W. J. CARROLL.

LOCK.

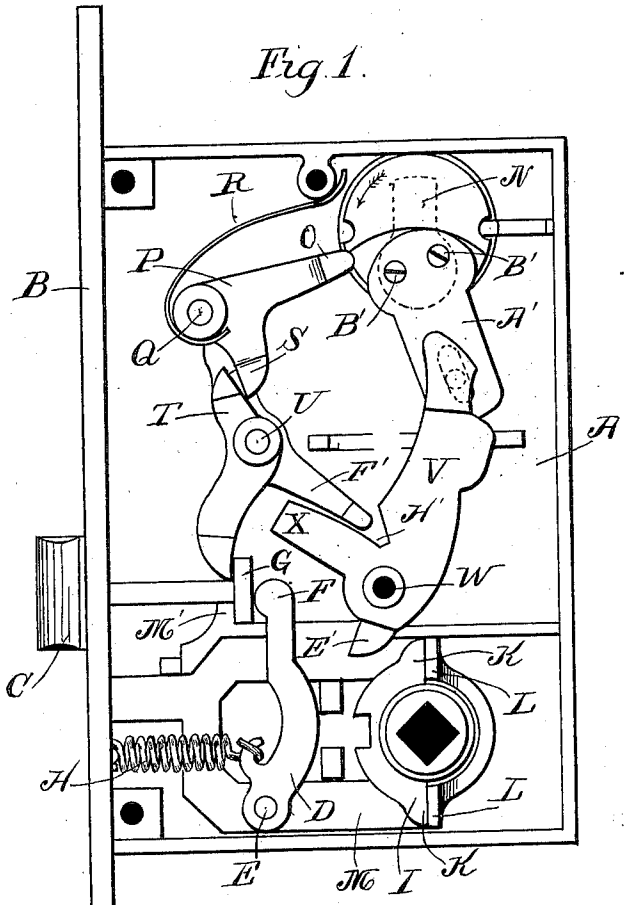
APPLICATION FILED DEC. 7, 1908.

1,032,530.

Patented July 16, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



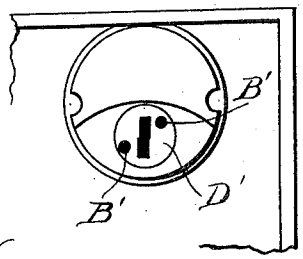


Fig. 6.

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3 SHEETS—SHEET 2.

Fig. 2.

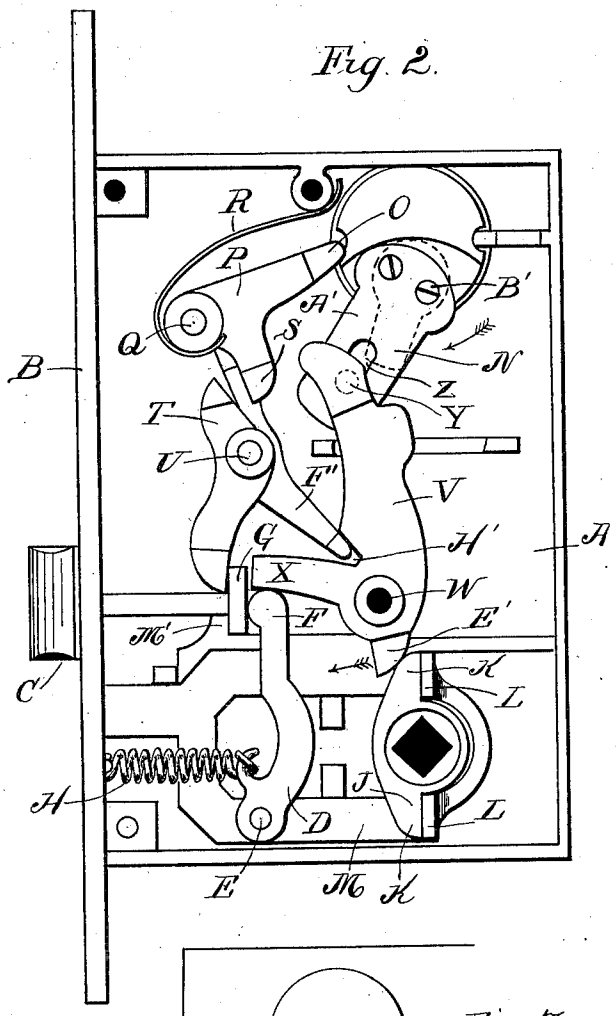
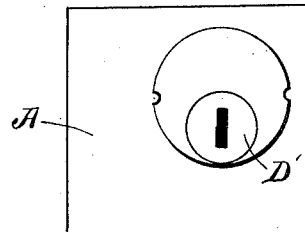


