No. 629,453. Patented July 25, 1899.

L. MARTEL.

LOCK.

(Application filed Sept. 1, 1898.)

(No Model.) 3 Sheets—Sheet 1.

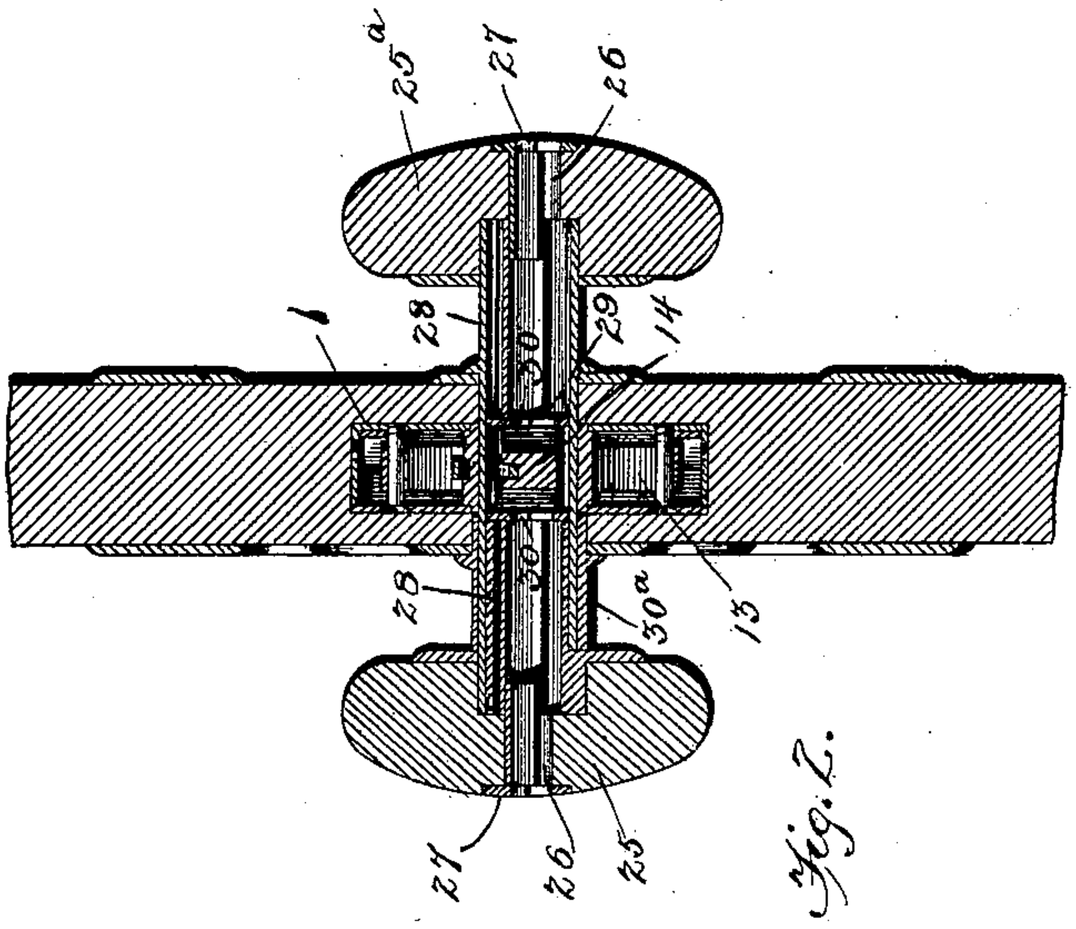

Fig. 2.

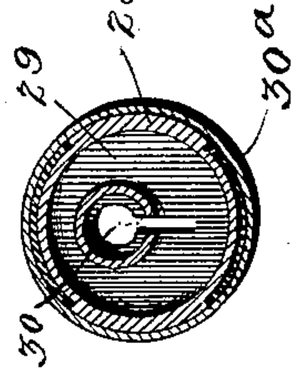

Fig. 8.

