

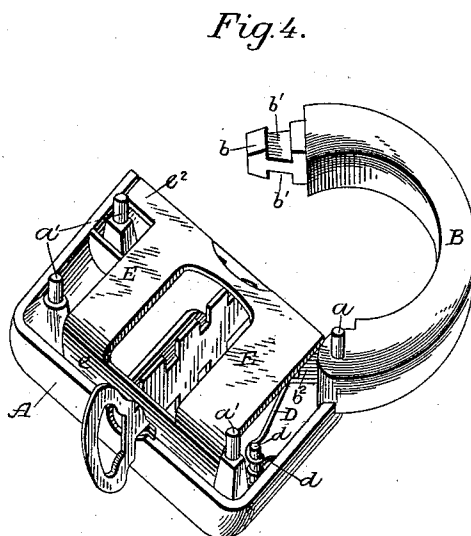
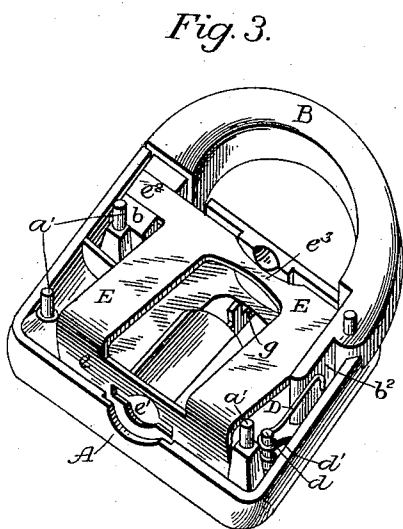
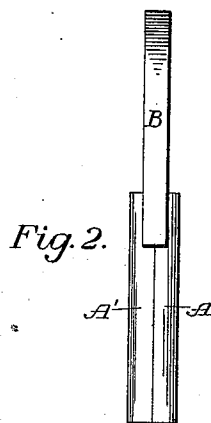
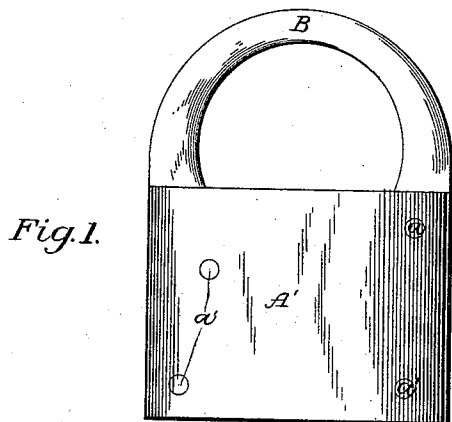
(No Model.)

2 Sheets—Sheet 1.

W. F. TROAST.
PADLOCK.

No. 470,268.

Patented Mar. 8, 1892.



WITNESSES:
Geo. W. Lane
Ella L. Gerhart

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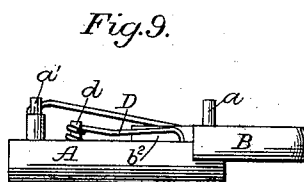
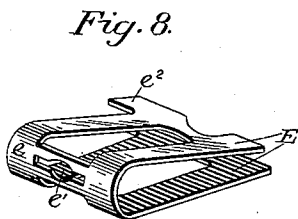
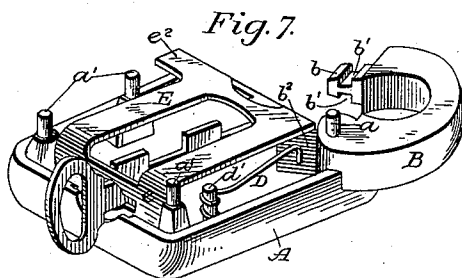
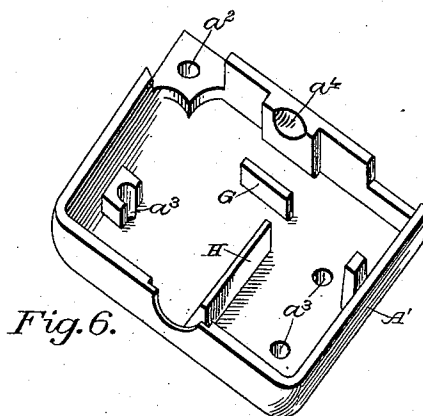
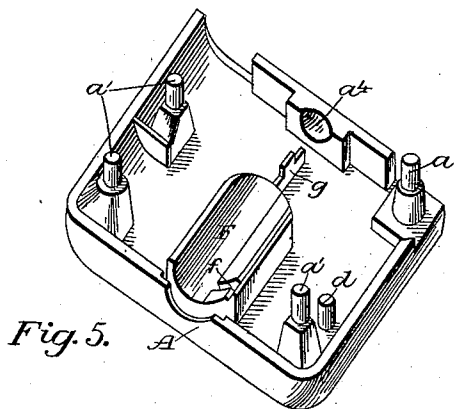
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W. F. TROAST.
PADLOCK.

