

No. 636,303.

Patented Nov. 7, 1899.

H. G. VOIGHT.

PADLOCK.

(Application filed Apr. 24, 1899.)

(No Model.)

Fig. 1.

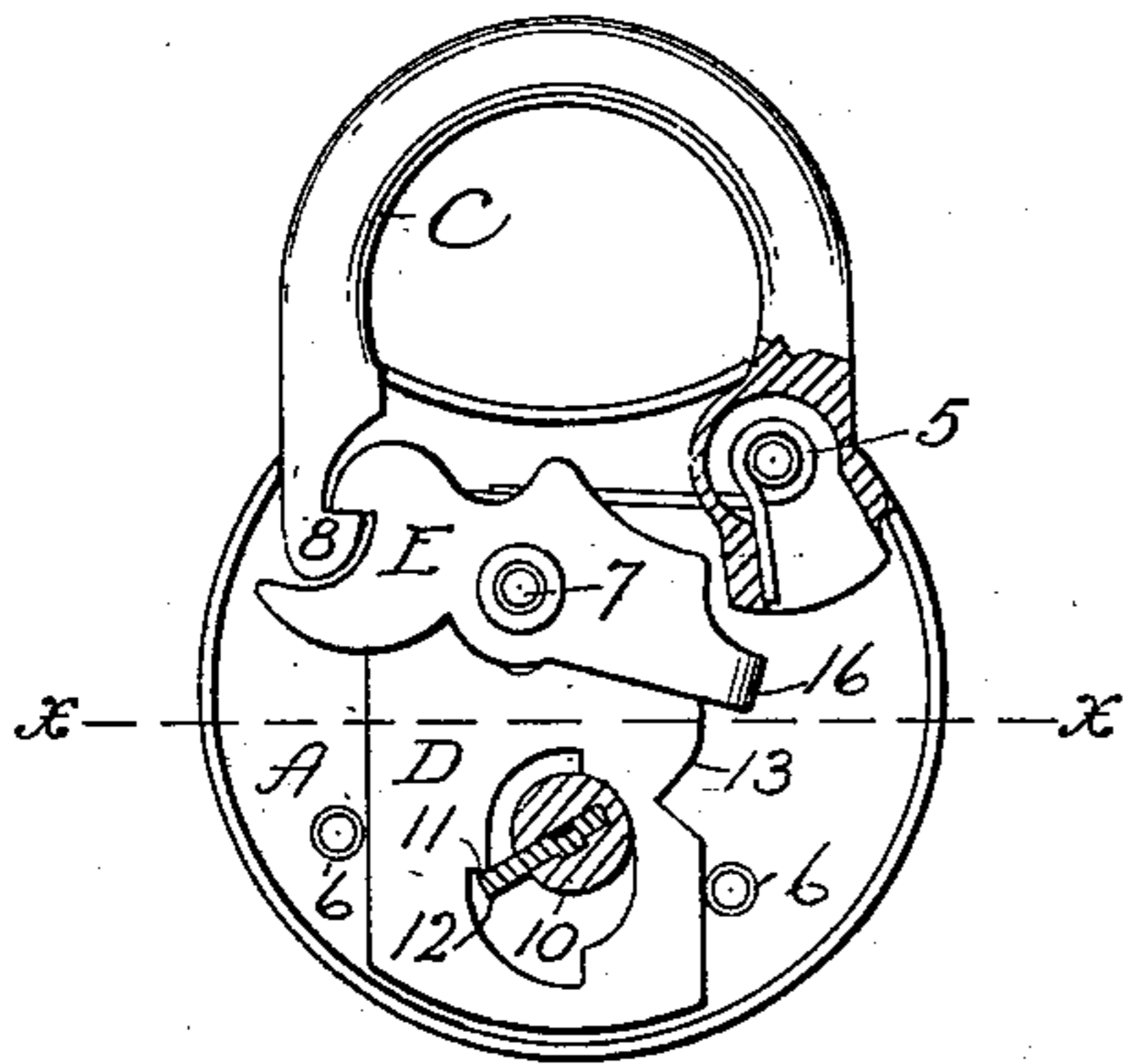


Fig. 2.