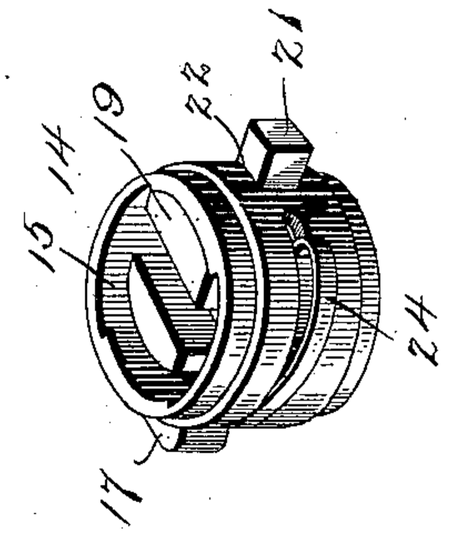

Fig. 3.

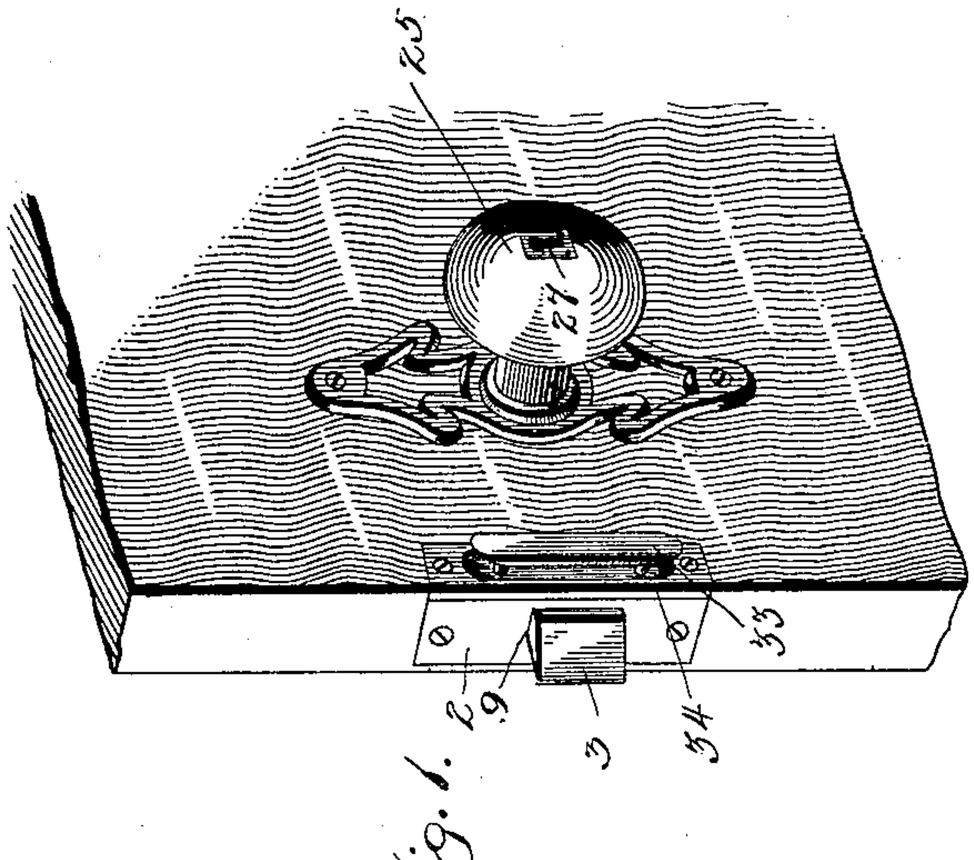

Fig. 1.

