

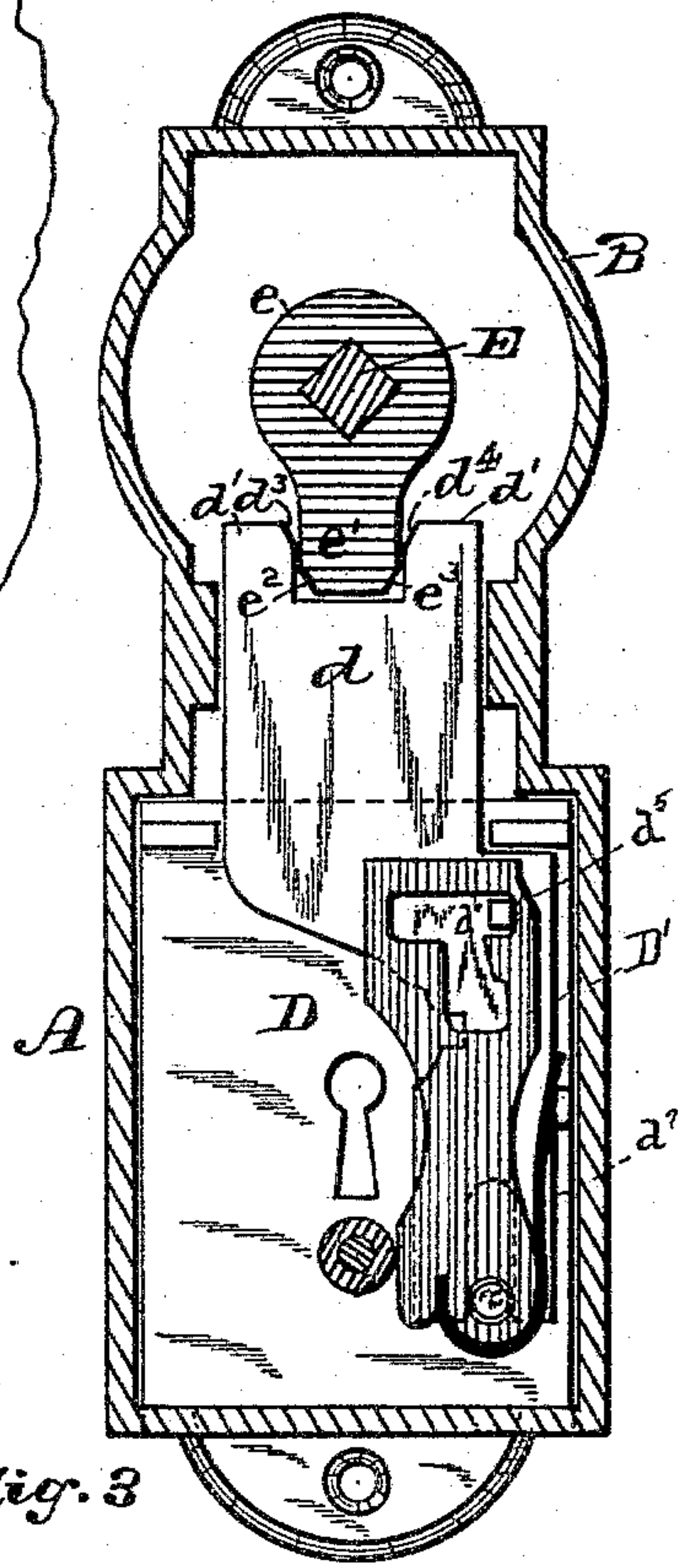
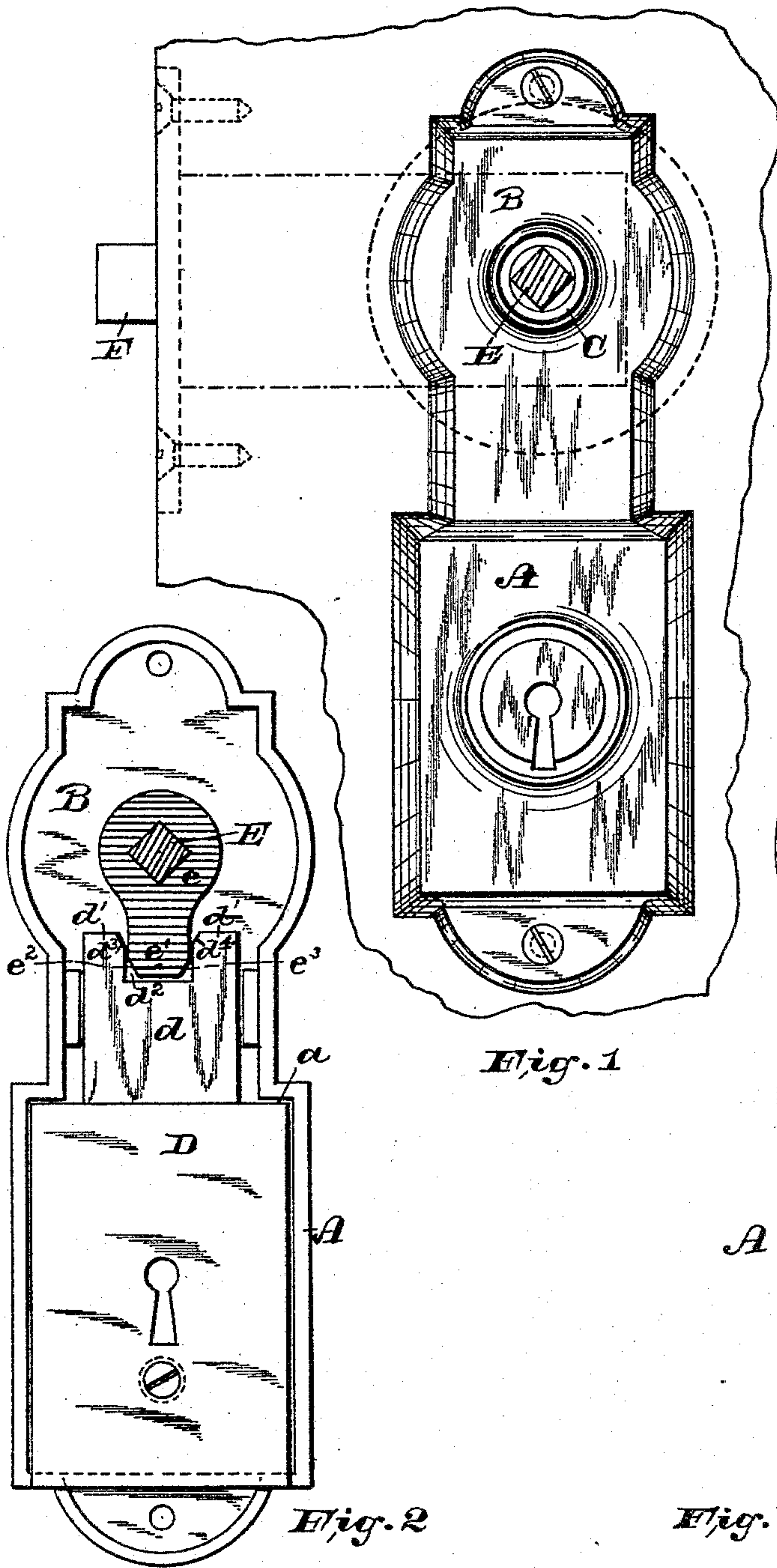
(No Model.)

