J. A. SHERMAN.

COMBINED LATCH AND BOLT.

No. 188,308. Patented March 13, 1877.

Fig. 1.

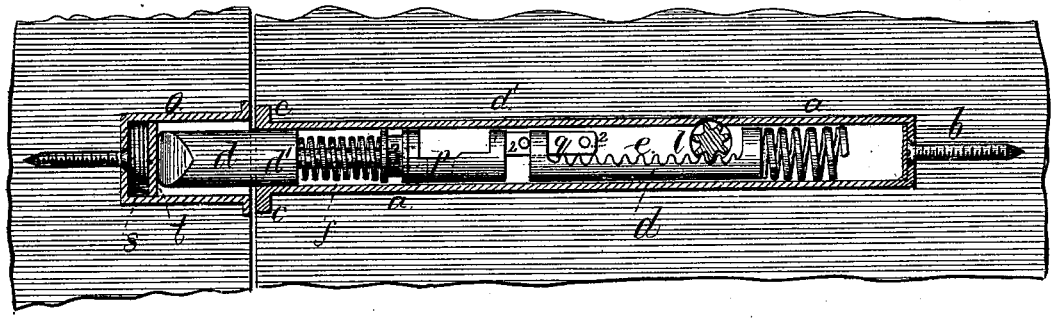
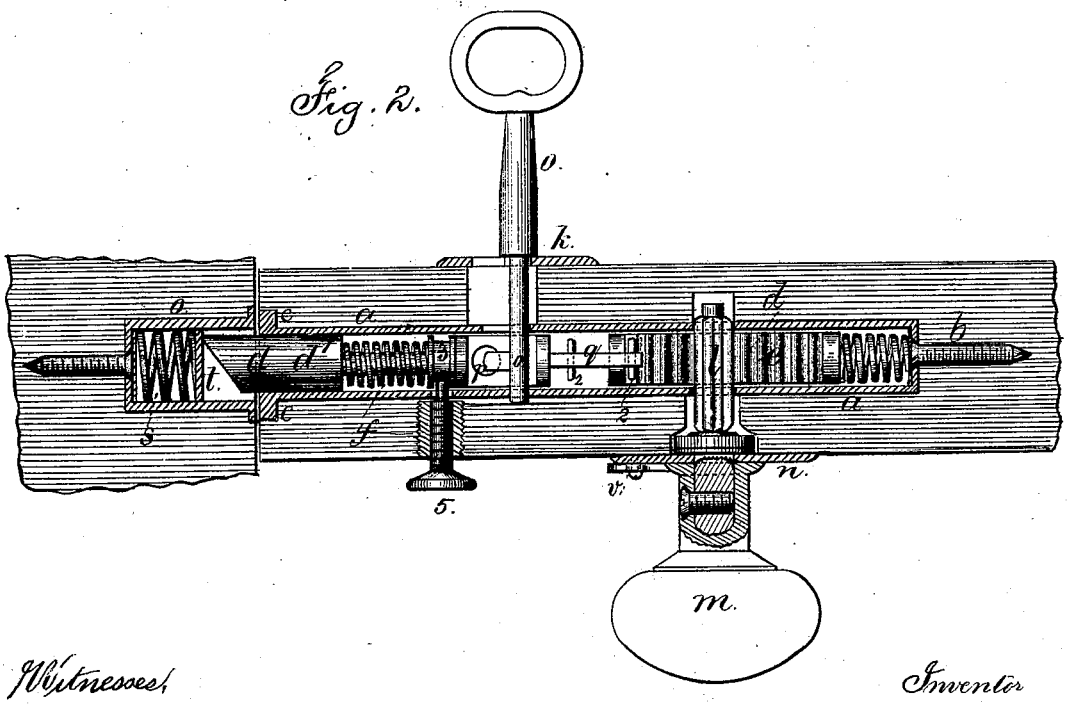


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JACOB A. SHERMAN, OF NEW YORK, N. Y.

