

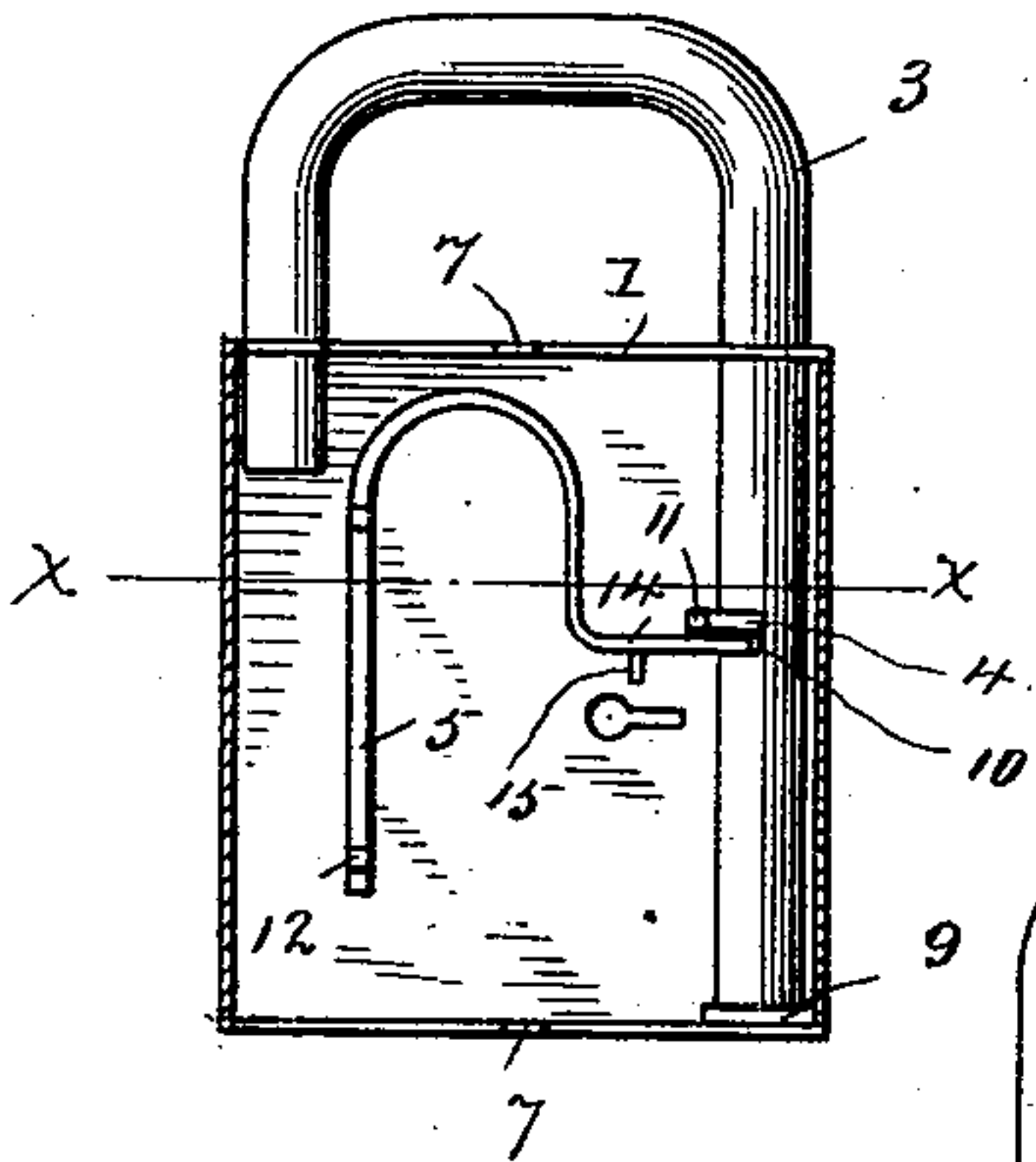
(No Model.)

