

No. 734,119.

PATENTED JULY 21, 1903.

N. W. CRANDALL.
PADLOCK.

APPLICATION FILED APR. 16, 1903.

NO MODEL.

Fig. 1.

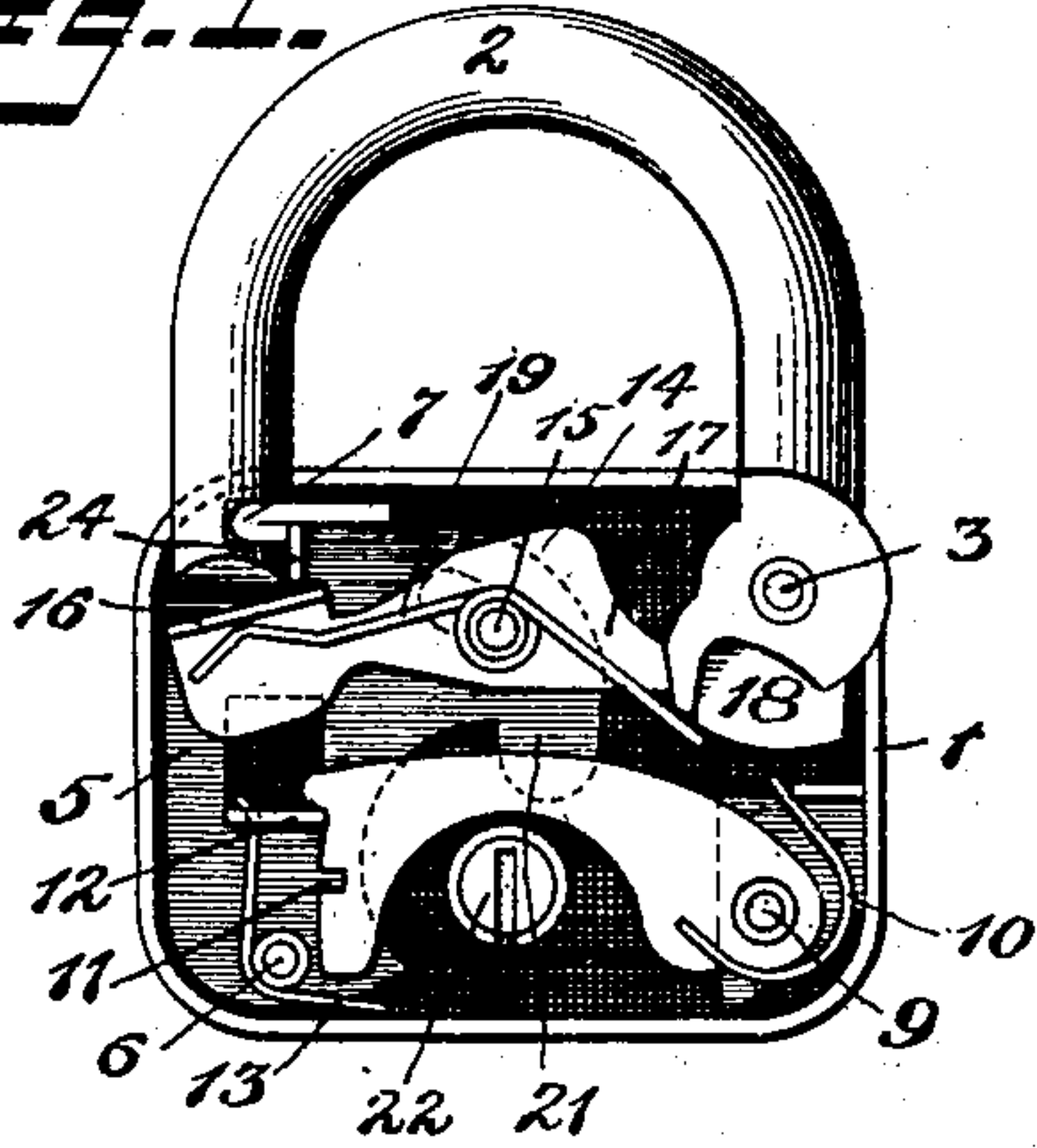


Fig. 2.