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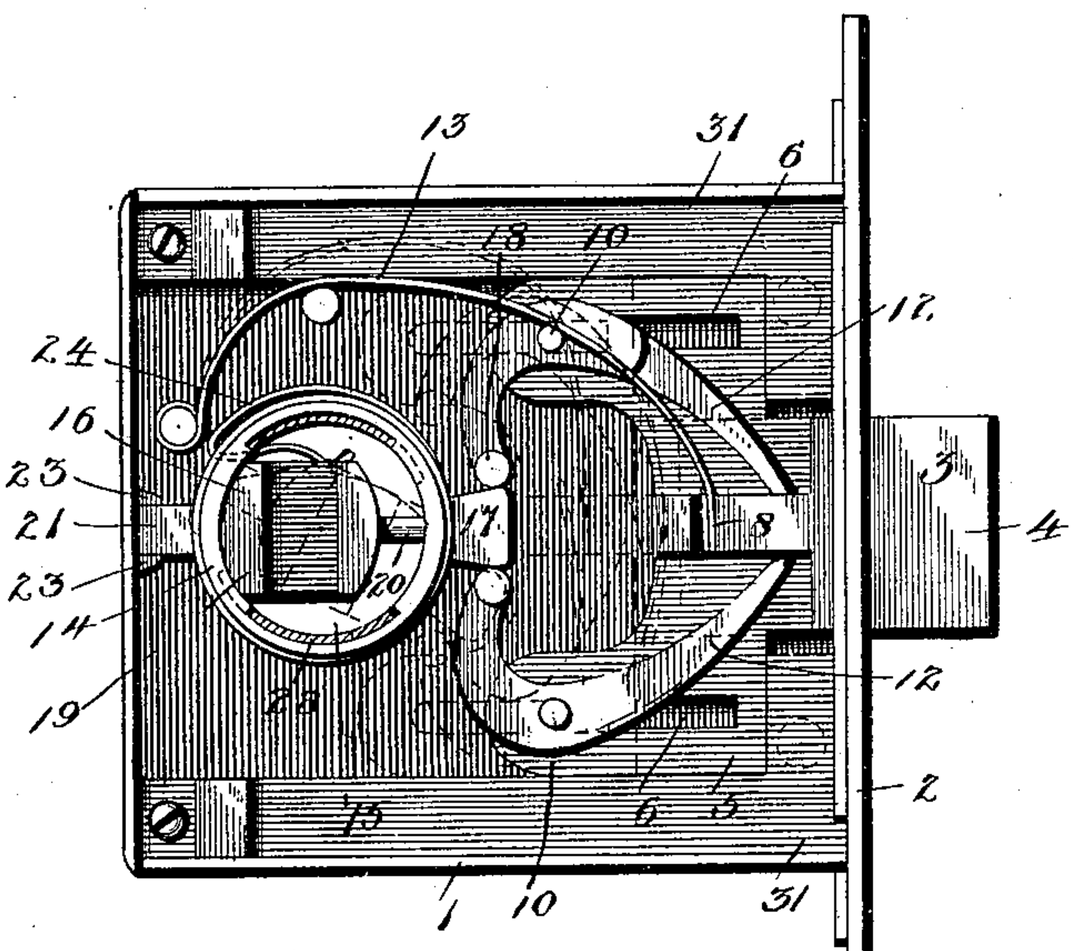
(No Model.) 3 Sheets—Sheet 2.

Fig. 4.



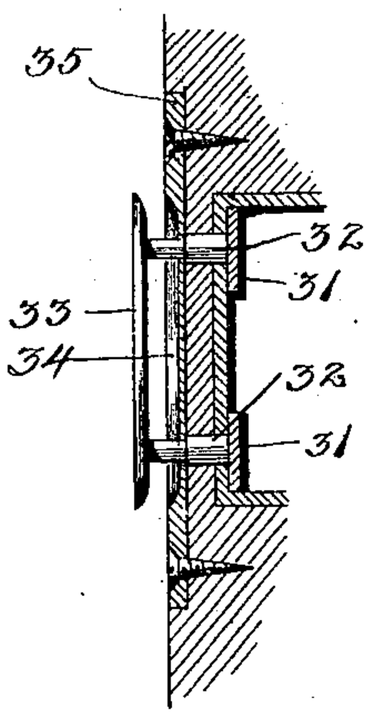


Fig. 7.

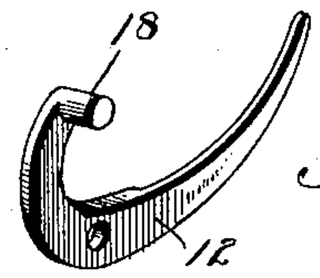
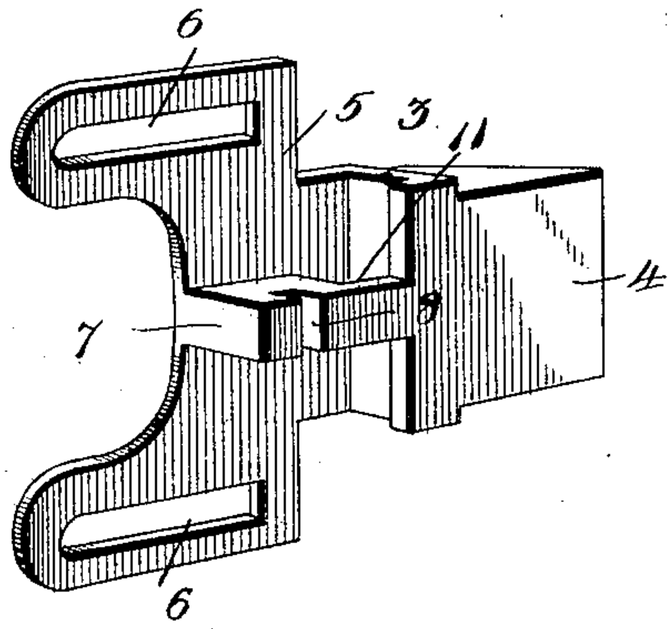


