

J. R. WINSOR.  
Lock.

No. 218,805.

Patented Aug. 19, 1879.

Fig. 1.

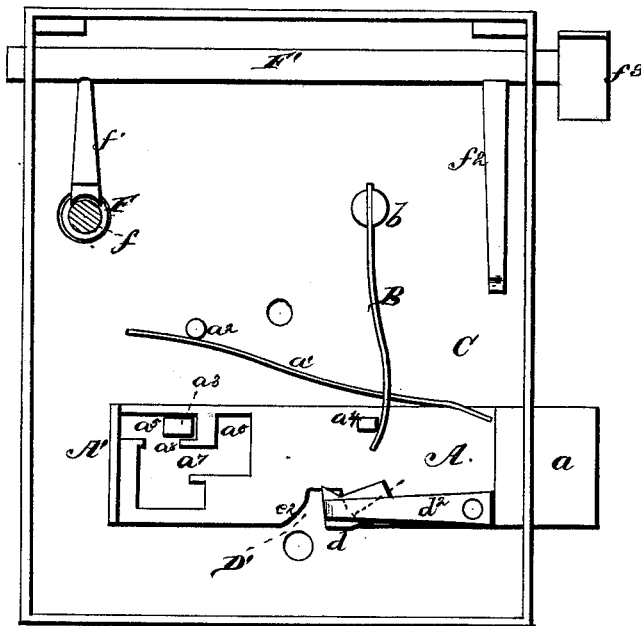


Fig. 2.

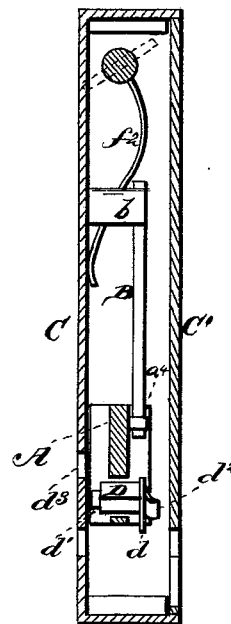
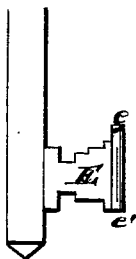


Fig. 3.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JIRAH R. WINSOR, OF PERRY, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT  
TO ORA WINSOR, OF SAME PLACE.

## IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **218,805**, dated August 19, 1879; application filed  
June 7, 1879.

*To all whom it may concern:*

Be it known that I, JIRAH R. WINSOR, of Perry, in the county of Dallas and State of Iowa, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of an interior of my lock. Fig. 2 is a longitudinal sectional view; and Fig. 3 is a view of the key.

Identical parts in the drawings are designated and referred to by the same letters.

My invention relates to locks; and it consists in the improvements in the construction of the same hereinafter fully described, and particularly pointed out in the claims.

A represents the lock-bolt, which is provided with the head *a*, which enters the retaining-plate on the door-casing, and the spring *a*<sup>1</sup>, which engages the standard *a*<sup>2</sup> of the case of the lock and keeps the body of the bolt pressed against the stem *a*<sup>3</sup> of the case, or against the key when the bolt is being operated by it. It is also provided with a lug, *a*<sup>4</sup>, to engage the spring B, which is held in operative position by the standard *b*. A' is a flange attached to the inner end of the bolt, which is of the same width as the head *a*, and preserves the proper position of the bolt by contact with the case-plates C and C' upon its inner and outer sides. C is the rear plate of the lock-case, and C' is the removable plate of the same.

The lock-bolt A is also provided with the transverse bolt D, which works freely in a suitable opening in the body of the bolt A. This bolt D is provided with the plate *d* and the projecting head *d*<sup>1</sup>, and the spring *d*<sup>2</sup> forces the head *d*<sup>1</sup> against the case in a manner that will cause it to enter the opening *d*<sup>3</sup> in the plate C, if not otherwise prevented.