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 3.

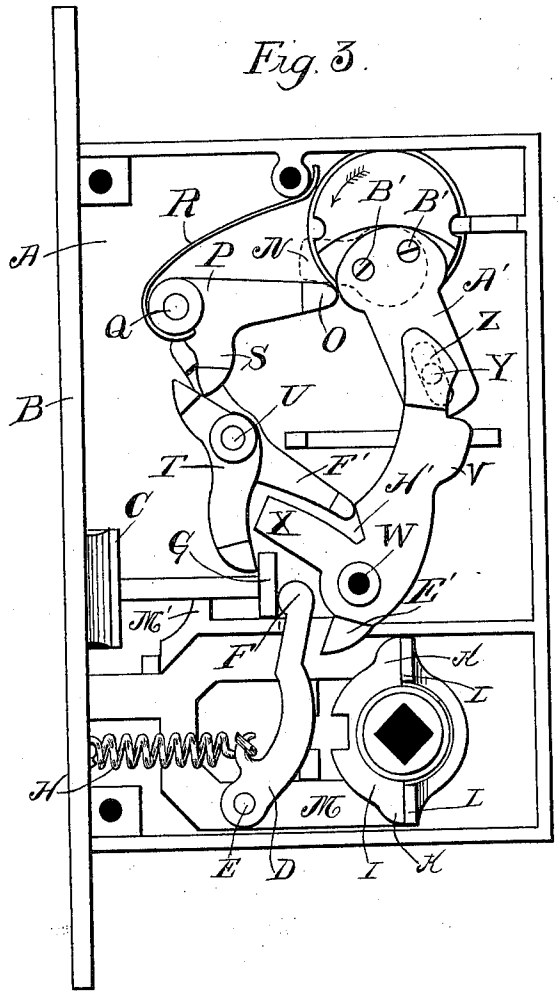


Fig. 4.

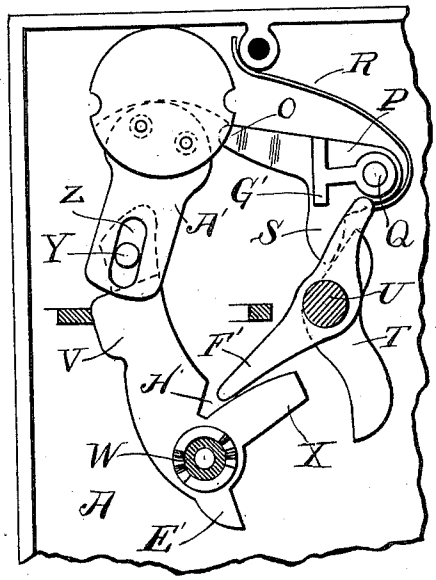
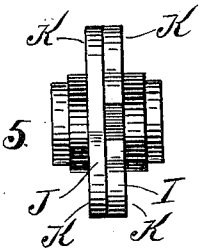


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM J. CARROLL, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

LOCK.

1,032,530. Specification of Letters Patent. Patented July 16, 1912.

Application filed December 7, 1908. Serial No. 466,405.

To all whom it may concern:

Be it known that I, WILLIAM J. CARROLL, of the city and county of New Haven and State of Connecticut, have invented new and useful Improvements in Locks, of which the following is a full, clear, and exact description, when taken in connection with the accompanying drawings, which form a part thereof.