W. G. BROWNE & W. D. PALMER.  
PADLOCK.

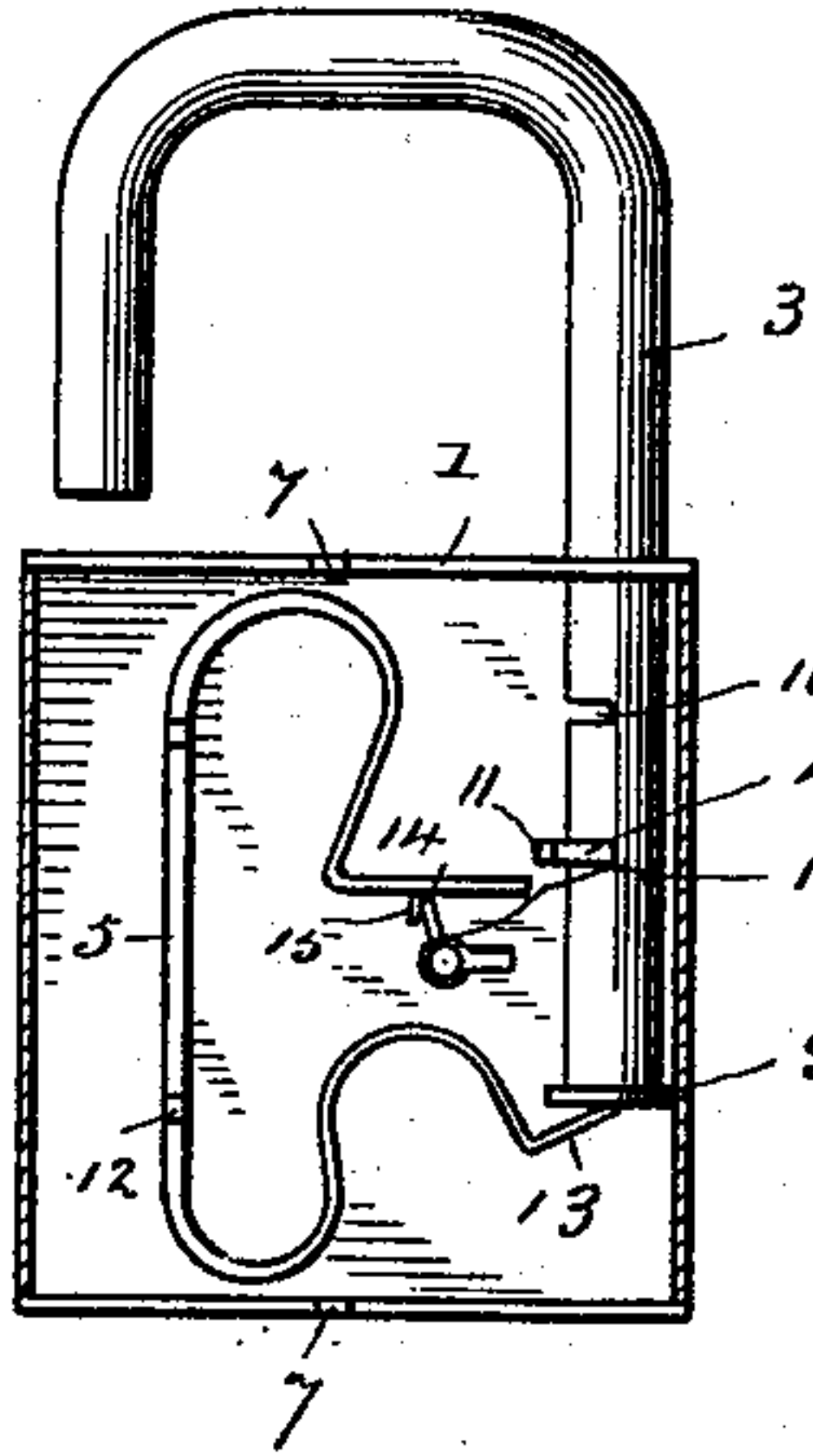
No. 506,665.

