N. Bohannan,

Padlock.

No. 46,539. Patented Feb. 28, 1865.

Fig: 1

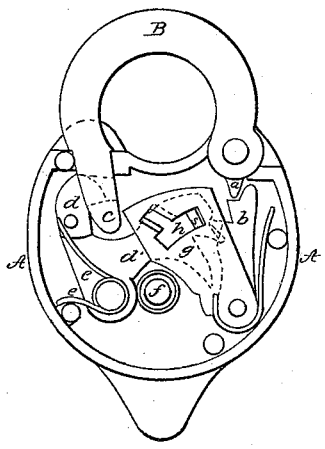


Fig: 2

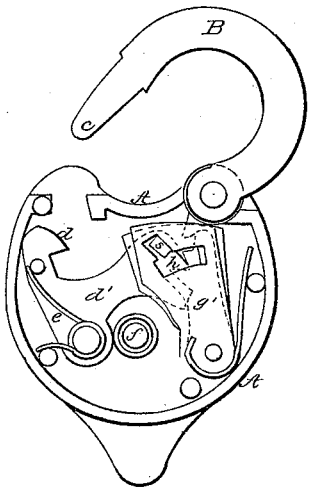


Fig: 3

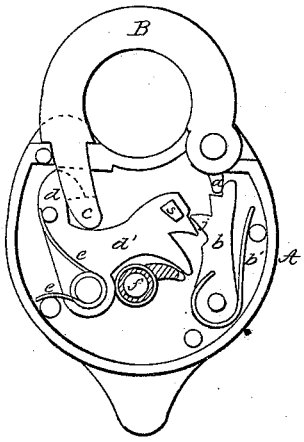
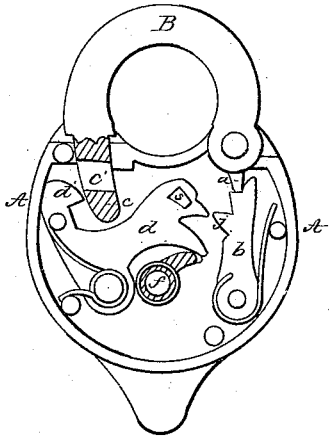


Fig: 4



Witnesses:

R. F. Campbell

E. Schafer.

Inventor:

Wilson Bohannan

by his Atty,

Mason, Fenwick & Lawrence

UNITED STATES PATENT OFFICE.

WILSON BOHANNAN, OF NEW YORK, N. Y.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. **46,539**, dated February 28, 1865.

To all whom it may concern:

Be it known that I, WILSON BOHANNAN, of the city, county, and State of New York, have invented an Improved Lock; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view of the interior of my lock, showing the shackle or curved bolt in a locked state. Fig. 2 shows the several parts of the lock in their respective positions when the shackle is open. Fig. 3 is a similar view to Fig. 1, with the tumblers removed. Fig. 4 shows the position of the catch and rack or pawl in the act of locking the shackle.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates particularly to padlocks which are constructed to lock automatically by simply forcing the shackle or bolt into its place.

The object of my invention is to so construct a padlock that the shackle or curved bolt will operate upon a spring-rack and serve as a lever for thrusting back the catch to receive the nose of said shackle, thus enabling a person to lock the shackle with very little exertion, as will be hereinafter described.

Another object of my invention is to so construct and arrange the catch and the spring-pawl within a padlock-case, and to combine a shackle, having a short tooth on its pivoted end, with said parts in such manner that the catch, the pawl, and the shackle will be held open when unlocked, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the case of my padlock, and B is the curved bolt or shackle, which is pivoted in the usual manner to the lock-case and constructed with a tooth, *a*, on its pivoted end, which acts upon a notched pawl, *b*, that is acted upon by a spring, *b'*, as clearly shown in Figs. 3 and 4. The opposite end of the shackle B is constructed with a rounded nose, *c*, which has a transverse slot, *c'*, cut into it to receive a hook, *d*, on the catch-plate or dog *d'*, as represented in Figs. 1 and 3. This catch or dog *d'* is acted upon by a spring, *e*, which forces its hooked end toward the pawl *b*, and it is curved in such manner as to pass over the drill-pin *f* and receive the key against its lower edge.

