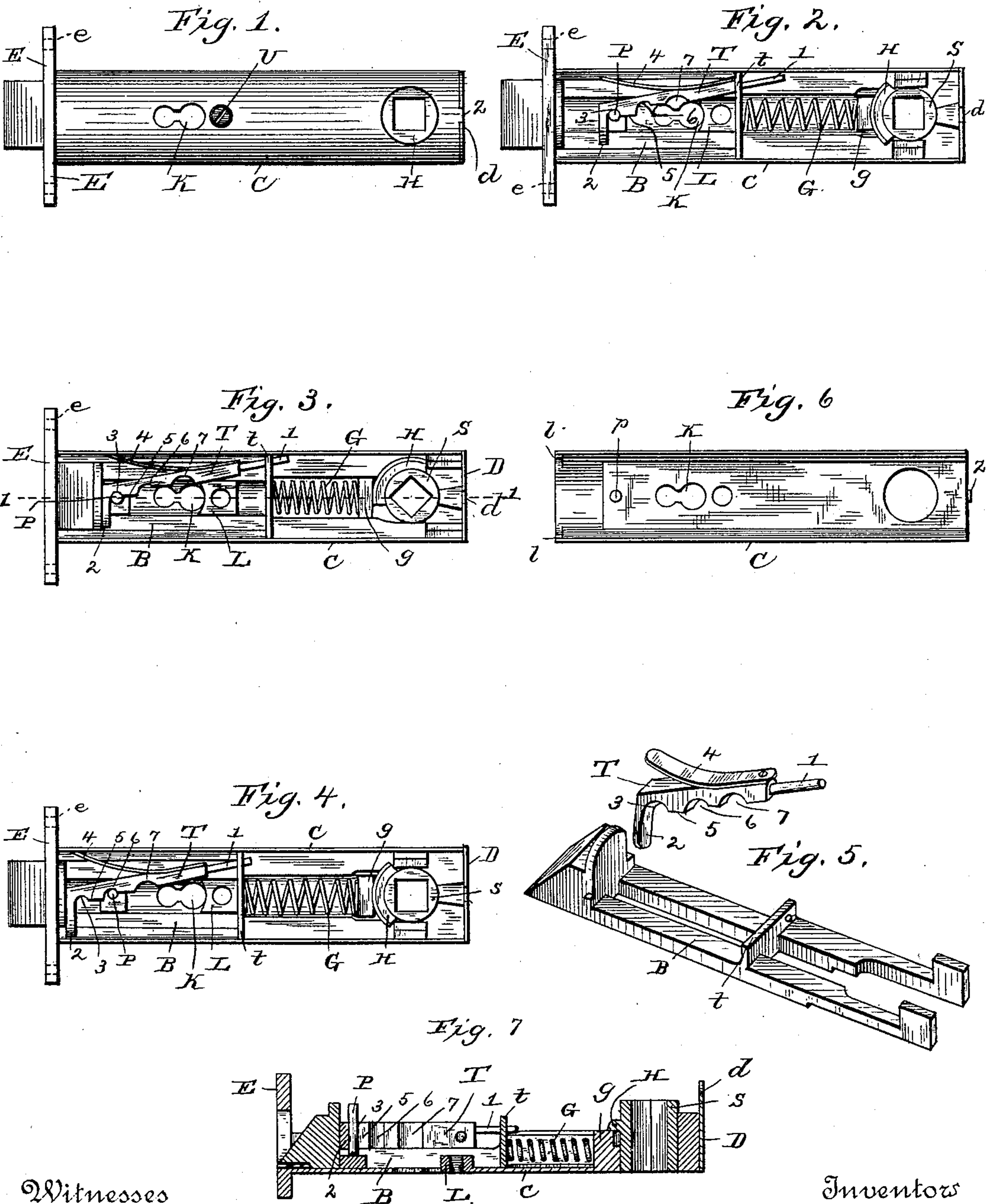


(No Model.)

J. M. & S. B. MOODY.  
COMBINED LATCH AND LOCK.

No. 434,563.

Patented Aug. 19, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

JAMES M. MOODY AND SIDNEY B. MOODY, OF HARWICH, MASSACHUSETTS.

## COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 434,563, dated August 19, 1890.

Application filed February 28, 1890. Serial No. 342,114. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES M. MOODY and SIDNEY B. MOODY, citizens of the United States, residing at Harwich, in the county of Barnstable and State of Massachusetts, have invented a new and useful Combined Lock and Latch, of which the following is a specification.

This invention relates to locks, more especially of that class in which a latch is combined with a lock, the former operated by a knob at each side of the door and the latter by a removable key adapted to be inserted from either side of the door to operate the locking mechanism and prevent the movement of the latching mechanism.

The object of the invention is to produce a small, compact, and effective cylindrical lock which may be inserted in the edge of the door in a hole bored therein with an ordinary bit, as well as one that shall possess as few working parts as possible, with the double purpose of simplifying its construction and cheapening its cost of manufacture. This object we accomplish by our improved combined lock and latch, which consists, essentially, of specific and adjunctive details of construction tending to assist the successful accomplishment of the said object, and certain auxiliaries of construction which improve the appearance and add to the efficiency of the completed lock, all as hereinafter more fully described, and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the lock complete. Fig. 2 is a front elevation of the interior of the lock in a position ready to be operated to unlatch it. Fig. 3 is a similar view with the bolt retracted or unlocked. Fig. 4 is a similar view with the bolt locked, so that it cannot be retracted, and Fig. 5 is a perspective view of the bolt and tumbler removed. Fig. 6 is a bottom plan of the cap or cover. Fig. 7 is a section on the line 1 1, Fig. 3.

