N. Petre.

Lock.

No. 95,507. Patented Oct. 5, 1869.

Fig. 1.

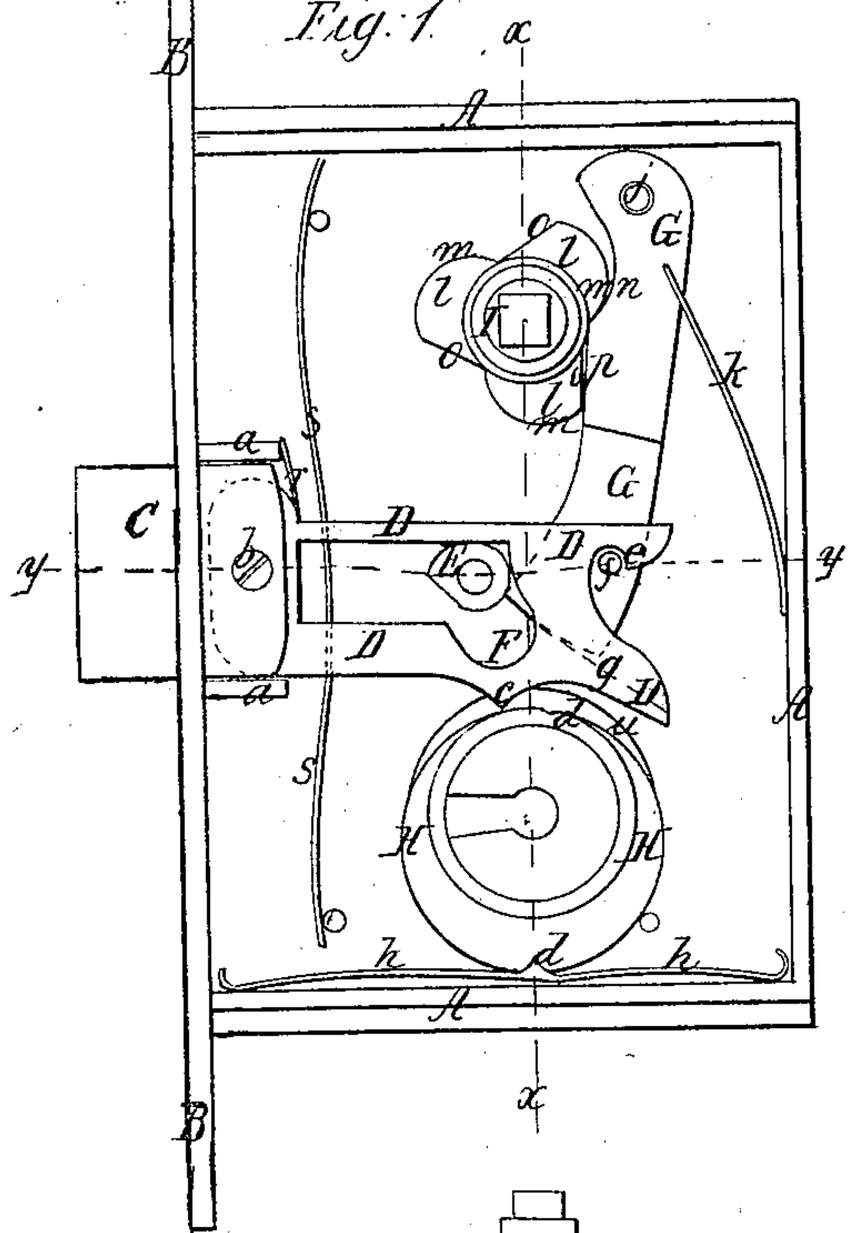


Fig. 2.

