

(No Model.)

J. HOPE, Jr.
LATCH.

No. 406,648.

Patented July 9, 1889.

Fig. 1.

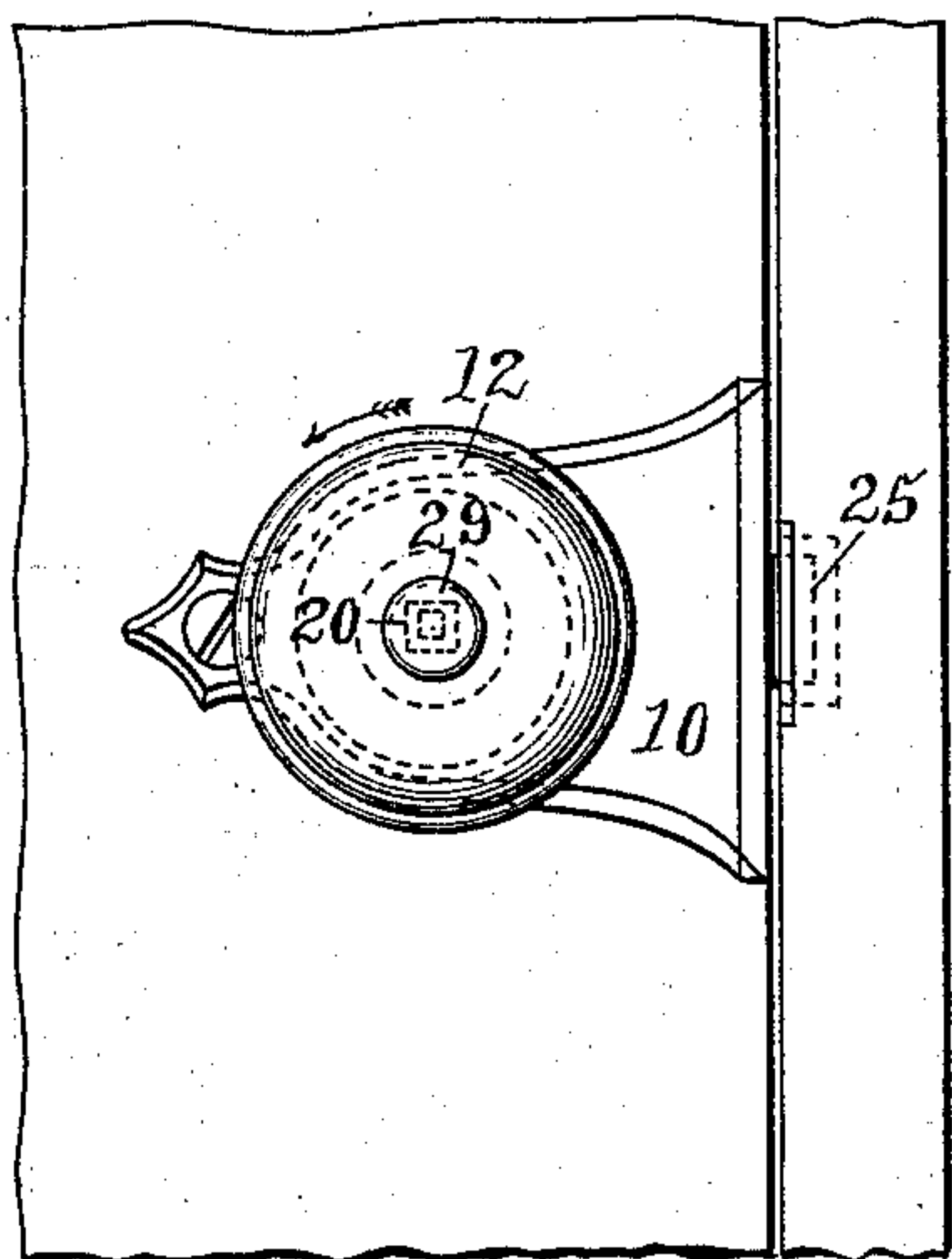


Fig. 2.