2 Sheets—Sheet 1.

O. H. GILBERT.  
LOCK.

No. 414,518.

Patented Nov. 5, 1889.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ORVELLAS H. GILBERT, OF NEWARK, NEW JERSEY.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 414,518, dated November 5, 1889.

Application filed July 27, 1888. Serial No. 281,208. (No model.)

*To all whom it may concern:*

Be it known that I, ORVELLAS H. GILBERT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Locking Devices for Doors; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in locking devices for doors, and is designed to provide a lock which is adapted to take the place of the ordinary rim-and-mortise locks for thin doors, and which also is cheaper and more simple in construction than the ordinary rim-lock, and, further, more ornamental in appearance.

As shown in the drawings, Figure 1 is a front elevation of the lock-containing escutcheon and rose-plate secured to a door, the knob-spindle being shown in cross-section. Fig. 2 is a back view of the same, showing the locking-arm on the knob-spindle engaging with the bolt-locking mechanism. Figs. 3 and 4 are cross-sections of the lock in its locked and unlocked positions, respectively. Fig. 5 is a section taken through line *x*, Fig. 4; and Fig. 6 is a view similar to Fig. 4, part of the escutcheon lock-containing casing being broken away, showing the position of the locking-arm when the door-knob has been turned either to the right or left. Fig. 7 is a perspective view of the locking-arm, and Fig. 8 is a view of a modification of the locking arm and bolt.