Patented Oct. 17, 1893.

*Fig. 1.*



*Fig. 2.*



*Fing. 3.*

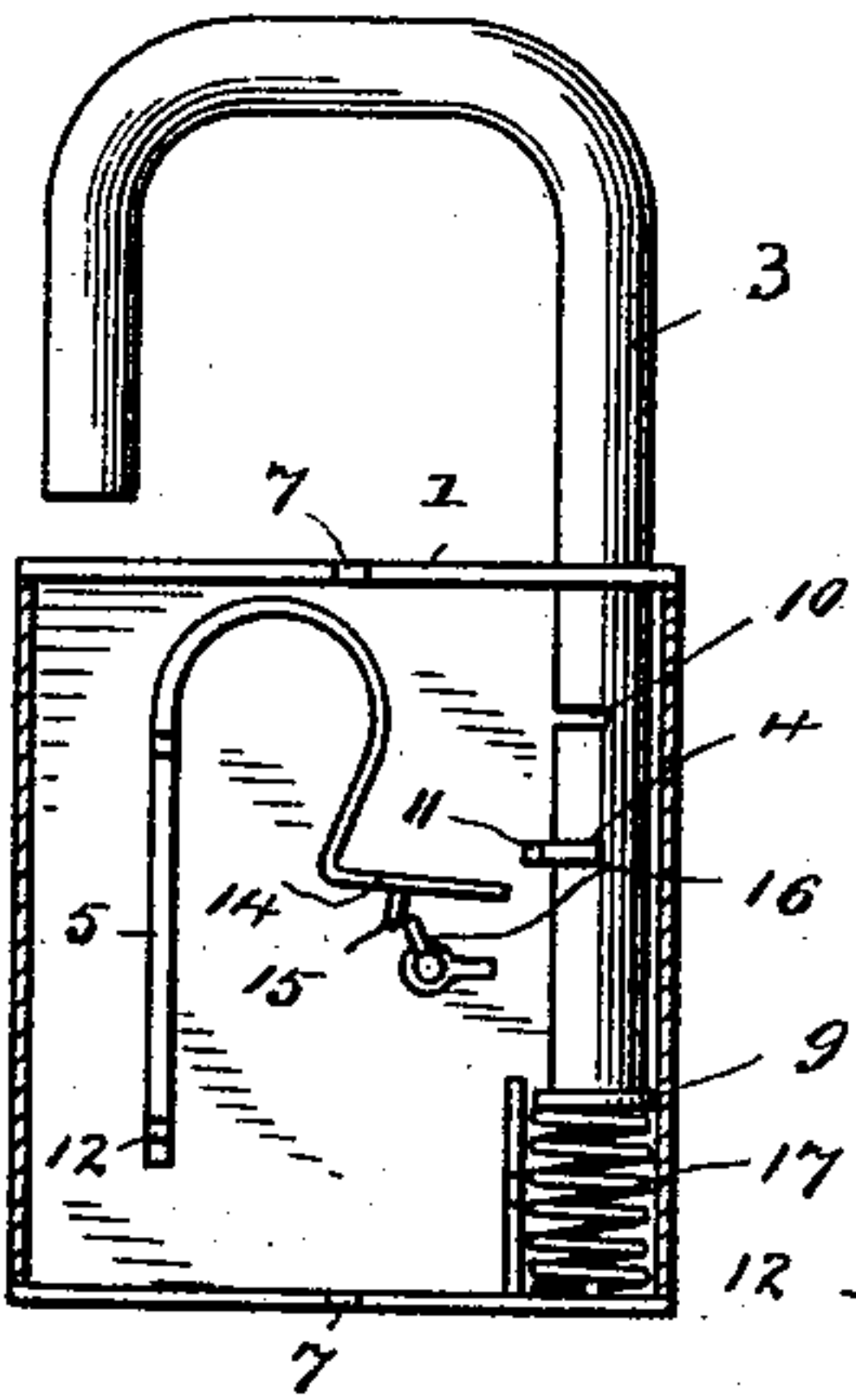
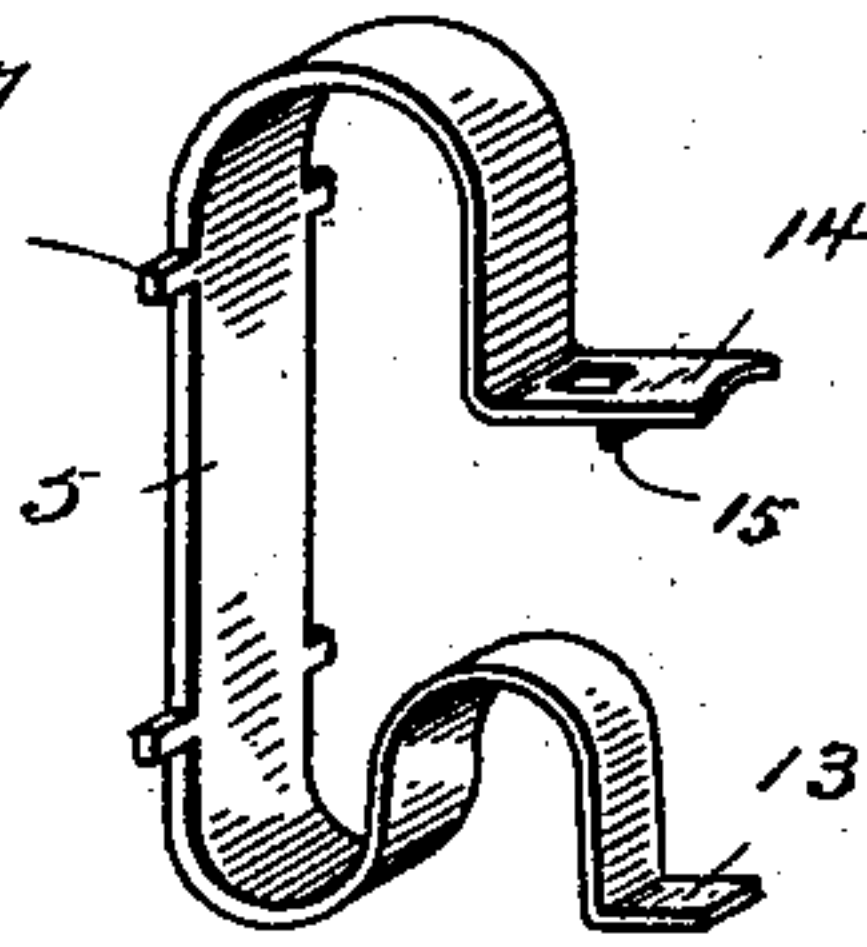


