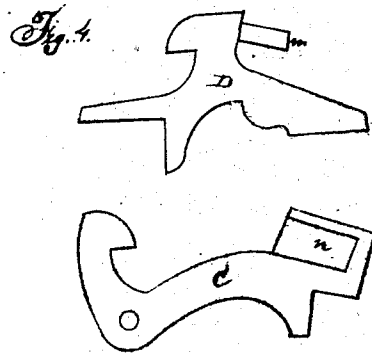
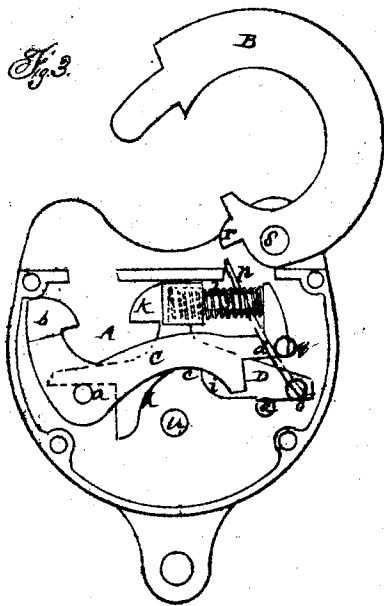
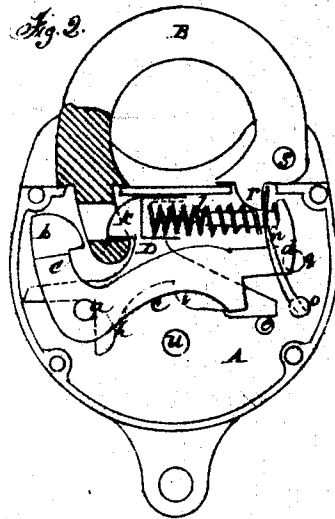
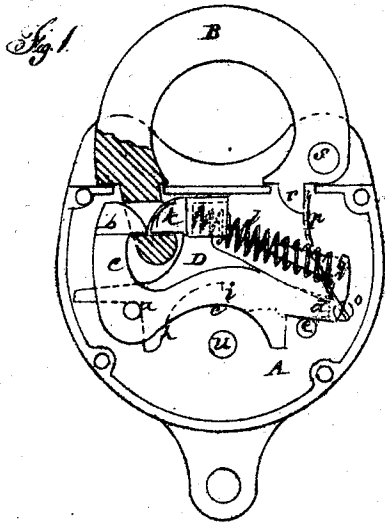


W. Harvey.
Padlock.

N^o 74220

Patented Feb. 11, 1868.



Witnesses
J. M. Combs
G. W. Reed

W. Harvey ^{Inventor}
per his attorney's
Brown, Combs & Co

United States Patent Office.

WILLIAM HARVEY, OF ALBANY, NEW YORK.

Letters Patent No. 74,220, dated February 11, 1868; antedated September 12, 1867.

IMPROVED PADLOCK.

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 HARVEY, of the city and county of Albany, in the State of New York, have invented a certain new and useful Improvement in Locks, specially applicable to padlocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents an interior view of a padlock constructed according to my improvement, and showing it in its locked condition.

Figure 2, a similar view, with the one bolt or tumbler withdrawn from the shackle.

Figure 3, a like view, with both bolts withdrawn and the shackle shot open; and

Figure 4, a face view of a modification of certain details.

Like letters refer to like parts in all the figures.

My improvement relates to that description of locks in which two bolts or tumblers are used, and in which the operation of withdrawing one bolt holds back the other bolt till the first is released, when, or after which, in the further action of the key, the second bolt is shot back, and, in the case of a padlock, the shackle thrown open by a spring; and my invention consists, firstly, in a combination with two bolts or tumblers, operating as above described, and which may be separate and detached from each other, of a spring arranged so to unite or press upon both bolts as that the shooting back or withdrawing of one bolt causes the spring to act with increased force to hold to its lock the other, and whereby not only is one spring made to suffice for both bolts, but the lock is protected against picking; and the nature of my invention, in its application to padlocks, further consists in a peculiar application to the root or hinged portion of the shackle, of a spring to lift the shackle when both bolts are withdrawn.

To enable others skilled in constructing and working locks to make and use my invention, I will now proceed to describe it with reference to the drawing, in which—

A represents the shell or case of a padlock, B the shackle, and *u* the key-centre post. The upper or outer tumbler C is pivoted, at *a*, to the shell, and has its shackle-locking arm or bolt-end, *b*, made to withdraw from gear with the shackle by the key, acting under a concave surface, *c*, of the lower arm of the tumbler, which arm is extended, as at *d*, that may strike a stop, *e*, when the bolt is shot, and this extension made to terminate in an arm or projection, *f*, inclining or running back towards the bolt-end *b*. D is the under or inner tumbler, that may have a sliding action, after the manner of a bolt, on the stop *e*, and pin *a*, and which is shaped or cut away at *h*, to admit of the key turning to unlock the upper bolt, C, without, whilst doing so, acting on the under bolt D, and not until the key acts against a convex or projecting surface, *i*, does it begin to shoot the under bolt back. The bolt-end proper or shackle-locking end, *k*, of this inner bolt is recessed at its back to receive within and against it the one end of a spring, *l*, carried by the arm or projection, *f*, of the outer bolt.

The spring thus arranged acts upon both bolts to shoot them, and keep them in lock with the shackle, and, as the one independent bolt or outer tumbler, C, is being shot back by the key, said spring is compressed, and its force or pressure increased against the inner bolt D, to hold it in lock with the shackle, and its resistance yet farther increased on shooting back the under bolt. The two bolts thus united by the one spring, though separate in their action, only moving together when shooting into lock by the action of said spring, cannot be picked, as where the bolts thus operating are acted upon by independent springs, as the forcing back of one bolt locks tighter the other, and neither bolt acts one upon the other to unlock. In fact, a lock thus constructed cannot be opened by an ordinary pick, nor be opened without the key, or a special tool that will hold one bolt back while drawing the other. Of course, the same principle may be carried out by variously modifying the shape of the tumblers to suit different kinds of springs, or even to suit the same description of spring, as in the modification shown in fig. 4, where the spring may be arranged on an arm, *m*, attached to the lower bolt D, and lie at its other end in a recess, *n*, of the upper bolt, C.

To shoot the shackle open, when the two bolts are withdrawn, I pivot, at *o*, a spring, *p*, to the shell or shell-cover, said spring bearing against a stop or fulcrum, *q*, and its upper end being compressed, when the shackle is closed, by a lip, *r*, projecting from the root or hinged end of the shackle B, below its joint-pin, *s*. This spring, when both bolts are shot back, throws open the shackle, has considerable of a range in a short action on the

shackle, and is not so liable to be broken or damaged on slamming to the shackle as when arranged to operate against the front end of the latter. Where the lock is other than a padlock, and the bolts shoot into a hasp, as in trunk or box-locks, this last-named spring, *p*, of course, is dispensed with.

What I claim herein as new and useful, and desire to secure by Letters Patent, is—

The combination of the pivoted tumblers or bolts, C D, with the spring *l*, constructed, arranged, and operating substantially as described.

W. HARVEY.

Witnesses.

A. LE CLERC,

J. W. COOMBS.