In the drawings, A represents the escutcheon, B the rose-plate, and C the shank, all cast in one piece, as illustrated, said escutcheon and rose-plate forming a casing for the bolt-operating mechanism, and which is secured to the outside of the door, as indicated in Fig. 1.

Within the depression *a* in the escutcheon-plate A is the bolt-operating mechanism D, which may be of any known construction, and through the rose-plate B passes the knob-spindle E, to which is attached the locking-

arm *e*, arranged in the rose-plate, and which operates a small mortise latch-bolt F, of any well-known construction.

As indicated in Figs. 2 and 3, the bolt-operating mechanism is provided with a locking-bolt *d*, having tongues or projections *d'* *d'* thereon, forming a recess *d<sup>2</sup>*, into which extends the end *e'* of the locking-arm *e*, secured to the spindle E. When the locking-bolt *d* has been withdrawn to the position indicated in Fig. 4, by means of a key, the arm *e* can be turned to either side, as indicated in Fig. 6, by turning the spindle to which the same is secured.

As shown more especially in Figs. 3 and 4, the means for operating the bolt *d* consists of a spring-actuated tumbler D', which detains the bolt *d* in place until said tumbler, which engages with a stop or projection *d<sup>5</sup>*, as shown, is released from the stop by means of a key, thereby allowing the bolt to be thrown out of engagement with the locking-arm *e* on the spindle.

When the parts in the lock are in their normal state and the bolt *d* is in locking engagement with the arm *e* on the spindle, a spring *d'* forces the tumbler D' over and causes the engagement of the stop or post *d<sup>5</sup>* on the bolt with a recess *d<sup>6</sup>* in the opening in the tumbler, as will be understood from Fig. 3, thereby causing the locked engagement of the arm *e* on the spindle with the recess *d<sup>2</sup>* in the bolt until the tumbler D' has been forced out of engagement with the stop *d<sup>5</sup>* on the bolt, as indicated more especially in Fig. 4, by the turning of the key, the tongue of which engages with a recess *d<sup>8</sup>* in the bolt and thereby forces the latter out of engagement with the arm on the spindle, which may be turned either to the right or left, as may be desirable.

In order that the end *e'* of the arm *e* may readily enter into the recess *d<sup>2</sup>*, said arm is chamfered at *e<sup>2</sup>* and *e<sup>3</sup>*, as are also the arms *d'* at *d<sup>3</sup>* and *d<sup>4</sup>*.

The locking-arm *e* is provided with a square opening, in order that the same may be slipped on the spindle.

As shown in Fig. 8, the arm *e* may be provided with tongues or projections, as will be understood. The great advantage derived from this arrangement is that a small mortise-latch can be used, which is easily mor-



tised into the door-stile without weakening the same, as the locking mechanism is all contained within the escutcheon-plate.

As will be understood, the combined rose or spindle-holding plate and escutcheon may be used on either side of the door. The knob on the outside of the door may be secured to the spindle by means of a pin or rivet; or the same may be secured thereto in any other well-known manner.

I am aware that a locking-arm secured to the spindle of a lock has been used; but in the device to which reference is made said arm engages with a slide which is provided with a stem and is only brought into locking engagement with the arm on the spindle when pulled by means of a knob on the outside of the rose-plate. By causing the bolt mechanism in my construction to engage the locking-bolt with the arm on the spindle the construction and operation of the lock are greatly simplified and cheapened.

Another advantageous result in constructing and arranging the parts of my lock, as shown, is that by my arrangement I avoid the use of an extra locking-bolt, and thereby the use of extra lock-mortises in the door and the frame, which enables the lock to be firmly attached to the door.

Having thus described my invention, what I claim is—

As an improved article of manufacture, a lock consisting of a combined escutcheon and rose-plate adapted to be secured to a door, said combined escutcheon and rose-plate comprising therein a tumbler  $D'$ , operated by a key and having an opening therein, a bolt  $d$ , provided with a post or stop  $d^5$ , extending up therefrom and into the opening in the tumbler, said bolt  $d$  being provided with a recess  $d^2$ , a spindle passing through the rose-plate and a mortised latch, a locking-arm on said spindle, turning with the same, projecting normally downward therefrom, and having an extension  $e'$ , adapted to enter the recess  $d^2$  in the bolt  $d$ , a spring  $d^7$ , adapted to engage with the tumbler  $D'$  and causing the engagement of the post  $d^5$  with a recess  $d^6$  in the opening in the tumbler until released by means of the key, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 25th day of July, 1888.

ORVELLAS H. GILBERT.

Witnesses:

FREDK. C. FRAENTZEL,  
FREDK. S. RICE.