IMPROVEMENT IN COMBINED LATCH AND BOLT.

Specification forming part of Letters Patent No. **188,308**, dated March 13, 1877; application filed June 11, 1875.

To all whom it may concern:

Be it known that I, JACOB A. SHERMAN, of the city and State of New York, have invented an Improvement in Lock-Bolts, of which the following is a specification:

Bolts for doors, safes, &c., have been moved endwise by the action of a pinion upon a rack, such pinion being turned by a handle attached to the same, or otherwise. A bolt has been projected by a pinion acted upon by a key, and a cylindrical case been provided with a screw-thread around the outer end of the cylinder.

I make use of a bolt on a cylindrical case, operated by a pinion and rack, or by a key, the parts of the bolt being connected by a tongue to allow of this movement, and a spring is provided around the latch, and a movable collar and clamping screw or pin, to hold the spring when the parts are operating as a latch only; but when the screw or pin is withdrawn the latch can be projected as a bolt.

In the drawing, Figure 1 is a longitudinal vertical section of the bolt, and Fig. 2 is a sectional plan at the key.

The case *a* is cylindrical, and made with a screw, *b*, at the inner end, and a circular flange, *c*, at the outer end; and this case is easily inserted into a hole bored for its reception, and secured in place by the screw *b*. The bolt *d* fits within the case *a*, and the rear portion or shank is reduced and formed as a rack, *e*. *f* is a spring, that serves to project the bolt when used as a latch.

The pinion *l* is made with teeth that taper toward the end of the key, so that the pinion is inserted with facility into the rack-teeth, and by the rotation of the pinion the bolt can be moved endwise in either direction.

If the pinion *l* is made with a shank, it may be used as a key. It, however, will usually be connected with the handle *m*, and the same are held in place by the rose or washer *n*, that is screwed to the face of the door.

At *k* is an escutcheon for the key-hole, the latter being bored at right angles to the bolt. The key *o* is inserted from the opposite side to the handle *m*, and acts upon the talon *p* of the latch portion *d'*. The rack *e* and latch are connected by the tongue *q*, running between the forks of the rack, and the cross-pins 2, or stops, determine the amount of motion, so that the latch can be operated upon by the key without moving the rack or handle.

The collar 3 around the shank of the latch *d'* serves as an abutment for the spring *f*, and this collar is held by the lateral pin or screw 5, that enters a groove in said collar. When this clamping-screw holds the collar, the latch *d'* is operative as a latch only; but when the screw is slackened the latch can be projected by the action of the pinion *l*, so as to form a bolt. When this is done the talon *p* is moved forward, so that the key becomes useless, or cannot be inserted.

By this construction the latch is available as such for ordinary use, and, when projected as a bolt, the same is very secure, and the key cannot be used.

To hold the latch back entirely out of use, a notch may be provided upon the handle-shank, and a pawl, *v*, pivoted to the rose *n*, so as to retain the knob and pinion from revolving.

The bolt, when projected, enters a case, *o*, that is circular, and inserted into a hole bored into the casing or frame, and within the case *o* is a spring, *s*, and button *t*. The spring and button yield to the bolt or latch as it is moved endwise against the button *t;* but when the bolt is withdrawn the button *t* is projected to the end of the case *o*, so as to form a stopper to such bolt-hole, and thereby prevent the objectionable appearance that the hole would otherwise present, especially in the jamb of a door.

I claim as my invention—

1. The collar 3 around the shank of the latch, forming an abutment for the spring *f*, in combination with the movable pin or screw 5, rack *e*, and pinion *l*, substantially as and for the purposes specified.

2. The talon *p* for the key upon the inner end of the spring-latch, in combination with the tongue *q*, rack *e*, pinion *l*, and stops 2 2, substantially as set forth.

Signed by me this 23d day of February, A. D. 1874.

J. A. SHERMAN.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.