

(No Model.)

F. SOLEY.
PADLOCK.

No. 601,085.

Patented Mar. 22, 1898.

FIG. 1.

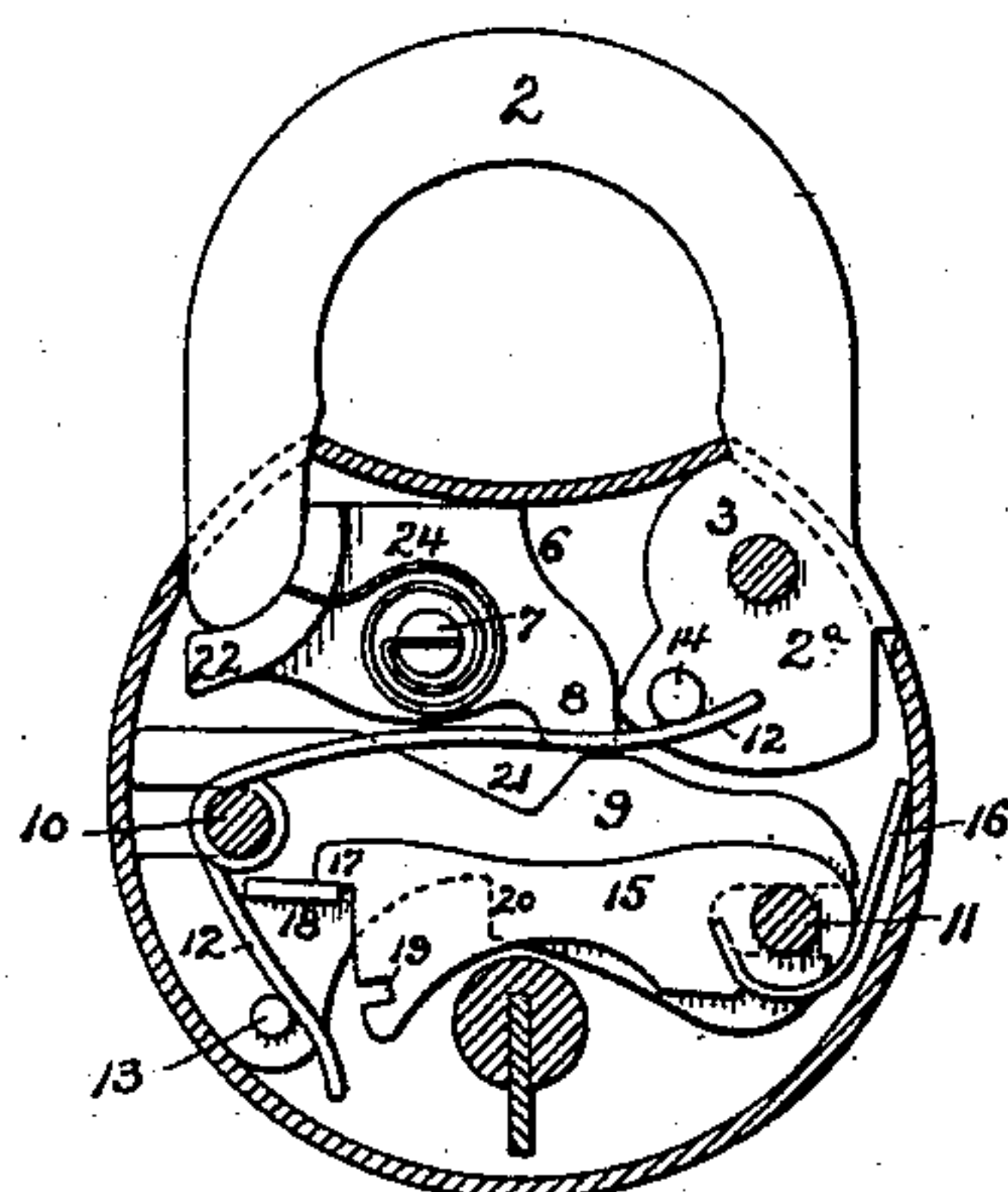
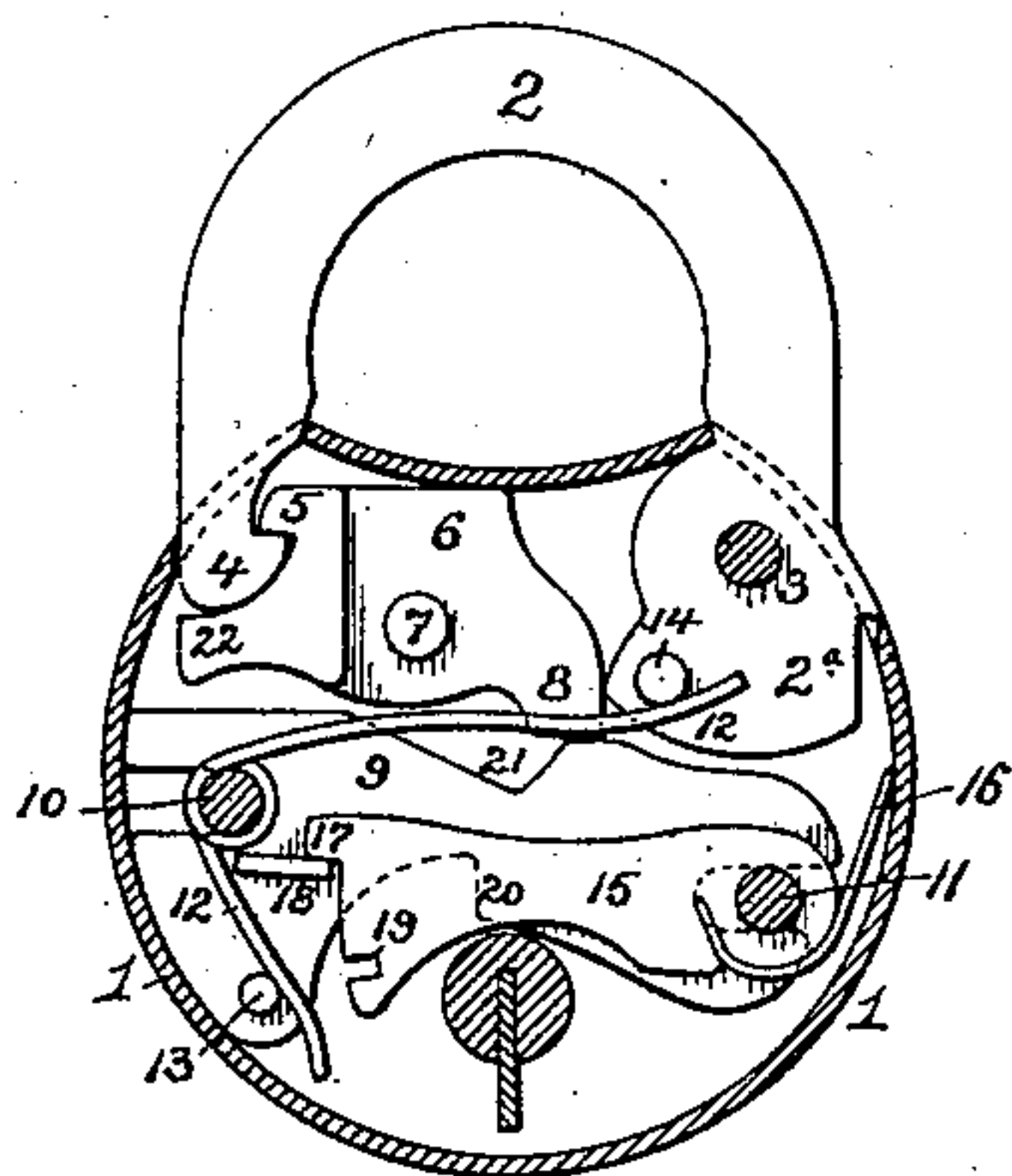


