

G. Thompson,

Permutation Padlock.

No. 102620.

Patented May 3, 1870

Fig. 1

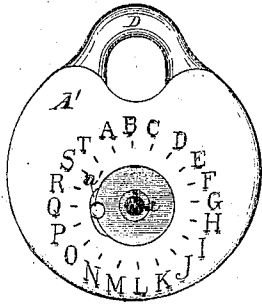


Fig. 2

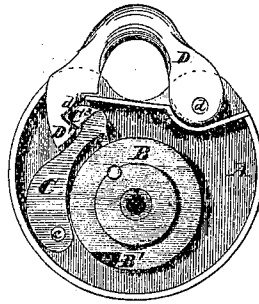


Fig. 3

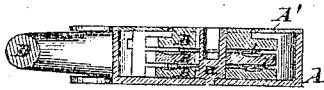


Fig. 4

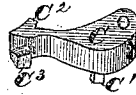


Fig. 5

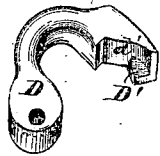


Fig. 6



Fig. 7

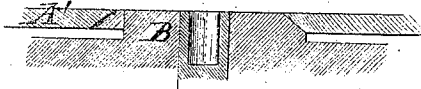
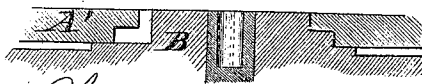


Fig. 8



Witnesses.

Randolph H. Moore  
R. C. Olinde

Geo. Thompson Inventor.

# United States Patent Office.

GEORGE THOMPSON, OF TRENTON, NEW JERSEY, ASSIGNOR TO HIMSELF  
AND JOHN H. COGILL, OF SAME PLACE.

Letters Patent No. 102,620, dated May 3, 1870.

## IMPROVEMENT IN COMBINATION PADLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

I, GEORGE THOMPSON, of Trenton, in the county of Mercer and State of New Jersey, have invented certain Improvements in Combination Padlocks, of which the following is a specification, reference being had to the annexed drawings, making a part thereof, in which—

Figure 1 is a front elevation.

Figure 2 is a similar view, the face-plate being removed to exhibit the interior of the lock.

Figure 3 is a central vertical section.

Figure 4 is a perspective view of the bolt or dog.

Figure 5 is a perspective view of the hasp or shackle.

Figure 6 is a perspective view of the key.

Figures 7 and 8 are sectional views on an enlarged scale, showing two different modes of construction of the joint between the face-plate and the hub of the outer tumbler.

The same letters are used in all the figures in the designation of identical parts.

This invention relates to that class of combination padlocks which are constructed with a series of tumblers, provided each with a gate or notch into which, as they are made to register with one another at a certain point, the bit of the bolt or dog recedes to release the hasp or shackle.

My improvements consist in a peculiar construction of the end of the shackle and the hook on the dog which retains it, together with a spring acting upon the dog, whereby it is made self-locking.

To enable those skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

The case A may have the form clearly shown in fig. 2, or any other adapted to receive the various parts to be attached to it.

B B B represent a series of circular tumblers pivoted upon a central hub, *a*, of the case, so as to revolve freely thereon.

Each has a gate or notch, *B'*, adapted to receive the bit of the dog, the one in the upper tumbler being beveled on one side, as shown in fig. 2, so as to enable it, on turning it in one direction, to push out such dog.

The tumblers are separated from one another by washers, *b'*, in the usual manner, and are also, upon their opposing faces, provided with studs, *b*, which engage with each other on turning such tumblers.

The upper tumbler has a short circular hub, which projects through the face-plate *A'*, and is made flush with the outer surface thereof. When the two join, the face-plate is so constructed as to retain the point of the key, which can only enter under and be withdrawn from it at a recess, *a'*, cut in it at a point nearly opposite to that which the point of the key must occupy in setting the last tumbler, so that, in order to withdraw such key from the lock, it becomes necessary to turn it about a half revolution, which will, of course, break up the combination.

Various modes of constructing the joint between the face-plate and the hub of the tumbler are clearly indicated in figs. 3, 7, and 8.

A dial is engraved upon the face-plate, encircling the hub, and marked with letters, with reference to which the tumblers are arranged, so that on revolving the upper tumbler back and forth, stopping at certain marked points, all the tumblers can be so arranged that their notches register directly opposite the bit of the dog.

C represents the dog, which is pivoted upon a stud, *c*, in such a manner as to permit of a slight movement in the direction of its axis.

The thickness of this dog is somewhat less than the space between the face and rear plates of the case A, and a spring, *C'*, acts upon it to keep its upper surface in contact with the face-plate.

The outer end of the dog is formed as clearly shown in figs. 2 and 4, it being provided on one side with a bit, *C''*, and upon the other with a cut-away beveled projection or hook, *C'''*.

D represents the hasp or shackle, pivoted to lugs of the case at *d*. Its outer end enters the casing, in locking, through a suitable opening for that purpose, and this end has such a thickness as to fit snugly between the plates of such case.

It will be observed, by reference to figs. 2 and 5, that a recess, *d'* is cut in this end of the shackle, leaving only a small projection, *D'*, upon its outer end. This projection is beveled upon its under side, in a reverse direction to that of the beveled hook *C'''* of the dog, so that, on pushing the shackle into the case, this beveled projection *D'* slides upon the beveled hook *C'''*, and, as it is pressed in further, it pushes the dog toward the rear plate until it has been slid entirely over the hook, when the action of the spring *C'* at once throws the dog up, causing its hook *C'''* to enter the recess *d'* in the shackle, and to engage with its projection *D'*, and to lock it.

E represents the key, to be formed substantially as shown in fig. 6, it having a straight edge where it comes in contact with the case, one end of which is suitably formed into a pointer.

At the opposite end it has a shank, *E'*, which enters a socket in the hub *a* of the case.

Between this shank and the pointed end is the point *E''*, the inner portion of which enters a small recess in the hub of the upper tumbler near its periphery, while its outer portion extends into the recess *a'*, and when turned, enters under the face-plate.

The outer portion of this point *E''* is shown beveled to suit the form of the face-plate shown in fig. 3, but it may be varied to suit other forms.

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

The hasp or shackle D, when constructed with a recess, *d'*, and cut-away beveled projection *D'*, in combination with the cut-away beveled hook *C'''* of the dog C, and spring *C'*, substantially as and for the purpose set forth.

GEO. THOMPSON.

Witnesses:

RANDOLPH H. MOORE,  
R. C. BELVILLE.