J. J. TURNER.
Padlocks.

No. 198,713. Patented Dec. 25, 1877.

Fig. 1.

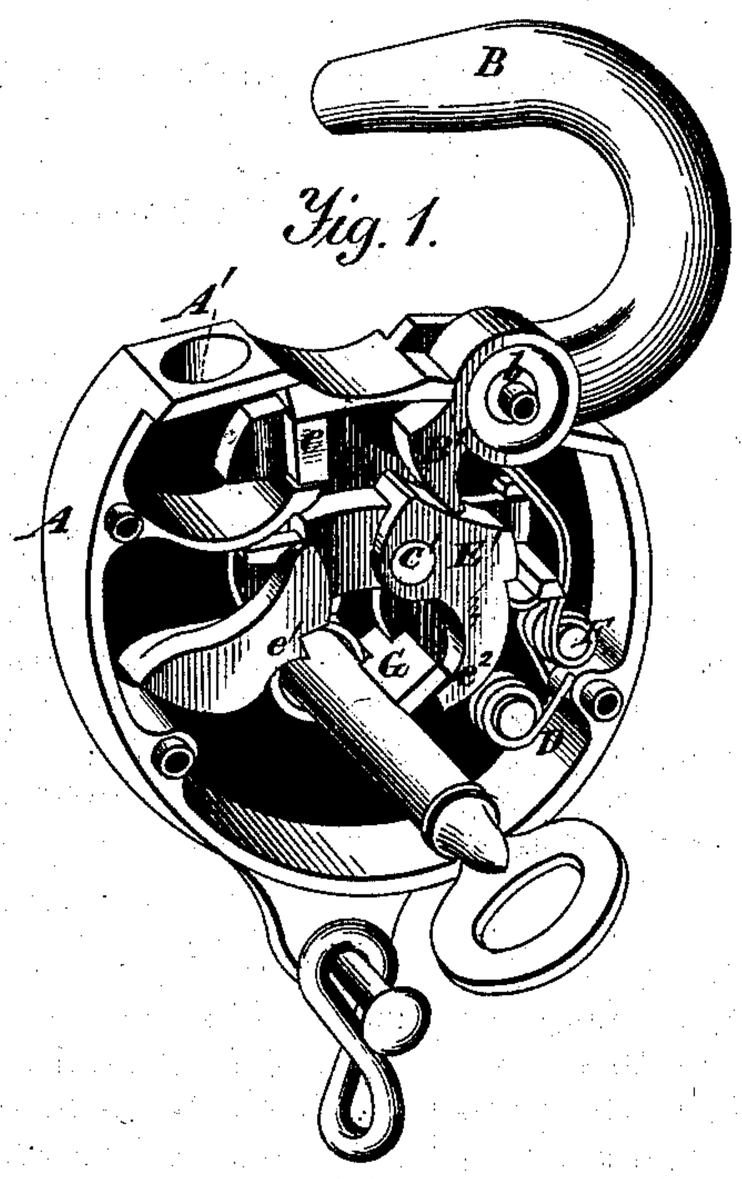


Fig. 4.

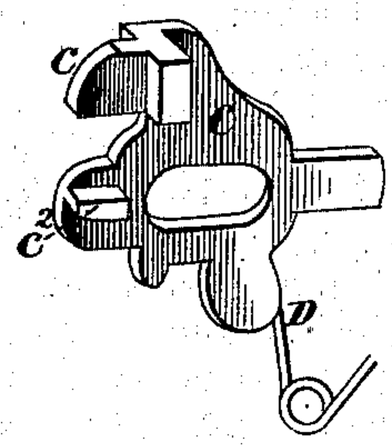


Fig. 2.

