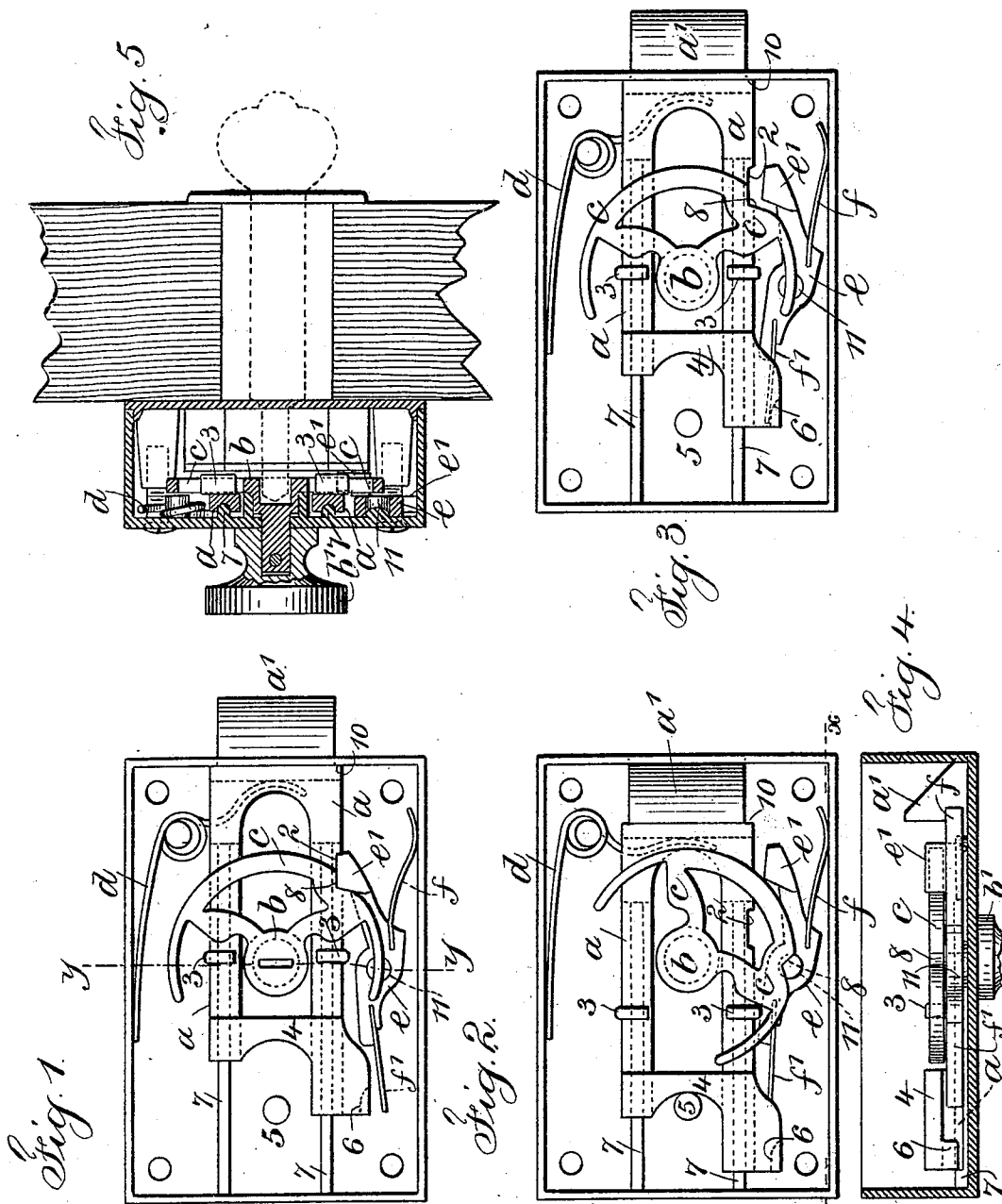


(No Model.)

J. J. RIDGWAY.  
LOCK.

No. 513,279.

Patented Jan. 23, 1894.



Witnesses

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Atty

# UNITED STATES PATENT OFFICE.

JOHN J. RIDGWAY, OF BROOKLYN, NEW YORK.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 513,279, dated January 23, 1894.

Application filed September 14, 1893. Serial No. 485,454. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. RIDGWAY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Locks, of which the following is declared to be a specification.

In my Patent No. 498,490, granted May 30, 1893, the tumbler is held by a spring latch when disconnected from the bolt and the tumbler is unlatched when the bolt is pressed inwardly in closing the door.

My present improvement is a modification of the device in the aforesaid patent, and relates to a projection on the bolt that holds the tumbler dog away from the bolt until the latch receives a movement inwardly such as that arising when the door is closed.

In carrying out my invention I make use of a stud or projection on the latch bolt that overrides a spring tail on the tumbler after such tumbler has been raised by a swinging sector so that the spring latch bolt is free to be pushed in by contact with the stationary nosing as the door is closed, and by this inward movement of the door the tumbler is liberated and acts to prevent the bolt being retracted except by the action of a key or of a knob on the inside and in this position the latch bolt is not affected by an instrument acting against the inclined end of the latch.