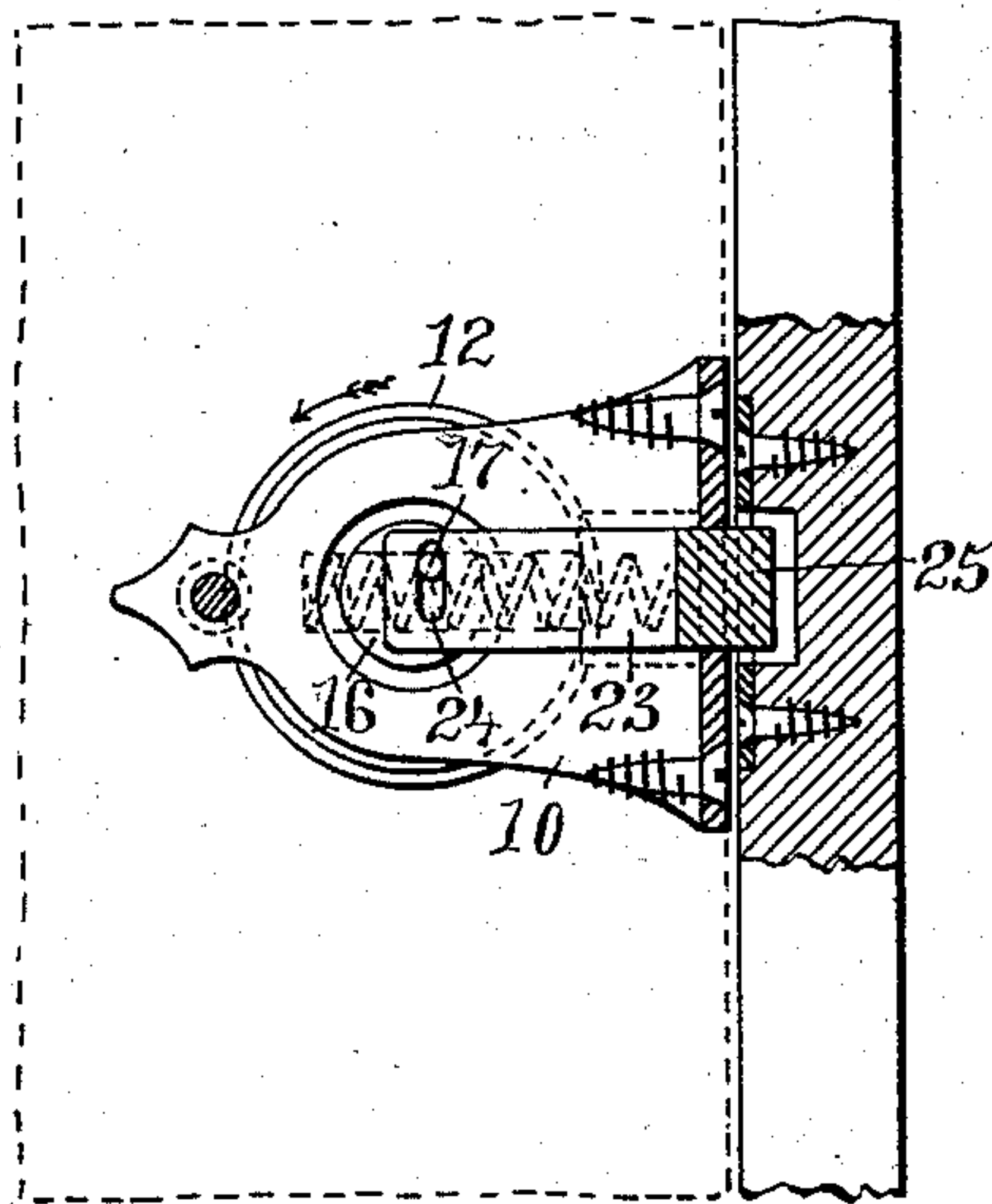


Fig. 3.

