(No Model.)

G. M. HATHAWAY.

PADLOCK.

No. 526,650. Patented Sept. 25, 1894.

Fig. 1.

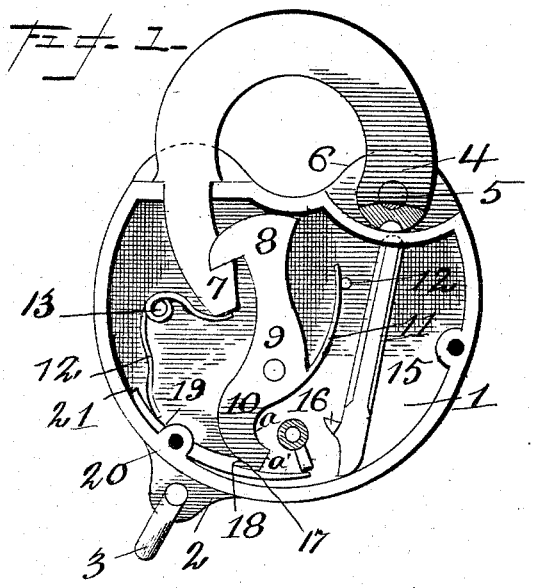
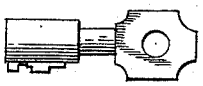


Fig. 4.



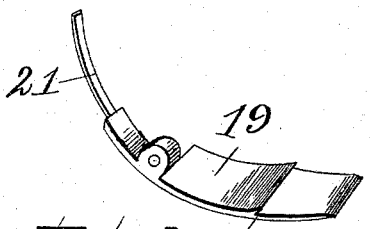


Fig. 3.

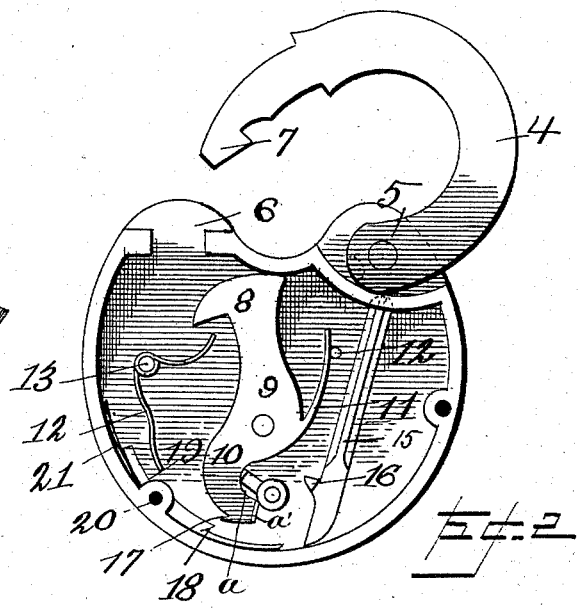


Fig. 2.

WITNESSES

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PADLOCK.

SPECIFICATION forming part of Letters Patent No. 526,650, dated September 25, 1894.

Application filed November 23, 1893. Serial No. 491,813. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. HATHAWAY, a citizen of the United States, residing at Wellsborough, in the county of Tioga and State of Pennsylvania, have invented certain new and useful Improvements in Padlocks; and I 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.

This invention relates to improvements in padlocks, more particularly to that class called "switch-locks;" and it has for its principal object to produce a lock for rail-shifting or switching-mechanism that will compel the switchman or operative to properly adjust said mechanism and lock the same, before leaving the switch, and thereby render accidents from carelessness on his part impossible.

To this end the invention consists in so constructing the lock that the key, while said lock is unfastened or in an open position, will be held in the lock until the possessor of said key, in order to remove it, will be compelled to positively close and lock the shackle, as will be hereinafter more fully explained and specifically pointed out in the claims.

The above mentioned object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of my improved pad-lock, with one of the side plates removed, showing the parts in locked position; Fig. 2, a similar view showing the parts in unlocked position; Fig. 3, a perspective view of the locking-dog, and Fig. 4, a view of the key.

Referring to the drawings:—The numeral 1 indicates the casing of the lock, which is of the usual semi-elliptical form having a tang, 2, carrying a clevis, 3, to which may be attached a chain (not shown) for securing said lock to a part of the switch-operating mechanism.

