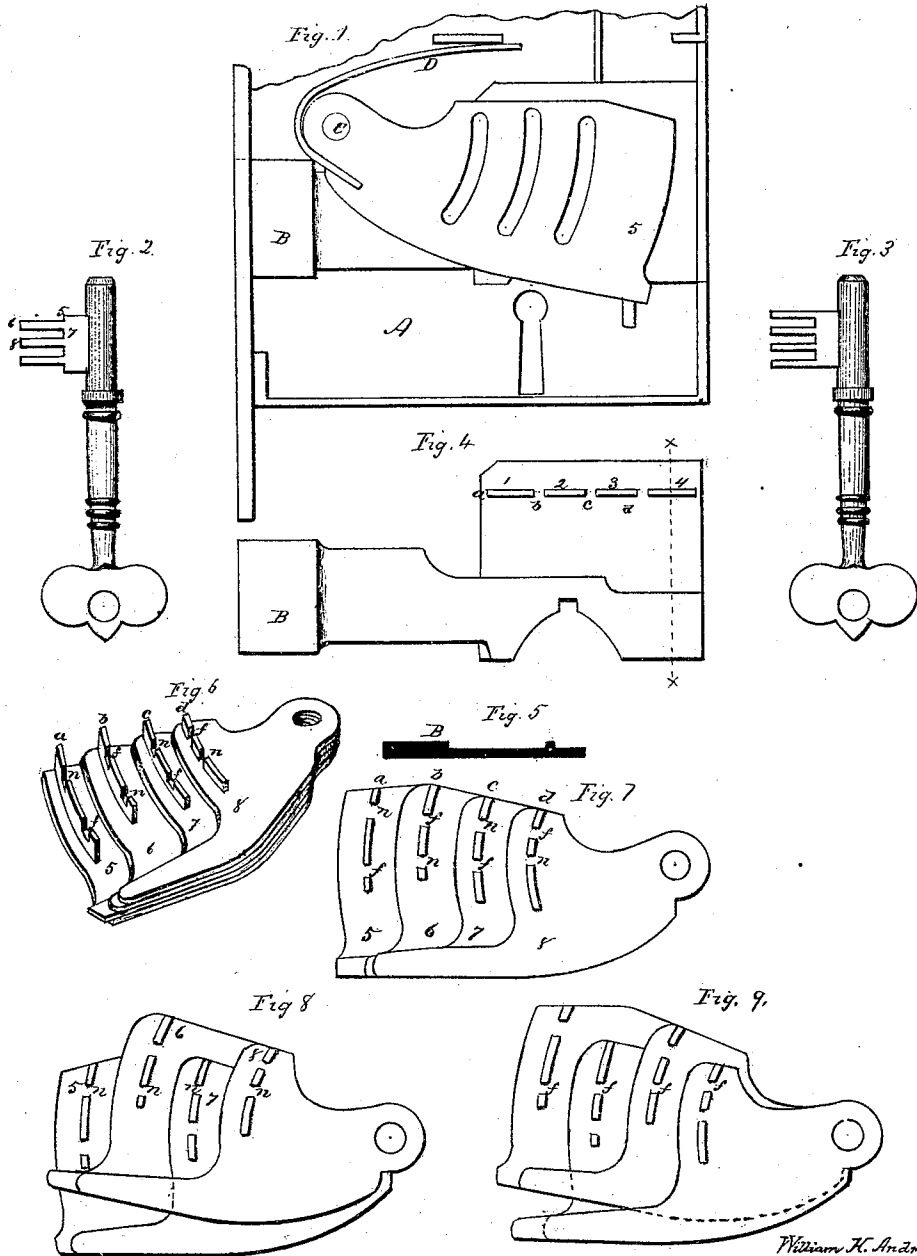


W. H. Andrews,
Door Lock.

No. 101,564.

Patented Apr. 5. 1870.



Witnesses.

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Letters Patent No. 101,564, dated April 5, 1870.

IMPROVEMENT IN DOOR-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, WILLIAM H. ANDREWS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Door-Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

- Figure 1, the lower or lock part of the case, showing the internal mechanism;
- Figure 2, the key;
- Figure 3, the master-key;
- Figure 4, the bolt detached;
- Figure 5, a section of the bolt on line *x x*;
- Figure 6, a perspective view of the tumblers looking from the reverse side;
- Figure 7, a plan of the same;
- Figure 8, a plan illustrating the action of the tumblers with the key; and in
- Figure 9, the same, illustrating the action of the tumblers with the master-key.