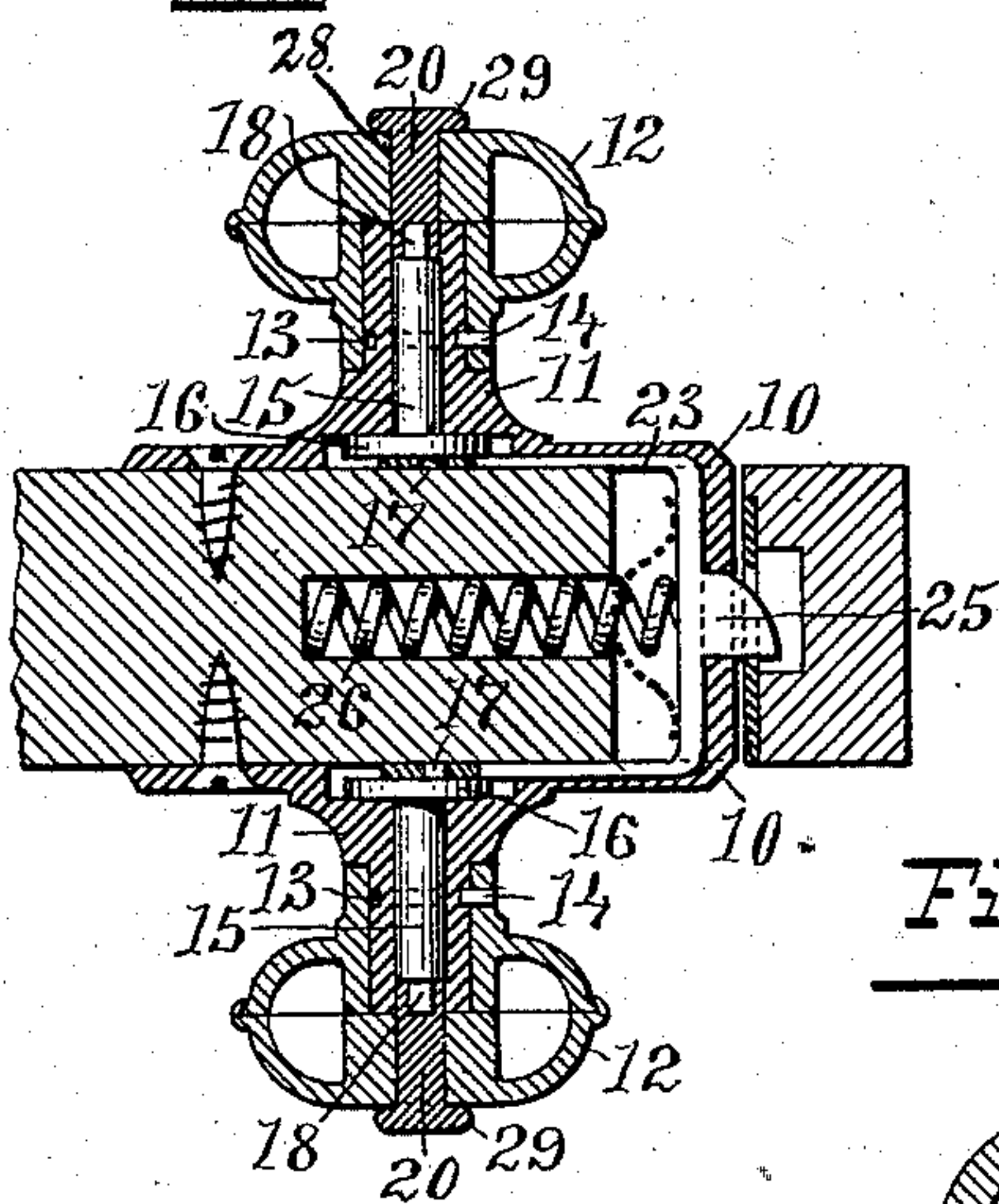


Fig. 4.