The numeral 4 indicates the shackle, which is pivoted at one end upon a short stud, 5, secured between the lugs 6 of the casing, and has its free end notched, as indicated by the numeral 7, to be engaged by the detent-shoulders 8 of a series of tumblers, 9, which are centrally pivoted on a post, 10, and pressed normally forward by means of a series of leaf springs, 11, secured to said tumblers and bearing against a stud, 12, on the interior of the casing.

The numeral 12 indicates a spring secured on a stud, 13. One end of said spring bears against the free end of the shackle, when it is within the casing and in locked position, and serves to press it outwardly, so that when the tumblers are disengaged, by means of the key, the said shackle will be forced automatically out of the casing. The shackle at its hub or pivoted portion is provided with a recess, 14, for the purpose to be hereinafter explained.

The numeral 15 indicates a key locking-bar which extends through an opening in the upper edge of the casing, the upper extremity of said locking-bar being of such shape as to fit into and engage the recess in the hub of the shackle, before mentioned. The lower end of said locking-bar is curved so as to conform with the semi-elliptical curve of the shell, and near said lower end the locking-bar is provided with a lug or projection, 16, which serves to limit the movement of the wing of the key, in one direction, and prevent its withdrawal, when the shackle is unlocked and said locking-bar held down, as shown in Fig. 2.

The lower ends of the tumblers are provided with detent-shoulders, 17, which are engaged by a similar detent-shoulder 18, of a curved locking-dog, 19, pivoted on a stud or post, 20, on the inside of the casing. To the upper end of said locking-dog is secured a spring, 21, which bears against the inner side edge of the casing and serves to hold the locking-dog normally out of engagement with the tumblers, when the same are unlocked. One arm of the spring 12 bears against said upper end of the locking-dog to hold it normally in engagement with the tumblers and lock the same. Thus it will be seen that the detent-shoulders at the upper end of said tumblers hold the shackle in locked position, while the locking-dog holds the lower ends of the tumblers in locked position, until overcome by the specially constructed key. The tumblers, near their lower ends, at the back,

are each provided with a curved recess, *a*, each end terminating with a projection, *a'*, by means of which the wing of the key is prevented from being turned in one direction, so that said key, in connection with the locking-bar, will be held in the lock when the shackle is unclosed.

To unlock the shackle the key is inserted and turned to the right. It being turned a portion of the key-wing rides up the inclined end of the locking-dog, and, depressing it, releases the lower ends of the tumblers so that they may be readily brought into proper line, by the wards of the key, to unlock the shackle. As the said shackle is thrown back, by the action of the spring 12, the hub or pivoted part thereof forces the key locking-bar downwardly and its lower end inwardly, toward the tumblers, where it is held, and in such position the lug or projection 16 will prevent the further movement of the key in that direction, (the right,) while the lower ends of the tumblers will prevent its movement in the opposite direction, so that the wing of the key cannot be brought in line with the key-hole, and consequently said key cannot be withdrawn. It will be noticed that when the wing of the key is to the left, it enters the recess *a* and is prevented from being turned in that direction and withdrawn, as clearly shown in Fig. 2. When the shackle, however, is pushed in the casing and locked the pressure upon the locking-bar is removed and the upper end of said locking-bar enters the recess in the hub of the shackle, permitting the key-wing to pass the lug or projection 16 and be brought into line with the key-hole, so that it can readily be withdrawn.

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

1. In a pad-lock, the combination, with the pivoted shackle thereof, recessed at its hub, of a key-locking bar, operated by said shackle and provided with a projection to limit the movement of the key and prevent its withdrawal in that direction and means for preventing the withdrawal of the key in the opposite direction, while the shackle is in unlocked position.

2. In a pad-lock, the combination, with the pivoted shackle, of a series of spring-actuated tumblers having their upper ends adapted to engage the free end of said shackle and their lower ends formed with a rear projection to limit the movement of the key and prevent its withdrawal in that direction and means for preventing the withdrawal of the key in the opposite direction, while the shackle is in unlocked position.

3. In a pad-lock, the combination, with the pivoted shackle, recessed as described and provided with a notch at its free end, of a series of spring-actuated tumblers having their upper ends adapted to engage the free end of said shackle and their lower ends formed with a rear projection, and a locking-bar, operated by said shackle and provided with a projection to serve, in conjunction with the tumbler projections, to positively prevent the withdrawal of the key, while the shackle remains in unlocked position.

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE M. HATHAWAY.

Witnesses:

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