Fig. 4.



*Fig. 8.*

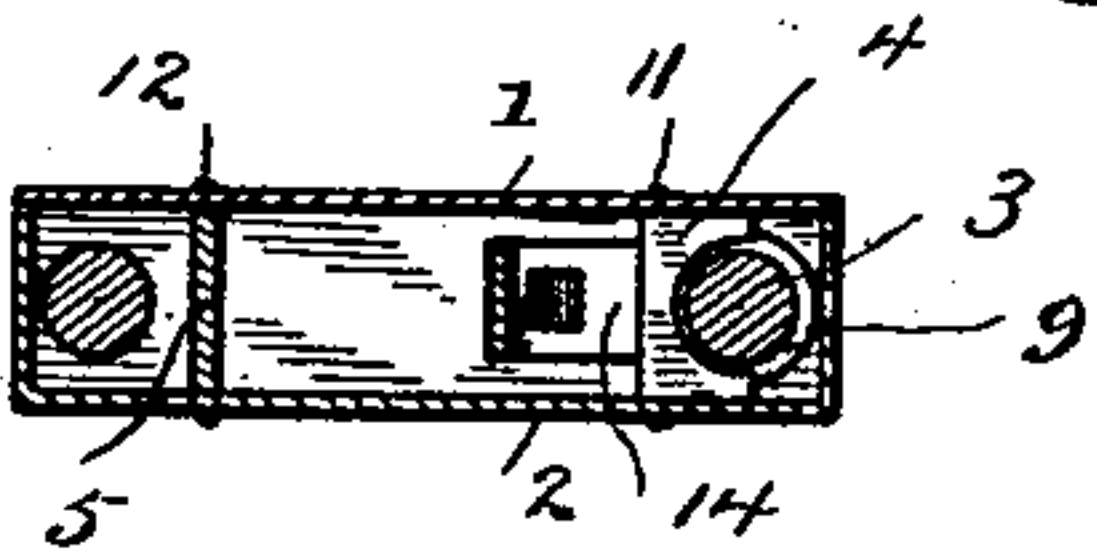


Fig. 5.

