J. G. L. MARTIN.

Locks for Doors, &c.

No. 166,619. Patented Aug. 10, 1875.

FIG. V

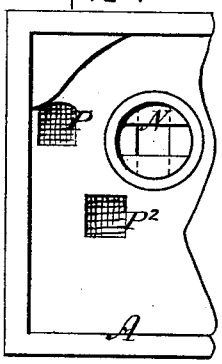


FIG. I.

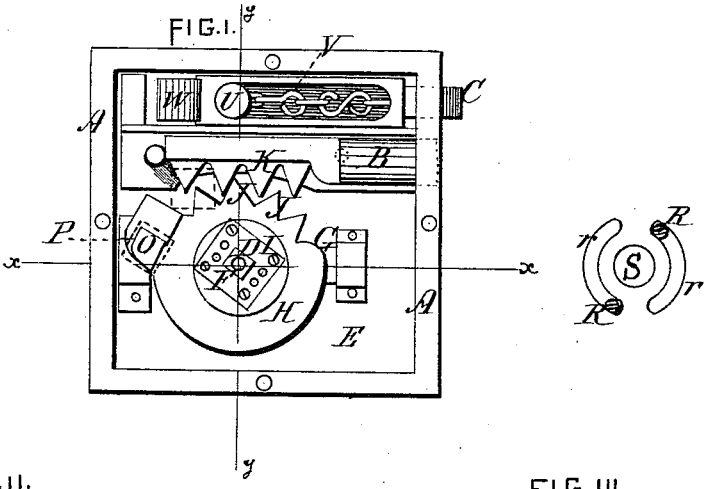


FIG. II.

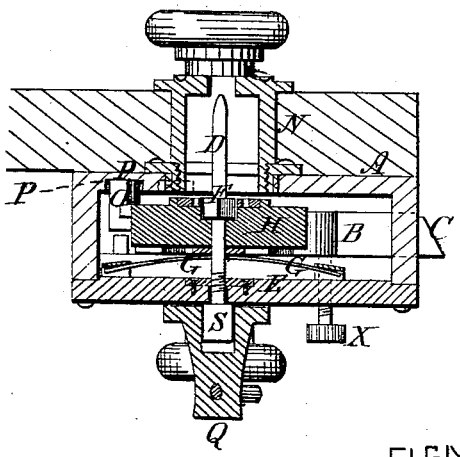


FIG. III.

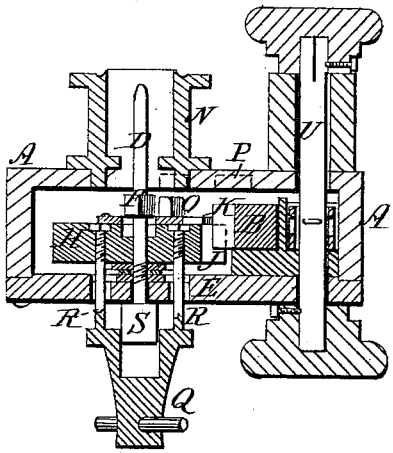
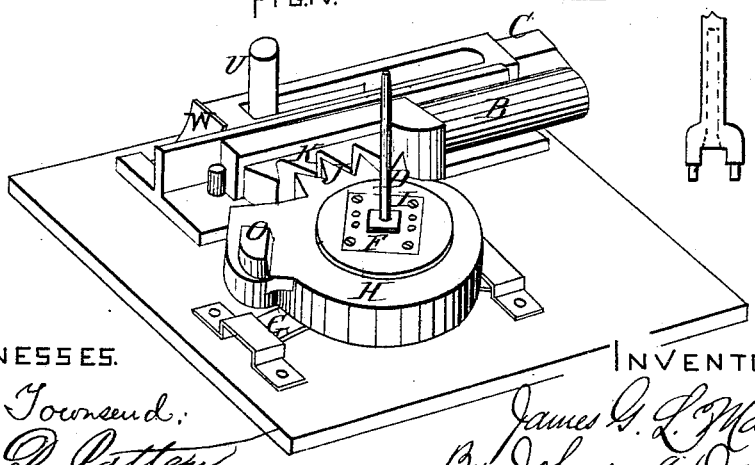
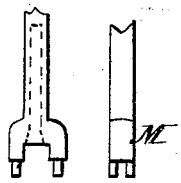


FIG. IV.





WITNESSES.

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UNITED STATES PATENT OFFICE.

JAMES G. L. MARTIN, OF EUFAULA, ALABAMA.

IMPROVEMENT IN LOCKS FOR DOORS, &c.

Specification forming part of Letters Patent No. **166,619**, dated August 10, 1875; application filed July 8, 1875.

CASE B.

To all whom it may concern:

Be it known that I, JAMES G. L. MARTIN, of Eufaula, in the county of Barbour and State of Alabama, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

The principal feature of this invention consists in the combination of a tumbler or disk having both an axial and rotary movement, and having teeth on a portion of its periphery, with a sliding bolt, provided with rack-teeth, the tumbler being fitted on a stationary spindle or arbor, so as to be locked and unlocked therewith by a square or angular projection on the spindle and a corresponding socket in the tumbler. A key of peculiar construction is employed for moving the tumbler on the arbor in a lengthwise direction, when it can be turned to operate the bolt. A pull stem and knob are located at the inner side of the door or lock, and combined with the tumbler by rods passing through slots in the case, for operating the bolt from the inside. The tumbler is held in a fixed or locked and unlocked position by the square projection on the arbor or spindle, and by a tongue or beak on the tumbler entering a recess in the lock-case, from both of which it is released by the pressure of tbe key to either lock or unlock the bolt.