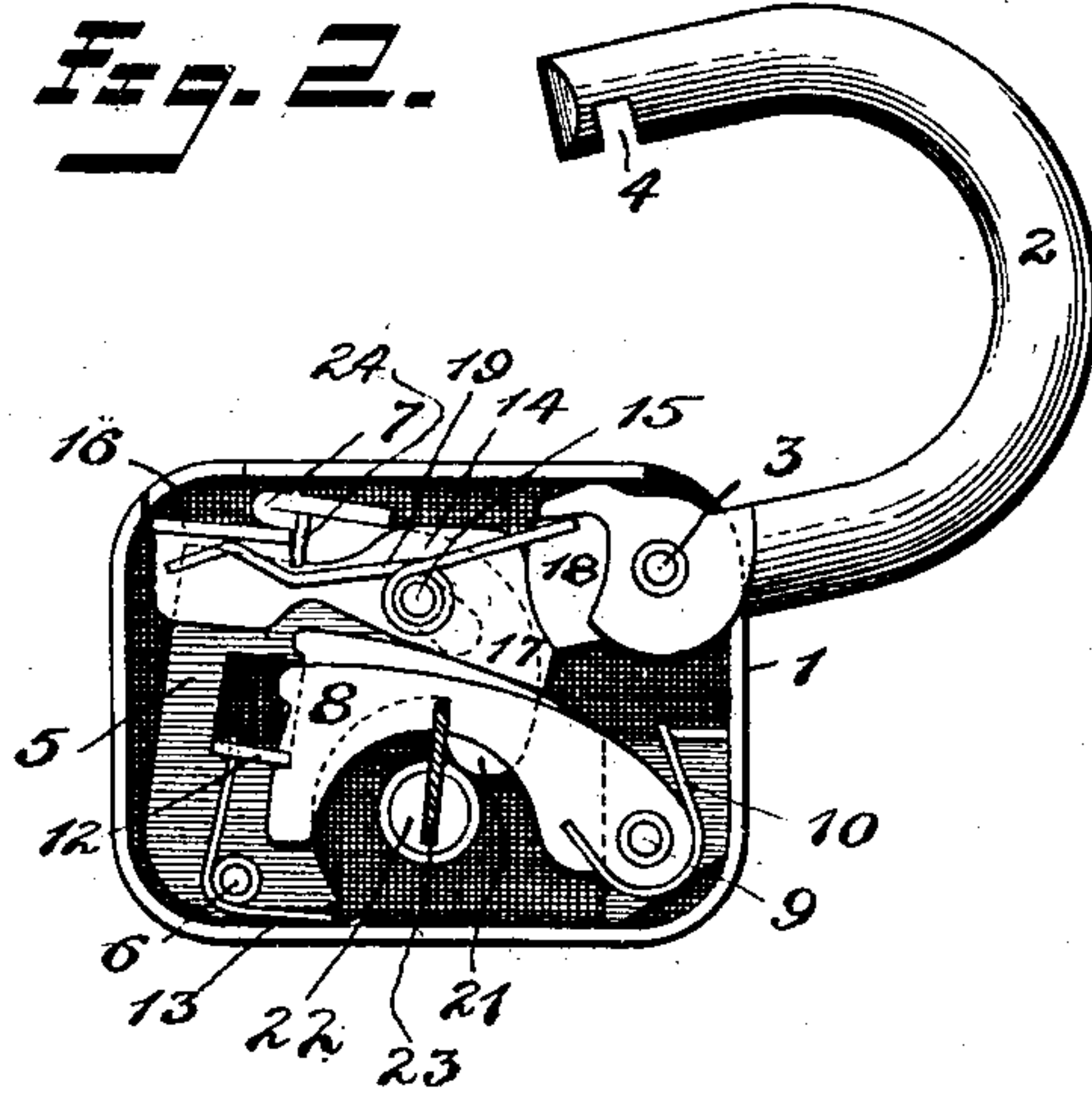


Fig. 3.

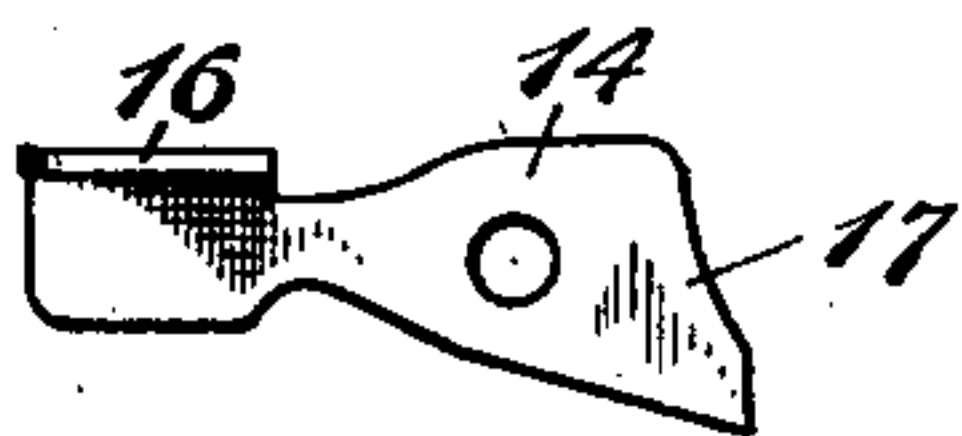


Fig. 5.