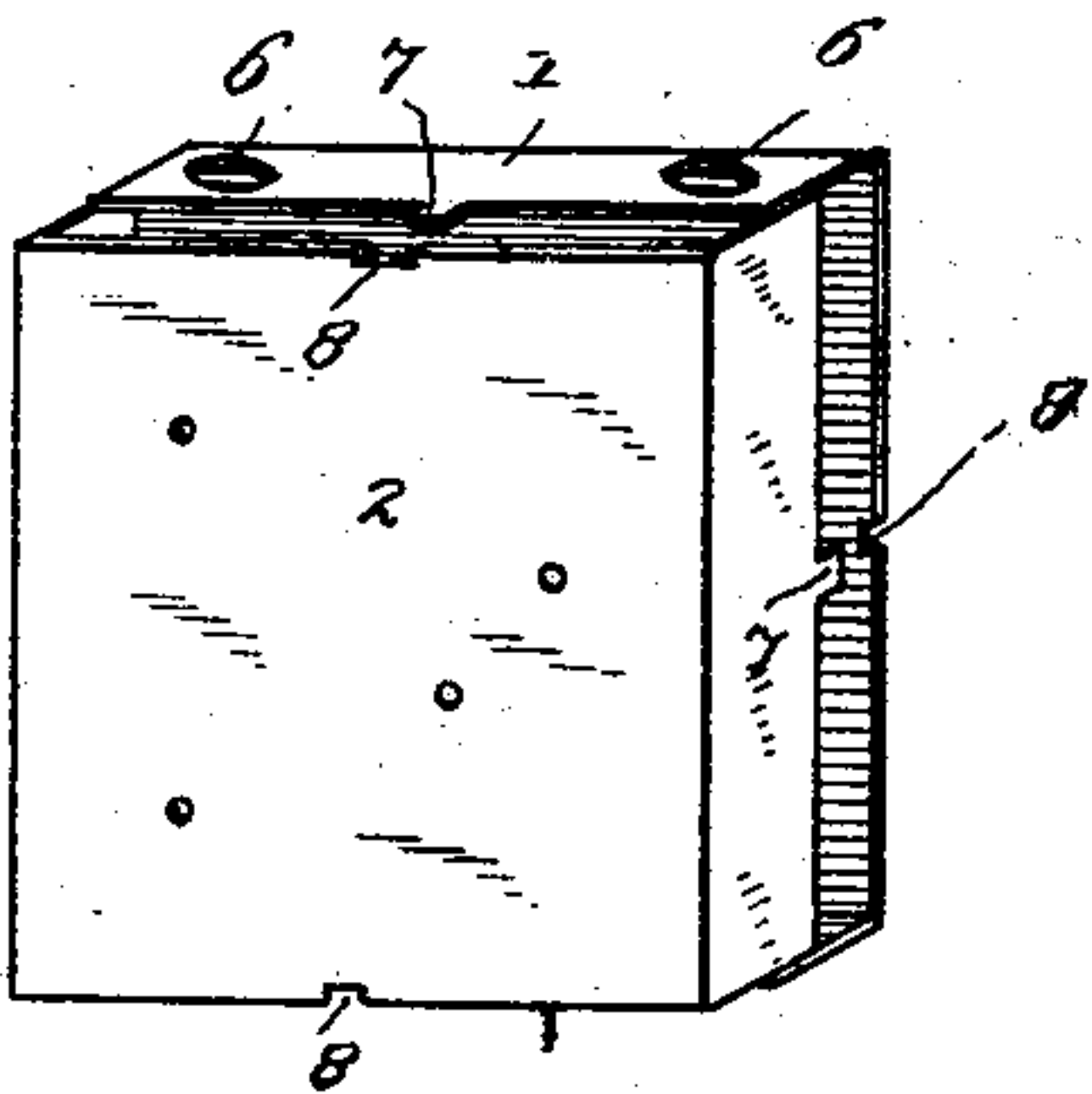


Fig. 6.