FIG. 5.

FIG. 4.

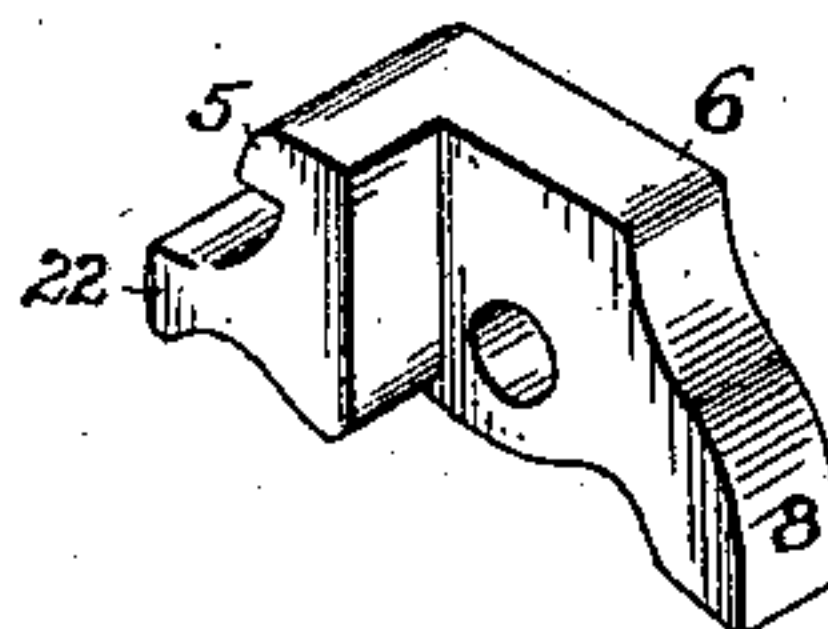


FIG. 2.