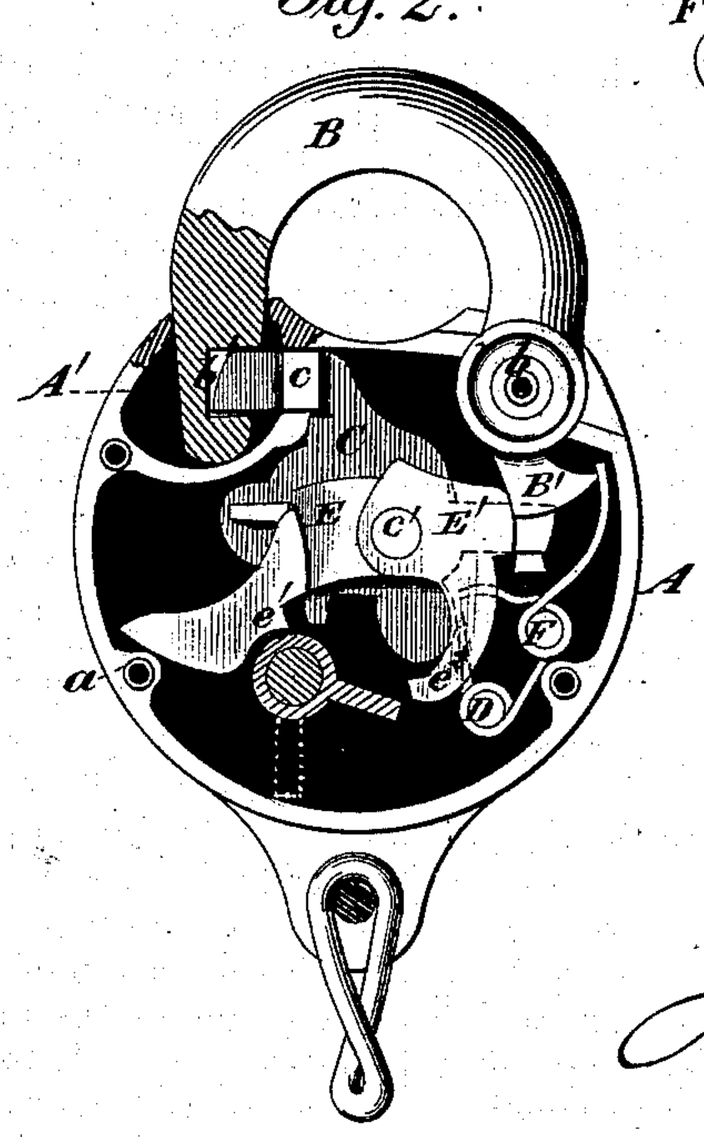
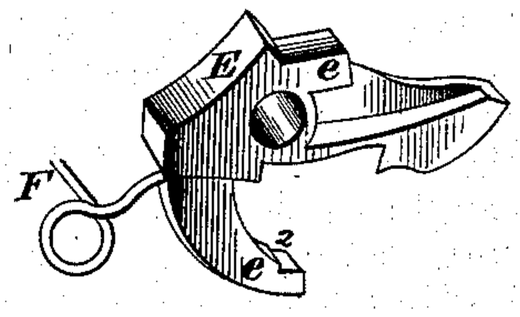


Fig. 3.



Witnesses.
A. Ruppert,
Chas. D. Neale

James J. Turner.
Inventor.
by his attorney
R. F. Eilis

UNITED STATES PATENT OFFICE.

JAMES J. TURNER, OF RICHMOND, INDIANA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN F. MILLER, OF SAME PLACE.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. **198,713**, dated December 25, 1877; application filed October 13, 1877.

To all whom it may concern:

Be it known that I, JAMES J. TURNER, of Richmond, in the county of Wayne and State of Indiana, have invented a certain new and useful Improvement in Padlocks, of which the following is a full, clear, and exact description:

The object of this invention is to so construct padlocks that in the act of unlocking the shackle the key shall be caught in the lock, so that it cannot be withdrawn until the shackle has been again locked by the bolt or bolts.

To this end my invention consists in incorporating in the lock a tumbler, which, on liberating and retracting the bolt, catches the bit of the key, and is combined with a dogging means, which maintains it in the position for retaining the key from the moment that the shackle is released until said shackle is again caught by the bolt.

In the annexed drawings I have illustrated a padlock with a single bolt and single tumbler, embodying my invention in the best form so far devised by me in its application to such a lock. It should be understood, however, that this construction may be greatly varied without ceasing to embody my invention.

Figure 1 is a perspective view of this lock, minus the face-plate, showing the shackle unlocked and the key caught. Fig. 2 is a front elevation, showing the position of the parts when the shackle is locked. Fig. 3 is a perspective view of the bolt, seen from the face side. Fig. 4 is a perspective view of the tumbler, seen from the rear side.

The same letters of reference indicate like parts in all the figures.