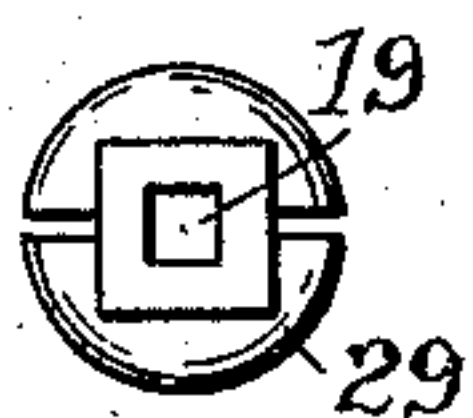


Fig. 5.

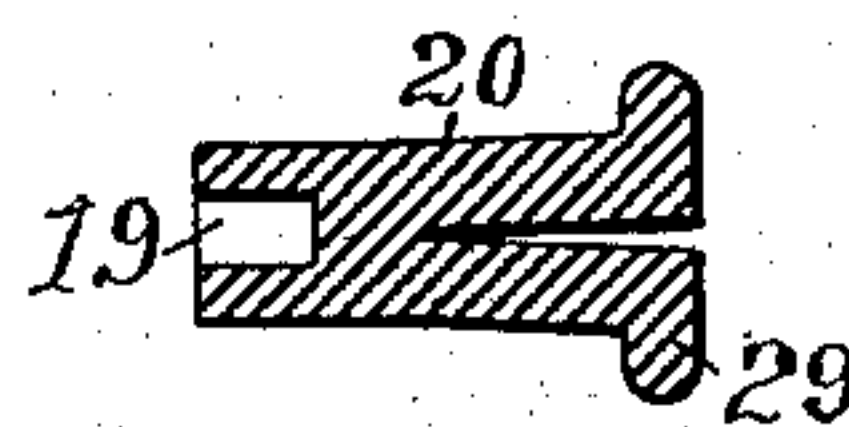


Fig. 6.

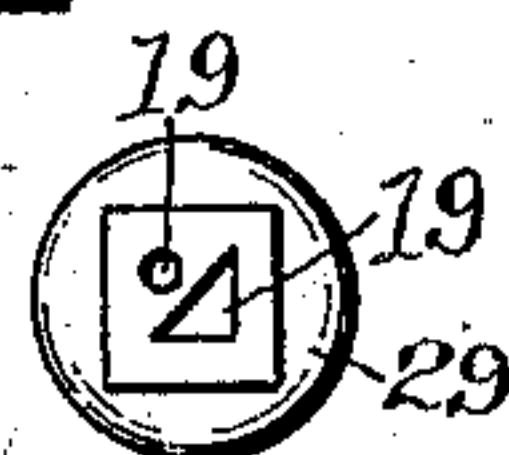


Fig. 7.



Fig. 9.