In the accompanying drawings, Figure 1 represents a view of the lock, with the outer face-plate removed to expose the interior; Fig. 2, a section taken through the bolt-tumbler on the line *x x* of Fig. 1; Fig. 3, a similar section at right angles to Fig. 2, showing the bolt-tumbler unlocked by the pull-knob; Fig. 4, a view of the toothed tumbler and its angular locking-spindle, in connection with the bolt; and Fig. 5, a view, showing the recesses in the outer lock-plate, with which the tumbler-projection locks.

In an allowed application filed December 17, 1874, I have claimed and fully particularized a rotating pulley-tumbler capable of receiving an endwise motion on a fixed spindle, to enable it to be unlocked therefrom, for the purpose of operating a pivoted locking-bar by means of winding and unwinding a chain-connection with said pulley-tumbler.

In the present invention said tumbler and its adjuncts are retained, but in improved construction and combination with other devices to enable a sliding bolt to be operated in a simple and effective manner.

The lock-case A contains the locking-bolt B and the latch-bolt C. A fixed arbor or spindle, D, is secured to the inside plate E, and made to extend through the outside plate of said case to form the key-guide. The arbor is provided with a square projection, F, and a bow-spring, G, is secured to the case for forcing the tumbler H on the locking-projection when the pressure of the key or knob is removed from said tumbler. The bow-spring bears against a bush, which is fitted in a recess in the center of the tumbler, and made to slide on the arbor. A face-plate, I, on the opposite side of the tumbler is provided with an opening, corresponding in form with that of the locking-projection on the arbor. The tumbler is provided with a segmental rack, or with teeth J around a portion of its periphery, which teeth are made to engage with a rack-shaped or toothed rear extension, K, of a sliding locking-bolt, B, which moves through the front of the lock-case in the ordinary manner; but the means for operating the same are made simple and effective.

When the tumbler H is moved on the stem, or unlocked from its arbor by means of a key, M, applied at the outside of the door, it can be turned by said key, so as to project or retract the bolt. The key employed has a tubular barrel, which fits on the arbor, and with double points or projections, which enter holes in the tumbler or in its face-plate. A key-hole guard, N, is applied to the outside of the lock, as shown.

The tumbler, it will be perceived, is locked to the stem by the square projection in both the locked and unlocked positions of the bolt; and, in addition thereto, I now propose to lock

it to the case of the lock by means of a beak or tongue, O, on the front face of the tumbler H, which enters a recess, P or P^2, in the outside plate of the lock-case, either in the locked or unlocked position of the bolt, so that the tumbler must be unlocked from both the arbor and the case before the bolt can be either thrown or withdrawn, as in either of these positions the projection O is brought opposite to the recess P or P^2, and forced therein by the bow-spring.

In the present instance I operate the tumbler from the inside of the door by means of a pull-knob, Q, which is connected with the tumbler by means of strong rods R, which pass through slots *r*, concentric with the pull-knob Q, and which serve to limit the throw of the bolt. By pulling said knob-spindle in an outward direction, the tumbler is released from its arbor and locking-beak, and can then be operated or turned for moving the bolt.

The knob Q is provided with a cylindrical socket, into which enters a cylindrical post, S, on the lock-case, and which post forms an extension of the fixed arbor and a central guide for the pull-knob.

In the same case with the locking-bolt and means for operating the same there is used a knob-latch, consisting of the latch-bolt C, which is made open, or provided with two elongated slots, one of which is to permit the knob-spindle U to pass through the bolt, and to enable the latter to slide on the former, and the other is to allow of the turning of the chain or link connection. The knob-spindle carries a chain or a series of links, V, Fig. 1, which are attached to the latch-bolt by a hook or staple, or other suitable device. A plate-spring, W, bears against the heel or rear end of the latch-bolt, for throwing the same forward or outward.

A thumb-screw, X, is applied to the inner face of the lock-case, which may be made to enter a corresponding hole in the shank of the bolt, to make an additional security to the lock when bolted from the inside.

The key-hole guard N is made of two sections, screwed together, so that the guard may be made to suit doors of different thicknesses, the inside section to have the screw-threads and made fast to the lock-case, and the outside secured to the door and screwed into the inside section.

I claim—

1. The combination of the rotating and endwise-movable tumbler H, having rack-teeth J, with the rack-bolt B K, fixed arbor D, and a suitable device for unlocking the tumbler from said arbor, substantially as herein described.

2. In combination with the rotating and endwise-movable tumbler H, and the rack-bolt B K, operated thereby, the pull and turn knob Q, connected with said tumbler by the rods R R passing through the slots *r*, and used as and for the purpose set forth.

3. The combination, with the rotating and endwise-movable tumbler and its fixed locking-arbor D, of the locking beak or projection O and the sockets or recesses P P^2, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing I have affixed my signature in presence of two witnesses.

J. G. L. MARTIN.

Witnesses:
H. LAMPLEY,
D. C. SEYMOUR.