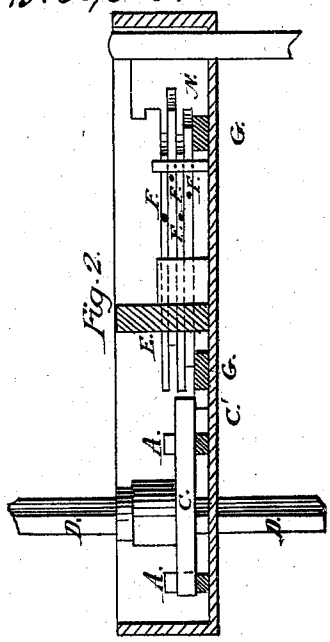
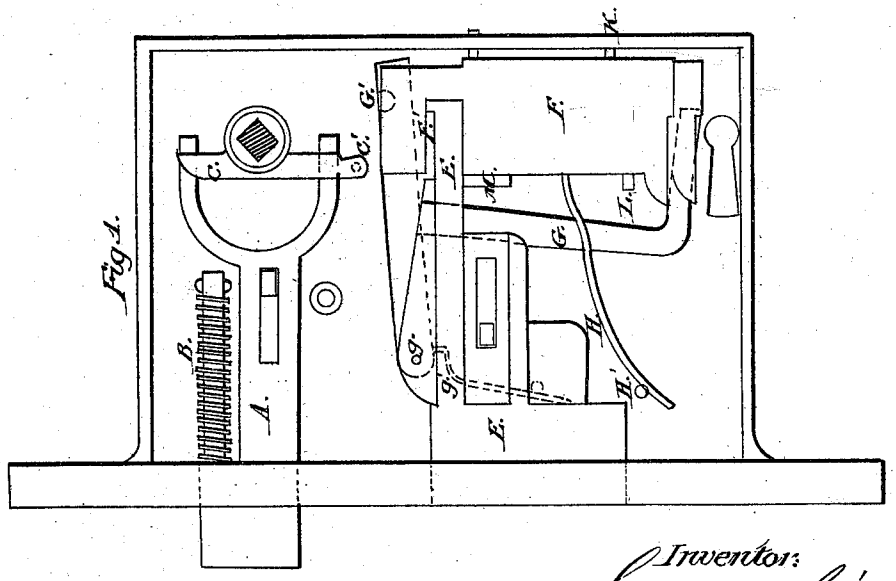
G. W. Cilley,

Lock.

No. 89,853.

Patented May 11. 1869.





Witnesses:

Thos L. Bayles

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United States Patent Office.

GEORGE W. CILLEY, OF NORWICH, CONNECTICUT, ASSIGNOR TO HIMSELF AND WILLIAM P. ADAMS, OF SAME PLACE.

Letters Patent No. 89,853, *dated May* 11, 1869.

IMPROVEMENT IN COMBINED 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, GEORGE W. CILLEY, of Norwich, in the county of New London, and State of Connecticut, have invented a new and useful Improvement in Door-Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is an elevation, showing the interior mechanism of the lock.

Figure 2 is a vertical section on the line *x–x*.

The same letters in both the figures indicate identical parts.

My invention relates to locks which are especially adapted to use on the doors of stores, and for analogous purposes; and

It consists in the combinations of mechanism to be hereinafter set forth, for greater security against picking.

In the annexed drawings—

A is the latch, which is projected by the spring B, and constructed with a slot, *a*, enclosing a projection from the case of the lock, to direct the bolt in a right line.

C is the latch-dog, acting on the bifurcations of the latch in the ordinary manner, and turned by the spindle D.

E is the bolt, which is slotted, and directed in a right line, in the same manner as the latch, by another projection on the case.

A series of tumblers is shown at F. I have shown five; a greater or less number may be used.

A dog, G, the form of which is shown in fig. 1, is pivoted, at *g*, to the bolt E, and placed in relation to the other portions of the lock as shown.

The dog is pressed downward by a spring, as at *g'*. It is raised by the key, and when raised, it receives the pin C', attached to the lower arm of the latch-dog into the notch G', so that by turning the knob, the latch and bolt will be moved at the same time.

The key does not, as in other locks in ordinary use, act on the bolt at all, but only on the dog G, and on the tumblers.

The stem E' of the bolt, when it is thrown, rests against the edges of the tumblers F, so that the bolt can only be retracted when all the notches F' are in line with the stem E', which fits into them neatly.

The notches are irregularly placed, and must all be in line before the bolt can be retracted. This can only be effected by the key, because a person picking the lock, has no guide to determine the proper position of the tumblers, which are all unobstructed, so that the notches may be thrown beyond the end of the stem. If any of the series is thrown either too far or not far enough, the bolt cannot be thrown.

No guide is afforded a person picking the lock, and it is practically impossible, unless pressure is brought to bear on the end of the bolt.

To make this pressure defeat its own purpose, the upper ends of the tumblers are made narrower than the bottom, to form a shoulder, as shown.

The tumblers are placed between four guides, I, K, L, and M.

The springs H are so bent as to act not only to draw back the tumblers, but also to draw them forward against the guides L and M, on the front edge.

The guide K forms a fulcrum, on which the tumblers may oscillate far enough for the backs of the notched ends to bear against the guide I, which serves as a stop to catch against the shoulder on the tumbler, and arrest its throw before the notch reaches the end of the stem E'.

The bolt is allowed a little lost motion, so that it may be pressed back easily against the tumblers, and thus lock them by the very pressure which is essential to give any indication to a person picking the lock where to place the several tumblers.

When the bolt is retracted, the latch operates like any ordinary one.

To lock it, turn the spindle and draw back the latch. The notch G' will now be in line with the pin C'.

Inserting the key, and turning it quarter round, the dog G will be raised, and the connection between the latch and bolt formed. Then, on withdrawing the key, and turning the knob in the opposite direction, the bolt will be projected, disengaging the tumblers, which will be drawn back by the springs.

To unlock the bolt, insert the key and turn it; this will raise the tumblers to the proper position, and also the dog G to connect the latch and bolt. Then, on turning the knob, the bolt will be retracted, the stem E' entering the notches F'.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the latch and bolt, the dogs C and G, so constructed that they may connect the two former when the key is made to act on the bolt-dog, substantially as and for the purpose set forth.

2. The case, when constructed with projections I, K, L, and M, in combination with tumblers having a shoulder formed on the back, and so arranged in relation to the projections, that when the bolt has been projected, and is then pressed against the tumblers, said shoulders shall engage the projection I, and prevent the raising of the tumbler, substantially as set forth.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEO W. CILLEY.

Witnesses:

JOHN S. HOLLINGSHEAD,

EDWIN JAMES.