Fig. 6.

Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

Fig. 9.

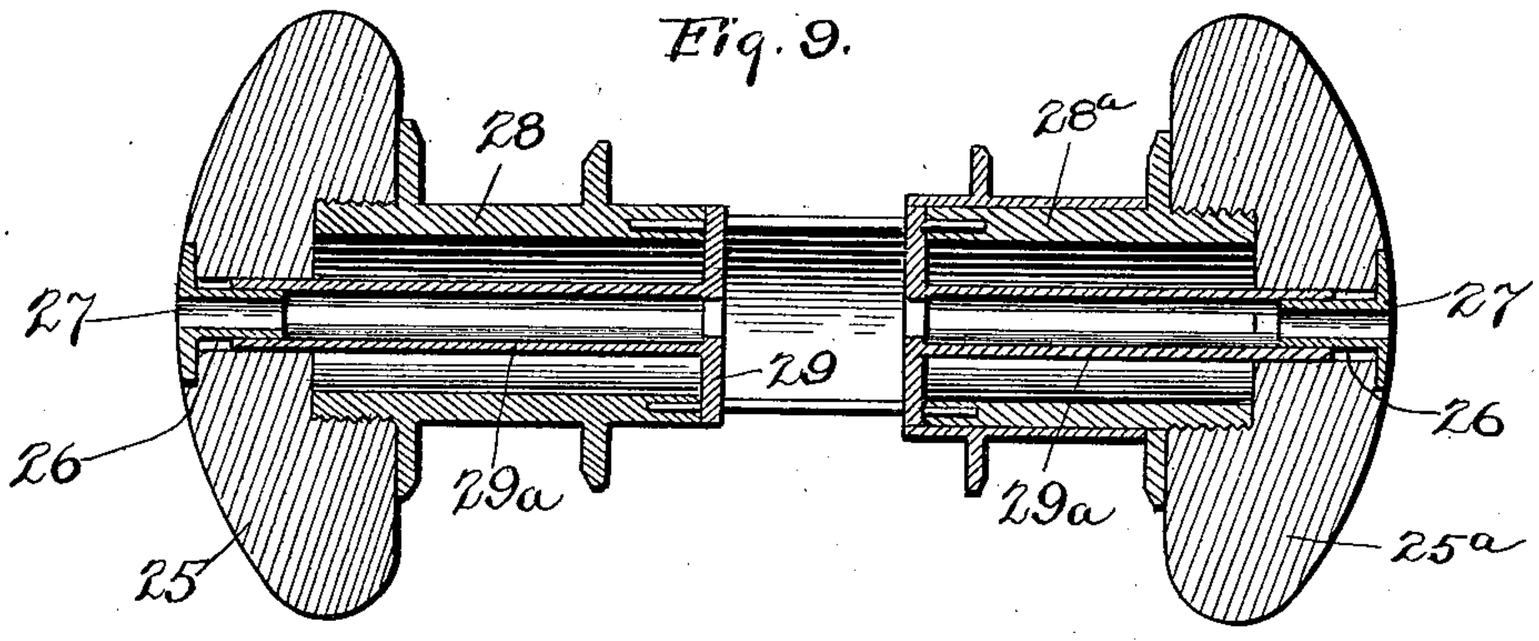


Fig. 10.

