

H. ESSEX.
LOCKS FOR DOORS, &c.

No. 183,047.

Patented Oct. 10, 1876.

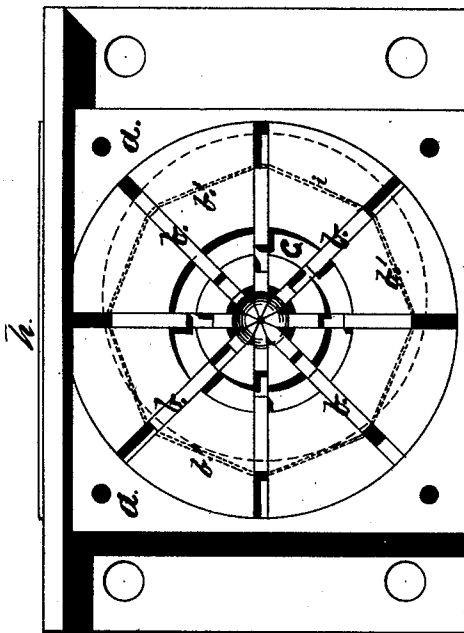


FIG. 1.

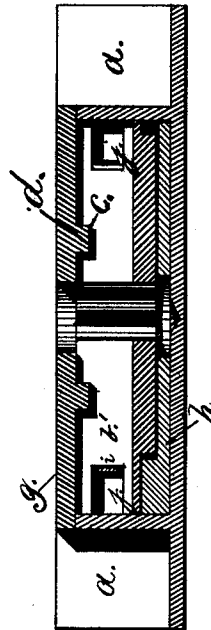


FIG. 2.

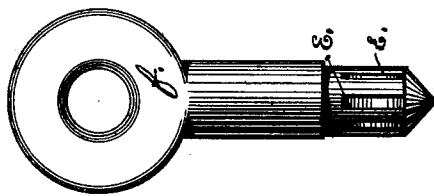


FIG. 3.

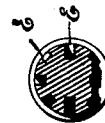


FIG. 4.

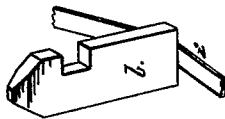


FIG. 5.

WITNESSES.

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IMPROVEMENT IN LOCKS FOR DOORS, &c.

Specification forming part of Letters Patent No. **183,047**, dated October 10, 1876; application filed July 25, 1876.

To all whom it may concern:

Be it known that I, HENRY ESSEX, of Meadville, in the county of Crawford, in the State of Pennsylvania, have invented certain Improvements in Locks, of which the following is a specification:

Figure 1 is a plan view of the lock with the cap removed. Fig. 2 is a sectional view of the lock with the cap on. Fig. 3 is a view of the key. Fig. 4 is a sectional view of the key, showing the slots at different depths.

Like letters indicate like parts in the different figures.

a is the case of the lock; *g*, the cap to the case; *h*, the bolt; *b'*, the circular bed; *b b b*, the tumblers, which slide in radial slots made in the face of the circular bed; *c*, a circular groove made in the face of the circular bed, and *d* is a corresponding projection on the cap *g*, which projection *d* fits into said groove *c* when the cap is fastened to the case *a*. Said projection *d* has slots cut radially across it corresponding to the radial slots in the face of the circular bed *b'*.

Each of the tumblers *b b b* has a slot milled across its edge of the same width as the groove *c* and projection *d*, but at different distances from the ends of the tumblers, so that when the key pushes back the tumblers, the slot in each tumbler will correspond with the groove *c* and projection *d*. Then the circular bed can be turned by the key, and, by means of an eccentric on the back side of the circular bed, (indicated by circular dotted line in Fig. 1,) project or retract the bolt *h*.

In the drawings I have shown one side of the key flat, and also one side of the key-hole in the circular bed flat, so that the key can only go in one way, and so that it will operate to turn the circular bed; but this can be accomplished in other ways—as, for instance, by a projection on one side of the key, and a corresponding recess on one side of the hole in the circular bed.

The tumblers *b b b*, sliding in the radial slots in the circular bed, are all kept pushed toward the center of the key-hole by a band

or spring, *i*, preferably of rubber, which lies in the groove *j*, made in the edge of the circular bed *b'*. The inner ends of the tumblers *b b b* are rounded or tapered, and the key pointed, so that when the key is pushed into the key-hole and against the ends of the tumblers *b b b*, they (the tumblers *b b b*) will slide back from the center in the radial slots.

ee in Figs. 3 and 4 represent slots milled to different depths in the side of the key, so as to receive the ends of the tumblers *b b b*, and to cause the slots in the edges of said tumblers to correspond with the groove *c* and projection *d*, thereby permitting the circular bed to be turned by the key.

In place of the eccentric indicated by the dotted line in Fig. 1, any other suitable device may be used for pushing out and pulling in the bolt *h*—as, for instance, a lever or cam.

By interchanging the tumblers *b b b*, and milling the slots *ee* in the key to correspond, the combinations of the lock can be greatly varied.

This lock is simple in construction, not liable to get out of order, and can be manufactured readily and cheaply, and is very secure.

I am aware that locks have hitherto been constructed with a circular bed containing radial slots and tumblers, and that each tumbler has been provided with a separate spring for pushing the same toward the center of the key-hole.

My invention consists in the combination, with radial tumblers, of an endless spring or band, whereby the tumblers are pushed toward the center of the key-hole.

I claim as my invention—

In a lock having a circular bed and radial tumblers, the combination, with radial tumblers, of an endless spring or band, substantially as described, whereby all the tumblers are pressed toward the center of the key-hole, as set forth.

HENRY ESSEX.

Witnesses:

STEPHEN ESSEX,
WM. H. HAM.