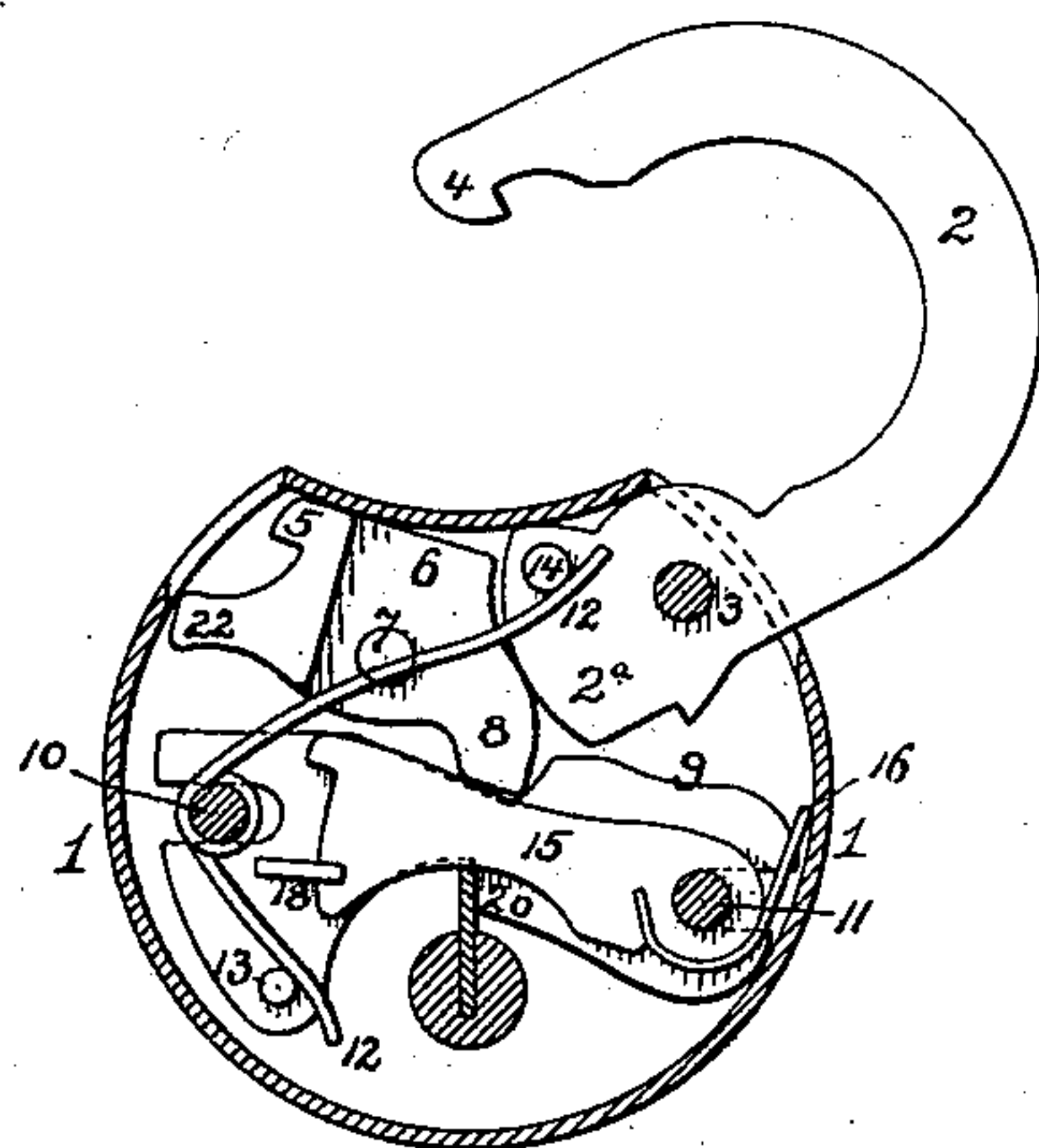
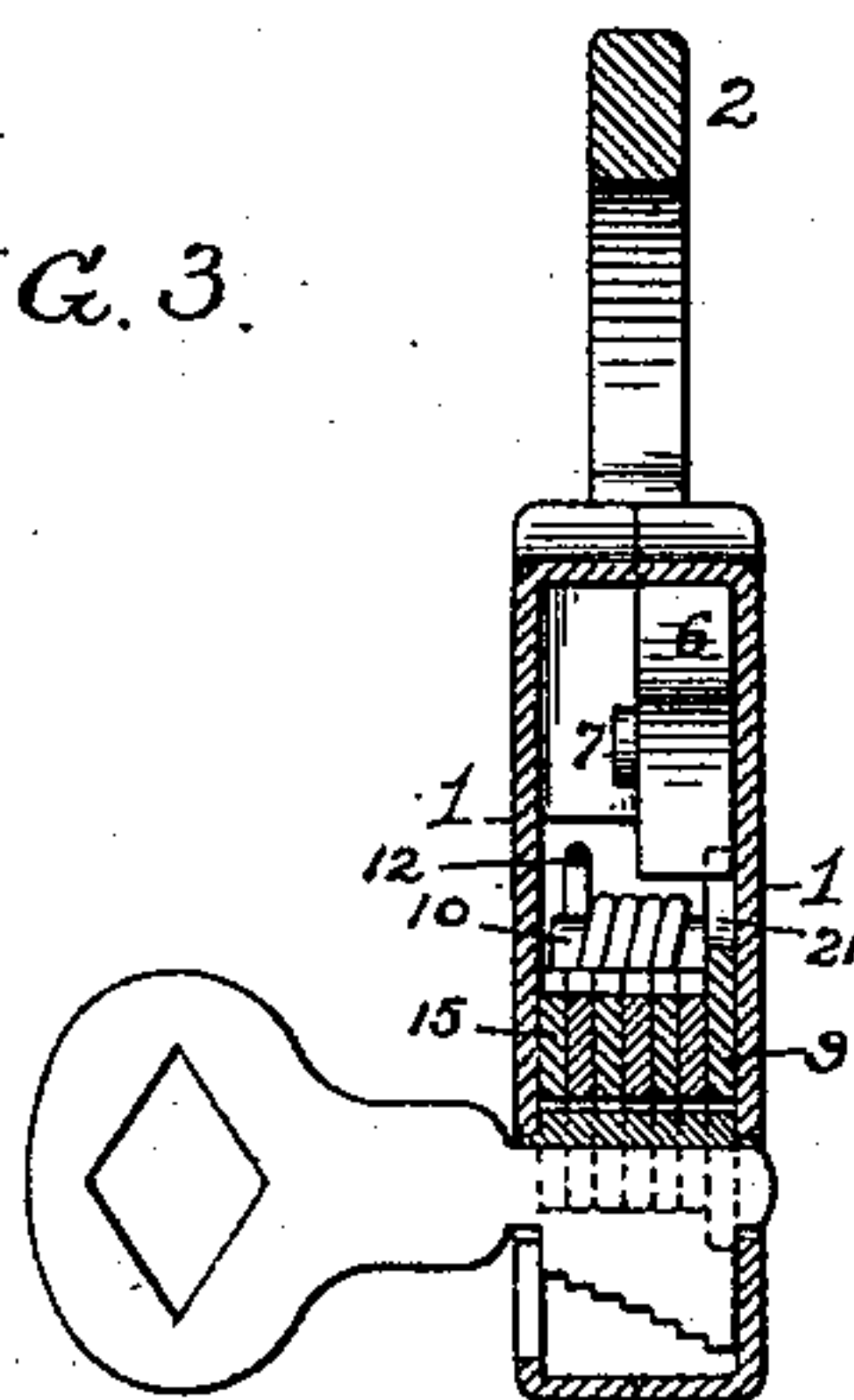


FIG. 3.