This invention relates to an improvement in locks, chiefly that class known as hotel-locks, or where many doors are required to be locked with different keys, and yet so as to be unlocked by a single key.

In order to do this, this class of locks has heretofore been constructed in such manner that what is termed a skeleton-key would unlock the several doors, thus necessitating a very simple construction of the lock, and such that the bolt may be drawn by almost any instrument which can be inserted into the lock. Hence the security of such locks is very slight.

The object of my invention is the construction of a lock, so that, while the several locks may be opened each with its own particular key, all may be opened by a single master-key, and the lock provided with tumblers, sufficient to make all the locks secure against ordinary appliances. To this end,

My invention consists in constructing the lock with one or more movable tumblers, one or more of which tumblers are provided with two slips, through either of which the guard on the bolt will pass, and so that the regular key will operate the tumbler, and the bolt will be thrown through one slip, and the master-key will operate to throw the bolt through the second slip.

A is the case, constructed to receive the latch-bolt, in the usual manner, here represented as inclosing only the lock-bolt B, the latch part being no part of this invention.

The lock-bolt is constructed as seen in figs. 4 and 5. The tail of the bolt is of the usual form, but is provided with one or more guards, here represented as

four, and numbered 1 2 3 4, the guards raised on the surface of the bolt, as seen in fig. 5.

Four tumblers are also employed, represented in figs. 6 and 7, as 5 6 7 8, the said tumblers being pivoted on the lock at C, and arranged with springs D, so as to lie upon the lock-bolt in the usual manner.

One or more of the said tumblers, here represented as all, are provided with a segmental flange, *a b c d*, as seen in figs. 6 and 7, the said flanges corresponding to the recesses *a' b' c' d'* between the guards on the bolt, (see fig. 4,) and so as to be raised freely in the said spaces.

One or more of the flanges, here represented as all, are constructed with two slips, *f* and *n*, in width equal to or slightly greater than the thickness of the guards on the latch-bolt.

The several tumblers and bolts are placed in the lock, as seen in fig. 1, the tumblers all lying in position relatively to each other, as seen in fig. 7.

The recesses in the flange of the tumblers are constructed for operation of the principal key, as seen in fig. 2, and for the master-key, seen in fig. 3.

Suppose, then, that the bolt is to be thrown by the principal key, as seen in fig. 2, this, placed in the lock and turned, will raise the tumblers, respectively, on the bits 5 6 7 8, into the position seen in fig. 8, which throws the slips *n* into line, as seen in fig. 8, and these into such position that the guards on the bolt will pass freely through the said slips *n*, and lock the bolt in the usual manner.

If the bit and key be differently constructed, then the slips *n* must be cut accordingly. Hence, it will be seen, that simply changing one of the slips in a slight degree would prevent the same key from operating the bolt, therefore a great variety of keys may be made, by simply changing one or more of the slips *n*.

For the operation of the master-key, the tumblers are arranged so that the bit of the master-key will, in like manner, raise the tumbler until the other slips *f* are in line, as in fig. 9, and these slips are made the same in all the locks.

While it is preferable to make two slips in all the tumblers, so that the master-key may have its own independent operation, yet, it will be readily seen that if one tumbler be provided with two slips, the master-key may be constructed to operate the other tumbler the same as the principal key, and the other tumbler through the second slip, but this will limit the extent of variation, inasmuch as all the single slips must be the same for all locks.

I have represented the master-key as a plain bit, all the lifts being the same, but it will be readily seen that this may be changed into a more complicated form, the tumblers being constructed accordingly.

While I believe the construction and arrangement

of the flanges with the tumblers and guards upon the bolt to be the best arrangement, other arrangement for the same may be adapted, whereby two different actions may be given to the same tumbler or tumblers.

I claim as my invention—

The arrangement and construction of the tumblers and lock-bolt, so that one or more tumblers are provided with two different and independent slips, through

one of which, by one key, the bolt may be locked or unlocked, and through the other by a different key, irrespective of which of the said two keys had previously operated the bolt, substantially in the manner herein set forth.

WM. H. ANDREWS.

Witnesses:

A. J. TIBBITS,
J. H. SHUMWAY.