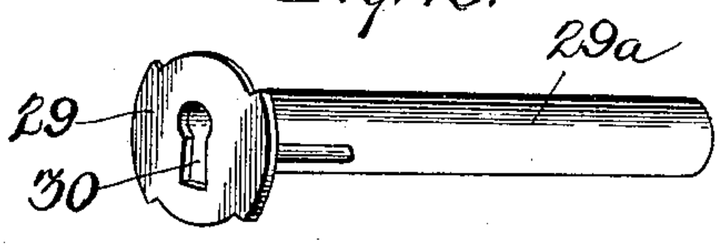
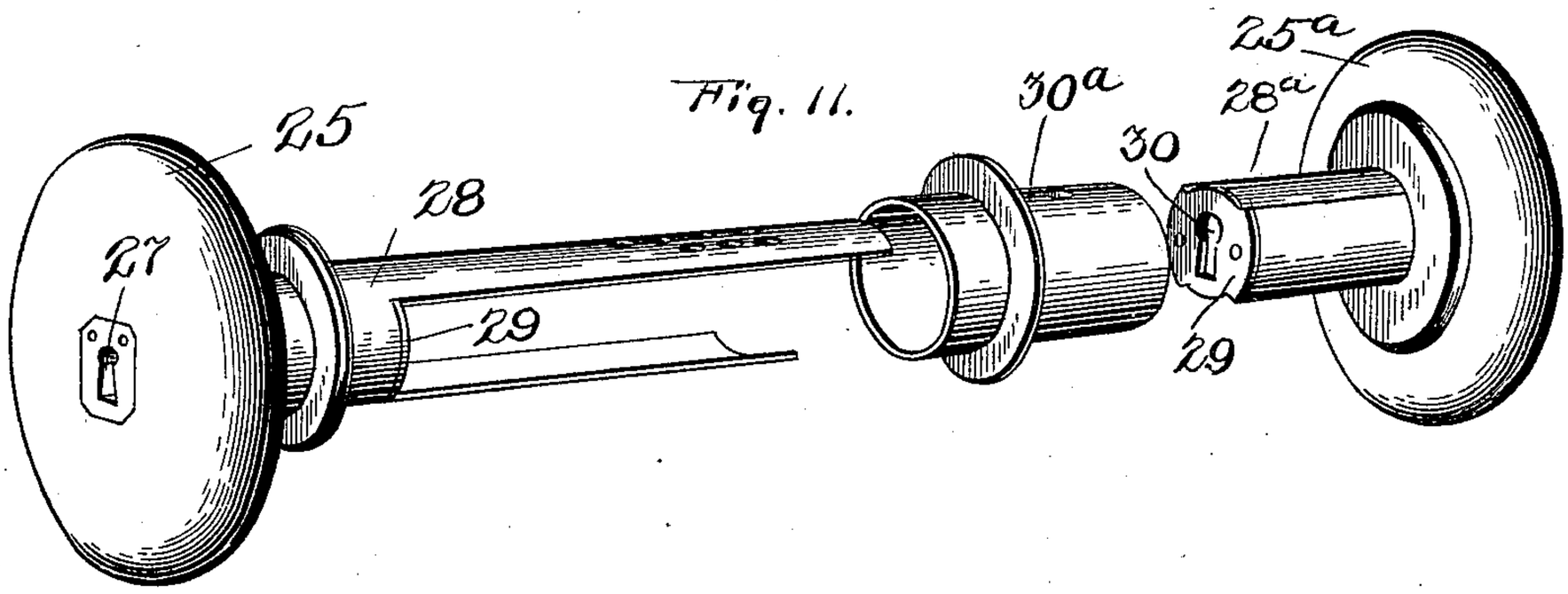


Fig. 11.



Witnesses:

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His Attorneys

UNITED STATES PATENT OFFICE.

LÉON MARTEL, OF POINT ST. CHARLES, CANADA, ASSIGNOR OF ONE-HALF TO ARTHUR LOISEAU, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 629,453, dated July 25, 1899.

Application filed September 1, 1898. Serial No. 690,043. (No model.)

To all whom it may concern:

Be it known that I, LÉON MARTEL, a subject of Her Majesty the Queen of Great Britain, residing at Point St. Charles, in the city and district of Montreal, Province of Quebec, Canada, have invented certain new and useful Improvements in Locks, (for which Letters Patent of the Dominion of Canada were granted September 23, 1898, No. 61,238, the application for which was filed August 31, 1898, Serial No. 82,861;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in locks.

The object of my invention is to provide a lock in which the latch-bolt can be readily locked in position from either side of the door, the locking being accomplished by a key.