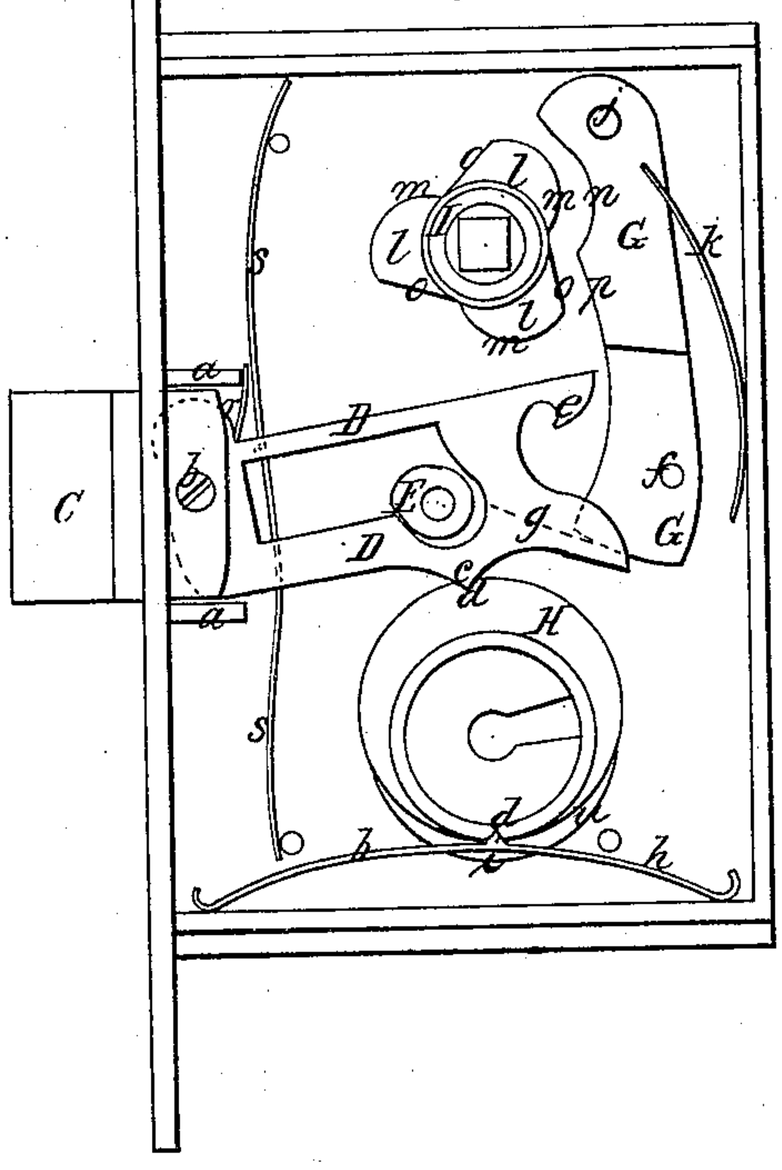


Fig. 3.

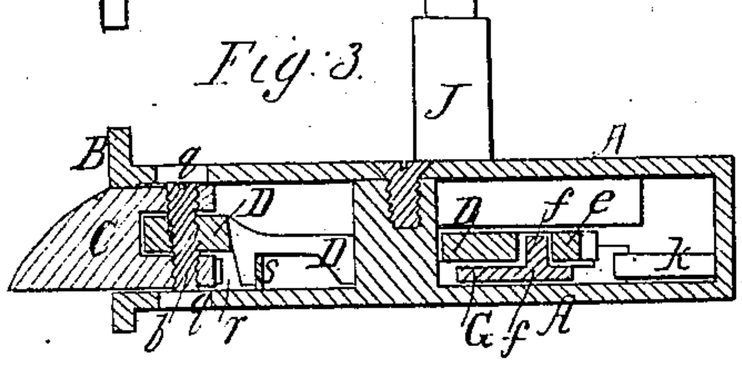


Fig. 4.

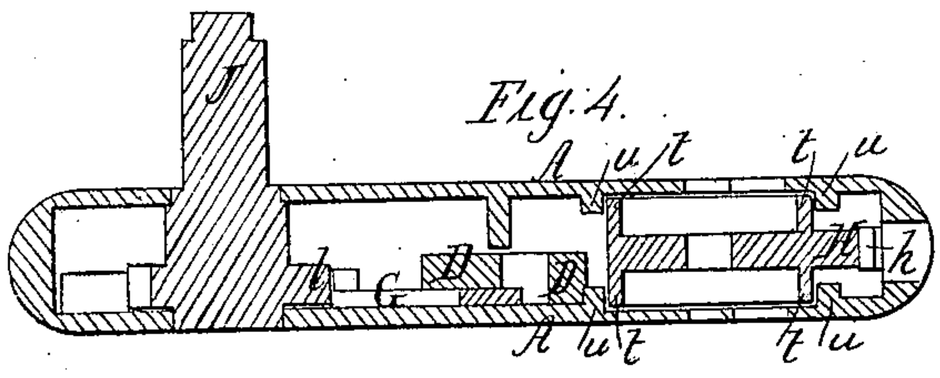


Fig. 5.

