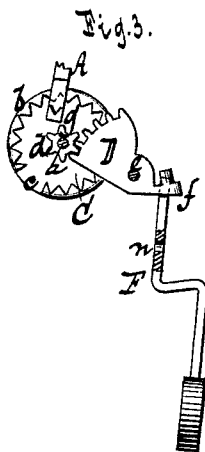
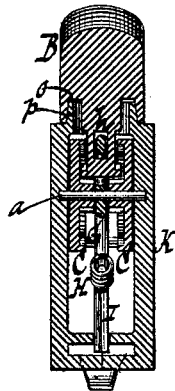
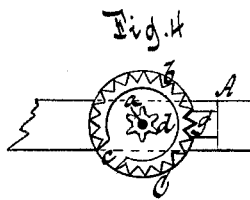
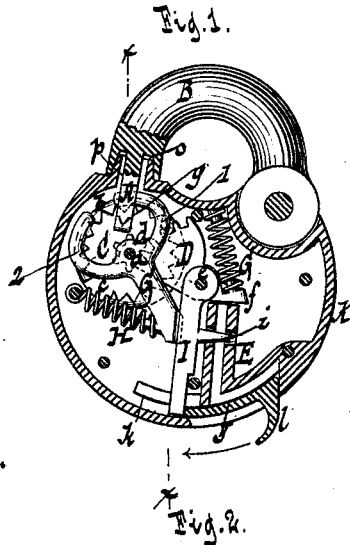


C. JENSEN.  
Padlock

No. 220,152.

Patented Sept. 30, 1879.



Witnesses  
Otto Schupland  
William Miller

Inventor  
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by  
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# UNITED STATES PATENT OFFICE.

CONRAD JENSEN, OF DEDHAM, ASSIGNOR TO HIMSELF AND JACOB E. BUERK, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. **220,152**, dated September 30, 1879; application filed August 6, 1879.

*To all whom it may concern:*

Be it known that I, CONRAD JENSEN, of Dedham, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Locks, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 shows my lock, partly in side view and partly in section. Fig. 2 is a longitudinal section thereof in the line *x x*, Fig. 1. Fig. 3 is a detail view of parts. Fig. 4 shows a modification.

Similar letters indicate corresponding parts.

My invention is adapted to all classes of locks; and consists in a rotating disk or tumbler having a raised notched border and a division in said border, a pinion secured to the center of the disk, and a spring-impelled toothed segment meshing with the pinion and arranged in the path of a key, in combination with a shackle having a tongue adapted to engage with the notched border of the disk, so that if a key is inserted in the lock the toothed segment is thereby swung round against the action of its spring, and the disk is rotated till the division in its border coincides with the tongue of the shackle, when the latter may be pushed home or retracted; also, in the combination, with a shackle provided with a tongue having a transverse opening, and with a tumbler acting on the tongue, of a spring-impelled anchor, either arm of which is adapted to catch in the opening of the tongue, a key-guide, a swinging arm or dog bearing on the anchor, and having a lateral pin which projects into the key-guide, a sliding guard to the key-guide acting upon the swinging arm, and a key having a transverse hole adapted to receive the pin of the swinging arm, so that when the sliding guard is shut the anchor is allowed to follow the action of its spring, and what may be termed its "first arm" catches in the opening of the tongue, thereby locking the same independently of the tumbler, while when the sliding guard is displaced the second arm of the anchor is caused to take the place of the first arm, and if the key is then inserted in the key-guide to act upon the tumbler, the pin of the swinging arm enters the hole of the key, and the anchor releases the tongue and shackle.

It also consists in the combination of the whole.

In the drawings, the letter A designates a tongue extended from the locking end of the shackle B of a padlock, to which I have, in this example, applied my invention. The letter C designates a disk, turning on a pivot, *a*, and having a raised notched border, *b*, in which there is a division, *c*. To the center of the disk C is secured a pinion, *d*, into which meshes a toothed segment, D, turning on a pivot, *e*. This segment D has a tail-piece, *f*, extending across the inner end of a key-guide, E, so that the segment is in the path of a key. A spring, G, moreover, bears on the tail-piece *f*, with a tendency to keep the disk C in its locking position.

The tongue A is provided with a notched shoulder, *g*, whereby it is adapted to engage the notched border *b* of the disk.

