

No. 836,515.

PATENTED NOV. 20, 1906.

J. LONG.
LOCK AND LATCH.

APPLICATION FILED JAN. 29, 1904.

3 SHEETS—SHEET 1.

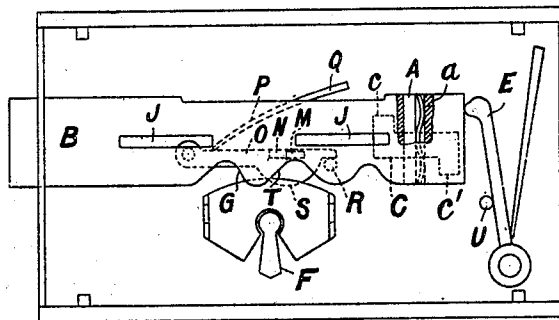


FIG. 1.

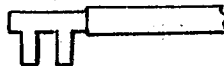


FIG. 9.

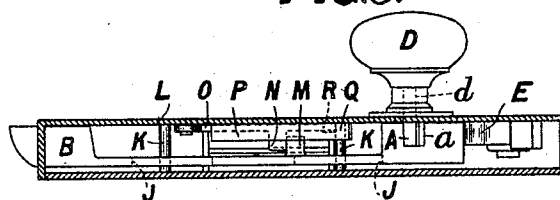


FIG. 1a.

Witnesses

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3 SHEETS—SHEET 2.

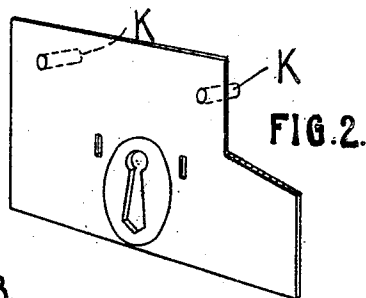


FIG. 3.

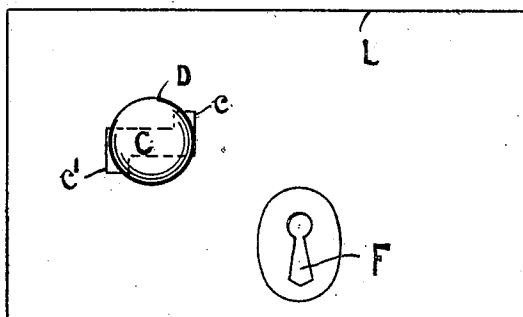
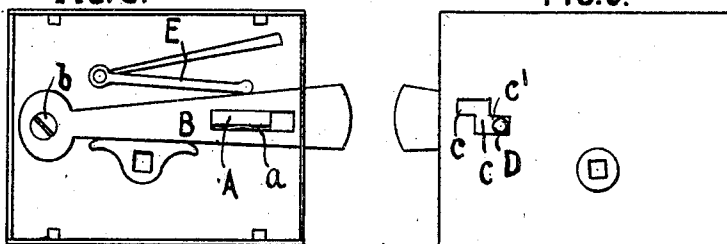


FIG. 5.

FIG. 6.



Witnesses

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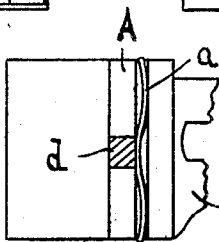


FIG. 4.

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3 SHEETS—SHEET 3.

FIG. 7.