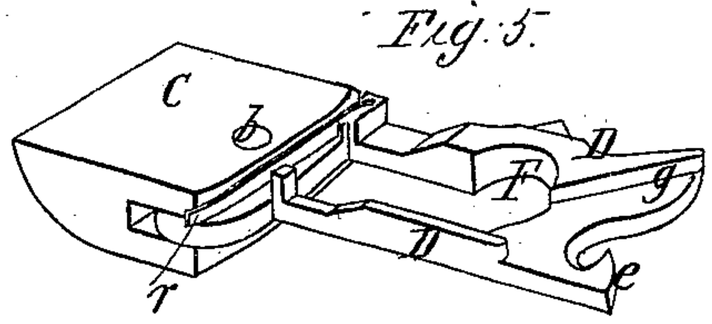
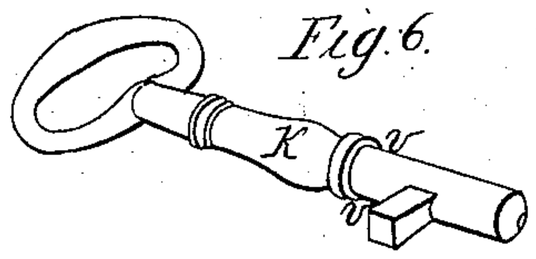


Fig. 6.



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United States Patent Office.

N. PETRÉ, OF NEW YORK, N. Y.

Letters Patent No. 95,507, *dated October* 5, 1869.

IMPROVEMENT IN COMBINED LATCH AND LOCK.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, N. PETRÉ, of the city, county, and State of New York, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a plan of the interior of the lock, as it appears when the bolt is connected to and can be worked by the door-knob or its co-operative parts.

Figure 2 represents a similar plan, as it appears when the bolt is disconnected from the knob or its co-operative parts, and cannot be moved thereby.

Figure 3 represents a section through the lock, at the red line *y y* of fig. 1.

Figure 4 represents a section through the lock, taken at the red line *x x* of fig. 1.

Figure 5 represents a perspective view of the bolt and its tail-piece removed from the lock, and turned over, so as to show its under part.

Figure 6 represents the key of the lock, in perspective.

Similar letters of reference, where they occur in the separate figures, denote like parts of the lock in all of the drawings.

This invention relates to that class of locks which I have denominated "latch-locks," or locks wherein, by means of a key and hub-eccentric, a bolt is so operated as to be put into connection with the ordinary door-knob, or thrown out of connection with said knob, as to make it a lock or a latch, as may be desired, the same bolt acting for either.

And my invention consists, first, in so combining the bolt and knob-levers as that the raising of the bolt-lever by the eccentric or its equivalent, actuated from the exterior by a key, shall move the knob-lever out of the way of the cam or tappet-arms on the hub through which the shank of the knob passes, and a reversed movement of said bolt-lever allow it to come into action with said tappets again.

And my invention further consists in the construction of the stop against which the bolt-lever is thrown when moved by the eccentric, and the opening in the said lever, so that as said lever is moved up against said stop, it will project the bolt further out of the lock.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The lock herein represented is a mortise-lock, but the same devices may be applied in whole or in part to other locks, and I do not, therefore, restrict my invention to mortise-locks.

The lock-case A and the face-plate B may be made in any of the usual forms; and projecting from the interior of the lock, through said face-plate, is the bolt *c*, which is a bevelled bolt, so that it can act as a latch when desired to so use it.

This bolt, which in itself is quite short, moves between guides *a a*, but there is pivoted to said bolt, at *b*, a bolt-lever, D, which extends far enough into the lock-case to act and be acted upon, as will be explained.