A key, F, Fig. 3, is fitted to the key-guide E. When this key is put into the lock the segment D is thereby displaced against the action of its spring G, and the disk C is rotated a sufficient distance to cause the division *c* in the border of the disk to coincide with the tongue A. In this position of the disk C the tongue A is free to be pushed home or to be retracted. When the tongue A is to be locked it is pushed home and the key withdrawn, when the border *b* opposes the retraction of the tongue, as indicated.

In the example shown in Figs. 1, 2, and 3, the notches of the border *b* are in its inner edge; but when my invention is applied to a different lock, as a latch, the notches are formed in the outer edge of the border, as indicated in Fig. 4.

The letter G designates an anchor, having its fulcrum on the pivot *a*; and *h*, Fig. 2, is an opening in the tongue A, in which either arm 1 or 2 of the anchor is adapted to catch. A spring, H, acts upon the anchor G with a tendency to cause its arm 1 to enter the tongue-opening, and an arm, I, bears on the anchor in an opposite direction to this spring. The arm I swings on the pivot *e*, and carries a laterally-projecting pin, *i*, which, under normal conditions, is in the key-guide E, as shown in Fig. 1.

The key-guide E is furnished with a sliding guard, J, which is fitted into a channel, *k*, in

the lock-case, and acts upon the swinging arm I at one end, the same being provided with a finger-piece, *l*, at the opposite end. In the key F is a transverse hole, *n*, adapted to receive the pin of the swinging arm I.

To permit the insertion of the key into the key-guide E for the purpose of rotating the disk C, the sliding guard J must be displaced, and to this end the same is slid in the direction of the arrow shown in Fig. 1. When the guard J is shut, the anchor G follows the action of the spring H, and its arm 1 catches in the tongue-opening *h*, as shown, and it will be seen that the shackle is thus locked independently of the disk C. When, however, the guard J is displaced, the swinging arm I moves with it, and the anchor G is thereby swung to such a position that the second arm, 2, takes the place of the first arm in the tongue-opening *h*. If the key F is then put into place, the pin *i* of the swinging arm enters the hole *n* of the key, whereby the anchor G, with the swinging arm, is permitted to draw back a sufficient distance to allow the tongue A to clear both arms of the anchor.

In order to allow the guard J to move back with the parts when the pin *i* enters the hole of the key F, the latter is bent as shown; but this can also be accomplished by slotting the guard. The parts are so adjusted that the pin *i* enters the hole *n* after the key has acted upon the disk C through the segment D, and hence the bolt is released from the disk and the anchor simultaneously. The pin *i* performs a second function—namely, that of holding the key F within the lock.

The disk C, with its pinion, and the toothed segment D, are usually duplicated, and the anchor G is arranged between the two sets of such parts, as shown in Fig. 2.

It is obvious that the anchor G and concomitants can be used with a tumbler other than the disk C.

The shackle B, to which the tongue A is attached, is provided with a mortise or recess, *o*, at its inner end, surrounding the tongue, and the lock-case K is provided with a nipple, *p*, on or over which the mortise of the shackle is fitted, so that when the tongue is locked the hole through which the tongue enters the

lock-case is covered, and the admission of water to the case is prevented. This forms an important feature of my invention.

It may be remarked that more than one pin *i* and hole *n* may be used, if found expedient.

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

1. A rotating disk or tumbler having a raised notched border and a division in said border, a pinion secured to the center of the disk, and a spring-impelled toothed segment meshing with the pinion and situated in the path of a key, in combination with a shackle provided with a tongue having a notched shoulder to engage the notched border of the disk, all constructed and adapted to operate substantially as described.

2. The combination, with a tongue having a transverse opening, and with a tumbler acting on the tongue, of a spring-impelled anchor, either arm of which is adapted to catch in the tongue-opening, a key-guide, a swinging arm or dog bearing on the anchor, and having a lateral pin which projects into the key-guide, a sliding guard to the key-guide acting upon the swinging arm, and a key having a transverse hole adapted to receive the pin of the swinging arm, all constructed and adapted to operate substantially as described.

3. The combination of the rotating disk C, having the border *b*, and division *c* in such border, the pinion *d*, and toothed segment D, the anchor G, key-guide E, swinging arm I, having the pin *i*, sliding guard J, and key F, having the hole *n*, with a tongue arranged to engage the border *b*, and having the opening *h*, all constructed and adapted to operate substantially as described.

4. The combination of the tongue A with a shackle mortised or recessed at its free end, and a lock-case having a nipple adapted to the mortise of the shackle, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 24th day of July, 1879.

CONRAD JENSEN. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.