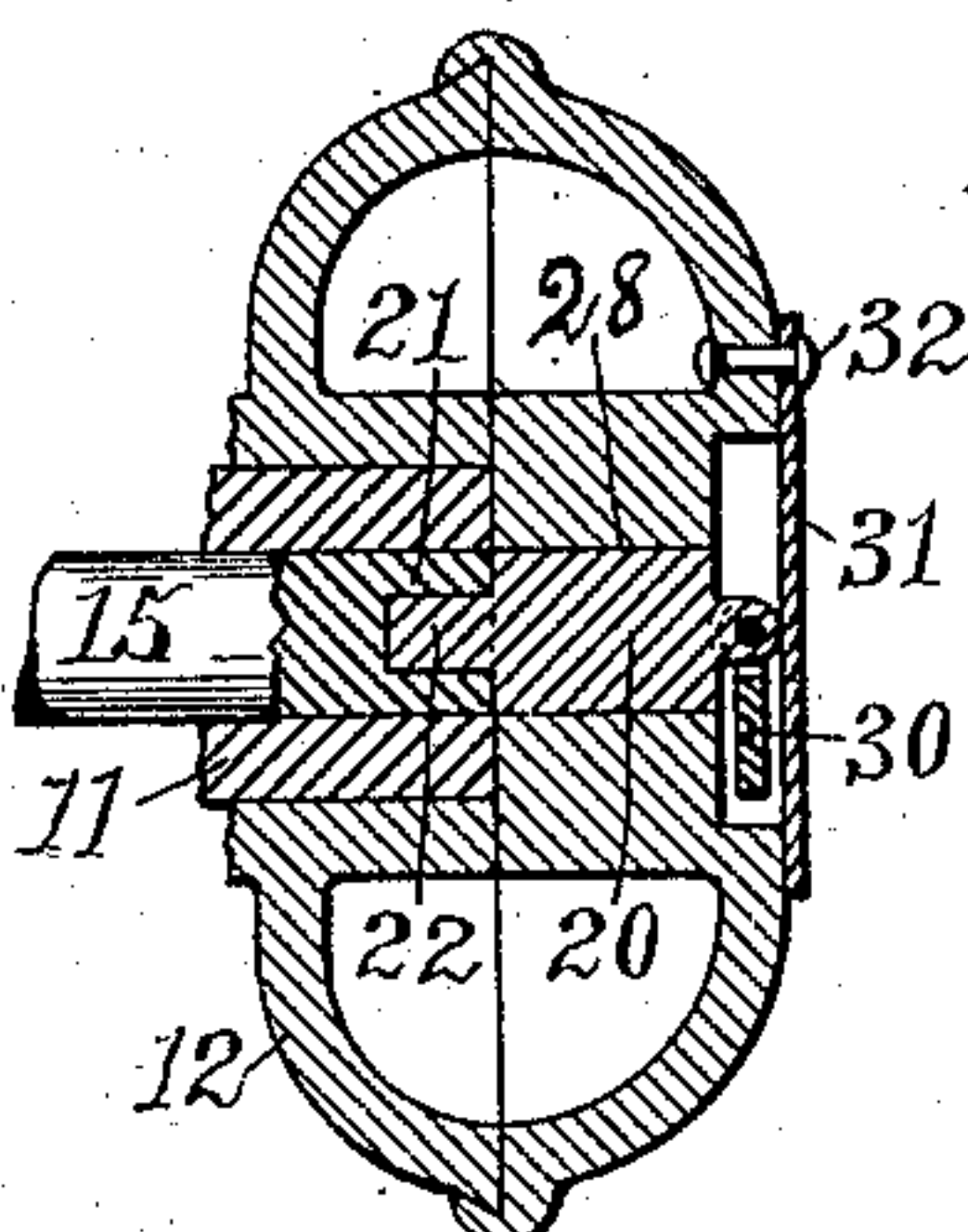
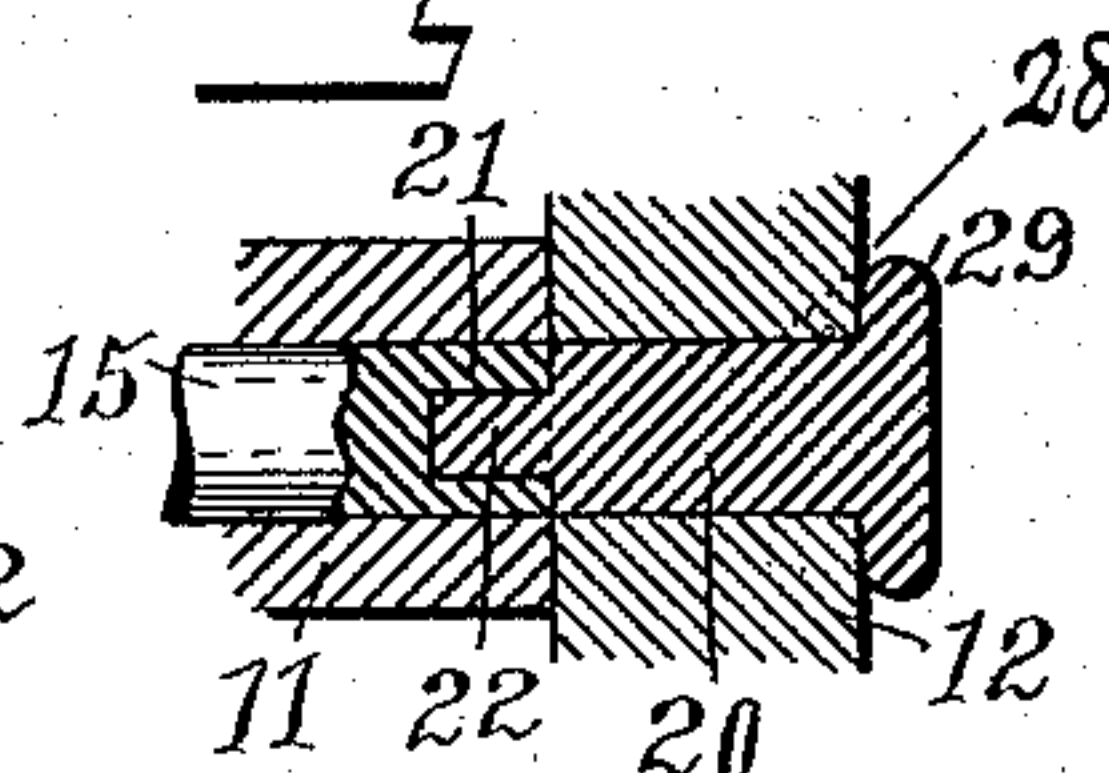