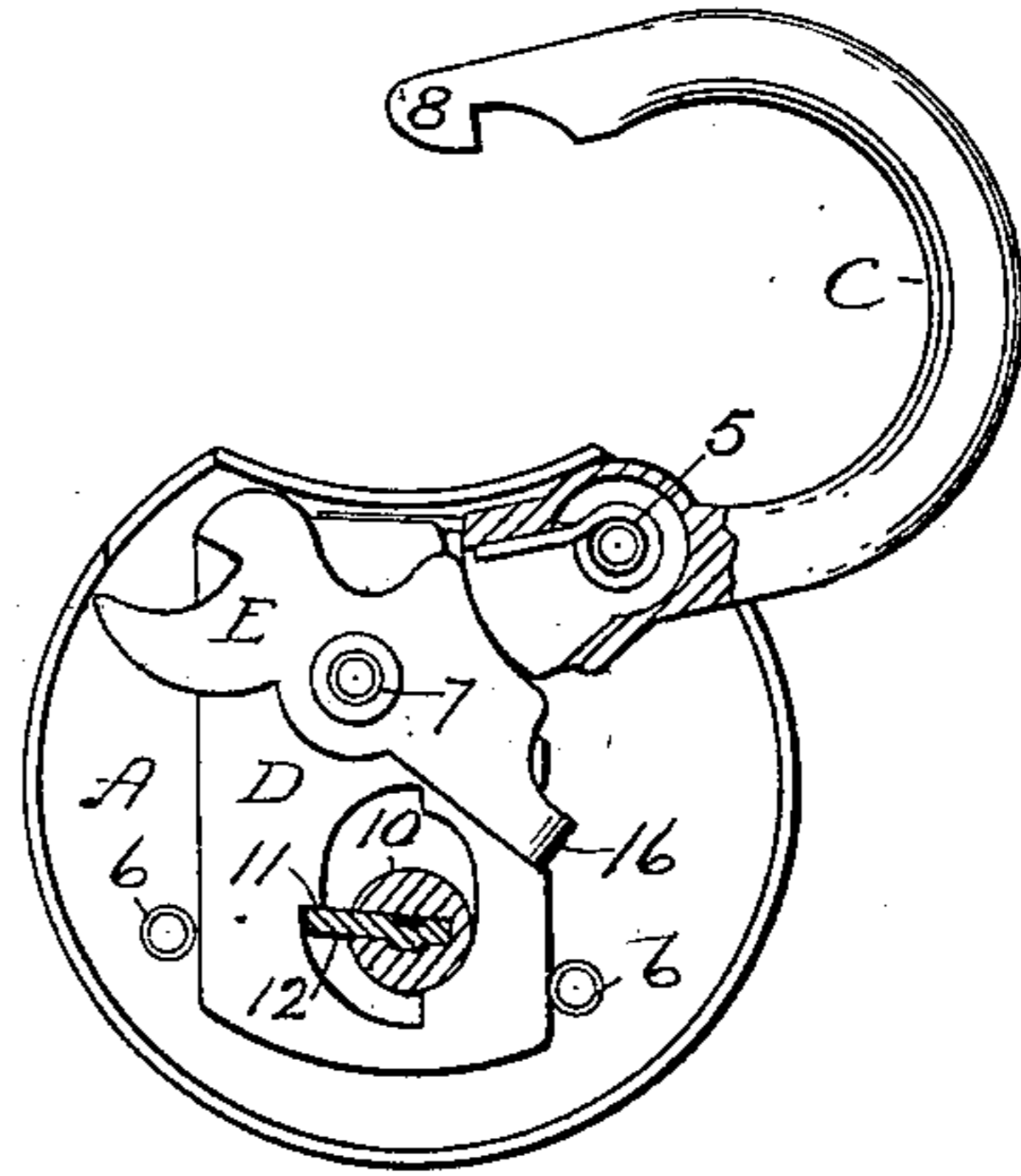


Fig. 4.