Witnesses:
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Inventor
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UNITED STATES PATENT OFFICE.

FRANK SOLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 601,085, dated March 22, 1898.

Application filed September 22, 1897. Serial No. 652,557. (No model.)

To all whom it may concern:

Be it known that I, FRANK SOLEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Padlocks, of which the following is a specification.

The objects of my invention are to construct in a cheap and simple form a padlock in which the shackle when locked will be securely retained against release by hammering or jarring the lock-case and in which the parts acted upon by the key in opening the lock will be retained in the position to which they have been adjusted until the shackle is
15 closed and the lock again locked. These objects I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a view of a padlock constructed
20 in accordance with my invention, some of the transverse pins and the key-barrel and key being shown in section and the parts being shown in the locked position. Fig. 2 is a similar view showing the parts in the unlocked position. Fig. 3 is a transverse section of the lock, with some of the internal parts shown in elevation. Fig. 4 is a perspective view of one of the elements of the lock; and Fig. 5 is a view similar to Fig. 1, but illustrating a modified construction of the lock.

The casing 1 of the lock may be of any desired shape and made in any suitable way, this forming no part of my invention.

The shackle 2 is hung, as usual, to a transverse pin 3 and in the lock shown in Figs. 1 and 2 has a hooked end 4 for engaging with a hook 5 upon a dog 6, which is hung to a suitable pivot-pin 7 in the lock-casing, the tail 8 of said dog when the lock is closed bearing
40 upon the top of a sliding plate 9, which is slotted at the ends for the reception of suitable transverse pins 10 and 11, upon which said plate 9 is thus mounted and by which it is guided in its movement.

45 Around the pin 10 is coiled a spring 12, one end of this spring acting upon a pin 13 on the plate 9, so as to tend to constantly move the same forward, or to the position shown in Fig. 1, the other end of the spring 12 acting upon a pin 14, projecting from the heel 2^a of the shackle, so as to open the lock

as soon as the hooked end of the shackle is released from engagement with the hook 5 of the dog 6.

Hung to the pin 11 are a series of tumblers 55 15, each acted upon by a spring 16, tending to depress it to an extent limited by contact of a lug 17 on the free end of the tumbler with a stump 18, projecting from the face of the plate 9, and in each tumbler 15 is formed 60 a notch 19, so that when the tumblers are raised by means of a properly-bitted key the notches of all of the tumblers will be brought into line with the stump 18, and the plate 9, carrying the latter, can be caused to move 65 rearwardly, or to the position shown in Fig. 2, by reason of the action of a portion of the key upon a shoulder 20 on said plate. When the lock is closed, the shackle 2 is doubly locked, first, by reason of the engagement of 70 the hook 4 of the shackle with the hook 5 of the dog 6, and, secondly, by reason of the engagement of the heel portion 2^a of the shackle with the tail 8 of said dog, as shown in Fig. 1, so that the firm and secure retention of the shackle in the locked position is insured. In 75 the upper portion of the plate 9, however, is a recess 21, and when said plate 9 has been retracted, by means of the key, to the position shown in Fig. 2 the tail 8 of the dog 6 can enter this recess, thus permitting the withdrawal of the hook 5 of the dog from engagement with the hook 4 of the shackle and removing the tail 8 from the path of the heel 2^a of the shackle, so that the latter is free to 85 be swung open under the action of the spring 12, as shown in Fig. 2. When the dog is in this position, it locks the plate 9 in the retracted position shown in Fig. 2, and as the stump 18 of said plate is in engagement with 90 the notches of the tumblers the latter are also locked in the positions to which they have been adjusted by the key, while movement of the dog is prevented by contact of the tail 8 of the same with the heel of the shackle. 95 Hence the working parts of the lock are rigidly held in position both when the lock is locked and when it is unlocked. When the shackle is closed, the hooked end of the same strikes a finger 22 upon the outer end of the 100 dog 6 and depresses said outer end of the dog, so that the latter is again moved to the posi-

