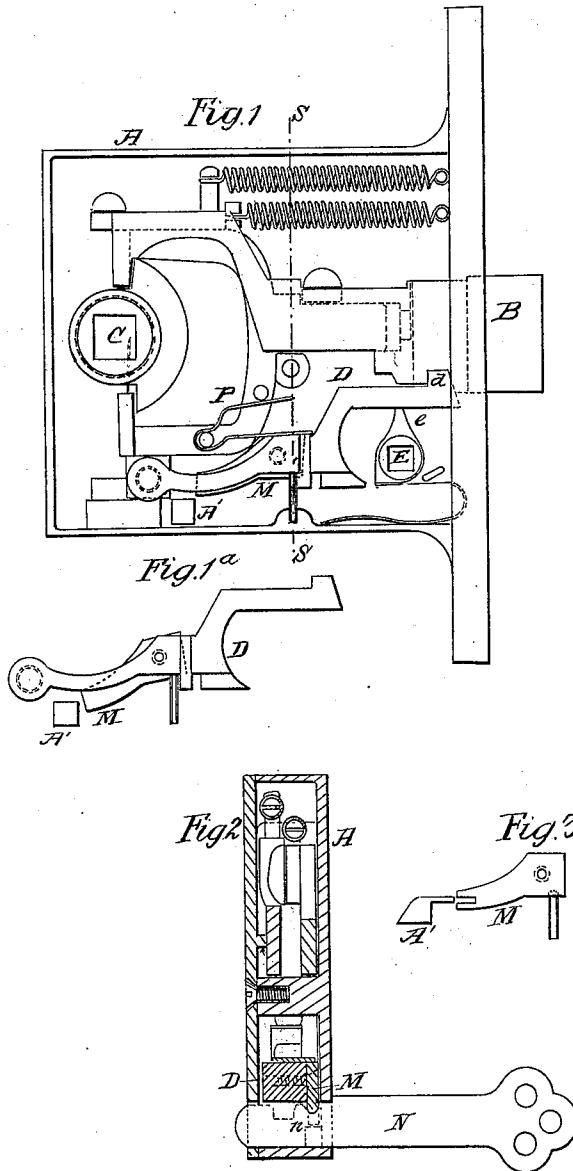


J. H. Vickers,

Latch.

No 77,552.

Patented May 5, 1868.



Witnesses

R. L. Livingston
F. R. Hadicker

Inventor

J. H. Vickers
by his attorney
W. H. Vickers

United States Patent Office.

JOHN H. VICKERS, OF NORWICH, CONNECTICUT, ASSIGNOR TO NORWICH LOCK COMPANY.

Letters Patent No. 77,552, dated May 5, 1868; antedated April 22, 1868.

IMPROVEMENT IN COMBINED KNOB-LATCH AND LOCK.

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, JOHN H. VICKERS, of Norwich, county of New London, and State of Connecticut, assignor to the Norwich Lock Company, have invented certain new and useful Improvements in Locks for Doors; and I do hereby declare that the following is a full and exact description thereof.

My improved lock is adapted to be used as a latch-lock, and is constructed with the several attachments now in use, for adapting locks to be used both as locks to fasten the door securely against intruders, and also as a common latch or catch, to hold the door against wind and the like, during the day, in ordinary use.

My invention relates to certain means whereby the security of the lock is increased without seriously increasing the expense, and without changing the general arrangement of the construction.

I will first describe what I consider the best means of carrying out my invention, and will afterwards designate the points which I believe to be new. The accompanying drawings form a part of this specification.

Figure 1 is a back view of the interior of the lock.

Fig. 1, A, represents the latch-lever, with the tumbler in a different position. It is the position which it will maintain when a wrong key is inserted.

Figure 2 is a cross-section on the line S S, in fig. 1.

Figure 3 represents a modification, which will be afterwards described.

Similar letters of reference indicate like parts in all the figures.

The drawings show the novel parts, with so much of the other parts as is necessary to indicate their relations thereto.

A is the casing; B, the bolt; C, the operating-knob; D, the latch-lever; and E the shaft, carrying an arm, *e*, by the partial rotation of which, in one direction or the other, the latch-lever D is either lowered, so that its catch, *d*, is entirely clear of the bolt B, and thus made of no effect, or is raised so as to firmly hold the bolt B, as may be desired.

The construction and arrangement of the latch-lever D will be readily understood from the drawings. It is precisely the same as is described in the patent issued to Henry B. Tyler, dated August 16, 1865, with the exception of the provision for greater security now about to be described.

M is a tumbler, turning on the pivot *m*, which is inserted in the latch-lever D, as represented. A' is a stop or fence, fixed on the casing A, against which the tumbler M strikes, and prevents the opening of the lock unless the tumbler is allowed to rise to the right position by the insertion of the proper key, N. The tumbler is actuated by a spring, P, so that it constantly tends to stand at a proper height to clear the fence A', but it stands so related to the key-hole that the key, in being inserted, is certain to touch and tilt it, causing it to assume temporarily the position shown in fig. 1, A.

The key N is recessed at the point *n* to a sufficient extent to allow the tumbler M to resume its position, so as to clear the stop A' when the lock is operated. If a key is inserted which is not sufficiently recessed at the point *n*, the tumbler will remain displaced, and will strike against the stop A', and prevent the operation of the lock.

Fig. 3 represents a modification of the form of stop A', and of the adjacent end of the tumbler M. This, or any other well-known modification of the forms of tumblers, and of stops or "fences," may be adopted in my lock if preferred.

It will be readily seen that by fitting the key therefor, and increasing the thickness of the lock a very little, or by diminishing the thickness of the latch-lever D at that point, there may be two or more tumblers, M, mounted side by side, and required to stand at different elevations in order to allow the opening of the lock. I do not, however, consider such duplication of the tumblers to be generally necessary or advisable.

It results from my invention that the door-lock, with but the addition of the parts M and A', at a very

trifling cost, is made to operate, by the aid of the thin key N, with a degree of security which is sufficient for all ordinary doors, and vastly greater than in locks of this character as heretofore used.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

I claim the employment of one or more tumblers, M, in combination with the latch-lever D in the Tyler lock, and adapted to operate relatively to the key N and stop A', or their equivalents, substantially as and for the purpose herein specified.

JOHN H. VICKERS.

Witnesses:

FRANK A. SMITH,

JOHN R. THAYER.