The shackle B is pivoted at *b* to the case A, so that its free beveled or rounded end can enter a cavity, A′, of the case through an opening in the top plate. The inner wall of this cavity has also an opening, through which the tongue *c* of the bolt C is projected to enter the recess *b′* in the free end of the shackle. The bolt C, sliding on a fixed pin, *c′*, and suitably guided, is projected by a spring, D, and the end of its tongue is beveled, so that the shackle can force it back until its recess arrives opposite to the tongue, when the bolt is immediately thrown forward again by its spring, causing its tongue to engage the shackle.

The tumbler E is pivoted upon the fixed pin c^1. It has a short arm, E′, on which one end of a spring, F, acts to throw the tumbler proper down onto a projection, *a*, of the case, so as to arrange its dogging-bar *e* directly behind the projection c^2 on the bolt C, to prevent the retraction thereof. To provide for the play of this projection in moving the bolt after it has been liberated from the tumbler by lifting the latter, the rear side of the tumbler is recessed directly below the dogging-bar *e*, as shown in Fig. 3. On its lower edge the tumbler has a tooth or hook, e^1, and the arm E′ thereof has a hook, e^2. An inwardly-projecting heel, B′, is also formed on the shackle, with reference to which heel the tumbler is so formed and hung that, in the locked position of the shackle, its heel just clears the end of the short arm E′ of the tumbler. On lifting the tumbler the upper edge of its short arm E′ just clears the lower edge of the heel of the shackle, and in unlocking the latter its heel moves over upon the top edge of this short arm and maintains the tumbler in the lifted position. The shackle is thrown up by one end of spring F acting on the heel B′.

The bit of the key G, in unlocking, first lifts the tumbler a little beyond what is necessary to liberate the bolt by acting on the back of the hook e^1 thereof, on passing which the tumbler falls a little, so as to place this hook e^1 behind the bit, to prevent the key from being turned back. The bit of the key is now between the hook e^1 and a shoulder on the bolt. Turning it further retracts the bolt, causing spring F to throw up the free end of the shackle, and placing the heel B′ thereof over the arm E′ of the tumbler.

The elevation of the tumbler places its hook e^2 also across the path of the bit of the key, as shown in Fig. 1, barring its progress in this direction to the key-hole, whose position in the face-plate of the lock is indicated by dotted lines in Fig. 2. The key is thus caught in the lock, and cannot be extracted therefrom until the shackle has been again locked by the bolt, when the tumbler, being released from the dogging-heel of the shackle, is thrown to its

normal position by the spring F, removing its hook e^2 from out of the path of the bit of the key.

In case the recess b' of the shackle becomes clogged up, so that the tongue of the bolt cannot enter it, or the bolt fails from any other cause to lock the shackle after the free end of the latter has entered the cavity A′, the projection c^2 on the bolt will remain under the dogging-bar e of the tumbler, and act in place of the heel of the shackle to retain the tumbler in its elevated position, so as to retain the key. Thus it will be observed that the bolt must actually have locked the shackle before the tumbler releases the key.

It is obvious that the key-locking tumbler may be a tumbler additional to the ordinary bolt-dogging tumbler, and that other means than those shown and described for automatically holding the key-locking tumbler in the locking position from the moment of unlocking to the moment of locking the shackle may be used without departing from the principle which constitutes the basis of my invention.

While the lock described is adapted for general use, and is of special value in various connections, it was more especially designed for use on railroad-switches. It will be a check on the switch-tender, who will be obliged to fully lock the lock before he can withdraw the key, thus insuring the safety of the switch against misplacement by jars or by evil-disposed persons.

I do not claim, broadly, the combination of a reciprocating spring-bolt, a rocking tumbler, and a projection on the shackle.

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

1. In a padlock, the combination, substantially as specified, of a tumbler, which, in opening the lock, catches and confines the key, and a means which automatically dogs said tumbler in the position for retaining the key until the shackle is again locked.

2. In a padlock, the combination, substantially as specified, of the key-confining tumbler and the shackle, provided with a heel for dogging the said tumbler on and during the release of said shackle.

3. In a padlock, the combination, substantially as specified, of the key-confining tumbler, provided with a dogging-bar, e, the bolt having a projection, c^2, and the shackle constructed with a dogging-heel, B′.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

JAMES J. TURNER.

Witnesses:
J. B. MORRIS,
DAVID H. HILL.