A further object is to provide a lock in which the keyhole extending through the door is interrupted.

A further object is to provide a lock in which the latch-bolt can be rotated only by the movement of the knobs and in which the knobs can be locked against movement from either side of the door.

A further object is to provide a lock which is neat and attractive in appearance, durable in construction, simple in operation, and which can be made at a moderate cost.

To these ends my invention consists in the improved construction and combination of parts hereinafter fully described, and particularly pointed out in the appended claims.

In the drawings, in which similar numerals of reference indicate similar parts in all of the views, Figure 1 is a perspective view showing my improved lock in position. Fig. 2 is a transverse sectional view taken through the knobs. Fig. 3 is a detail of the latch-bolt-operating cylinder. Fig. 4 is an elevation of the lock with the side plate removed, showing the locking-bolt as locked in position in full lines and the latch-bolt in its open position in dotted lines. Fig. 5 is a detail of the latch-bolt. Fig. 6 is a detail of one of the arms for operating the latch-bolt. Fig. 7 is a sectional view showing the arms of the buffer. Fig. 8 is a sectional view taken through one of the knob-spindles. Fig. 9 is a horizontal sectional view of the knobs and spindle. Fig. 10 is a detail of one of the key-guides. Fig. 11 is a perspective view of the knobs and spindle, showing the parts separated.

1 designates the casing of my improved lock, formed substantially as shown in Fig. 4 and having one of its side plates removable. The casing is adapted to be inserted within the door, as best shown in Fig. 1, and is provided with the usual face-plate 2.

3 designates the latch-bolt, the construction of which is best shown in Fig. 5, consisting of the bolt proper, 4, having a rearwardly-extending portion 5, within which are provided elongated slots 6 and on one face of which is formed an extension 7, having a slot 8. The latch-bolt 3 is adapted to be inserted within the casing, as shown in Fig. 4, the portion 4 extending outward through a suitable opening 9 in the face-plate, the slots 6 being adapted to receive projecting pins 10, formed in the casing, said pins forming a guide for the direct rearward movement of the bolt 3. The extension 7 is also provided with an opening 11, within which the front end of each of the latch-operating arms 12 is located, the arms 12 being formed substantially as shown in Fig. 6 and being mounted on the pins 10, which pins form the pivot-point upon which the arms move when throwing the bolt 3 rearward. The latch-bolt 3 is normally held in its forward position by means of a suitable spring 13, secured substantially as shown in Fig. 4 and having its front end mounted in the slot 8.

The arms 12 are adapted to be moved by means of the operating-cylinder 14, formed substantially as shown in Fig. 3, said cylinder being provided with a central opening 15, within which a locking device 16 is adapted to be placed and have movement. The cylinder 14 is provided on its outer periphery with a suitable lug 17, which is adapted to rest between the upturned end portions 18 of the arms 12 in such manner that when the cylinder is oscillated in either direction the arms 12 will be caused to be moved on their pivots and withdraw the bolt 3 within the

casing in an obvious manner. The locking device 16 consists, essentially, in a reciprocating portion 19, having its forward end provided with a forwardly-extending pin 20, which is adapted to have movement within an opening formed in the lug 17, while the rear end of the portion is provided with a squared projection 21, which is adapted to pass outward through an opening 22, formed in the cylinder 14 and be passed into engagement between two lugs 23, secured on the casing 1, as shown in Fig. 4.

It will be readily seen that when the portion 19 is in the position shown in full lines in Fig. 4 the lugs 23 will prevent the rotation of the cylinder 14 by reason of the engagement of the projection 21 therewith, and it will also be seen that when the portion 19 is moved forwardly the projection 21 will be withdrawn from engagement with the lugs 23, and the cylinder 14 is then free to be rotated or oscillated in either direction. To hold the portion 19 in either of its positions, I provide a suitable spring-pawl 24, the front end of which is adapted to rest within either one of a series of openings formed on one side of the portion 19.