Heretofore tubular locks of this general character have been constructed with a view of economizing space as much as possible; but the requirements of a combined lock and latch are such that unless great mechanical ingenuity is exercised the finished article will possess so many separate parts that it will be

too complicated to remain long in order and too expensive in the manufacture to be a commercial success. The present invention is designed as an improvement upon locks of this character heretofore produced, in that it avoids these two vital and hitherto unavoidable objections.

Referring to the accompanying drawings, the letter C designates the casing, which is tubular in cross-section and whose front side is removable. The rear end of the rear side is a thin metallic disk D, integral with the rear side and provided with a notch *d*, into which fits a tongue Z upon the front side when the two sides are assembled, as shown in Fig. 1. At its front end the rear side has an integral enlargement E, provided with holes *e* for the reception of screws which pass into the edge of the door. An auger-hole is bored in the edge of the door, the tubular casing C seated therein, a recess cut around the outer end of the hole, the enlargement E sunk in said recess, and screws passed through the holes *e*, whereby the casing is retained in position, as well understood. The front end of the front side of the casing has two small lugs *l*, which fit inside the rear side adjacent the enlargement E. The rear side carries a pin P, whose free end rests in a hole *p* in the interior of the front side. The rear side also carries a lug L, having a threaded hole within which fits the tip of a screw U, whose head rests against the outer face of the front side, whereby the two parts or sides of the casing are held together. These two parts are provided with aligned key-holes K at the points shown, and near their rear ends with a suitable hole in which turns the spindle-hub H, all as fully shown in the drawings, and as is well known in this branch of the arts.

Within the tubular casing slides the bolt B, of the shape shown in Fig. 5, and having the usual catch at its front end and lugs near its rear end engaging lateral arms on the spindle-hub. This bolt is pressed normally forward and into operative position by a coiled spring G between a lug *g* on the rear side of the casing and a transverse plate *t* at the front end of a deep notch formed in its rear end and virtually bifurcating said rear end, as shown. The body is also slotted forward of the plate *t*, and within this slot slides the lug



L and the pin P. The tumbler T is also of the shape shown in Fig. 5, and is seated in the casing in the position shown in Figs. 2, 3, and 4. Its body is reduced at one end, as at 5 1, where it slides freely through a hole in the plate *t*, and is provided with an L-shaped foot 2 at the other end, which engages behind the pin P. When in this position, the bolt can be operated by the spindle S turning the hub 10 H in either direction and retracting the bolt against the tension of the spring G, as will be readily understood. The lower face of the tumbler T is provided with a shallow notch 3 just in rear of the foot 2, which engages the 15 pin P, being pressed normally against it by a spring 4, carried by the tumbler and bearing outwardly against the side of the casing. Next this shallow notch 3 is a beveled tooth 5, and in rear of this tooth is another notch 20 6. Still farther in rear is another notch 7, adapted to be engaged by the key in the act of operating the tumbler.

When the tumbler is in the position shown in Figs. 2 and 3, with the pin P seated in the 25 shallow notch 3, the bolt can be operated by the knobs or by the closing of the door, as will be readily understood, and no impediment will be offered by the tumbler; but when the latter is moved by a key to the po- 30 sition shown in Fig. 4 its foot 2 bears against the rear face of the catch, and its deep notch 6 is engaged over the pin P, whereby the catch is prevented from movement rearwardly in the casing, and the bolt is therefore locked. 35 The key being again inserted and turned, the tumbler is lifted, its deep notch disengaged from the pin, and its body moved rearwardly until its shallow notch again engages the pin, when the bolt may be operated as before. 40 The key-hole K may be provided with teeth or devices for preventing the use of all keys or not, as desired, but this forms no part of our invention.

This improved combined lock and latch is 45 formed complete of but seven pieces and a screw for holding them together, and need be no larger in practice than three inches long by a half-inch in diameter; yet it possesses all the attributes and capabilities of a much 50 larger and more complicated and expensive lock without necessarily sacrificing anything of strength or security.

A considerable departure may be made from the construction above described and

the relative location of parts without depart- 55 ing from the spirit of our invention.

We claim as the salient features of our invention—

1. The combination, with the tubular casing C, having the stationary lugs *g* and L, of 60 the bolt B, having a bifurcated rear end spanning both said lugs and guided by them, a plate across the center of the bifurcation between them, an expansive spring seated in said bifurcation between the rear lug and the 65 plate, and means for retracting said bolt against the force of said spring, substantially as and for the purpose set forth.

2. The combination, with the casing C, hav- 70 ing the pin P near one end, the lug *g* near the other, and the lug L between them, of the bolt B, having a bifurcated body spanning and guided between said lugs and pin, a plate between said lugs having a perforation, a 75 spring between said rear lug and the plate, a tumbler having a reduced end passing through said perforation, and locking means, substantially as described, between the tumbler and said pin, as set forth.

3. The combination, with the casing C, hav- 80 ing a pin P, and the spring-actuated bolt B, having the perforated plate *t*, of the tumbler T, having a reduced end 1, sliding through said perforation, a notched body engaging said pin, 85 and a front end adapted to engage the catch on the bolt, substantially as and for the purpose set forth.

4. The combination, with the casing C, hav- 90 ing a pin P, and the spring-actuated bolt having the perforated plate *t*, of the tumbler T, guided at its rear end in said perforation, its other end being L-shaped and embracing said pin, a spring 4 pressing said tumbler into oper- 95 ative position, the face of the tumbler having a shallow notch adjacent said L-shaped end, an incline next thereto, and a deep notch 6 in rear of said incline, the latter being the same distance from the end as the end is from the catch on the bolt, as and for the purpose set forth. 100

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

JAMES M. MOODY.  
SIDNEY B. MOODY.

Witnesses:

JOSEPH W. RAYMOND,  
THOS. W. HARRIMAN.