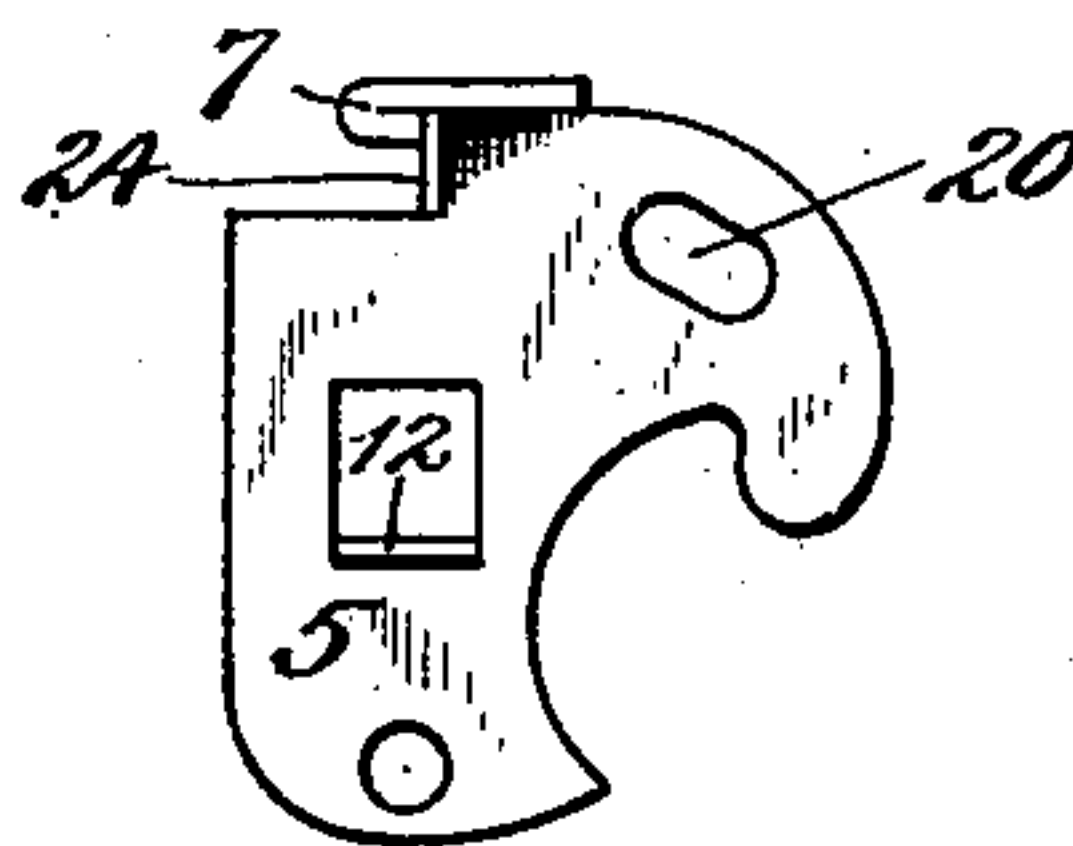


Fig. 6.