In the drawings, Figure 1 is an elevation of the lock mechanism with the parts in the position they assume when locked with the latch bolt projected. Fig. 2 is a similar elevation with the parts in the position they assume when the latch bolt is retracted by the sector operated by the key or knob. Fig. 3 is a similar elevation with the parts in the position they assume when the released latch bolt is projected by its spring and the spring tail of the tumbler is engaged by the bolt. Fig. 4 is a sectional plan of the mechanism upon the line *x, x* of Fig. 2, and Fig. 5 is a vertical cross section at the line *y, y* of Fig. 1.

The lock case is to be of any desired construction and is usually provided with top, bottom, back and end plates and a removable cap plate, and the latch bolt *a* is provided with a beveled end *a'* to enter the opening in the striking plate upon the door casing.

The portion of the latch bolt within the lock case is open for the passage of the spindle *b*, which spindle is operated by the knob *b'* upon the inside of the door or by a key mechanism from the outside of the door.

The latch bolt *a* is provided with a notch on one edge at 2 with raised projections or lugs 3 3 with a raised inner end 4 adapted to come against a stop 5 upon the back plate of the lock case, and with a downward projection 6, all of whose offices are hereinafter more fully described. Ribs 7 on the back plate form ways upon which the latch bolt slides.

A sector plate *c* is connected to or formed with the spindle *b* and extends over the latch bolt *a* and is provided with a notch 8 in the outer edge thereof. By turning the spindle *b* and plate *c* in either direction by the knob or key mechanism, the back edges of the sector are brought against the projections 3 in retracting the latch bolt against the power of its projecting spring *d*. The release of the knob or key mechanism permits the spring *d* to act and project the latch bolt until its shoulders 10 coming against the end plate limit the movement.

A tumbler *e* carrying a dog or head *e'* at one end is pivoted to the back plate at 11. This tumbler *e* is provided with a spring *f* bearing against the bottom plate of the case and a spring tail *f'* projecting from the other end thereof. The office of the spring *f* as shown in Fig. 1 is to cause the dog or head *e'* of the tumbler to be pressed in the notch 8 of the sector and in the notch 2 of the latch bolt. This prevents the latch bolt being retracted by the action of a pointed instrument against its inclined end *a'* and maintains the sector and spindle in a normal position. This position is indicated in Fig. 1 and is that assumed by the parts when the door is locked.

The rotation of the spindle *b* and sector *c* either by the knob from the inside of the door or by a key mechanism from the outside, as shown in Fig. 2, lifts the dog of the tumbler out of the notch 8 of the sector and notch 2 of the latch bolt and causes the point of said dog to ride upon the edge of the sector *c*, and the said sector then engages one of the projections 3 and by its further movement

the latch bolt is retracted into the case and the door unlocked so that it can be opened. In this position the spring tail  $f'$  is held toward the latch bolt and as said bolt is shot forward by its spring when released, said spring tail  $f'$  overrides the projection 6 of the bolt and the tumbler  $e$  is thus held off from engagement with the sector and bolt. This position is shown in Fig. 3, and the parts assume this position when the door is open. In this position of the parts the door can be pushed to and shut, the striking plate upon the casing acting upon the inclined end  $a'$  to move the latch bolt longitudinally of the case. This action frees the spring tail  $f'$  from the projection 6 and liberates the tumbler, so that as the spring  $d$  projects the latch bolt with the closing of the door the parts return to the normal position shown in Fig. 1 with the dog  $e'$  in the notch 2 wherein the door is locked by the simple act of shutting and cannot be again opened from the outside except by its own key.

In Fig. 1 the center of the spindle  $b$  is shown with an elongated recess, and in Fig. 5, I have indicated a lock mechanism and a sheet metal key by dotted lines as adapted to pass through the lock mechanism and enter the recess in the spindle to turn the sector and operate the latch bolt mechanism.

I claim as my invention—

1. The combination with a spring latch bolt and its tumbler, of a sector, means for turning the same and disconnecting the tumbler from the bolt, a spring tail on the tumbler and a projection on the bolt for engaging the tail when the bolt is first projected, and which

projection and tail separate when the bolt is pressed inwardly so that the tumbler comes into action to hold the bolt, substantially as specified.

2. The combination with a spring latch bolt having projections, of a tumbler for engaging and holding the latch bolt as projected, a spindle and sector for releasing the tumbler and retracting the bolt, a means connected with said tumbler and engaged by a projection of the bolt for holding the tumbler away from the bolt as projected, the parts separating when the latch bolt is pressed inwardly to permit the tumbler to engage and secure the latch bolt, substantially as set forth.

3. The combination with a spring latch bolt having a notch 2 and projections 3 and 6, of a tumbler for engaging the notch 2 and holding the latch bolt as projected, a spindle and sector having a notch in its edge receiving the tumbler dog, a knob or key for actuating the sector and disengaging the tumbler and retracting the bolt, a spring tail connected with the tumbler and engaged by overriding the projection 6 for holding the tumbler away from the bolt as projected and from which tail the projection separates as the bolt is moved back in closing the door so as to allow the tumbler to engage the latch bolt, substantially as specified.

Signed by me this 5th day of September, A. D. 1893.

JOHN J. RIDGWAY.

Witnesses:

HAROLD SERRELL,  
A. M. OLIVER.