

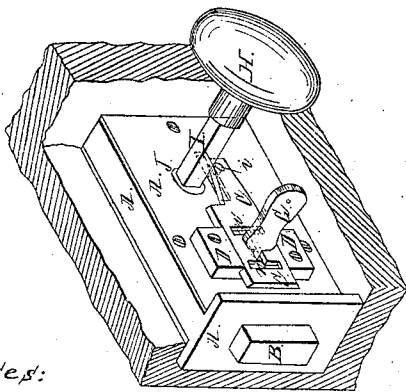
R. S. Foster,

Lock.

N^o 39,005.

Patented June 23, 1863.

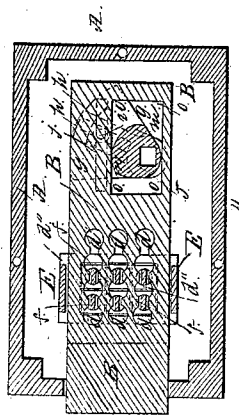
Fig. 1.



Witnesses:

Jewellitter
P. C. Mearns

Fig. 2.



Inventor:

Randolph S. Foster
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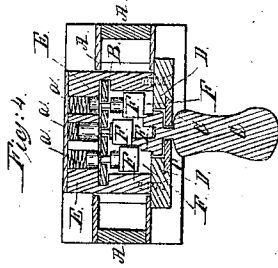


Fig. 3.

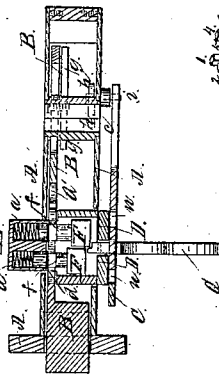


Fig. 6.

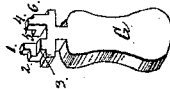


Fig. 5.



UNITED STATES PATENT OFFICE.

RANDOLPH S. FOSTER, OF SING SING, NEW YORK, ASSIGNOR TO HIMSELF,
CORNELIUS WALSH, AND JOHN C. NOBLES.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 39,005, dated June 23, 1863.

To all whom it may concern:

Be it known that I, RANDOLPH S. FOSTER, of Sing Sing, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Store or Safe 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 in perspective a broken section of a store, safe, or other door with the lock attached thereto as a mortise lock. Fig. 2 represents a longitudinal vertical section taken centrally through the bolt of the lock. Fig. 2 represents a transverse horizontal section through the lock, and Fig. 4 a cross-section of the same. Fig. 5 represents the pins that hold or release the bolt. Fig. 6 represents in perspective the key of the lock.

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

The nature of this invention consists, first, in the combination of a sliding escutcheon and bolt, both operated from the shank of the knob or outside lever.

It further consists in so combining the sliding escutcheon and bolt with the shank of the knob or its equivalent as that the movement of the escutcheon shall begin before the bolt commences to move, both in locking and in unlocking, for the purpose of preventing the use of a pick or picks in opening the lock; and it further consists in the combination of the pins, bolt, and box for retaining the pins and supporting the bolt, so that the bolt shall work through the box and the pins work through the bolt, and thus mutually strengthen and support each other.

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.

A represents the lock-case, which contains the bolt B and other operative parts of the lock, as will be hereinafter described. On one side of the lock-case is the sliding escutcheon C, which is dovetailed so as to move freely on a plate, D, (correspondingly dovetailed,) without, however, being removed from said plate. On the opposite side of the case there is a box, E, into which the pins F may be pressed by

the key G. Each pin as it is pressed in compresses its spring *a* behind it, as seen in the drawings. The form of the pins F is distinctly seen in Fig. 5, the part *b* being square, the parts *c* round, and the necks *e* being flat. These pins work through the bolt B, the portions *c* or *e*, one or the other, being constantly in connection with the bolt, as the case may be. The bolt is furnished with holes *d d'*, large enough for the bodies *c* of the pins F to pass freely into, and these holes *d d'* are connected by slots *f*, (or by holes and slots *d' f f'*, for a purpose to be hereinafter described,) that will pass the necks *e* of said pins. It is obvious that until the pins are so arranged as that their necks *e* are in one and the same plane, which can only be done by the key, or, rather, the bits of the key, the bolt cannot be moved; but when they are so arranged, as seen in Fig. 4, the bolt is readily moved by turning the knob H, whose shank I passes through a hub, J, arranged to turn in the lock.

On the hub J there are two arms or cams, *g h*, (seen in dotted lines in Fig. 2,) the one, *h*, moving the escutcheon C by means of a pin, *i*, and the other one, *g*, moving the bolt B by means of a pin, *j*. The respective movements of the escutcheon and bolt, although both are moved by the shank I of the knob H, are peculiar. The pin *i* works in a radial slot in its cam or arm *h*, while the pin *j* works in a concentric slot in its arm or cam *g*. The effect of this arrangement is as follows, viz: at the first movement of the knob or its shank the arm *h* acts and moves the escutcheon; but the arm or cam *g* traverses the length of its concentric slot before it begins to move the bolt B, but as soon as the bolt begins to move, then both it and the escutcheon move together to the end of the throw of the bolt. The object of the escutcheon thus leading the bolt in its movement is that the key may be caught and retained while it is holding the pins in proper position to admit of the movement of the bolt, and to prevent the use of a pick or picks for effecting this object in an attempt to feel and hold the pins to force the lock without the key.

The object of the extra holes *d''* in the bolt is that an extra escutcheon or a different one may be applied or substituted for the one shown, the key-slots *n* in such escutcheon being spaced to suit the spacing of the holes *d''*.

The key G has permanent bits 1 2 3 4 5 6, corresponding in number to the pins F in the lock. The manner in which these bits act upon the pins is shown in Fig. 4, in which figure, as well as in Fig. 1, the manner in which the sliding escutcheon straddles the neck of the key to hold it in place is also shown. A cam, *m*, may be placed on the hub J, so as to be in contact with the mortise *o* in the bolt, to prevent the rear end of the bolt from tipping or binding in the lock by the action of the arms *g h*, or either of them, on their pins when moving the bolt.

The box E, in which the pins are placed, may be made of a solid piece of metal, the cells for holding the pins being bored in it.

Having thus fully described the nature and object of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the sliding escutcheon and the bolt with the shank I, constructed and operating substantially in the manner and for the purpose set forth.

2. Connecting the escutcheon and the bolt to the shank by means of the slotted arms *g h*, so that the escutcheon shall lead the bolt at the first movement of the shank, substantially as and for the purpose described.

3. The combination of the box, pins, and bolt, operating together and supporting each other, substantially in the manner herein described.

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Witnesses:

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