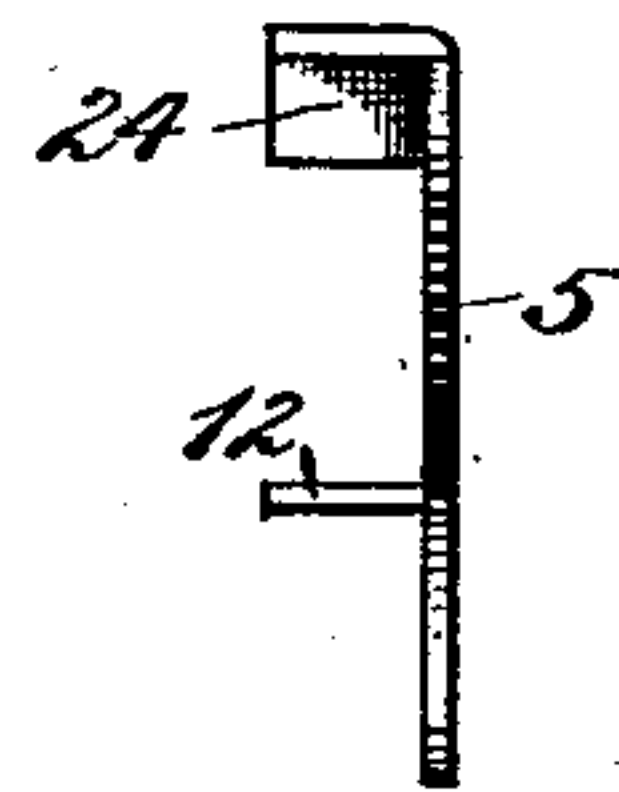


Fig. 4.

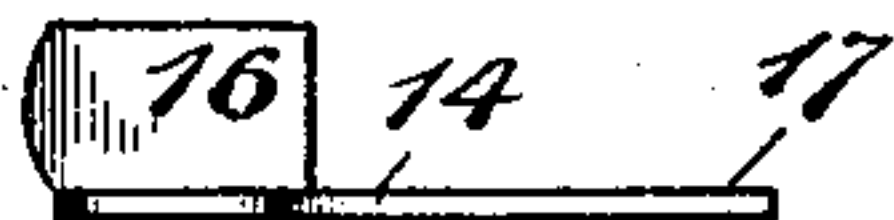
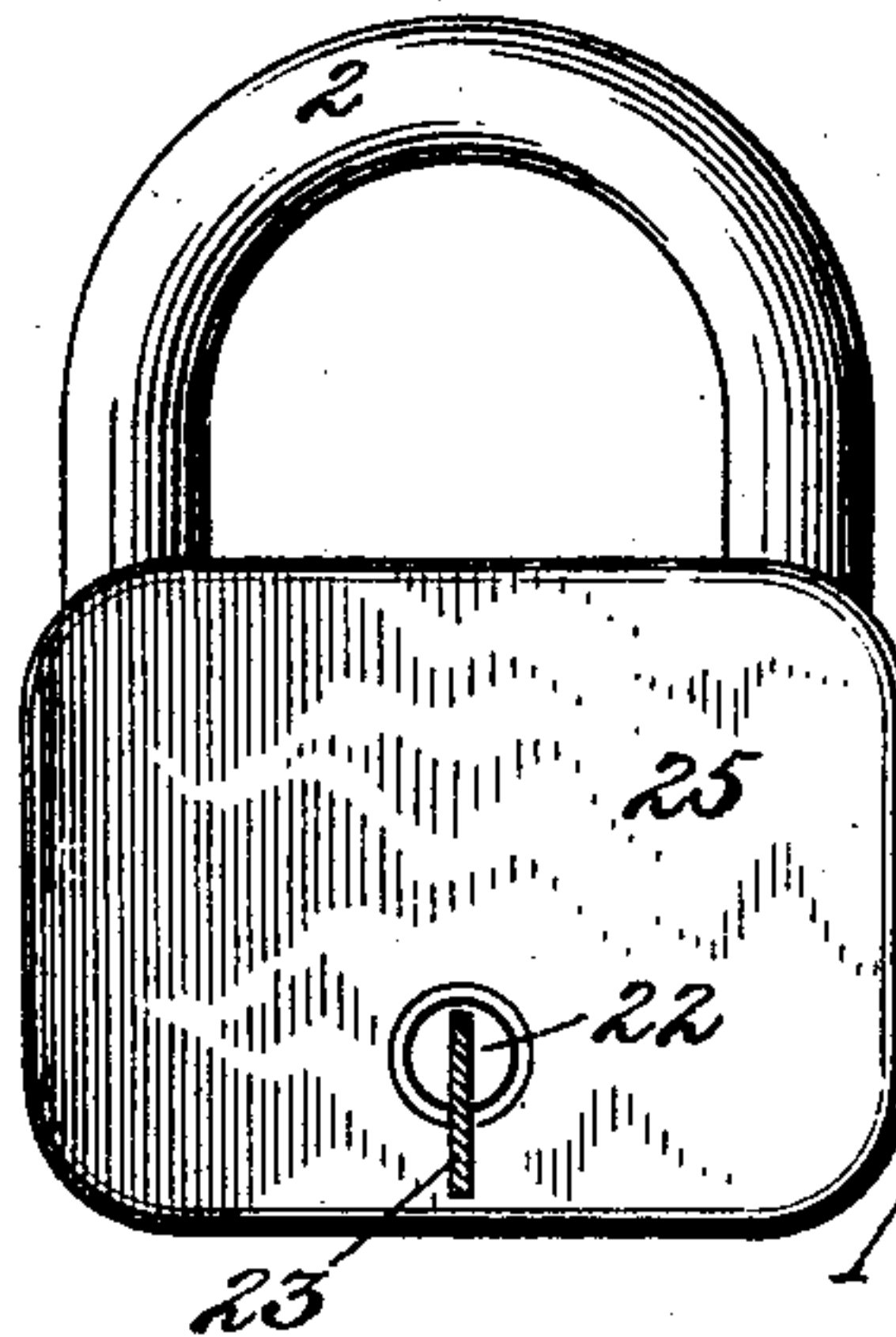


