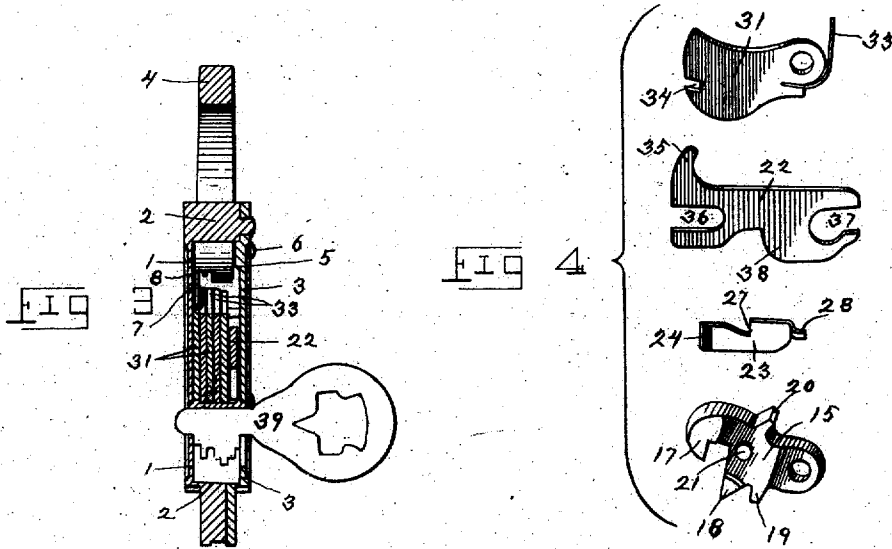
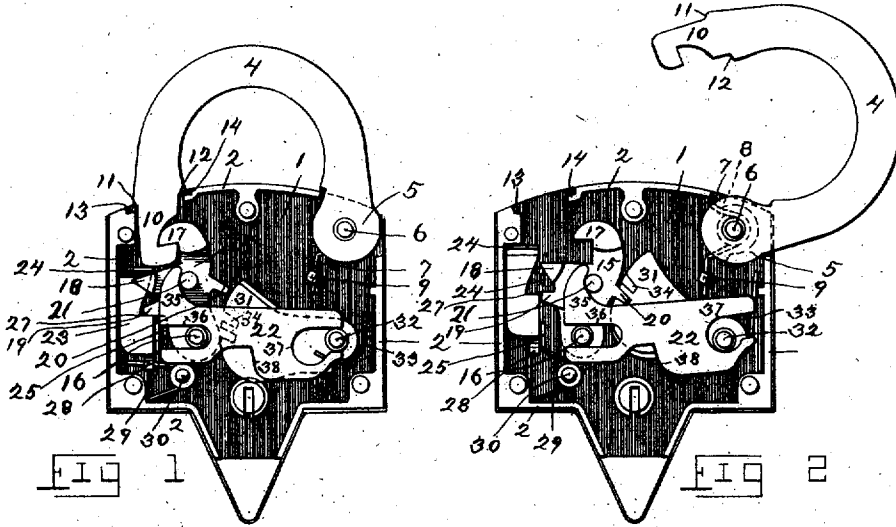


PADLOCK.

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PADLOCK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GEORGE M. MILLER and SAMUEL R. SLAYMAKER, citizens of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Padlocks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a self-locking padlock, and more particularly to that class of padlock in which the shackle-locking mechanism is constructed with a positive action and not a resilient action depending upon springs.

The objects of the invention are to so construct a lock of this type that it shall embody a simple, positive and durable mechanism, composed of few parts, and proof against accidental opening caused by jarring.

With these and other objects in view, our invention consists in certain novel construction and combination of parts as will be hereinafter fully described and claimed, and illustrated in the accompanying drawings, which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views; but it is fully understood that while we have herewith described our invention as shown, that we do not confine ourselves to the exact design as shown, as slight changes may be made within the scope of the claims without departing from the spirit of the invention.

In carrying out our invention, we employ a hook nosed shackle pivoted within a case and normally held open by an actuating spring, a hooked shackle-engaging dog pivoted within the case and provided with a projecting stud, a series of key tumblers for engaging and locking said dog, a key actuated sliding unlocking plate for engaging the stud of the dog and forcing the dog out of engagement with the shackle, and a spring actuated stop slide for limiting the action of the dog when the lock is in an open position.

In the drawings:—Figure 1, is a front view of the lock, with the cover plate removed and showing the mechanism in a locked position. Fig. 2, is a similar view,

but showing the position of the mechanism when the lock and the shackle are open. Fig. 3, is a transverse vertical sectional view through the center of the lock. Fig. 4, is a perspective view of the lock removed from the casing and separated.

The lock is constructed with a two-part casing, comprising the shell or case 1, having the side walls 2, which are cut away to admit the ends of the shackle, and the cover 3, which is retained by riveting the projecting ends of the various studs and pins which project therethrough.

The shackle 4, is formed with the enlarged pivot end 5, which is mounted upon the pivot post 6, and normally held in an open position by the actuating spring 7, which is also mounted upon said post 6, with one of its ends engaging the side 8, of a recessed portion of said pivot end 5, and the other end of said spring 7, engaged by a clip 9, which is integral with the case 1; while the other end of said shackle 4, is formed with the hooked nose 10, and the shoulder stops 11, and 12, which abut against the recesses 13, and 14, in the case wall 2, to prevent the nose of the shackle 4, from entering too far into the case 1.

