

(No Model.)

W. D. ROBERTS.  
LOCK.

No. 602,144.

Patented Apr. 12, 1898.

Fig. 1.

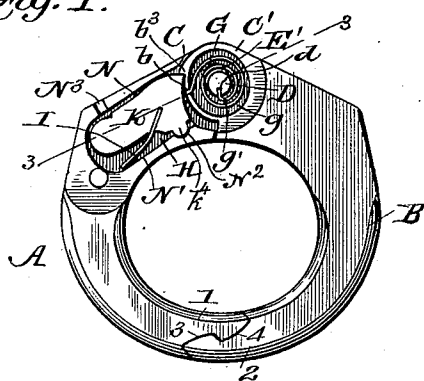


Fig. 2.

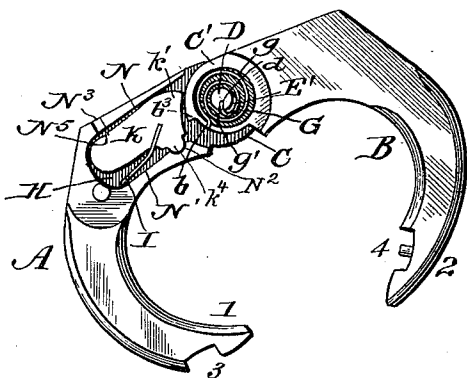


Fig. 3.

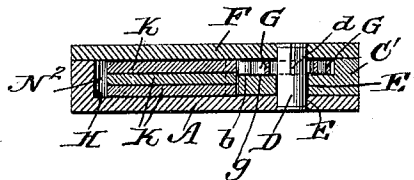


Fig. 6.

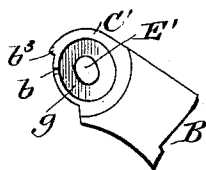


Fig. 4.

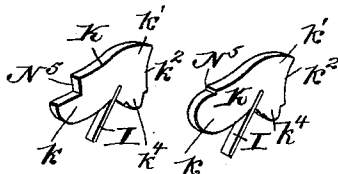
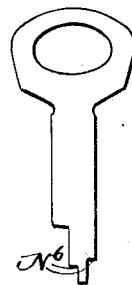


Fig. 5.



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# UNITED STATES PATENT OFFICE.

WOODBURY D. ROBERTS, OF PORTLAND, OREGON.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 602,144, dated April 12, 1898.

Application filed May 25, 1897. Serial No. 638,042. (No model.)

*To all whom it may concern:*

Be it known that I, WOODBURY D. ROBERTS, of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Lock, of which the following is a specification.

My invention relates to improvements in hasps or padlocks, and it more particularly relates to improvements on the lock disclosed in another patent granted to me June 29, 1897, No. 585,594; and it consists in such novel features and combination of parts as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved lock, the jaws being closed and the cap-piece removed to illustrate clearly the arrangement of the detent mechanism. Fig. 2 is a similar view, the jaws being shown in an open position. Fig. 3 is a cross-section on the line 3 3 of Fig. 1. Fig. 4 illustrates several of the lock tumblers or detents detached. Fig. 5 is a view of the key, and Fig. 6 is a view of the pivot end of the sliding jaw.

My present form of lock comprises two jaws A and B of substantially the shape shown, the pivot ends of which have hinge portions C C', through which the pivot-bolt D passes. The opening E in the ear portion C and in the cap-plate F is circular, while the opening E' in the ear C' of the pivot-jaws is elongated, with its major axis at an angle to the line centrally dividing the heads of the jaws A and B, such arrangement of parts being substantially like those disclosed in my other application above referred to, the hinged jaw B in this case also having a bodily endwise movement on its pivot to permit the hook ends 1 and 2 to clear each other before the jaws are swung open, such hook ends in this form of lock being also provided with angle contacting portions 3 and 4 on a line substantially parallel with the major axis of the elongated slot E', so that the jaws can be closed with one hand by pressing the two jaws toward each other, as fully set out in my other application referred to.

In my other application is shown a spring connected at one end to the swinging-jaw

body and at the other to the cap-plate. This form of spring I have found objectionable, as it is difficult to be set in position for operation, especially as it is secured at one end to the cap-plate.

