

W. I. Minger,

Door Lock.

No. 113,910.

Patented Apr. 18. 1871.

Fig. 1.

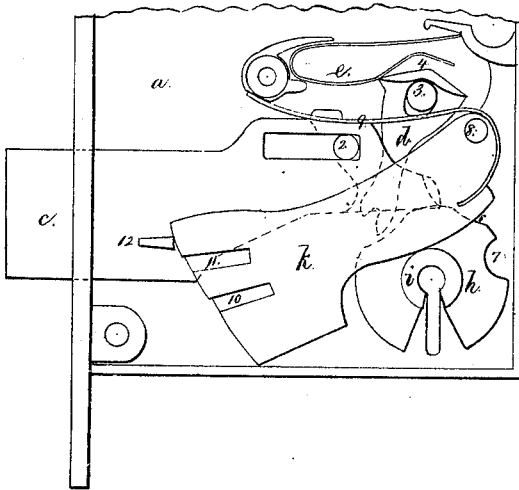


Fig. 2.

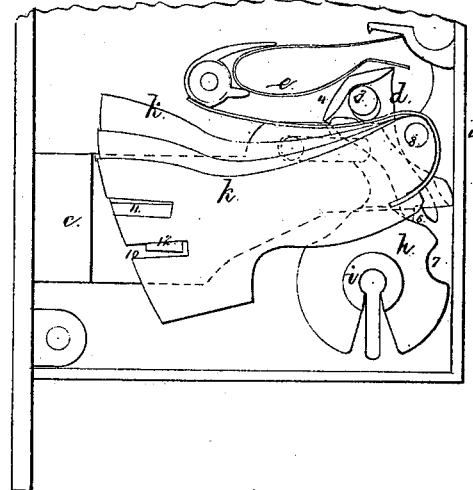


Fig. 3.

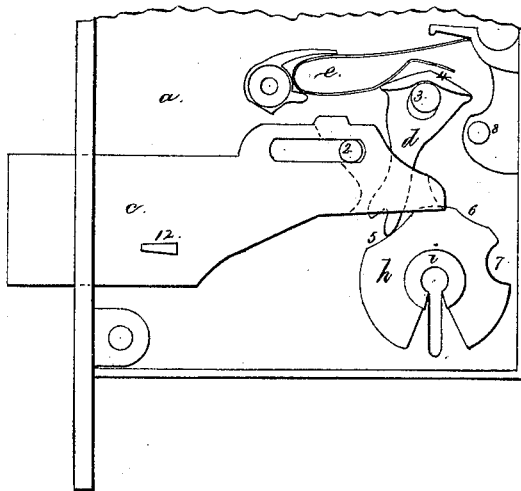


Fig. 4.

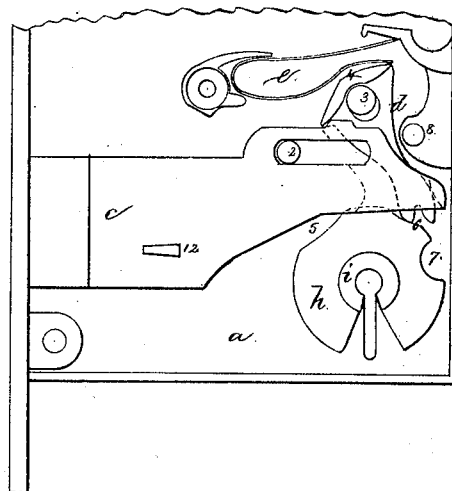


Fig. 5.

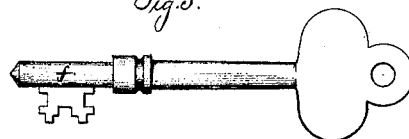
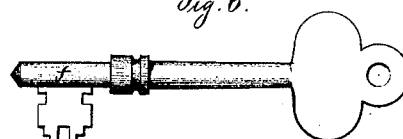


Fig. 6.



Witness.

*Chas. Smith
Geo. S. Mendenhall*

*Wallace S. Minger
Lemuel W. Penell
att'y.*

UNITED STATES PATENT OFFICE.

WALLACE T. MUNGER, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO
P. & F. CORBIN, OF SAME PLACE.

IMPROVEMENT IN DOOR-LOCKS.

Specification forming part of Letters Patent No. 113,910, dated April 18, 1871.

To all whom it may concern:

Be it known that I, WALLACE T. MUNGER, of New Britain, in the county of Hartford and State of Connecticut, have invented and made an Improvement in Door-Locks; and the following is declared to be a correct description thereof.