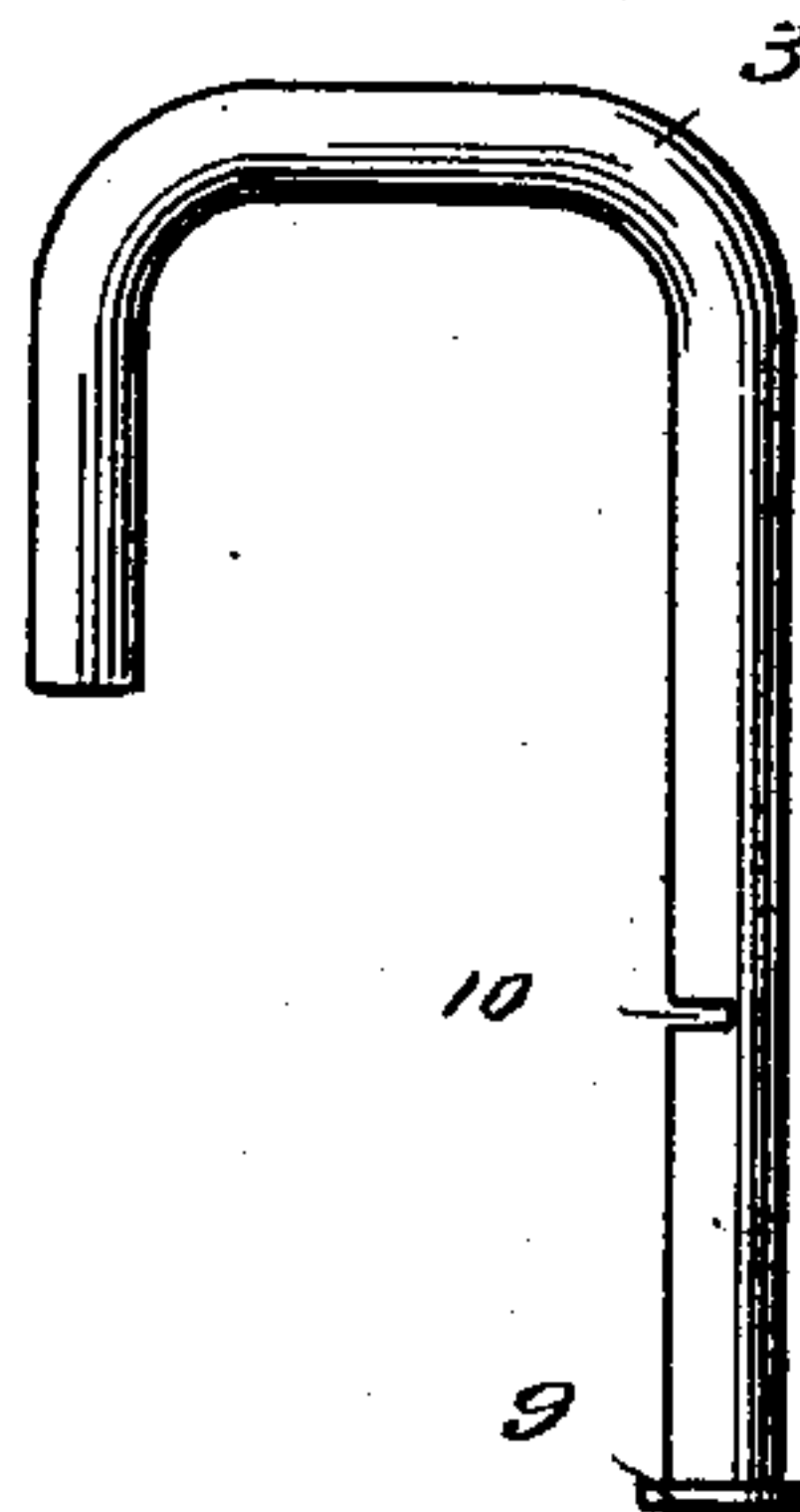


Fig. 7.



**WITNESSES**

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## INVENTORS

William G. Browne  
William D. Palmer  
By *A. M. Wooster, atty.*



# UNITED STATES PATENT OFFICE.

WILLIAM G. BROWNE AND WILLIAM D. PALMER, OF MERIDEN, CONNECTICUT, ASSIGNORS TO THE BROWNE & DOWD MANUFACTURING COMPANY, OF SAME PLACE.

## PADLOCK.

SPECIFICATION forming part of Letters Patent No. 506,665, dated October 17, 1893.

Application filed April 20, 1893. Serial No. 471,186. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM G. BROWNE and WILLIAM D. PALMER, citizens of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Padlocks; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its object to produce a padlock which shall be simple, strong and durable and in which the cost of construction shall be reduced to the lowest possible limit.

With this end in view we have devised the novel and inexpensive padlock which we will now describe referring by numbers to the accompanying drawings forming part of this specification in which—

Figure 1 is a section of the case of our novel padlock showing the parts in the locked position; Fig. 2, a similar view showing a form of our invention in which an arm of the spring acts to throw the shackle upward when it is released; Fig. 3, a similar view showing a form in which the shackle is expelled by an independent spring when released; Fig. 4, a perspective of the form of spring shown in Fig. 2, detached; Fig. 5, a perspective illustrating the parts of the case and the manner in which they are put together; Fig. 6, an elevation of the shackle detached; Fig. 7, a perspective of the guide detached, and Fig. 8 is a section on the line  $x x$  in Fig. 1 looking down.

The entire lock consists of five parts only, which are plates 1 and 2 which constitute the case, the shackle denoted by 3, the shackle guide denoted by 4, and the spring denoted by 5.

The entire mechanism within the case comprises only the guide and spring. The two plates of the case are made practically the shape of a broad U and match together as shown in Fig. 5. Plate 1 is provided with holes 6 which receive the ends of the shackle, and both plates are provided respectively with lugs 7 and recesses 8 which receive the lugs on the opposite plate as clearly shown in Fig. 5. The shackle is of ordinary shape one leg

being longer than the other and extends down or nearly down to the bottom of the case when in the locked position as shown in Fig. 1. An enlarged head 9 is ordinarily formed at the lower end of the shackle so as to provide a larger bearing surface for an expelling spring, if used, and also by engagement with the sides and end of the case to act in connection with the guide to hold the shackle against lateral movement. The shackle is also provided with a locking notch 10 which receives the end of an arm of the spring whereby it is held in the locked position as clearly shown in Fig. 1, and as will be more fully explained.