D' is the recess in the body of the bolt A, in which the key works to operate this bolt. The plate *d* of the bolt D extends over this recess. The key to operate this lock is con-

structed with the step *e* of the web E, and a step, *e*<sup>1</sup>, of the same. These steps are so constructed that, as the key is operating the bolt in either direction, the step *e* will raise and carry the bolt D by contact with the plate *d*. The step *e*<sup>1</sup>, by bearing upon the plate C—or C', owing to which side the key has been inserted from—holds the key in proper position to thus carry the bolt D over the opening *d*<sup>3</sup>, and permit the bolt A to be operated.

In case a false key, or a key not having the points *e* *e*<sup>1</sup>, is inserted, the spring *d*<sup>2</sup> will force the bolt D into the opening *d*<sup>3</sup> of the case and arrest the key and the movement of the bolt, before the bolt has been withdrawn from the retaining-plate of the door-casing. By this means the movement of the bolt will be permanently arrested. This bolt A is also provided with the openings *a*<sup>5</sup> and *a*<sup>6</sup>, which are connected by the passage *a*<sup>7</sup>.

The bolt A is thrown out by the key to the position indicated by the full lines. When the key is removed the spring B withdraws the bolt, so as to cause the stem *a*<sup>3</sup> to enter the recess formed in the opening *a*<sup>5</sup> by the flange *a*<sup>6</sup>. This stem *a*<sup>3</sup> thus securely holds the bolt A in a locked or outward position.

To disengage the stem *a*<sup>3</sup> from this recess, the properly-fitted key will first engage the incline *e*<sup>2</sup> of the notch D' and carry the bolt outward sufficiently to relieve the flange *a*<sup>6</sup> from the stem *a*<sup>3</sup>, when the key will raise the inward end of the bolt A and withdraw it from the retaining-plate of the door, passing the stem into the recess *a*<sup>6</sup>. The spring *a*<sup>1</sup> returns the bolt to its horizontal position upon the withdrawal of the key.

The operation of the lock is as follows: The bolt A being in an outward position, the key, upon being inserted and force applied to its bow, first engages the incline *e*<sup>2</sup>, and by passing the bolt outward releases the stem *a*<sup>3</sup> from the flange *a*<sup>6</sup>. The key then raises the plate *d* and bolt D, and carries the same in an upward position and over the opening *d*<sup>3</sup> in the case. In the meantime the stem *a*<sup>3</sup> is transferred from the recess *a*<sup>5</sup> through the passage *a*<sup>7</sup> into the recess *a*<sup>6</sup>. In locking, the key first raises the bolt A and passes it forward, the recess *a*<sup>5</sup> being again in contact with the stem *a*<sup>3</sup>.

The knob-stem F is provided with the annular groove  $f$ , which receives and retains the arm  $f^1$  of the shaft F'. This annular groove is to permit the knob to be turned after the manner of the common knob without operating the latch or injury to the same.  $f^2$  is a spring attached to the shaft F', to return the arm  $f^1$  and the latch  $f^3$  to the position indicated in the drawings.  $f^3$  is the latch, which, as the door is closed, engages the catch on the door-casing, and is turned up as shown in dotted lines. Upon entering the catch the latch returns to position indicated in the drawings by the action of the spring  $f^2$ .

To open the door the knob is either pulled or pushed as required, which places the latch in nearly a horizontal position. when it will freely pass from the catch and be returned to position shown by the action of the spring  $f^2$ .

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

1. In a lock, the bolt A, provided with the recesses  $a^5 a^6$  and connecting-passage  $a^7$ , and the flange  $a^8$ , in combination with the springs  $a^2$  and B, as and for the purposes substantially as set forth.

2. In a lock, the bolt A, provided with the spring  $d^2$  and a suitable opening for the bolt D, in combination with the bolt D, provided with the plate  $d$  and head  $d^1$ , and the case C, provided with the opening  $d^3$ , as and for the purposes substantially as set forth.

3. The key provided with the steps  $e e^1$ , in combination with the plate  $d$ , spring  $d^2$ , and bolt D, bolt A, and opening  $d^3$  in plate C, as and for the purposes substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

J. R. WINSOR.

Witnesses:

R. S. CROSS,  
E. S. DAYTON.