When the hook *d* is thrust back by means of the key, as shown in Figs. 2 and 4, the spring-pawl *b* acts upon the tooth *a* of the shackle B, and thus throws the latter back so as to free its nose from the hooked catch.

When the shackle is unlocked, a tooth, *i*, on the catch-plate *d'* is caught by a tooth, *j*, on the pawl, which holds the hook *d* back in the position represented in Fig. 2. While in this position the spring of catch *d'* forces the tooth of this catch down upon the tooth of the pawl *b*, while the spring of this pawl forces it forward and preserves the contiguity of the parts. The upper end of the pawl *b* prevents the shackle B from being casually locked, and allows this shackle to be thrown back to its fullest extent.

When it is desired to force the nose of the shackle B into its place and lock it, the tooth *a* acts upon the upper end of the pawl *b*, and moves this pawl back until the hook *d* on plate *d'* flies into the slot in the nose of the shackle; but it will be seen by reference to Fig. 4, that the rounded end of the nose *c* receives the rounded end of the catch or hook *d* immediately the plate *d'* is released from the pawl, so that said plate is forced slightly back by the direct action of the nose of the shackle upon it until the hook *d'* enters the slot *c'*, when the tooth *i* falls beneath the tooth *j*, as shown in Figs. 1 and 3. In unlocking the shackle B the key lifts the toothed end of the plate *d'* until its tooth *i* is in a position to be received by the tooth *j* of the pawl *b*, when the hook *d* will release the shackle and allow the spring-pawl *b* to force it open and catch the plate *d'*, thus holding this plate back. The teeth *i* and *j* are so formed that in the act of locking the shackle, and before its nose is brought in contact with the rounded head of the hook *d*, the pawl *b* acts upon plate *d'*, to move the hook back. Thus I have a compound leverage to assist in locking the shackle in position, which, when the parts become rusty and dirty, greatly assists in closing the shackle. To prevent such a lock from being picked easily, I use one or more tumblers, *g g'*, which are pivoted to the stud receiving the pawl *b*, as shown in in Figs. 1 and 2. Each tumbler is acted upon

by a spring, which forces its upper end toward the hook *d*, and each tumbler is provided with an L-slot, *h*, that receives a stump, *s*, which projects from the catch-plate *d'*, as shown in Figs. 1 and 2. This catch-plate can only be thrust up and the shackle B released from its hook when the radial portion of the L-slot in the tumbler or tumblers is in a position to receive the stump *s*, as shown in Fig. 2. By employing more than one tumbler and forming the radial portions of their slots at different points it will be very difficult to pick the lock.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. So constructing a padlock that in the act of closing the shackle B this latter will release the hooked plate *d'* from a toothed pawl *b*, previously to locking, and still act upon the said plates, substantially as described.

2. Receiving the hook *d* on the catch-plate *d'* in the act of closing the shackle B upon the nose of this shackle after said plate is released from the tooth *j* of pawl *b*, substantially as described.

3. So constructing the teeth *i j* on the pivoted plates *d'* and *b* that in the act of closing the shackle the latter will force the hook *d* backward to receive the nose *c*, substantially as described.

4. The combination of the shackle B with its slotted nose and lever-tooth, spring-pawl *b*, with its tooth *j*, catch-plate *d'*, with its hook *d* and tooth *i*, and the slotted tumbler or tumblers *g g'*, all arranged and operating substantially as described.

Witness my hand in the matter of my application for a patent on an improved padlock this 29th day of November, 1864.

WILSON BOHANNAN.

Witnesses:

W. M. BARRY,

R. T. CAMPBELL.