Fig. 7.



WITNESSES.

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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 734,119, dated July 21, 1903.

Application filed April 16, 1903. Serial No. 152,832. (No model.)

To all whom it may concern:

Be it known that I, NATHAN W. CRANDALL, a citizen of the United States, residing at Meriden, in the county of New Haven, State of Connecticut, have invented certain new and useful Improvements in Padlocks, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks; and it has for its object the construction of a padlock which shall be simple, effective, and durable.

In the drawings, Figure 1 is an elevation of a padlock with the cover-plate removed and showing the hasp closed and locked. Fig. 2 is a similar view showing the hasp open. Fig. 3 is a side elevation of a detached detail of construction. Fig. 4 is a plan view of the detail shown in Fig. 3. Fig. 5 is a side elevation of another detail of construction, and Fig. 6 is an end elevation thereof. Fig. 7 is a front elevation of the complete article.

1 is the lock case or frame.

2 is a hasp pivoted to the case at 3. The free end of the hasp is provided with a notch 4.

5 is a locking-dog pivoted at 6 and taking a swinging motion. The dog 5 carries the nose 7, which serves as the locking member, adapted to enter the notch 4 of the hasp when the padlock is closed.

8 8 are tumblers pivoted at 9 and actuated by a spring or springs 10. There may be any desired number of tumblers employed. In the free end of each tumbler there is a notch 11.

12 is a lug on the dog 5, which lug 12 lies adjacent to the end of the tumbler or tumblers 8. 13 is a spring arranged to cause said dog 5 to swing, so as to normally throw the locking-nose 7 into its operative position.

From the foregoing it will be seen that when the key is inserted in the lock and the tumblers 8 8 raised to the proper elevation their notches will register in front of the lug 12.

In the form shown I have provided a supplemental device which I shall term a "protector-lever" 14, pivoted at 15. The protector-lever 14 carries a shield 16 at one end and at the other end a tail 17, which lies adjacent to an extension or heel 18 at the inner pivot-

ed end of hasp 2. When the hasp 2 is closed, its heel 18 is locked by the tail 17 of the protector-lever 14. This is best seen in Fig. 1. When the lock is opened, the protector-lever first swings on its pivot, so that its tail 17 will clear the hasp-heel 18, whereupon the hasp may swing back to the position indicated in Fig. 2. In this position the heel 18 overstands the tail of the protector-lever, as shown in Fig. 2, locking said protector-lever 14 in the position shown.

19 is a spring which may be supported on pivot 15, carried by the case 1. One end of the spring 19 may bear against the shield 16, while the other end may bear in a notch on the side of the heel 18. The influence of the spring is such as to swing the protector-lever and the hasp from the positions shown in Fig. 1 to the positions shown in Fig. 2. In this position the shield 16 stands in front of a stop 24 on locking-nose 7. A slot 20 may be provided in the dog 5, through which the pivot 15 may independently pass. A horn 21 may also be formed on the dog 5, against which the key may act.

22 is a key-hub carried by the case 1.

23 conventionally represents a portion of a key.

A cover-plate 25, constituting part of the case, is of course employed. The same corresponds, substantially, in shape to the member 1 and may be applied when the mechanism is assembled and secured to the frame or case 1 in any desired manner.