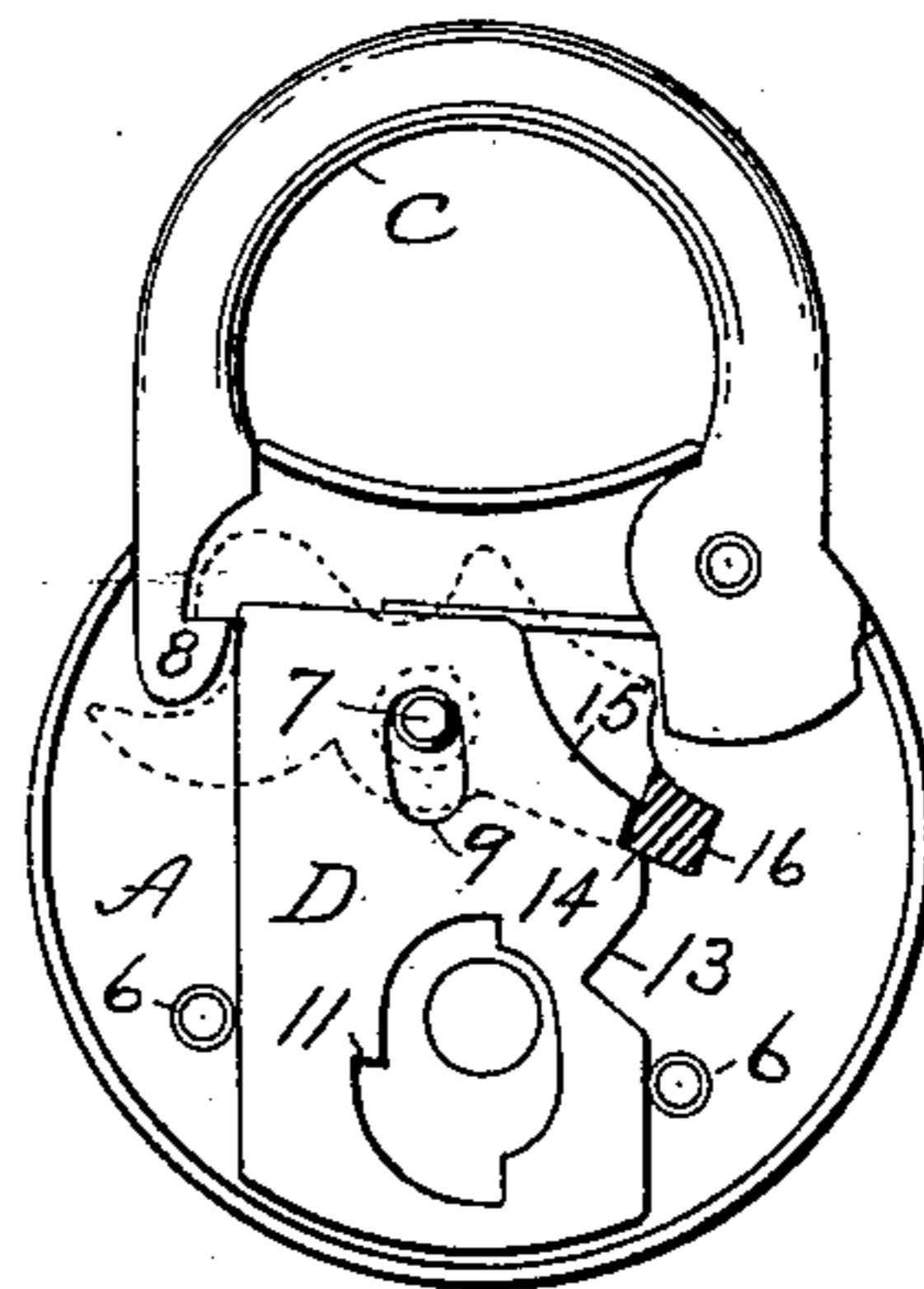