The central portion of the bolt-lever D is cut away, so that, as shown in fig. 1, it may move on, and be guided by the stop E, which is secured to the lock-case, and a cam-slot, F, is formed in said cut-away or open part, so that as the bolt-lever is raised up, as shown in fig. 2, and the cam-slot comes against the slot E, the bolt will be projected further out of the lock-case than it is in its connected condition or position with the knob-lever G, as seen in fig. 1.

On the under side of the bolt-lever there is a projection, *c*, that takes into the notch *d* of the eccentric H, when said notches come opposite to said projection; but neither the projection or depressions, nor indeed the eccentric, are absolutely necessary, for any other means of raising up and letting down said bolt-lever by means of the key (such as tumblers, wedges, or levers,) will accomplish the same general purpose as the eccentric does, and I, therefore, mention it as the instrument for moving the lock-lever, but do not limit my invention to its use especially.

The bolt-lever has, upon its rear portion, a hook, *e*, which takes over a pin, *f*, in the knob-lever G, when the two levers are allowed to come together, and which unites them for joint action until again separated.

And below said hook, and on the under side of the bolt-lever, as better seen at *g*, in its turned-over position, in fig. 5, there is a recess and plane, which takes in the lower end of the knob-lever G, and operates it, as will be hereafter explained.

Underneath the eccentric H there is a plate-spring, *h*, which has a projection, *i*, upon it, which takes into the notches *d* in said eccentric, when they come opposite to it, and this spring may thus hold the eccentric in either of its positions by frictional pressure, which is easily overcome by the key when the eccentric is to be turned.

The knob-lever G, as I term it, is pivoted to the case at *j*, and a spring, *k*, behind it, tends constantly to press said lever toward the bolt-lever D.

The hub I, through which the shank containing the knob or knobs J passes, has upon it three arms or tappets *l*. A portion of the perimeter of each of these tapets is rounding, as at *m*, so as to work against or in the rounded depression *n*, in the knob-

lever G; and another portion of the tappets may be straight, as at *o*, to work against a nearly straight portion, *p*, of said lever.

By this construction of tappets and lever, the bolt may be operated equally well, and as instantly, by turning the knob one way or the other, to the right or to the left, thus making, together with the reversibility of the bolt, a lock that can be used on a right or on a left-hand door equally well.

The bolt-lever D is pivoted to the bolt *c* at the point *b*, the pivot being in the form of a screw, and openings *q q* are made in the sides of the lock-case, opposite to said screw, so that it may be taken out, the bolt turned over, and the screw or pivot replaced, without opening up the lock to reverse the bolt.

The bolt *c* is kept in a position for smoothly moving between its guides *a a*, by a spring, *r*, while the bolt-lever D can be moved out of the plane of the movement of the bolt, and both bolt and lever are moved out of the case, to an extent, by the spring *s*.

The lower portion of the knob-lever G is made thin and wedge-formed, so as to freely move under and into the recess *g* of the bolt-lever, when the two levers are allowed to connect with each other.

When the bolt-lever D is moved up by the eccentric, or other means employed therefor, its ledge or plane *g*, moving against the rounded and lower end of the knob-lever G, forces back said knob-lever, throwing it out of connection with the bolt-lever, as shown in fig. 2, and when the bolt-lever is let down, the spring *k*, reacting, moves the knob-lever toward the bolt-lever, and the hook *e* and pin *f* connect, and the two levers then move together, as seen in fig. 1.

The hubs *t t*, of the eccentric, or what might probably be better termed the barrels of the eccentric, are controlled by circular rims *u u*, forming chambers or seats, in which they can freely and truly turn.

The key *k* need not be drilled, nor need there be a key-pin.

The shoulder *v*, on the key coming agaist the lock-case, defines the proper working-position of the key in the eccentric.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the bolt and knob-levers, with a raising-mechanism, operated by a key from the exterior of the lock, so that the raising of the bolt-lever shall disconnect it from the knob-lever, and move the latter out of the reach of the tappets on the hub that the knob-shank passes through, substantially as and for the purpose described.

2. The combination of the stop E with the open or slotted bolt-lever, and the cam-opening F leading therefrom, so that the raising up of the bolt-lever shall project the bolt further from the lock-case than it is when simply acting as a latch, substantially as described.

N. PETRÉ.

Witnesses:

WILLIAM S. LIVINGSTON, Jr.,

JOHN WALKER.