From the foregoing description the operation of the padlock will be seen to be as follows: Assuming the parts are in the position indicated in Fig. 1, when a proper key is inserted and rotated it moves the tumblers 8 8 to a position where their notches will arrange in front of the lug 12. The key will then engage the horn 21 on the dog 5. The further rotation of the key will swing the dog from the position indicated in Fig. 1 to the position indicated in Fig. 2, the lug 12 entering the notches in the tumblers and the nose 7 being withdrawn from notch 4. Then under the influence of the spring 19 the hasp will be swung back to the position indicated in Fig.

2 and the protector-lever 14 will tilt, swinging the shield 16 upward, contracting the opening previously occupied by the end of the hasp 2. This shield 16 will then stand in front of a downward projection or stop 24 on the nose 7, and will hence hold the dog back, so that the lug 12 will remain in the notches in the tumblers. The hasp 2 in swinging back locks the protector-lever 14 against movement. Hence it is impossible to introduce any tool into the case through the hasp-opening to tamper with the internal mechanism. The protector-lever 14 will continue to be locked until the hasp 2 is swung back to nearly the position indicated in Fig. 1. When the end of the hasp 2 engages with the protector-plate 14, the heel 18 will clear the tail 17 of the protector-lever, whereupon it may be swung down into the position shown in Fig. 1, where in said tail will stand in front of and block the hasp extension. The depressing of the protector-plate causes the same to clear the extension 24 on the locking-nose 7, which then under the influence of spring 13 moves to the left and enters the notch in the hasp, locking the same.

It should be stated that the locking-nose 7 is preferably formed integrally with the dog 5 and that portion of the locking-nose which extends into the notch is doubled upon itself to reinforce and strengthen the same to prevent the hasp being torn open, excepting by the application of such force as would practically destroy the lock or any portion thereof.

While I have shown in the drawings the preferred form of the invention, it is obvious that changes in the particular form and arrangement of the parts may be made without departing from the spirit and scope thereof.

What I claim is—

1. In a padlock, a hasp, a notched tumbler, a dog, a pivot therefor, a locking-nose carried by said dog, a lug carried by said dog for engaging with the notch in the tumbler, a protection-lever, a pivot therefor one end of the lever being provided with a shield underlying the opening in the case to receive the free end of the hasp, the other end of said protector-lever being provided with a tail arranged to engage with the heel of the hasp when the padlock is closed and locked.

2. In a padlock, a case, a hasp pivoted at one end therein, a notched tumbler, a pivoted dog arranged to be actuated by a key, a locking-nose carried by said dog, a lug on said dog arranged to engage in the notch in the

tumbler, a pivoted protector-plate, one end thereof projecting into the path of movement of the free end of the hasp as the lock is closed, the other end of said lever constituting a tail arranged to engage with the heel of the hasp when said hasp is closed and acting conjointly with said locking-nose in holding said hasp in the closed position.

3. In a padlock, a casing, a pivoted hasp, a notched tumbler, a dog arranged to be actuated by a key, a locking-nose on said dog, a lug on said dog arranged to engage in the notch in said tumbler, a lever, a pivot therefor, one end of said lever lying adjacent to the heel of the hasp and arranged to engage the heel of the hasp when said lever is tilted by the closing hasp.

4. In a padlock, a casing, a hasp, key-operated means for locking said hasp, a lever, a shield carried thereby and movable therewith for contracting the hasp-opening in the case when the end of the hasp is removed therefrom.

5. In a padlock, a casing, a hasp, key-operated means for locking said hasp, a lever, a shield carried thereby and movable therewith for contracting the opening into the case arranged to receive the free end of the hasp, and a tail at the other end of said lever arranged to be blocked by the heel of the hasp when the padlock is unlocked to prevent displacement of the said shield.

6. In a padlock, a case, a hinged hasp, a swinging dog, a locking-nose carried by said dog, a pivoted protector-lever arranged to engage with the dog and hold it out of its operative position when the hasp is open, said hasp being arranged to engage with the lever to hold it in engagement with said dog during the period when said hasp is open.

7. In a padlock, a hinged hasp, a pivoted locking-dog, key-operated means to move said dog, a pivoted protector-lever carrying a shield adjacent to the opening in the case into which the free end of the hasp is arranged to enter, said protector-lever being locked against movement by the heel of the hasp when the hasp is open, said hasp being locked by said lever when said hasp is in its closed position.

Signed at New Britain, Connecticut, this 14th day of April, 1903.

NATHAN W. CRANDALL.

Witnesses:

M. S. WIARD,

W. E. WIGHTMAN.