H. S. LOCKWOOD.

Pad-Lock.

No. 165,741. Patented July 20, 1875.

Fig: 1.

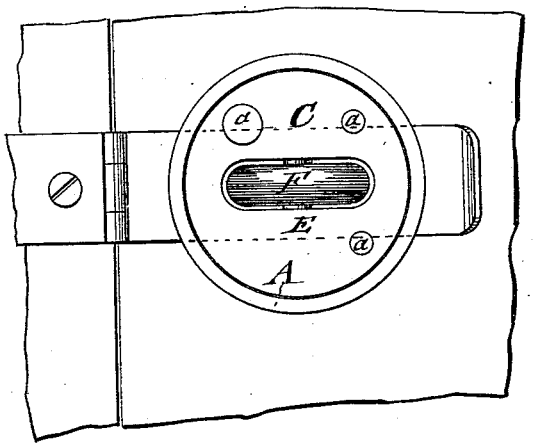


Fig: 3.

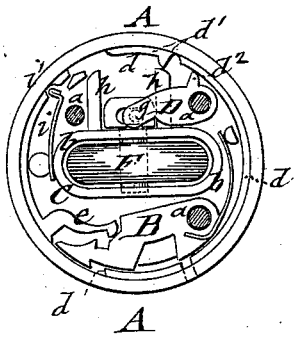


Fig: 2.

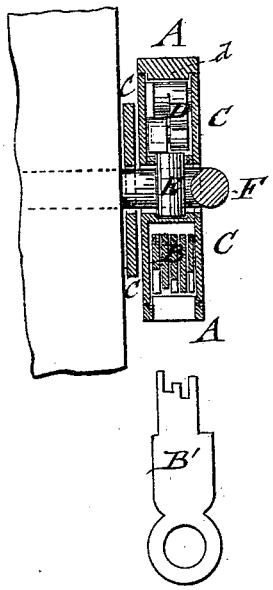
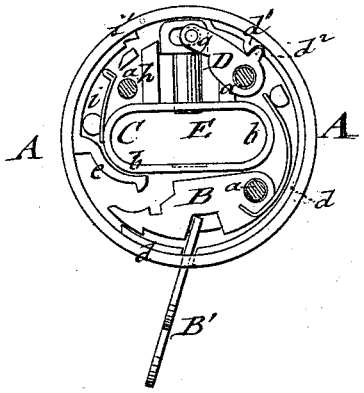


Fig: 4.



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UNITED STATES PATENT OFFICE.

HENRY S. LOCKWOOD, OF SOUTH NORWALK, CONNECTICUT.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. **165,741**, dated July 20, 1875; application filed June 5, 1875.

To all whom it may concern:

Be it known that I, HENRY S. LOCKWOOD, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a new and Improved Padlock, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front view of my improved padlock as attached to the staple; Fig. 2, a vertical transverse section of the same with key; and Figs. 3 and 4, respectively, top views with cap-plate detached, showing padlock in closed and open position.

Similar letters of reference indicate corresponding parts.

My invention relates to a compact, neat, and effective padlock, that may be readily opened and closed by the use of a specially-constructed key; and it consists of an outer reciprocating rotary ring with centrally-slotted face and back plates, inclosing a series of pivoted spring-tumblers, that lock with the notched inner side of the ring, and admit, on the turning of the ring, the throwing of the bolt across the central recess by the action of the recessed inner projection on an intermediate bolt-governing link. The key is introduced through a slot of the ring, and throws the tumblers back for admitting the rotating motion of the ring and opening of the bolt.

In the drawing, A represents the outer rotating ring of my improved padlock, and C the cap and back plates, which are seated in circumferential recesses of ring A, and connected by stay-bolts *a*. The cap and back plates C are centrally slotted for allowing the padlock to be placed over the staple for locking the hasp. The space between the cap and back plate is closed by a casing, *b*, which has side perforations for the passage of the bolt. The rotating ring A is provided with an inner rib or circumferential projection, *d*, and a curved inwardly-extending guard-arm, *e*. The key B′ is specially made for each lock, and introduced by a slot of the ring A, to a suitable number of pivoted and differently recessed spring-tumblers, B. The wards of the key correspond to the recesses of the tumblers, so that on the introduction of the same all the tumblers are engaged and thrown back. The spear-shaped heads of the same are thereby released from the projecting end of projection *d* of the sliding ring, admitting the sliding of the ring for opening the lock. When a false key is introduced, some of the tumblers are not released, while others are forced back with the opposite hooks of their spear-heads against the hook-shaped end of the guard-arm *e*, so that the obstructing action of at least one or more of the tumblers prevents the opening of the lock. The tumblers are arranged at one side of the central casing, while the mechanism for throwing the bolt is arranged at the opposite side. The rotating motion of the ring A engages, by a recess and guard-lug, d^1, the projecting lug d^2 of a link, D, which is pivoted to the casing by means of one of the stay-bolts, and by means of a pivot-pin, *g*, to the slotted head of the sliding bolt E, which is guided by side rails *h* laterally across the central recess of the casing, for striking exactly the opposite hole or recess of the central casing and locking the padlock in reliable manner. By rotating the outer ring in opposite direction for opening the lock, the recess and guard-lug d^1 engage lug d^2, and swing link D and bolt E back, so that the lock may be taken from the staple F. When the bolt is withdrawn, the contact of the head of the bolt with the outer ring, as well as the contact of curved guard-arm *e* with the central casing, defines the exact position of the bolt in the guide-hole of the casing, and prevents the detaching or throwing out of the bolt end from the same. For attaching the lock, no key is necessary, as the mere turning of the ring produces the throwing of the bolt and the connection of the lock with the staple. The spring-tumblers snap over the end of the inner projection of ring A and prevent the opening of the lock. For the purpose of preventing the entrance of dust and the tampering with the lock, the ring may be carried still farther, till the guard-arm strikes against the tumblers, and a check-spring, *i*, locks into a recess, *i′*, of the inner projection of the ring. The slot for the key is thereby carried beyond the recesses in the tumblers, and thereby the introduction of the key into said recesses is prevented until, by bringing the ring back to

its proper position, the key may be inserted again for releasing the tumblers and opening the lock.

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

1. In padlocks, the combination of the outer ring, having notched projecting portion at the inside and entrance slot, with a key and a number of pivoted, recessed, and spear-headed spring-tumblers, for being released from the notched inner projection and allow turning of ring, substantially in the manner and for the purpose set forth.

2. The outer rotating ring, provided with notched inner projection, in combination with a swinging link, and the sliding and guided bolt of the lock, substantially as set forth.

3. The combination of curved guard-arm *e* with central casing *b* and tumblers B, for defining the extent of rotating motion of outer ring in either direction, substantially as shown and described.

4. The combination of the check-spring *i* with a recess, *i'*, of the inner projection of rotating ring, for retaining the same when the key hole or slot is carried beyond the tumbler-recesses, substantially as and for the purpose specified.

HENRY S. LOCKWOOD.

Witnesses:
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