N. Petre.

Lock.

No. 95,509. Patented Oct. 5, 1869.

Fig. 1.

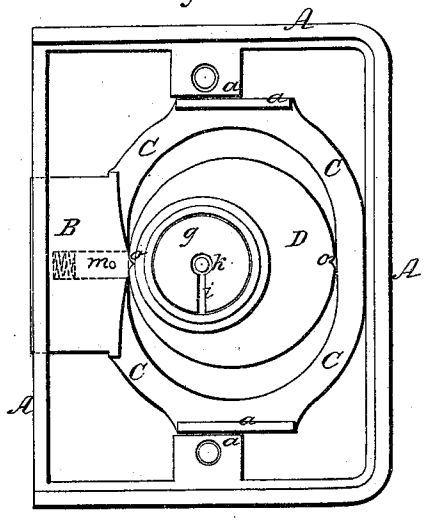


Fig. 3.

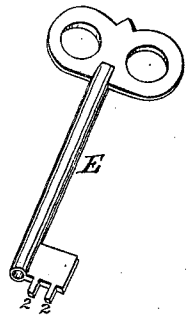


Fig. 2.

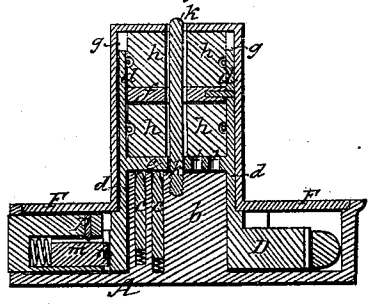


Fig. 4.

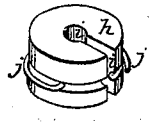
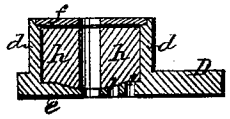


Fig. 5.

Fig. 6.



Witnesses.

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N. PETRÉ, OF NEW YORK, N. Y.

Letters Patent No. 95,509, *dated October* 5, 1869.

IMPROVEMENT IN LOCKS.

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.

Figure 2 represents a section through the same.

Figure 3 represents the key of the lock.

Figures 4 and 5 are detached parts of the lock.

Figure 6 represents a modification of one of the parts of the lock, which will be herein explained.

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

The leading characteristic of this lock consists in the guards and checks by which any other but the proper key can be inserted, or operate the bolt, and the turning, closing, or changing of these guards, checks, or key-openings or passages, on withdrawing the key from the lock, so that the bolt cannot be reached from the exterior by pick to remove it.

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

The lock-case A contains a bolt, B, on or with which is cast a yoke, C, that may move with the bolt, and be guided in its movements by guides *a a* in the case.

Within the yoke C a cam, D, is placed, by which, with the key E properly made for releasing and moving it, the bolt can be moved in or out of the lock-case.

On the case A there is first a hub, or solid portion, *b*, which contains two spring-locking pins, *c c*, and over this part *b* the barrel or hollow portion *d*, of the eccentric or cam D, is placed, said barrel or hollow portion extending beyond the top of the hub *b*, and having one permanent division or partition, *e*, in it, and one removable one, *f*.

The cover F, of the lock, has an enclosed chamber, *g*, formed or cast upon it, which, when put upon the case, slips over and entirely covers and conceals the barrel *d* of the eccentric.

The lower partition, *e*, has two holes, 1 1, through it, into which the pins 2 2 of the key E must be made to fit, so as to press down the spring-pins *c c*, which lock the eccentric to the hub or solid portion *b* of the case, and without the removal of which the eccentric cannot be turned by the right key, or the bolt moved.

On this partition *e* there is supported a tumbler or hub, *h*, which is bored and slotted, as at *i*, so that the key may pass through it when in proper position or line, and a spring, *j*, around it, that by its pressure or friction prevents said hub from turning except when turned by the key.

Above this tumbler or hub *h*, which is of considerable thickness and solidity, there is the other partition, *f*, which is removable, so that the hub *h* may be placed in its proper position, when it may be secured by a pin or rivet, and permanently held in the barrel.

On top of this partition *f* is placed a second hub or tumbler, *h*, in all respects like that below said partition *f*, and distinctly shown in fig. 4, and over all is placed the cap or cover *g*, on the lock-plate. Of course there is a key-opening through the partition *f*.

The key-pin *k* is screwed into the hub *b*, or otherwise fastened to it, and is quite long, extending up through the partitions *e f*, the hubs *h h*, and to the exterior of the covering-cylinder *g*, through the upper end of which there is also a key-opening.

In the bolt B there is arranged a small spring-bolt, *m*, which has a knife-edge projection, *n*, on it, that takes into the notches *o o* in the eccentric, when they come around opposite to it, and holds the eccentric from turning any further, except when the key is used.

This spring-bolt is prevented from turning in its seat whilst it moves in and out, by a pin, *p*, the point of which extends into a longitudinal groove, *q*, in said bolt, as distinctly seen in fig. 5.

The partition *e*, as shown in fig. 2, is flat and horizontal, but as a further protection against the use of any other but the right key, I propose to make it concave, as seen in fig. 6, so that the key must be correspondingly made in order to reach the spring-pins *c c*, and press them a certain distance down or inward by the key-pins 2 2, and to a fixed distance, and no further, else the key-pins in turn become locks by passing into the hub, and thus prevent itself from being turned, or turning the eccentric, or working the bolt.

It will be perceived that there are several barriers or securities in this lock against any but the right key, and that very nicely defined in its parts and dimensions, as follows:

The key-pin *k* is very long, and the bore in the key-pod must be correspondingly long to allow the key to reach its point of connection with the eccentric D to turn it, and through it to move the bolt B. The pins 2 2 in the key must be accurately set, to meet and operate those *c c* in the hub *b*, as accurately located, to unlock the movable from the immovable part of the lock.

The curvature of the bottom of the chamber (as seen in fig. 6) requires a similar curvature in the key, else the latter would not with its pins accurately meet and definitely move the pins *c c*.

In withdrawing the key, after locking the lock, the lower hub *h* must be turned until its key-opening matches the key-opening in the partition *f*, so as to pass through or out of said partition, which is station-

ary. Then the upper hub *h* must be turned until its key-opening matches that in the top of the case or cover *g*, which is out of the line of that in *f*, and when the key is withdrawn, a direct avenue from the outside to the interior is cut off or broken by several pieces of solid metal, which prevents powder from being introduced into the interior to blow open the lock, and also prevents a pick or "feeler" from being introduced until all these key-openings are in line.

The key is inserted into the lock by pushing it inward, and continuing to turn it as it is so pushed in, and is withdrawn by a reverse movement, and turning it at the same time.

I have mentioned the partition *e* as being horizontal or concave, so that the key would have to be made of a similar form, to reach the spring-pins that project through it. It might be proper to state it may be convex, or corrugated, either of which extending its surface, would make further protection against a false key, and the key-surface would have to be correspondingly extended to reach the pins and turn the eccentric.

Having thus fully described my invention,

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

The combination of the yoked bolt and eccentric, with its barrel, containing the movable and immovable parts *h h* and *f e*, through which the key must pass to press down the locking-pins, and turn said eccentric, when arranged and operating substantially as described.

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