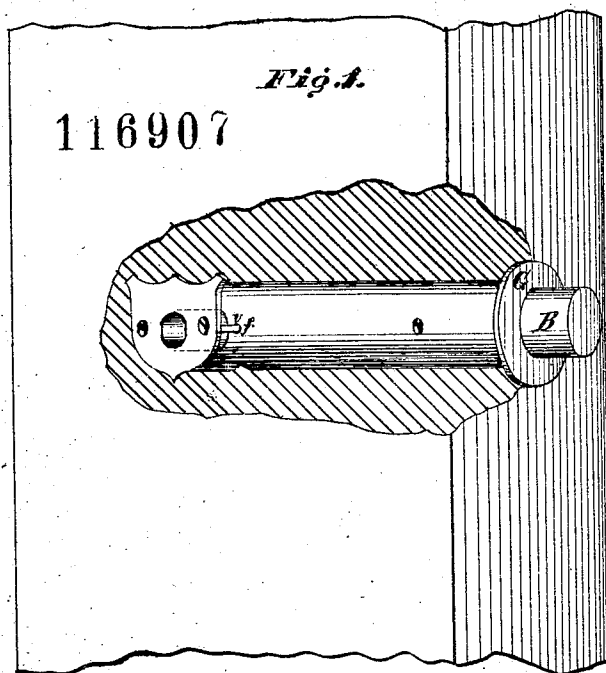


J. T. Williams. Round Mortise Lock.



PATENTED JUL 11 1871

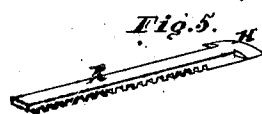
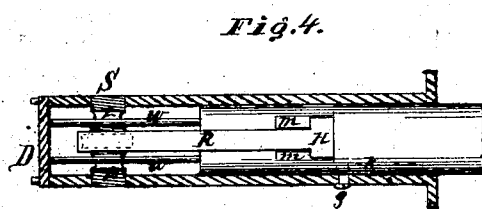
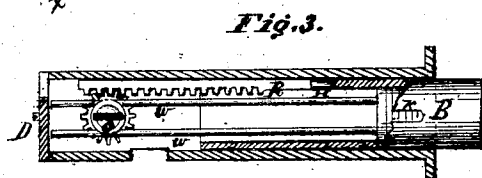
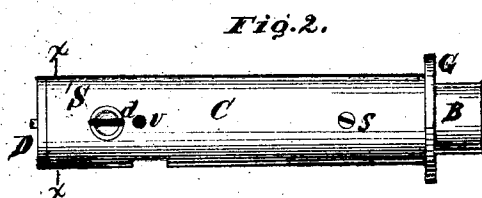


Fig. 10.

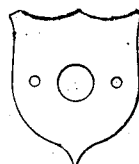


Fig. 9.

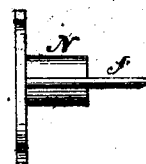


Fig. 7.

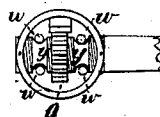


Fig. 8.

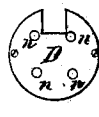
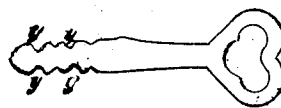


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN THEOPHILUS WILLIAMS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LOCKS FOR DOORS, &c.

Specification forming part of Letters Patent No. 116,907, dated July 11, 1871.

To all whom it may concern:

Be it known that I, JOHN THEOPHILUS WILLIAMS, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in a Mortise-Lock for Locking Doors and Drawers; 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 drawing making a part of this specification, in which—

Figure 1 is a perspective view of the lock inserted in the edge of a door or drawer, with a section of the wood cut away to show the attachment of key-hole escutcheon to lock; Fig. 2, a longitudinal elevation; Fig. 3, a vertical longitudinal section; Fig. 4, a horizontal longitudinal section and elevation. Fig. 5 is a detailed view of the bolt-rack; Fig. 6, the key; Fig. 7, a transverse section of Fig. 2 at *x*; Fig. 8, an end view of Fig. 2; Fig. 9, a transverse elevation of key-hole escutcheon; Fig. 10, a longitudinal elevation of key-hole escutcheon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my lock-case and bolt of two hollow cylinders, of brass or other metal, one sliding easily into the other, and prevented from turning therein by the screw *g* working in slot *k*, Fig. 4. The smaller tube, when plugged at one end, serves as a bolt, and is shown at Fig. 2 at *B*. Inserted securely in the plug of the bolt are four tumbler-wires, shown at *w w*, Fig. 3, extending backward nearly parallel with the axis of the tube as far as the plate *D*. At right angles to the axis of the tubular case is a screw inserted, extending from side to side, (shown at *s*, Figs. 2 and 4.) On the screw is fixed a pinion, shown at *o*, Figs. 3 and 7. This screw is slotted in the direction of its axis, so as to be nearly cut in halves and turned away at *z z*, Fig. 4, so as to allow the

wires *w w* to approach each other, as shown in Figs. 4 and 7. Working in said pinion is a rack, *R*, Figs. 3, 4, and 5. This rack moves the bolt by means of its head *H* in slot *m*, Fig. 4. At the rear end of the case (shown at *D*, Fig. 2) is a plate pierced with four holes, *n*, as shown at Fig. 8. The key is formed of thin sheet-steel or other metal, as shown in profile at Fig. 6. *y y y* are the notches that guide the wires to the holes *n n n n* in *D*, Fig. 8.

In order to explain the action of the lock we will suppose, Fig. 2, the lock put together, and inserted in the edge of a door or drawer, as shown at Fig. 1; the key inserted in the slot *d* in screw *s* and turned to the left. The pinion *o* draws the rack *R* and the cross-head *H* moves in the slot *m* until the pinion has made one-fourth of a revolution and the wires *w w* are lying in the notches *y y*, Fig. 7. Now the cross-head begins to move the bolt *B* and wires *w w*, and the notches *y y* in the key will guide the wires *w w* through the holes *n n* and the bolt will be withdrawn. The lock is inserted in a door or drawer by boring a hole in the edge of said door or drawer just large enough to receive the casing, countersinking for the flange. *G*, another hole, is bored at right angles to this, at the right distance from the edge for the key-hole, and large enough to admit the tube *N* of key-hole escutcheon. The pin *f* of said escutcheon goes into a hole in the lock, shown at *v*, Figs. 1 and 2. This serves to keep the lock in place.

I claim—

The plate *D*, provided with the holes *n* and the tumbler-wires *w* capable of being moved in all directions, in combination with the pinion *o*, rack *R*, bolt *B*, and key, substantially as and for the purpose set forth.

J. T. WILLIAMS.

Witnesses:

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