The guide is simply a plate of metal so shaped as to partially embrace the shackle. At the ends of the guide are lugs 11 which engage holes in the case and are headed down to secure the guide in place and also to secure the plates of the case together. It will be seen that this guide in connection with the enlarged head at the lower end of the shackle will hold the latter against lateral movement but will permit it to slide in or out freely and also to turn on the axis of the long leg. The entire work of locking the shackle is performed by the spring. The exact shape of this spring is of course not of the essence of our invention. It is preferably made substantially as shown in the drawings. The central portion may if preferred be made heaviest so as to increase the strength and rigidity. The spring is provided with lugs 12 on its opposite edges which engage holes in the sides of the case and are headed down thereby locking the spring to the case and also locking the plates of the case together. One end of the spring consists of an arm 14 the function of which is to lock the shackle when it is forced inward into the case. This arm is curved so as to give ample resiliency and so that the end thereof will bear directly against the shackle. When the shackle is forced into the case and locking notch 10 registers with said arm, the resiliency of the arm produced by curving it will force the end into the locking notch thereby locking the shackle as shown in Fig. 1. Arm 14 is also provided with a downwardly turned lug 15 preferably formed by striking out a portion of the metal of the spring leaving it



attached on one side. This lug is adapted to be engaged by the bit of the key to withdraw arm 14 from the locking notch.

16 denotes the key which is shown in Fig. 2 as in engagement with the lug and holding arm 14 in the unlocking position.

In Figs. 2 and 4 we have illustrated a form of spring which is provided with an arm 13 the action of which is to throw the shackle upward so that the short leg is entirely outside of the case when the shackle is released by the engagement of the key with arm 14. This arm is bent so as to give ample resiliency thereto, the end thereof resting under the head of the shackle as is clearly shown, the action of this arm when released being a lifting action as indicated in Fig. 2.

In Fig. 3 we have illustrated another form in which the shackle is expelled by an independent spiral spring denoted by 17.

In the form illustrated in Fig. 1 the shackle when released is lifted by hand.

The operation will be clearly understood from Figs. 1, 2 and 3. The instant the key is turned backward from the position shown in Fig. 2 and withdrawn, arm 14 will spring forward and the end thereof will rest against the shackle leaving the shackle free to turn however. As soon as the shackle is pressed into the locking position arm 14 will engage the locking notch as in Fig. 1. In unlocking, the instant that the key, by engagement with lug 15, forces arm 14 backward out of the locking notch the shackle may be lifted from the locking position, or if an expelling spring is used the shackle will be thrown upward as shown in Figs. 2 and 3.

Having thus described our invention, we claim—

1. A padlock consisting of a case, a shackle having a locking notch, a guide for holding the shackle in position in the case, and a spring one end of which is curved so as to engage the locking notch when the shackle is pressed inward and is provided with a lug for engagement by a key, the other end being curved and bearing against the lower end of the shackle so as to throw it outward when the shackle is released.

2. A padlock consisting of a case, a shackle having a locking notch, a guide for holding the shackle in position, and a spring having lugs 12 by which it is locked to the case and the parts of the case locked to each other, an arm 13 curved so as to bear upon the lower end of the shackle to throw it outward, and an arm 14 curved so that the end thereof bears against the shackle and is adapted to enter the locking notch when the shackle is forced inward.

3. A padlock consisting of a case, a shackle having a locking notch, and a spring provided on its edges with lugs 12 by which it is locked to the case and the parts of the case are locked to each other, one end of said spring being curved to form a locking arm 14 adapted to engage the locking notch when the shackle is pressed inward and provided with a lug 15 for engagement by a key to withdraw the shackle from the locking position.

4. A padlock consisting of a case, a shackle having a locking notch, a guide for holding the shackle in position, a spring provided on its edges with lugs 12 by which it is locked to the case, and the parts of the case are locked to each other, one end of said spring being curved to form a locking arm 14 adapted to engage the locking notch when the shackle is pressed inward and provided with a lug 15 for engagement by a key to withdraw the shackle from the locking notch, and suitable means for throwing the shackle outward when arm 14 is withdrawn.

5. The spring 5 having lugs 12 upon its edges adapted to engage the sides of the case to secure said parts together one end of said spring being curved to form a locking arm 14 which is provided with a lug 15 adapted to be engaged by a key to withdraw the locking arm, substantially as shown, and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM G. BROWNE.  
WILLIAM D. PALMER.

Witnesses:

E. A. MERRIMAN,  
A. C. MATHEWSON.