This invention relates to locks, and has for its object the production of a lock which will be effective in its operation and have certain advantages hereinafter pointed out.

One of the objects of the present invention is to provide a lock, the latch bolt of which may be dead locked from within or without at night, or at such other times as may be desired. A key, however, is provided which will not only retract the latch from the outside under normal conditions, but will also retract it when thus dead locked.

To this and other ends, the invention consists of the improvements and combinations of parts set forth and claimed hereinafter.

Referring to the drawings, Figure 1 represents a side elevation of a lock embodying the invention. In this view, the cap plate on the top or outside of the lock has been removed, and the bit of the outside cylinder is indicated in dotted lines. Fig. 2 is a similar view with the parts shown in the position occupied when the latch bolt is dead locked, and one part of the divided hub removed, Fig. 3, a similar view, with the parts shown in another position in which the latch bolt is being retracted by the key from the outside, Fig. 4, a reverse view of the parts as shown in Fig. 1, Fig. 5, a front edge view in detail of the divided hub, Fig. 6, a view of the inside cylinder from the inside of the lock case, and Fig. 7, a view of the inside cylinder from without the lock case.

In all figures, similar letters of reference represent like parts.

Referring to the drawings, the parts designated by the letter A represent the casing of a lock, B its face plate, and C the latch bolt, which is normally held in the protracted position shown in Figs. 1 and 2 by means of the lever D, which is pivoted on the post E on a sliding yoke M, and has its free end F bear on the rear of the T-shaped end G of the latch bolt C. A spring H, secured to the casing, and the lever D holds the parts yieldingly in their protracted position.

I and J represent two parts of a divided hub of well known construction, the wings K of the hub being adapted to engage shoulders L on the sliding yoke M, which has a lug M′ adapted to engage the T-shaped end G of the latch bolt C to retract it.

N indicates in dotted lines the bit of the cylinder on the outside of the lock case (not otherwise shown). This bit N is adapted when turned in the direction of the arrow (Figs. 1 and 3) to engage one arm, such as O, of a bell crank lever P pivoted on a post Q in the casing and held normally in the position shown in Fig. 1 by means of a spring R. The other arm S of the bell crank lever P is adapted to engage one end of a lever T pivoted at U to the casing. The other end of the lever T is adapted to engage the T-shaped end G of the latch bolt C to retract the same.

A dead locking lever V is pivoted at W to the casing, and has an arm X which when the lever is swung into the position shown in Fig. 2 falls behind the T-shaped end G of the latch bolt C and prevents the retraction of the latch bolt. The other arm of the dead locking lever V is provided on its under side with a pin Y adapted to take into a slot Z in a plate A′ secured by means of screws B′ or otherwise to the cylinder D′ on the inside of the lock case. By turning the cylinder D′ the dead locking lever V will be moved by the plate A′ to or from the position shown in Fig. 2 as may be desired.

When the dead locking lever V is in the position shown in Fig. 2, it may be rotated on its pivot to release the latch bolt C by means of that portion J of the divided hub which is operated from the inside because one wing K of the part J is adapted to engage a depending projection E′ on the lever

V (Fig. 2), so that when the part J is rotated in the direction of the arrow (Fig. 2) it will swing the lever V so that its arm X will be moved out of engagement with the rear end of the latch bolt C.

When the bit N of the cylinder lock which is operated from the outside of the door is turned in the direction of the arrow (Fig. 3) so that it will engage the bell crank lever P to retract the latch bolt, the bell crank lever P will rotate an intermediate lever F′ pivoted at U to the casing by means of a depending lug G′ on the under side of the bell crank lever P. The other end of the intermediate lever F′ is adapted to take into a notch H′ on the dead locking lever V, so that when the intermediate lever F′ is swung by the bell crank lever P, it in turn will swing the lever V to move the arm X from engagement with the rear end G of the latch bolt C. On the other hand, when the bit N of the outside cylinder is rotated in the direction of the arrow (Fig. 2) it will engage the upper end of the dead locking lever V so as to rotate it from the position shown in Fig. 1 to that shown in Fig. 2, wherein the arm X is in position to prevent the retraction of the latch bolt. By this construction, the latch bolt may be dead locked from the inside of the lock through the inside cylinder D′. It may be dead locked from the outside of the lock by means of the bit N of the outside cylinder.