Fig. 8.



WITNESSES:

Chas. H. Luther Jr.
M. F. Bligh

INVENTOR:

John Hope Jr.
Joseph A. Miller & Co.
Attys

UNITED STATES PATENT OFFICE.

JOHN HOPE, JR., OF PROVIDENCE, RHODE ISLAND.

LATCH.

SPECIFICATION forming part of Letters Patent No. 406,648, dated July 9, 1889.

Application filed July 16, 1888. Serial No. 280,068. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOPE, Jr., of Providence, in the county of Providence and State of Rhode Island, have invented certain
5 new and useful Improvements in Combined Door Locks and Latches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 The objects of my invention are to provide a door lock and latch that can be attached to the door with the least cutting of the door and that will strengthen the door, and also to provide a lock that can be used either as a lock
15 or as a latch.

To the above purposes my invention consists in the novel combination of the different features, as hereinafter fully described and claimed.

20 In the accompanying drawings, illustrating my invention, Figure 1 is a side view of part of a door having my improved lock attached thereto. Fig. 2 is a sectional view of my improved lock, the door being shown in dotted
25 lines. Fig. 3 is a top sectional view of my improved lock. Figs. 4, 5, 6, and 7 show various forms of keys to be used with my improved lock. Fig. 8 is a sectional view of part of the knob, hub, and shaft, and shows
30 another form of key, in which the end of the key enters a hole in the shaft of the eccentric. Fig. 9 is a sectional view of the knob, and shows a key having a hinged portion that can be bent down into the recess formed in
35 the knob, so as to be concealed by the plate attached to the knob.

In the said drawings like figures of reference designate corresponding parts throughout.

40 Referring to the drawings, the lock-frame 10 is U-shaped in section, so as to clasp and protect the edge of the door at the point of attachment. On the two side wings of the frame 10 are formed the hubs 11 11, upon
45 which are loosely mounted the two knobs 12 12. These knobs are held in place by reason of the grooves 13 13, cut in the hubs 11 11, and the pins 14 14, so that the knobs may be freely revolved on the hubs 11 11.

50 The shafts 15 15 are each provided with a disk 16 16, carrying the pins 17 17 at one end,

the disk and pins forming an eccentric. The other end 18 18 of the shafts 15 15 are each formed square, many-sided, or irregular
55 shaped, a hole 19, of the same shape, being formed in the end of the key 20, so that the key will fit over the peculiarly-shaped end 18; or, as shown in Figs. 8 and 9, the end of the shafts 15 15 may be formed with a socket
60 21, of any desired shape other than circular, and the key provided with a correspondingly-shaped extension 22 to enter the socket 21.

The yoke or U-shaped latch-frame 23 is provided at its ends with the slots 24 24, into which the pins 17 17 enter, and at the center
65 with the latch 25, which is of the ordinary shape, having one face straight and the other beveled. One end of the coiled spring 26 is placed in the hole 27, formed in the door, and the other end abuts against the latch-frame
70 23 and serves to keep the latch in the normal or outwardly-extended position; or a flat spring, such as is indicated by dotted lines in Fig. 3, may be used for the same purpose.