In the present form the spring G is also held in a socket *g* in the hinged jaw, has one end bent at *g'* to engage a slotway *d* in the side of the pivot-bolt D, which extends to the top of such bolt, is coiled about such bolt, and has its other end bent to engage a recess *b* in the edge of the ear C', as clearly shown, such form of spring and the manner in which it is secured providing for a quick setting of such spring in position and also providing against displacement thereof when the cap-plate is removed. To provide for a positive and free operation of such spring as the movable jaw is shifted endwise, the seat or socket *g* is made elongated in the same direction of the slot.

In my other application the lock devices consisted of a slide-bolt and spring-operated detents or wards to render the picking difficult. Such form of lock devices, while effectively accomplishing the results desired, require a too careful manipulation to place them in an operative position, as well as being too costly in manufacture to permit the lock to be sold at a very low price. To overcome these objectionable features and to provide lock means of a very simple and economical construction, which can be quickly and easily placed in position and which will effectively prevent picking the lock by wires or other sharp implements, is an essential feature of this invention.

In the present construction the fixed jaw has its head portion formed with a socket H, having its upper end straight, as at N, its lower edge straight, as at N', and terminating in a concaved seat N<sup>2</sup>, the said upper edge N having at a point near its outer end a key-slot N<sup>3</sup>.

K indicates a series of tumblers or detents, each of which consists of a tailpiece *k*, which projects over the key-slot, a nose *k'* at the front end of the upper edge, which merges at the front with the curved front face *k*<sup>2</sup> of the tumbler-body, the lower end of which terminates in a rocker member or bearing *k*<sup>4</sup>, which

is detachably seated in the seat N<sup>2</sup>, the tail-piece being normally held over the key-slot and the nose-piece under the radially-projecting lock-lip b<sup>3</sup> of the hinged jaw by the spring I, which is fixedly connected to the tumbler and engages the bottom edge of the socket, as shown.

The several tumblers have notches N<sup>5</sup>, differently arranged, to be engaged by the coincidentally-arranged wands N<sup>6</sup> on the key.

From the foregoing, taken in connection with the drawings, it will be readily seen that the tumblers or detents are normally held in engagement with the lock-lip of the hinged jaw.

By inserting a proper key in the key-slot the tumblers will be swung back in unison (their upper edge being rounded to admit of such movement) to disengage the lock-lip, when the jaw B will be swung open by its spring. When in the open position, the lock-lip of the jaw B will engage the concaved faces of the tumblers and hold them back in a proper position and cause them to snap into engagement with the lock-lip when the jaws are closed in.

It will be noticed that the arrangement of the locking-tumblers is of a very simple nature. They can be quickly placed in position, manufactured at a minimum cost, and cannot possibly get out of order so long as their spring members remain intact.

By providing the lock-nose at the upper edge of the tumblers and making the front edge of such tumblers concaved allows for a free movement of the hinged jaw to almost its fullest extent before the parts become locked—that is, the locked lip of the hinged jaw will move up on the said concaved faces of the jaws until the hook ends touch before the nose slides under the jaw lock-lip.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. In a lock as described, the combination of the jaws, the pivot-bolt, one of such jaws having endwise movement on the pivot, the cap-plate, the volute spring having one end held in engagement with the pivot-bolt and the other in engagement with the said jaw, and means for holding the jaws to a locked engagement, substantially as described.

2. In a lock as described, the combination with the pivotally-connected jaws, one of which has a recess having a keyway at one end and a seat in its bottom edge adjacent the pivot end, and the other having a lock-lip, of a series of tumblers or detents having each a pendent portion to engage the seat, a tail-piece to cover the keyway, a lock-nose at the upper front end, a concaved front edge and a spring, substantially as shown and for the purposes described.

3. An improved padlock, comprising a pair of jaws having interlocking ends, one of such jaws having endwise movement on its pivot, and means for automatically swinging it outward when the hook ends are disengaged, said swinging jaw having a lock-lip, the fixed jaw having a recess provided with a keyway at one end and a seat in the opposite edge at a point near the pivotal axis, a series of tumblers or detents independently fulcrumed in the aforesaid seat, springs held to their normal position, each having a tailpiece to normally cover the keyway and a nose-piece at the front upper edge to engage the lock-shoulder on the swinging jaw and the cap-plate all being arranged substantially as shown and for the purposes described.

WOODBURY D. ROBERTS.

Witnesses:

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THOS. D. LAMBERT.