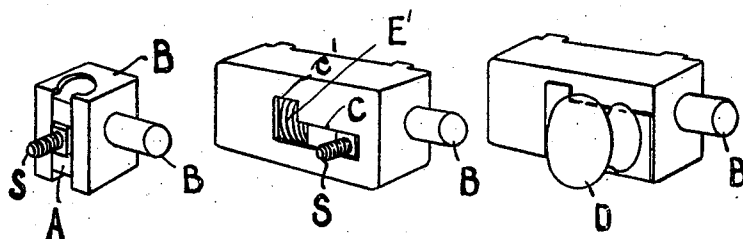
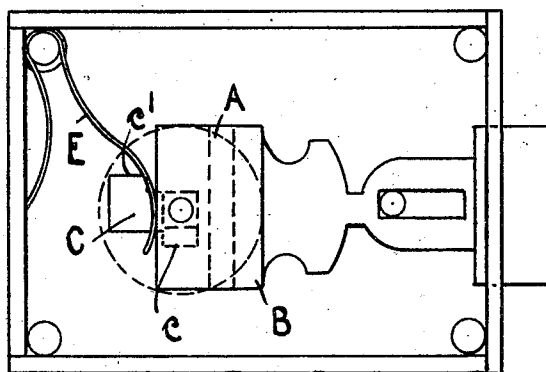


FIG. 8.



Wines

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UNITED STATES PATENT OFFICE.

JOHN LONG, OF BIRKENHEAD, ENGLAND.

LOCK AND LATCH.

No. 836,515.

Specification of Letters Patent.

Patented Nov. 20, 1906.

Application filed January 29, 1904. Serial No. 191,194.

To all whom it may concern:

Be it known that I, JOHN LONG, mechanic, a subject of the King of Great Britain, and a resident of Birkenhead, in the county of Chester, in the Kingdom of England, (whose post-office address is 230 Brookstreet, Birkenhead aforesaid,) have invented certain new and useful Improvements in Locks and Latches, (for which application has been made in Great Britain under No. 2,397 and dated January 31, 1903; also, No. 9,710, dated April 29, 1903,) of which the following is a specification.

This invention relates to improvements in locks and latches for doors and other purposes.

In the accompanying drawings, Figure 1 is a side elevation of a lock and latch with back plate removed. Fig. 1^a is a longitudinal sectional view of the improved lock; Fig. 2, a view of the back plate separated therefrom; Fig. 3, the lock reversed, so as to show the other side; Fig. 4, an enlarged view of the slide shown in Fig. 1; Fig. 5, a side elevation of a form of latch with hinged bolt and having its back plate removed. Fig. 6 is a view of the lock shown at Fig. 5 in reverse position; Fig. 7, views showing the invention applied to a window-catch. Fig. 8 is a detail view of a slightly-different form of latch. Fig. 9 is a detail view of a conventional key used to manipulate the tumblers and bolt of the lock.

The lock is arranged so that the bolt can be locked by the knob or handle that slides or operates the bolt. This is effected, according to Figs. 1 to 4, by providing a locking-slide A in the sliding bolt B. This locking-slide A is capable of sliding transversely in a groove in the bolt B, so that while the bolt B and slide A cannot move longitudinally independently of each other, yet the slide can move transversely independently of the bolt. The knob D, which is fastened to a shank *d*, secured to the slide A, operates the bolt as well as the slide, and there is on the outer plate L of the lock a longitudinal slot C, and transverse slots *c c'* cut in the outer plate at right angles to C, so as to enable the knob D to have a transverse movement for locking as well as a longitudinal movement for sliding the bolt. The lock or latch illustrated in these figures is what is known as a "draw-back" lock—that is to say, the bolt B can be slid back longitudinally by the knob D and is returned to its former position by spring E

when the pull on the knob is released, but no farther, as the spring E comes against a stop U, and, furthermore, there is a stop M on the bolt and a stop N on the tumbler O.

P is a spring secured at Q, whose pressure keeps the tumbler down against the stop R. Consequently in the position shown the stop N on the tumbler O prevents the bolt being thrown beyond the position for use as a latch. The bolt can, however, be shot a farther step forward by inserting a key in the keyhole F. The key when turned comes against the abutment S on the tumbler O, and so raises the tumbler-stop N clear of the stop M on the bolt, also comes against the part T on the bolt and shoots it the remaining portion of its movement in the ordinary manner of locks.

a is a spring fastened to the slide A (or it might be to a wall of the slot) and adapted to yieldingly retain the slide A so that it will be held in whatever position it is moved into. The bolt is guided longitudinally by stationary projections K on the back plate engaging slots J in the bolt B.