The shackle-engaging dog 15, is pivoted upon the pivot stud 16, and is formed with the shackle-engaging hook 17, the shackle nose-bearing surface 18, the catch point 19, the tumbler-engaging lug 20, and the stud 21, for engagement with the sliding locking plate 22.

The stop slide 23, is mounted within the case 1, and guided by the stops 24, and 25, which are integral with the case 1. Said stop slide 23, is formed with the upper flange 24, upon which the nose of the shackle 4, presses when in the act of closing the notch 27, which is engaged by the catch point 19, of the dog 15, and the spring engaging lug 28, which retains one arm of the spring 29, which is mounted upon the post 30, with its other arm bearing against the wall 2, and which tends to keep the stop slide 23, in a raised position.

The key tumblers 31, are of the usual design and are arranged in series and pivoted upon the pivot post 32, with their actuating springs 33, bearing against the side wall 2; said tumblers 31, being formed with the slots 34, which, when the tumblers are raised

by the wards of the key, register with each other and admit of the tumbler engaging lug 20, of the dog 15, entering therein.

The sliding unlocking plate 22, is formed with the hooked nose 35, for engaging the stud 21, on the dog 15; the guide slot 36, for engagement with the pivot post 16; the guide slot 37, for engagement with the pivot post 32, and the key ward engaging shoulder 38. Said guide slot 37, may be of the shape illustrated, which allows the plate 22, to be slightly raised by the key, or it may be of the same shape as the guide slot 36; the advantage in the design shown being that the same plate will conform to keys having wards of varying lengths.

By referring to Figs. 1, and 2, of the drawings, it will be seen that as the key 39, is turned, the tumblers 31, are first raised by the wards of the key until the slots 34, register with each other and are opposite the lug 20; when the proper ward of the key engages the shoulder 38, of the plate 22, and moves said plate 22, to the right, which carries the dog 15, by the hooked nose 35, of the plate engaging the stud 21, of the dog 15; the lug 20, of the dog 15, entering said slots 34, and the catch point 19, releasing the notch 27, of the stop slide 23, and allowing the same to spring upward and the shackle to open as actuated by the spring 7.

In closing the lock, the nose of the shackle first presses upon the flange 24, of the stop slide 23, forcing the same down to a level with the bearing surface 18, of the dog 15, and then forcing both the slide and the lug 18 of the dog downward; the dog 15, at the same time swings the nose 17 forward and engages the hooked nose 10, of the shackle 4; while at the same time the stud 21, moves the plate 22, to the left and the lug 20, releases the slots 34, of the tumbler which actuated by the springs 33, assumes the position shown in Fig. 1.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:—

1. In a padlock of the class described, in combination with a hook nosed shackle, a dog for engaging the hooked nose of said shackle and a series of key tumblers for locking said dog, of a key operated unlocking plate formed with a dog engaging nose and adapted to coact with and disengage said dog from the shackle, said unlocking plate formed with a guide slot or orifice therein and adapted to allow said plate a vertical movement as actuated by key having wards of varying lengths.

2. In a padlock of the class described, in combination with a pivoted shackle formed with a hooked nose, a dog adapted to engage

and secure said shackle, and a series of key tumblers for locking said dog, of a key actuated sliding unlocking plate formed with guide slots and adapted to retract said dog, and a spring actuated stop slide adapted to hold said dog in a retracted position when the shackle is open.

3. In a padlock of the class described, in combination with a pivoted spring actuated shackle formed with a hooked nose, of a shackle engaging dog formed with a shackle end bearing surface, a stop slide engaging point, a key-tumbler engaging lug and a stud upon one side thereof, a series of spring actuated key-tumblers pivotally mounted and adapted to coact with said dog, an unlocking slide plate formed with guide slots in the ends thereof, a shoulder adapted to be actuated by a key formed upon the lower edge thereof, a hooked nose formed upon the upper edge thereof and adapted to engage the stud upon said dog, and a spring actuated stop slide mounted adjacent to said dog and formed with a flanged top and a notched edge and adapted to retain said dog in a retracted position when the shackle is open.

4. A lock mechanism, comprising in combination with a shackle engaging dog having a hooked nose, a shackle nose bearing surface formed thereon for the purpose of forcing the same into engagement with the hooked end of said shackle by the downward pressure of said shackle, a series of key-tumblers mounted adjacent to said dog and coacting therewith, a stud formed upon the side of said dog, a key actuated sliding unlocking plate mounted adjacent to said dog and key-tumblers, and formed with guide slots in the ends thereof, one of said guide slots permitting vertical movement of said slide and a hooked nose formed upon said plate and adapted to engage the stud upon said dog for actuating said dog.

5. A lock mechanism, comprising a spring actuated shackle formed with a hooked nose, a shackle engaging and retaining dog, a series of spring actuated key-tumblers pivoted adjacent to said dog and adapted to engage and coact with said dog, an unlocking slide plate adapted to engage and retract said dog by the action of the key, and a spring actuated stop slide adapted to be depressed when the shackle is closed, and normally raised, when the shackle is open, for the purpose of retaining said dog in a retracted position.

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

GEORGE M. MILLER.

SAMUEL R. SLAYMAKER.

Witnesses:

WM. J. COULTER,

JOHN J. THOMPSON.