The latch bolt when dead locked may be released from the inside either through the inside cylinder D′ or through the part of the hub J operated by the inside knob. The latch bolt when dead locked may also be retracted through the bit of the outside cylinder.

Having now described my invention (which may vary in its details without departing from the spirit thereof), what I claim and desire to secure by Letters Patent, is:—

1. In a latch, the combination with a knob on the inside for retracting the latch bolt; of a latch bolt yieldingly held in its protracted position; means for deadlocking said bolt in such position adapted to be brought in or out of operative relation with said latch bolt; means for actuating said deadlocking means from either side of said lock to or from its operative position; and means for releasing said deadlocking means through said inside knob, substantially as described.

2. In a latch, the combination with a knob on the inside for retracting the latch bolt; of a latch bolt yieldingly held in its protracted position; means for deadlocking said bolt in such position; means for actuating or releasing said deadlocking means at will from the inside of said latch; mechanism actuated by a key from the out-side of said latch for actuating or releasing said deadlocking means; and means for releasing said deadlocking means from said inside knob, substantially as described.

3. In a latch, the combination with a latch bolt; of a deadlocking lever adapted to be swung to and from the path of said latch bolt; a cylinder lock adapted to actuate said lever to either of its positions and adapted to retract said latch bolt from one side of said latch; knob mechanism adapted to retract said latch bolt from either side of said lock; means for releasing said latch bolt from said deadlocking lever by the knob mechanism on the inside of said latch; and mechanism for actuating said deadlocking lever from the inside of said latch separately from said knob mechanism, substantially as described.

4. In a latch, the combination with a latch bolt; of knob mechanism for actuating said latch bolt from either side of said latch; a deadlocking lever adapted to be swung to or from the path of said latch bolt; key mechanism adapted to actuate said deadlocking lever to either of its positions and to retract said latch bolt from the outside of said latch; and means adapted to actuate said lever operated by said knob mechanism from the inside of said latch, substantially as described.

5. In a latch, the combination with a latch bolt; of knob mechanism for actuating said latch bolt from either side of said latch; a deadlocking lever adapted to be swung to and from the path of said latch bolt; key mechanism adapted to actuate said deadlocking lever from the outside of said latch; and means for releasing said deadlocking lever actuated by the rotation of the inside knob, substantially as described.

6. In a latch, the combination with a latch bolt; of a deadlocking lever adapted to be swung to and from the path of said latch bolt, said lever being adapted to rest normally in either one or the other of said positions; and mechanism for actuating said lever from one of said positions to the other from either side of said latch, substantially as described.

7. In a latch, the combination with a latch bolt yieldingly held in its protracted position; of knob mechanism for actuating said latch bolt from either side of said latch; mechanism adapted to deadlock said latch bolt brought into its operative position and released therefrom at will by key mechanism from the outside of said latch; means on the inside of said latch for bringing said deadlocking mechanism into its operative position, and releasing it therefrom at will; and means for releasing said deadlocking mechanism upon the rotation of the knob

mechanism from the inside of said latch, substantially as described.

8. In a latch, the combination with a case, of a latch bolt in said case, means in the case to deadlock said latch bolt, separate means at opposite sides of the case to move said deadlocking means at will into operative and inoperative positions, and knob mechanism at one side of the lock to release said deadlocking means from its operative position; substantially as described.

In witness whereof I have hereunto set my hand on the 2nd day of December, 1908.

WILLIAM J. CARROLL.

Witnesses:
MAY L. O'CONNOR,
WILLIAM A. RICE.