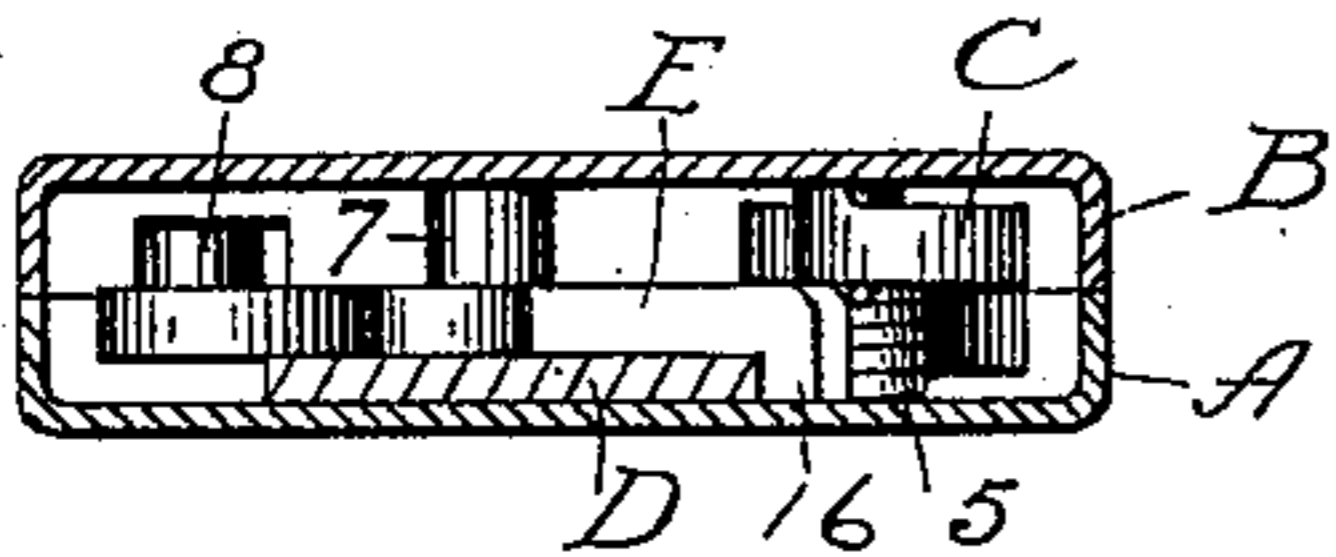