2 Sheets—Sheet 2.

No. 470,268.

Patented Mar. 8, 1892.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM F. TROAST, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO
SLAYMAKER, BARRY & CO., OF SAME PLACE.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 470,268, dated March 8, 1892.

Application filed January 4, 1892. Serial No. 416,933. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. TROAST, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Padlocks, of which the following is a specification.

My invention relates to that class of padlocks in which the long arm of a U-shaped hasp or shackle is held in place by tumblers extending longitudinally between the top and bottom of the case, and is an improvement on a lock of the same class for which Letters Patent No. 418,359, dated December 31, 1889, were issued by the United States to myself, Samuel R. Slaymaker, and John F. Barry; and the object of my improvement is to simplify the construction and cheapen the cost of that class of locks, as will be hereinafter fully described.

My invention consists in the combination, with a U-shaped hasp or shackle having a notched swinging arm and the other arm pivoted in the case, of a tumbler or tumblers extending between the top and bottom of the case and constructed to engage the notched arm, and a tongue formed on the pivoted arm of the shackle, adapted to engage said tumbler or tumblers when disconnected from the swinging arm of the shackle and hold it or them in position to again engage said swinging arm.

My invention consists, also, in the combination, with a U-shaped hasp or shackle having notches cut in opposite sides of the swinging arm thereof and the other arm pivoted in the case, of two tumblers extending between the top and bottom of the case and having wings constructed to engage said notches and a tongue formed on the pivoted end of the shackle adapted to enter between the tumblers when they are disengaged from the swinging arm of the shackle and hold them apart until said swinging arm is again inserted between said wings.

My invention consists, finally, in the combination, with a pivoted U-shaped shackle having notches cut in opposite sides of the swinging arm and the other arm pivoted in the case, and tumblers extending between the top and bottom of the case and constructed to

engage said notches, of other details of construction, as hereinafter described, and specifically set forth in the claims.

My invention is fully illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my padlock, and Fig. 2 an edge view of the same. Fig. 3 is a perspective interior view of the section of the case with which the pivots are formed, showing the operating mechanism in place and the swinging arm of the shackle engaged by the tumblers; and Fig. 4, a similar view, but showing the swinging arm disengaged from the tumblers. Fig. 5 is a perspective interior view of the section of the case with which the pivots are formed, the operating parts and the shackle being removed; and Fig. 6, a similar view of the other or closing section. Fig. 7 is a view similar to that shown in Fig. 4, but showing the parts more from the side. Fig. 8 is a perspective view of the spring-tumblers detached from the case. Fig. 9 is an edge view of the pivotal connection of the shackle with the case.

Similar letters indicate like parts throughout the several views.

The lock-case is divided vertically and longitudinally into two sections A and A', as shown in Fig. 2. On the inner face of the side of section A there are formed rivet-pins *a* and *a'*, the pin *a* serving as a pivot to secure the fast end of the shackle B in the case. Upon the springing end of the shackle there is a reduced extension *b*, in the opposite sides of which there are recesses *b'*, adapted to be engaged by the tumblers to be hereinafter described, and on the fast end there is formed a tongue *b²*, constructed to enter between the tumblers as the shackle is opened and hold them apart to allow the said swinging end to be again inserted between them. From near the bottom of the case and extending toward the top thereof there is a keyway F, consisting of a block cast on the center of the inner face of the side of section A and having a semicircular groove cut in its outer face, and between the upper end of the keyway and the top of said section there is located a short vertical rib *g*.

The tumblers E extend longitudinally from the bottom to the top of the case and have

wings e^2 , projecting from the sides of their vibrating ends, adapted to engage the recesses b' in the end b of the shackle. These tumblers are formed integral with each other at the bottom and are made of a single piece of spring metal, thus combining in the same part the functions of the tumblers and the spring, which forces them into engagement with the notches in the swinging arm of the shackle. The lower or connecting part e of the tumblers is flattened and the central portions of said tumblers are cut away from near their vibrating edges to said part e , inserted between the keyway F and the bottom of the case, upon which it rests and to which it is secured by riveting down a shoulder formed on one side of the keyway by the slot f . In the center of the connecting part e there is a winged key-hole e' that registers with a similar opening in the bottom of the case. In the middle of the top plates of the sections A A' there is an inward extension having in its meeting edges a recess a^4 , which, when said sections are united, register with each other and form a circular indentation that receives and steadies the inner end of the key. The closing section A' is provided with rivet-holes a^2 and a^3 , engaged by the rivet-pins a and a' , respectively. On the inner face of this section there is also formed a vertical rib H , which, when the sections are united, is located somewhat inside of one of the edges of the keyway and serves as a guide for the key. Between the upper end of this key-guide and the top plate of the section there is a horizontal ward G located, the position of which varies in different locks, as is usual with different locks of the same class, to prevent the key of one lock being used with all the others. When the tumblers are in place in the case, the part e rests between the keyway F and the bottom plate of the case, the said keyway projecting through the opening in the adjacent tumbler E . The bar e^3 , connecting the sides of that tumbler at its vibrating end, is bent inward, as shown in Fig. 3, that it may be the more readily engaged by the corresponding ward of the key, and when the wings e^2 are engaged with the shackle this bar rests upon the rib g , that the curve therein may be preserved. Below the rivet-pin a , in section A , there is a stud d , around which is coiled a spring D , an end of which bears against the outer face of the tongue b^2 , the other end d' resting against the edge wall of the case, as seen in Figs. 3 and 4. When the tumblers are disengaged from the long arm of the shackle this spring D forces the tongue b^2 between the tumblers E and opens said shackle, the length of the reduced extension b below the recesses b' and that of the tongue b^2 being such that the end of said tongue is inserted between the tumblers before the extension b is entirely freed from them.

