs will be readily understood by those skilled in the art.

When it is desired to have the outer handle 11, or the handle with the lock mechanism, operate the latch bolt 4, in the usual way, the lock slide 12 is moved into the position shown in Fig. 3, so that the handle 11 will be connected with the spindle 7, and will turn said spindle, to operate the latch bolt 4 the same as the handle 8. When it is desired to detach the handle 11 from the spindle 7, so that the spindle 7 cannot be turned to operate the latch bolt 4, by turning the handle 11, the lock slide 12 is moved into the position shown in Fig. 2, leaving the handle 11 free to turn on the circular end 7' of the spindle 7. It will be understood that the enlarged end 7'' on the spindle 7, engages an internal annular lip or flange 11'', see Fig. 2, within the shank 11' of the handle 11, to prevent the handle 11 being drawn off from the spindle 7.

With the lock slide 12 in the position shown in Fig. 2, in order to turn the spindle 7 and operate the latch bolt 4, it will be necessary to have a key 10 which will fit the lock mechanism within the handle 11. The key 10 is inserted within the lock mechanism until it passes through the same, and the inner end engages the non-circular opening 7''' in the enlarged end 7'' of the spindle 7, and the turning of the key will turn said spindle and operate the latch bolt 4, all as will be fully understood by those skilled in the art.

It will be understood that the details of construction of my improvements may be varied if desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a door latch mechanism, a knob or handle spindle having a flat surface on one side thereof, a knob or handle secured on one end of said spindle, and having a longitudinal opening through one side of its shank, a lock slide adapted to extend upon the flat surface on the spindle, and move longitudinally thereon, with one end extending through said longitudinal opening and having a handle or engaging end attached thereto, a second knob on the other end of the spindle, and having a lock mechanism therein for a key, said key being adapted to engage and rotate the spindle and move the latch bolt independently of any movement of the knob or handle containing the lock mechanism.

2. In a door latch mechanism, a rotatable knob spindle having a flat surface thereon, and a knob on each end of the spindle, one knob secured to the spindle to turn with it, the other knob adapted to turn on the spindle independently of the first mentioned knob, a lock slide adapted to move longitudinally on the flat surface of the spindle, and connect the two knobs so that they will turn together, or disconnect them so that they will turn separately.

3. In a door knob or handle lock mechanism, the combination with a spindle of non-circular shape in cross section at one end, and of segmental shape in cross section at the other end, an enlarged head on said segmental shaped end with a non-circular opening therein, and a knob secured on the non-circular shaped end of said spindle and having an elongated opening in its shank for the engaging end of a lock slide, and a lock slide, adapted to have a longitudinal movement on said spindle, of a second handle or knob adapted to be connected with said spindle to turn the same, through said lock slide, and a lock mechanism contained within said second handle or knob, adapted to receive a key which will engage with the

enlarged end of said spindle, to turn the spindle when the second mentioned handle is disconnected therefrom.

4. In a door latch mechanism, the combination with a knob or handle spindle, of non-circular shape in cross section at one end, and of segmental shape in cross section at the other end, and having an enlarged head on said segmental shaped end with a non-circular opening therein, of a knob or handle loosely mounted on the segmental shaped end of said spindle, and a lock mechanism contained in said knob or handle, adapted to receive a key to turn said spindle without turning said handle.

5. In a door knob or handle lock mechanism, the combination with a knob or handle spindle, of a knob, secured on one end of said spindle, and having an elongated opening in its shank extending to the inner end of said shank, and a removable ring on the inner end of said shank, and a recess in the end of said shank, opposite said opening.

ARTHUR MARION.

Witnesses:

JOHN C. DEWEY,
MINNA HAAS.