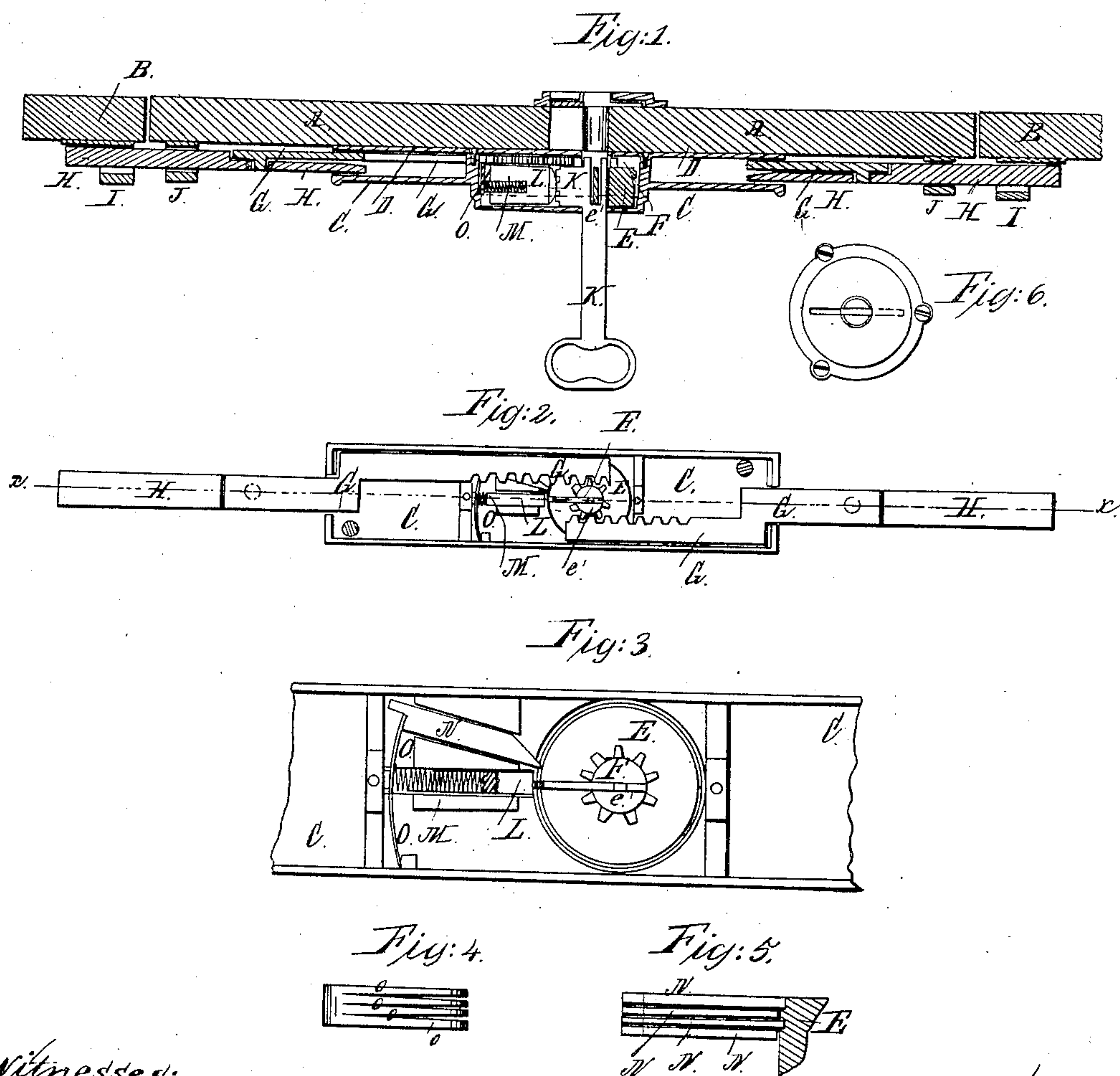


No. 78,449.

PATENTED JUNE 2, 1868.

J. E. A. GIBBS.
DOOR LOCK.



Witnesses:

H. C. Schrepper
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JAMES E. A. GIBBS, OF STEELE'S TAVERN, VIRGINIA.

Letters Patent No. 78,445, dated June 2, 1868.

IMPROVEMENT IN DOOR-LOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES E. A. GIBBS, of Steele's Tavern, in the county of Augusta, and State of Virginia, have invented a new and improved Transverse Lock; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal section of my improved lock, taken through the line *x x*, fig. 2.

Figure 2 is a plan view of the same, the inner plate being removed.

Figure 3 is an enlarged detail view of the middle part of the same, the inner plate and toothed bars or racks being removed.