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

1. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by a tumbler, of a spring-tumbler extending between the top and bottom of the case and having the upper end adapted to engage the swinging arm of the shackle, and a tongue formed on the pivoted arm of said shackle, adapted to engage said tumbler when disconnected from the swinging arm of the shackle and hold it in position to again engage said swinging arm, substantially as and for the purpose specified.

2. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by the tumblers, of a single piece of metal forming two tumblers connected at their lower ends and having their upper ends adapted to engage the swinging arm of the shackle, and a tongue projecting from the pivoted arm of said shackle, adapted to enter between said tumblers when they are disconnected from the swinging arm of the shackle, substantially as and for the purpose specified.

3. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by the tumblers, of a single piece of spring metal forming two tumblers connected at their lower ends and having their upper ends adapted to engage the swinging arm of the shackle, a tongue formed on the pivoted arm of said shackle adapted to enter between the tumblers as they are disconnected from the swinging arm of the shackle, and a spring adapted to force the tongue between the tumblers, substantially as and for the purpose specified.

4. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and recesses formed on opposite sides of the swinging arm, of a single piece of spring metal forming two tumblers connected at their lower ends and having wings projecting from their upper ends adapted to engage the recesses in the swinging arm, a tongue projecting from the pivoted arm of the shackle adapted to enter between the tumblers as the wings are disconnected from the recesses in the swinging arm of said shackle, and a spring adapted to force the tongue between the tumblers, substantially as and for the purpose specified.

5. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by the tumblers, of a single piece of spring metal forming two tumblers connected at their lower ends and having their upper ends adapted to engage the swinging arm of the shackle, the central portion of one of said tumblers being cut out, and the bar e^3 , connecting the free ends thereof, curved inward, a rib located on the side of the case beneath the bar e^3 , and a tongue projecting from the

pivoted arm of the shackle, adapted to enter between the tumblers when they are disconnected from the swinging arm of the shackle, substantially as and for the purpose specified.

5 6. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by the tumblers, and a keyway on one side of the case and a key-guide on the other adapted to register with the keyway, both being located with their lower ends above the bottom of the case, of a single piece of spring metal forming two tumblers connected at their lower ends and having their upper ends adapted to engage the swinging arm of the shackle, the central portions of said tumblers being cut out, and a tongue projecting from the pivoted arm of the shackle, adapted to enter between the tumblers when they are disconnected from the swinging arm of the shackle, substantially as and for the purpose specified.

7. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and the swinging arm constructed to be engaged by the tumblers, of a keyway on one side of the case and a keyguide on the other adapted to register with the keyway, both being located with their lower ends above the bottom of the case, a single piece of spring metal forming two tumblers, connected at their lower ends and having their upper ends adapted to engage the swinging arm of the shackle, the central portions of said tumblers being cut out, and the bar e^3 , connecting the ends of one of them curved inward, a rib g ,

formed on the side of the case beneath the bar e^3 , a keyway on one side of the case and a key-guide on the other registering with the keyway, both being located with their lower ends above the bottom of the case, and a tongue projecting from the pivoted arm of the shackle, adapted to enter between the tumblers when they are disconnected from the swinging arm of the shackle, substantially as and for the purpose specified.

8. In a padlock, the combination, with a shackle having the fast arm pivoted in the case and recesses formed on opposite sides of the swinging arm, of a keyway on one side of the case and a key-guide on the other adapted to register with the keyway, both being located with their lower ends above the bottom of the case, a single piece of spring metal forming two tumblers connected at their lower ends and having wings projecting from their free ends adapted to engage the recesses in the swinging arm, the central portions of said tumblers being cut out, and the bar e^3 , connecting the ends of one of them, curved inward, a rib g , formed on the side of the case beneath the bar e^3 , a tongue projecting from the pivoted arm of the shackle adapted to enter between the tumblers as the wings are disconnected from the swinging arm of the shackle, and a spring bearing upon the outer face of said tongue, substantially as and for the purpose specified.

WILLIAM F. TROAST.

Witnesses:

JACOB HALBACH,
WM. R. GERHART.