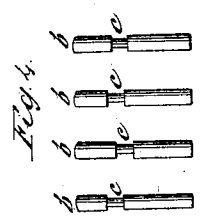
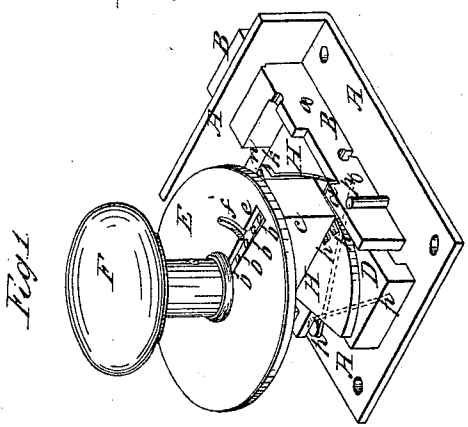
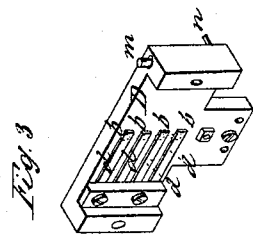
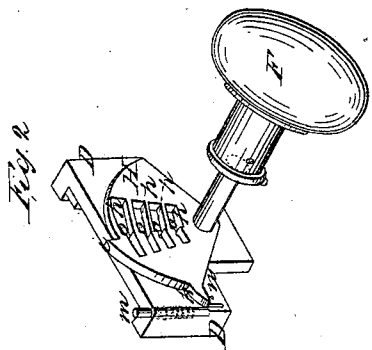


R. S. Foster,
Lock.

N^o 39,003.

Patented June 23, 1863.



Witnesses
Willy L. Callender
John Cleathys

Inventor
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By atty A. B. Stroughton

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. 39,003, dated July 2, 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 Door and other Locks; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a perspective view of the lock. Fig. 2 represents in perspective a detached part of the lock not distinctly seen in Fig. 1. Fig. 3 represents in perspective another detached part of the lock not distinctly shown in Figs. 1 and 2. Fig. 4 represents the pins upon which the key-pins act to arrange them for the turning of the cam that works the bolt. Fig. 5 represents in perspective the key of the lock.

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

My invention consists, first, in the combination of the escutcheon and cam on the shank of the knob or lever with an interposed series of pins, with collars or nuts upon them, which pins are to be arranged by the key before the escutcheon and cam can be turned to move the bolt; and, secondly, my invention consists in a spring-bolt on the inside of the lock, and operated in the inside thereof for the purpose of making the lock serve the purpose of a "dead-latch," or night lock or latch, as will be explained in connection with the drawings.

A represents a lock-case, and B the bolt therein, said bolt having a shoulder, *a*, upon it for a cam projection to catch against to move it back, it being shot forward when free from the cam projection by a spring, as will be hereinafter described. C is a box containing a series of pins, *b*, Fig. 4, that have collars or necks *c* upon them, and which must all be properly arranged by the key before the cam that throws back the bolt can be moved. D is a part of the lock-frame, and has upon it a series of springs, *d*, against or on which the pins *b* rest, and are pressed by the key-pins when the key is inserted. E is an escutcheon on the shank of the knob or lever F, and turns

with said shank or knob. This escutcheon has a radial slot, *e*, cut through it to admit of the insertion of the key G, Fig. 5, and also a concentric slot, *f*, that straddles the neck *g* of the key, so as to allow the escutcheon to turn. The shank of the knob or lever F passes through the hub *e*; and has upon it, beyond the hub, a cam, H, which turns with the knob or shank. This cam has four concentric slots, *h*, cut through it that will just take and pass the necks *c* of the pins *b* in a portion of their length, the other portions of the slots being large enough to move past the body of its respective pin, as seen in Fig. 2, and upon the perimeter of the cam H there are two projections, *i* *k*, the one *i* taking against the shoulder *a* in the bolt B to force it back, and the other, *k*, taking against a projection, *n*, on a spring-bolt, *m*, to draw it down, said spring-bolt, when released from the cam projection, shooting into a hole, *o*, in the main bolt B, to prevent the bolt from being thrown forward by its spring *p* (in dotted lines in Fig. 1,) until the cam is turned far enough to draw down said bolt *m*.

Heretofore the bolt of a dead or night latch has been locked or released by some contrivance on the outside of the latch.

I arrange the device for releasing the bolt on the inside of the lock, and so that it cannot be got at or operated without the key of the lock.

I have shown a knob as the means of working the bolt and other parts of the lock. A lever bent at right angles to the shank would in many cases be better, as it would allow more room for the easy insertion of the key, and the shank and knob or lever, instead of being on one side only, may extend through the lock or door and be used from either side of it; or the lock may be a mortise lock, and access had to it from both sides of the door.

To unlock the door, the key is first entered in the slot *e* of the escutcheon, and its pins pressed in against the pins *b* until the necks *c* of said pins *b* are arranged so that the narrow portions of the slots *h* in the cam H will pass them. The knob F is then turned, bringing the concentric slot *f* of the escutcheon over the neck *g* of the key, which holds the key in the lock. By continuing to turn the knob the projection *i* on the cam takes against the

shoulder *a* on the main bolt, and moves said bolt against the action of the spring *p*, which becomes thereby compressed. By turning the knob back in the contrary direction the recoil of the spring *p* pushes out the main bolt, after the spring-bolt has been drawn out of it by the projection *k* of the cam; but if it be desirable to allow the main bolt to remain in the lock, then the cam need not be turned back far enough to draw out the spring-bolt. When, in turning back the cam and escutcheon, the radial slot *e* comes opposite to the key, the springs *d*, bearing against their pins *b*, and the pins *b*, pressing against the key-pins, will throw out the key, and the pins *b* thus moving their bodies into the wide portions of the slots *h* the parts are all locked until the key is again inserted to arrange the pins *b*. Although the ends of the pins may easily be got at, yet without the key they cannot be properly arranged and held, for they must be held when arranged, and then the escutcheon as well as the cam must be able to move past the

thing that holds them arranged. It would therefore, without the key, be next to impossible to open the lock.

Having thus fully described the construction and operation of my lock, what I claim is—

1. The combination of the escutcheon and cam worked by shank of the knob or lever with an interposed series of pins having necks thereon, and which must be properly arranged by a key before either the escutcheon or cam can be turned to operate the main bolt of the lock, substantially as described.

2. In combination with a cam or its equivalent, to operate a lock-bolt, a spring-bolt, *m*, arranged inside of and operated inside of the lock for locking back the main bolt, substantially in the manner and for the purpose described.

R. S. FOSTER.

Witnesses:

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