tion shown in Fig. 1, the heel of the shackle having, as said shackle is closed, been moved out of the path of the tail 8 of the dog, so that the restoration of the latter to the position shown in Fig. 1 is not interfered with. As the tail of the dog is lifted from the recess 21 of the plate 9 the latter is free to move forward by the action of the spring 12, thus carrying the stump 18 out of the notches of the tumblers and permitting the latter to be depressed by the action of their springs 16, and at the same time that portion of the plate 9 in the rear of the recess 21 is carried under the tail 8 of the dog 6, so as to again retain the latter and prevent the release of the shackle until the parts have again been properly moved by the action of the key.

In the modified form of lock shown in Fig. 5 the hook 4 upon the shackle and the hook 5 upon the dog have been dispensed with, a spring 24 serving to move the dog from the locking position shown in Fig. 1 to the unlocking position shown in Fig. 2 and the shackle being locked by engagement of the heel of the same with the tail of the dog. The finger 22 may be dispensed with, if desired, and the dog moved from the unlocking position, Fig. 2, to the locking position, Fig. 1, by the action of the beveled rear end of the recess 21 of the plate 9, or when the hooked dog is used this movement of the same may be effected by a spring.

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

1. The combination in a padlock, of a swinging shackle having a projecting heel, a pivoted locking-dog having a tail for engagement with said heel to retain the shackle in the closed position, means for moving said dog from the locking position to the unlocking position and vice versa, a sliding plate for retaining the locking-dog in position when the lock is closed, and tumblers serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

2. The combination in a padlock, of a swinging shackle having a hooked nose, a locking-dog having a hook for engagement with said hooked nose of the shackle, means for moving said dog from the unlocked to the locked position, a sliding plate for holding said locking-dog in position when the lock is closed, and tumblers serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

3. The combination in a padlock, of a swinging shackle having a hooked nose and a projecting heel, a pivoted locking-dog having a hook for engaging with said hooked nose of the shackle, and a tail for engaging with and locking the heel of the shackle when the latter is closed, means for moving the dog from the unlocking to the locking position, a sliding plate for retaining the locking-dog in position when the lock is closed, and tumblers

serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

4. The combination in a padlock, of a swinging shackle having a projecting heel, a pivoted locking-dog having a finger to be struck by the nose of the shackle as the latter is closed so as to move the dog from the unlocking to the locking position, and a tail for engaging with the projecting heel of the shackle and holding the latter in the closed position, means for moving the dog from the locking to the unlocking position, a sliding plate for retaining the locking-dog in position when the lock is closed, and tumblers serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

5. The combination in a padlock, of a swinging shackle having a hooked nose and projecting heel, a dog having a hook for engaging said hooked nose of the shackle, a finger for being struck by the nose of the shackle as the latter is closed so as to move the dog from the unlocking to the locking position, and a tail for engaging with the projecting heel of the shackle to hold the same in the closed position, a sliding plate for retaining the dog in locking position when the lock is closed, and tumblers serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

6. The combination in a padlock, of a swinging shackle having a hooked nose, a pivoted locking-dog having a hook for engaging the hooked nose of the shackle, and a finger for being struck by said nose as the shackle is closed so as to move the dog from the unlocking to the locking position, a sliding plate for retaining the dog in locking position when the lock is closed, and tumblers serving to hold said locking-plate in its locking position until actuated by a proper key, substantially as specified.

7. The combination in a padlock, of a swinging shackle, a pivoted locking-dog adapted to engage with said shackle to hold it in the closed position, a sliding plate which retains the dog in locking position when the lock is closed, but which has a recess for receiving the tail of the dog when the lock is open, notched tumblers adapted to be adjusted by a key, and a projection upon the sliding plate for engaging with the notches of the tumblers when the latter have been so adjusted, the tail of the dog, when the plate is retracted, occupying the recess in said plate and holding the same in the retracted position, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK SOLEY.

Witnesses:

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CHARLES P. CASASSA.