The knob is formed with a square, many-
75 sided, or irregularly-shaped hole 28, into which the shank of the key 20 fits. This hole 28 may be of the same shape as the hole 19 or extension 22, formed in or on the key 20, or the two may differ; but in all cases the hole
80 19 or extension 22 must correspond to the shape of the extension 18 or hole 21, formed on or in the shafts 15 15, and the shank of the key 20 must fit the hole 28 in the knob 12.

In all the figures, except Fig. 9, the key 20
85 is shown as provided with the head 29, which can be grasped by the fingers, and thereby the key may be readily removed from the hole formed in the knob 12.

In Fig. 9 the key is shown as having a
90 hinged portion 30, which can be bent, to one side in the depression formed in the knob 12 and covered or concealed by the plate 31, which is pivoted to the knob 12 by the rivet 32. The plate 31 may be attached to the knob
95 in any of the well-known ways—that is, the plate may be provided with a screw-threaded flange and the sides of the depression may be screw-threaded to correspond to the thread cut on the flange formed on the plate, or the
100 plate may be hinged to the knob or attached thereto in various ways so as to conceal and

prevent the loss of the key, and at the same time act to protect the hole in the knob from dust, &c., when the key is removed therefrom.

5 An important feature in the use of my improved lock is that all the cutting necessary to the attaching of the lock is straight simple work, which can be done by persons of little experience; also the lock adds great strength
10 to the door at the place where most needed, as the shape of the lock is such as to clasp and strengthen the door; whereas in the locks as heretofore constructed, where the lock was mortised into the frame, the necessary re-
15 moval of so much of the door-frame greatly reduced the strength thereof. When the keys are removed, the door is permanently locked and the knobs can be freely turned on the hubs 11 without in any manner affecting
20 the lock. When desired, one key can be left in the knob and the other removed, so that the lock can only be operated from the side of the door carrying the knob in which the key is, while the other knob will simply re-
25 volve on the hub without affecting the lock.

This style of lock is especially adapted to interior doors—such as doors connecting two rooms or on closet-doors—where it is only desirable to lock the door occasionally.

30 Various modifications may be made in the details of construction without departing from the spirit of my invention. For instance, the disk 16 may be in the shape of a cam and the pin 17 be dispensed with, the cam taking
35 the place of the pin in the slot 24.

For ordinary use the knobs may be permanently secured to the shafts 15 in any suitable manner and the latch operated from one or both sides of the door as a latch.

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

1. A lock the frame of which extends over the inside and outside of the door and across the edge thereof, provided with two independent knobs for operating the latch, substan- 45 tially as described.

2. The lock formed with the U-shaped frame to clasp the door, provided with the hubs having the knobs loosely mounted thereon, and the eccentric for operating the latch 50 provided with shafts constructed to be connected with and disconnected from the knobs, as described.

3. The combination, in a lock, of a knob loosely mounted on the frame, the latch, the 55 eccentric for operating the latch, and a key for locking the knob to the eccentric, substantially as and for the purpose herein described.

4. The combination, in a lock, of the knob loosely mounted on the frame of the lock, the 60 shaft provided with a locking end and carrying the eccentric, and the U-shaped latch-frame having the latch attached thereto and operated by the eccentric when the knob is secured to the shaft of the eccentric, substan- 65 tially as described.

5. The combination, in a lock, with the lock-frame, of a knob loosely mounted, a shaft connected with the latch-operating device, the latch-frame provided with the latch, and 70 a key constructed to secure the knob to the latch-shaft, as described.

6. The combination, in a lock, of the frame 10, the hub 11, the knob 12, the shaft 15, the eccentric 16, the latch-frame 23, provided 75 with the latch 25, and the spring 26, substantially as described.

JOHN HOPE, JR.

Witnesses:

J. A. MILLER, Jr.,
M. F. BLIGH.