Locks have heretofore been constructed so as to be operated by one of two different keys, in order that one common or pass key may operate all the locks, but that the separate key intended for one lock will not operate any other lock.

My present invention is made for affording additional security in hotels and other buildings where pass-keys are required by providing double-notched tumblers, one set of notches being uniform in all the locks of the building or floor, so as to be opened by one peculiar pass-key, the second set of notches being varied, so as to cause the keys of the different locks to be different, to prevent one key fitting another lock; and with the tumblers of this character I add a revolving guard and bolt-projector, the simple turning of which projects the bolt, it being unnecessary to operate the tumblers except in unlocking the lock; hence if the lock has been opened by one key it can be closed by another, and either form of key is available in unlocking the lock.

In the drawing, Figure 1 is an elevation of the lock with the cap-plate removed and the bolt retracted. Fig. 2 is a similar view with the bolt projected. Fig. 3 is a view with the tumblers removed and the bolt retracted, and Fig. 4 represents the same parts with the bolt projected. Figs. 5 and 6 show the two keys.

I have not represented the latch of the lock. This may or may not be added to my peculiar lock.

The case *a* is of suitable size and shape, and provided with a cap-plate, as usual.

The bolt *c* is made to slide upon the stud 2, and is provided with a depression in the back, (shown by dotted lines,) in which is the arm *d*, that swings upon the pin 3, and has a double-inclined head, 4, against which the spring *e* acts to hold it and the bolt in either position shown in Figs. 3 or 4.

The revolving guard and bolt-projector is

formed as a slotted cylinder, *i*, for the stem *f* of the key, and this cylinder is sustained at its ends in recesses around the inside of the circular part of the key-hole, so as to be revolved freely by the key; and around this cylinder *i* is a cam-flange, *h*, that is notched in line with the slot of the cylinder *i*, so as to admit the bit of the key. In the periphery of this cam-flange *h* are depressions 5 and 6, in which the end of the arm *d* lies when the bolt is either projected or retracted, and thus the guard is steadied and prevented from swinging around to cover the key-hole.

When the key or any instrument is introduced to turn the guard from the position in Fig. 3 the notch 7 receives the end of the arm *d* and projects the bolt in advance of the key, so that the key is not obstructed in its movements by the tumblers that may be in the position in which they were left by another key, and the act of projecting the bolt liberates the tumblers, as hereafter explained.

The tumblers *k* may be more or less numerous, and they swing upon the stud 8, and each is provided with a spring, 9, and with two notches, 10 and 11, at the segmental end; and upon the bolt *c* is a stud or fence, 12, entering either range of slots 10 or 11 when the bolt is unlocked, or preventing the bolt, when projected, from being withdrawn except when the tumblers are lifted to bring the notches in line for its reception.

The key-bits are to be adapted in length to the notches of the tumblers.

Suppose the notches 10 are adapted to the key, Fig. 5, and the notches 11 to the key, Fig. 6, it will therefore be understood that, if the key, Fig. 6, is the pass-key, the notches 11 must be alike in all the locks to be opened by that pass-key, and the notches 10 and key, Fig. 5, can be varied in each lock.

When the bolt is projected and the tumblers drop, as in Fig. 2, the bolt cannot be retracted until one of the keys, Fig. 5 or 6, is introduced, and the notches 10 or 11 brought in line with the stud 12, and the tumblers are kept in that position until the bolt is projected; hence the necessity of the guard and bolt-projector *h*; because, if the other key was used to project the bolt by its direct action, the tumblers might

interfere with the key turning; but by the bolt being projected by the notch 7 and arm *d* in advance of the key the tumblers are liberated from the stud 12 by said stud moving out of the slots of the tumblers. Thus the security is by preventing the bolt being unlocked; but in my construction the bolt can be projected by any device that will revolve the guard and projector.

A single notch in one of the tumblers may answer with both keys; and, if desired, more than two notches may be applied in one tumbler, so that a third key may be used.

I claim as my invention—

The tumblers *k*, having two or more notches in their segmental ends, in combination with the bolt *c*, stud 12, bolt-projector *d*, and revolving guard *i*, the parts being constructed, arranged, and operating in substantially the manner set forth.

Signed by me this 9th day of February, A. D. 1871.

W. T. MUNGER.

Witnesses:

CHARLES PECK,
WILLIS G. LAMB.