The cylinder 14 is adapted to be oscillated by means of suitable door-knobs 25 25^a, each of which is provided with a central longitudinal opening 26 and a keyhole 27, as best shown in Figs. 2, 9, and 11, while to the rear of the knob 25 is removably secured by suitable means a suitable cylindrical casing 28, the inner end of which is closed by means of a plate 29, having an inwardly-extending portion 29^a, which is adapted to telescope with the keyhole portion 27, as shown in Figs. 2 and 9, which plate is provided with a keyhole 30. The casing 28 on the knob 25 is extended entirely across to and into the opposite knob, as shown in Fig. 2, these extensions being formed substantially as shown in Figs. 8 and 11, consisting of two separate portions of the casing having their edges slightly inclined to fit into suitable inclined recesses formed in the casing 28^a, one of said extensions having a greater length than the remaining extension, as best shown in Figs. 2 and 11. A casing 30^a serves to cover the connection between the extensions and the casing 28^a of knob 25^a, as best shown in Figs. 2, 8, and 9. The cases 28^a and the knob 25^a are provided with a keyhole attachment similar to the knob 25 and casing 28. By this construction it will be seen that the keyhole is provided within the knob itself and that the locking mechanism is located at a point where it has its direct effect on the latch-bolt itself, the extensions formed on the casing 28 passing through the cylinder 14, thus making a positive connection between the cylinder and the knobs and allowing of a central opening through the knobs for the passage of the key. The opening through the knobs is continuous, with the exception of the central portion 19, which divides the central passageway into two distinct parts, and thus prevents any opportunity of passing any object through the keyhole of the door, as well as preventing any visual notice of objects on the opposite side of the door. The locking of the latch-bolt or the moving of the portion 19 is accomplished by the insertion of a key within the keyhole, which key is adapted to operate against the portion 19 and move it in either direction. It will be apparent that any suitable configuration of key may be used and that the portion 19 may be provided with any suitable configurations to conform with the key which is adapted to open the lock, and thus presenting difficulties to any one attempting to pick the lock.

Within the casing 1 I provide suitable spring-plates 31, against which pins 32, formed on the rear of a plate 33, mounted on the side of the door, are adapted to contact, thus forming a buffer for the door when it is being closed, the plate 33 entering into a suitable recess 34, formed in the face-plate 35, when the door is in its closed position.

While the construction herein shown and described is what is believed to be a preferable embodiment of the invention, it is to be understood that I do not limit myself thereto, as various changes in the form, proportion, and minor details of construction may be resorted to, and I therefore reserve the right to modify or vary the invention as may fall within the spirit and scope thereof.

Having thus described my invention, what I claim as new is—

1. A lock, comprising a casing; a latch-bolt slidably mounted therein, said bolt having a recessed opening; a spring operatively connected to said latch-bolt, for normally holding said bolt in closed position; operating-arms pivotally connected to said casing, the front end of said arms being located in said recessed opening; a revoluble cylinder, operatively connected to the door-knobs, located within said casing, said cylinder having an operative connection with said operating-arms; and means, operated by the insertion of a key for locking said cylinder against movement, substantially as described.

2. A lock, comprising a casing; a latch-bolt slidably mounted therein; means for automatically holding said latch-bolt in its closed position; a revoluble cylinder operatively connected to the door-knobs, located within said casing, and having an operative connection with said latch-bolt, said cylinder being adapted to move said bolt to an open position; a reciprocating locking device mounted within said cylinder, said device having a rearwardly-extending lug; means for imparting a reciprocating movement to said device; and means connected to said casing for holding said lug, when moved to its rearward position, substantially as described.

3. A lock comprising a casing; a latch-bolt slidably mounted therein, said latch-bolt being normally held automatically in a closed

position; operating-arms pivotally connected to said casing and adapted to move said latch-bolt out of its closed position; a revoluble cylinder, operatively connected to the door-knobs, located within said casing, and having operative connection with said operating-arms; a locking device slidably mounted within said cylinder, said device having a lug adapted to be held in a fixed position relative to said casing, when said latch-bolt is in its closed position; and a key adapted to be passed within said cylinder and move said locking device into and out of contact with its stop, substantially as described.

4. A spindle for door-knobs, comprising a tubular casing removably secured to one of the door-knobs, said casing having a portion of its periphery cut away; a tubular casing removably secured to the opposite door-knob, said latter casing having a recessed portion formed on its circumference, said portion being adapted to receive a portion of the opposite casing; and a cylindrical portion adapted to encircle said casing, said cylindrical portion and said casing being removably secured together, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

LÉON MARTEL.

Witnesses:
F. A. CABANA,
HORACE G. SEITZ.