Figure 4 is a detail side view of the guard-springs.

Figure 5 is a detail side view of the guards.

Figure 6 is a detail view of the key-hole plate.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved lock, provided with two bars or bolts extending out upon each side, so as to reach entirely across the door or shutter to be secured, and cross-bar it, and which shall at the same time be easily operated by the proper key, but impossible to be picked or operated by any other key; and it consists in the construction and combination of the various parts, as hereinafter more fully described.

A represents a door, to which my improved lock has been attached, and B represents the side posts or casings.

C is the outer plate, and D is the inner plate of the lock, between which, at their middle parts, is pivoted a cylinder, E, having a gear-wheel, F, formed upon or attached to its inner end.

G are two toothed racks or bars, the teeth of which mesh into the teeth of the gear-wheel F.

The racks G pass along the edge-plates of the lock, and have a double elbow formed upon each of them, so that they may pass out at the centres of the ends of the lock, as shown in fig. 2.

H are the outer parts of the bars or bolts of the lock, the inner ends of which are halved so as to fit upon the projecting ends of the inner parts or racks G, where they are secured in place by pins, attached to the racks G, and passing through holes in the halved parts of the bars H, as shown in figs. 1 and 2.

The inner sides of the inner ends of the bars H are slightly bevelled off, as shown in fig. 1, so that the said bars may be detached from the racks G when desired.

The bars H are made of such a length that they will reach entirely across the door or shutter, and enter keepers, I, attached to the side-posts or casings of said door or shutter.

J are guide-keepers, attached to the door near its side edges, through which the said bars H pass, to support and keep them in proper position.

The pivoted cylinder E is slotted to receive the key K, said slot extending out through the face of said cylinder, as shown in figs. 1, 2, and 3.

The face of the cylinder E, at its inner end, is grooved with one, two, or more grooves, as shown in fig. 5, and the face or ward of the key K is so formed that when in place, in the slot of the cylinder, it may correspond with the said cylinder, entirely filling up the said slot.

e' is a solid part or core, left in the centre of the cylinder E, at the inner end of the slot in said cylinder, which enters a slot in the stem of the key K, as shown in fig. 1, to more securely keep it in place when operating the lock.

L is a tumbler, placed in a recess formed for its reception, as shown in figs. 2 and 3, and which is held forward by a coiled spring, M.

Upon the forward end of the tumbler L is formed a tenon, the corners of which are rounded off, and which

is made of such a size as to enter the slot in the cylinder E, and prevent the said cylinder from being revolved until the said tumbler is pushed back by the entrance of the key K.

N are guards or wards, placed the one above the other in a recess formed for their reception, and which are held forward with their ends resting against the face of the cylinder E by the springs O, one end of each of which is placed in a recess formed for its reception, and the other or free ends of which rest against shoulders formed upon the rear ends of the guards or wards N.

The forward ends of the guards N are made inclined, or are bevelled off, as shown in fig. 2, and the said guards are made of different lengths, to correspond with the grooved face of the cylinder E, as shown in fig. 5.

When the key K is placed in the cylinder E, and the said cylinder is revolved, the forward ends of the guards N slide along the face of the said cylinder, and do not interfere with its movement, but should it be attempted to unlock the lock with a skeleton-key, or with a key the face of which did not exactly correspond with the face of the cylinder, the forward ends of the guards N drop into the slot in the cylinder E, and prevent its farther movement in that direction.

The inclined sides of the forward ends of the guards N allow the cylinder E to be turned in the direction to throw the bolts or bars farther out without difficulty.

It will be observed that the guards N differ from ordinary tumblers in these respects, that they are never operated by the key, and never act except when it is attempted to unlock the lock with a false key, or with any key other than the one made expressly for that particular lock.

By very slightly varying the breadth or depth of the grooves in the face of the cylinder E, and varying the guards N to correspond, so great a change will be effected that another key will be required to operate the lock.

This enables an almost innumerable number of locks to be constructed, each differing from the other very slightly, and yet no one of the whole number can be operated by any other than its own particular key.

I claim as new, and desire to secure by Letters Patent—

1. The combination of the series of guards or wards N with the slotted cylinder E, substantially as herein shown and described, and for the purpose set forth.

2. Forming the key K in such a manner that it may fill up the slot in the cylinder E, and so that its face may correspond with the face of said cylinder, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the tumbler L with the slotted cylinder E and with the guards or wards N, substantially as herein shown and described, and for the purpose set forth.

The above specification of my invention signed by me, this 21st day of January, 1868.

JAS. E. A. GIBBS.

Witnesses:

WM. F. McNAMARA,
JAMES T. GRAHAM.