It will be seen that by this invention the locking-slide at the end of the bolt is capable of being slidably moved at right angles to the bolt and the knob-shank thereon being moved into engagement with one or other of the slots *c* or *c'* when the bolt is slid back by the knob or when shot forward by the key, or it can be released from the same. Therefore if the bolt is wholly withdrawn or wholly shot and this slide A be moved it will engage the slots *c* or *c'* and lock the bolt immovable, while if slid back again it will release the bolt.

In Figs. 5 and 6, in which B is a bolt pivoted at *b*, so that it can rise and fall to engage an ordinary catch-plate, (not shown,) A is the locking-slide in the pivoted latch B and adapted to slide in a slot in said latch. The latch B and slide A cannot rise and fall independently of each other; but the slide A can be moved longitudinally and independently of the latch B. The knob D, which is secured to the slide A, operates the latch B as well as the slide A, and there is in the outer plate L of the lock a longitudinal slot C, and transverse slots *c c'* cut in the outer plate at right angles to C, so as to enable the knob D to have a longitudinal movement for locking as well as an up-and-down movement for lifting and lowering the latch. Thus if the latch be wholly raised or wholly lowered, it can be locked immovable in either position. E is a

spring for keeping the bolt B normally in engagement with the usual catch-plate. The slide A and the groove in the bolt in which it slides can be made of any suitable shape.

- 5 The same principle can be applied to window-catches, as shown in Fig. 7, in which A is the slide; S, the stud on which the knob D is secured; B, the bolt; E', the spring; C, the longitudinal slot, and c' transverse slot, which in this case is only shown at one end, though there could be one at the other, if desired.

In Fig. 8 a night-latch is shown in which there is no provision made for shooting the bolt forward another step by turning the key, and consequently the bolt is not shot out of reach of the spring E or any stud to limit the movement of said spring. In this case, therefore, the use of a spring *a* is not required, as the spring E presses the slide A against the bolt B and produces frictional contact between the parts, whereby the slide A is held yieldably in position against and in contact with the bolt B. It is obvious that the slide A need not necessarily be operated by the handle D, which moves the bolt B, as it can, if preferred, be worked by means of a separate stud or finger attached to the slide, in which case, of course, the slot C and slots *c c'* are placed in such a position as to correspond thereto.

I declare that what I claim is—

1. A lock comprising a casing provided with a slot formed with a right-angular offset portion, a bolt mounted in said casing and provided with a slot, a block carried by and movable within the slot of said bolt, a spring carried by the block and bearing upon the wall of the slot, and arranged to prevent acci-

dental movement and displacement of said block, and a locking-shank carried by said block and extending without the lock through the slot in the casing. 40

2. A lock comprising a casing provided with a slot with right-angular offset portions at opposite ends, a bolt mounted within said casing, a spring arranged to move the bolt, a stud arranged to engage and stop the spring before the bolt has reached the limit of its movement, means to limit the movement of the bolt under the tension of the spring and adapted to be released by a key to permit the bolt to be moved a farther distance, and means carried by the bolt and engaged within the slot to lock the bolt at either limit of its movement. 50

3. A lock comprising a casing having a slot with right-angular offset portions at opposite ends, a bolt mounted in said casing, a spring arranged to move the bolt, a stud arranged to engage and stop the spring before the bolt has reached the limit of its movement, a tumbler mounted in the casing, means carried by the tumbler to engage the bolt and limit its movement under the action of the spring and adapted to be released by a key to permit the bolt to be moved a farther distance, and means carried by the bolt, and within the slot for locking the bolt at either extreme of its movement. 55

In witness whereof I have hereunto signed my name, this 20th day of January, 1904, in the presence of two subscribing witnesses. 70

JOHN LONG.

Witnesses:

G. C. DYMOND,
JOHN McLACHLAN.