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 636,303, dated November 7, 1899.

Application filed April 24, 1899. Serial No. 714,278. (No model.)

To all whom it may concern:

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing in New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Padlocks, of which the following is a specification.

My invention relates to improvements in padlocks; and the main object of my improvement is to produce a fairly secure padlock of a very simple and inexpensive construction.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of my padlock with the cap removed and with the key in transverse section. Fig. 2 is a like view of the same with the shackle unlocked. Fig. 3 is a transverse section of the upper part of the complete padlock on the line $x x$ of Fig. 1. Fig. 4 is a front elevation of parts thereof with the heel of the swinging dog in section and its contour in dotted lines, so as to more clearly show the upper end of the tumbler.

A designates the body of the case, B its cap, and C the shackle. The heel of the shackle C is recessed in an ordinary manner for the reception of the spring 5, the short arm of which rests against a side wall of the recess in said shackle and the long arm of which rests in a shallow groove made to receive it in the upper edge of the sliding tumbler D. The said tumbler is guided at its lower end by the pins or posts 6 in the case and at its upper end by the post 7 for the swinging dog E, the tumbler being longitudinally slotted at 9 to receive the said post 7, as shown in Fig. 4. The lower end of said tumbler is also cut away or provided with an opening that surrounds the ordinary slotted key-hub 10. Within this opening or cut-away portion is the face or shoulder 11 for being acted upon by the key-bit 12, Figs. 1 and 2. In the right-hand edge of the tumbler D, as seen in front view, there is a recess or notch with a long oblique face 13 and a second notch with a shorter and oppositely-inclined face 14. The upper right-hand corner of the tumbler is truncated, as at 15, in order that it may clear the heel of the shackle when the said tumbler is raised.

In front of the tumbler D, pivoted on the

post 7, is a swinging dog E for engaging the nose 8 of the shackle in the ordinary manner of similar dogs, the heel 16 of said dog being thickened rearwardly, so as to engage the right-hand edge of the tumbler D. When the shackle E is locked, its heel 16 rests upon the short oblique face 14, Fig. 4, and the spring 5 acts to force the tumbler D downwardly and at the same time to force the shackle outwardly, thereby pulling on the dog, so as to hold its heel on the face or shoulder 14 of the tumbler with all the force of said spring 5. Upon applying the key to the lock and turning it so as to present a proper key-bit to the shoulder 11 of the tumbler the said tumbler is raised upwardly against the spring 5. The first movement of the tumbler lifts the heel 16 of the dog, thereby drawing down its opposite end and of necessity drawing the nose of the shackle a little farther into the case, but when the heel 16 disengages the said face 14 it still bears upon the straight portion of the edge of the tumbler and confines the dog and shackle until the said heel 16 reaches the oblique face 13, which it slides down with a snap under the influence of the spring 5 and the parts are moved from the locked position shown in Fig. 1 to the unlocked position shown in Fig. 2. When in this position, the engagement of the heel 16 of the dog with said oblique face 13 prevents the spring 5 from moving the tumbler downwardly, so that the parts will remain in the position shown in Fig. 2 as long as may be desired. In order to again lock the shackle, it is only necessary to force the nose of the shackle into the case, which nose as it enters strikes the swinging dog and moves said dog far enough to withdraw its heel 16 from in front of the oblique face 13 and permit the tumbler to descend under the influence of the spring 5.

The second or shallow recess, in which is the face 14, is not essential to the operation of the padlock, but it is desirable as affording security, because it prevents the tumbler from being moved to unlock the shackle by blows upon the padlock-case. By my improvement the spring that serves for the shackle also serves for the tumbler, thereby simplifying the construction. The construc-

tion of the tumbler and dog holding the shackle would not, however, be changed if the tumbler were actuated by a separate spring.

Changes in the keys may be made by varying the distance of the shoulder 11 from the axis of the key and correspondingly changing the radial length of the key-bit that engages the said shoulder by its flat side. If the key-bit is too long, it will strike the edge of the opening in the tumbler and stop the key before it reaches said shoulder 11. If it is too short, it will pass by said shoulder without moving the tumbler at all, or perhaps moving it insufficiently.

I claim as my invention—

1. In a padlock, the combination of the sliding tumbler having the oblique face 13, with the swinging dog having a heel 16 for engaging the tumbler at and adjacent to said face, and the spring-actuated shackle with its nose engaging the said dog, substantially as described.

2. In a padlock, the combination of the slid-

ing tumbler having the oblique face 13, and the second but shorter opposing oblique face 14, with the swinging dog having a heel 16 for engaging said tumbler-faces, and the spring-actuated shackle with its nose engaging the said dog, whereby the dog locks the tumbler against being jarred out of place, substantially as described.

3. In a padlock, the combination of the tumbler, the shackle and the dog with one end adapted to engage and lock the said shackle and its other end adapted to engage with the tumbler and be locked thereby, with the spring 5 having one of its arms pressing upon the shackle to throw it outwardly and the other arm pressing upon the tumbler to force it into the position for locking the said dog, substantially as described.

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Witnesses:

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