(Model.)

C. C. DICKERMAN.

PADLOCK.

No. 264,445. Patented Sept. 19, 1882.

Fig. 8

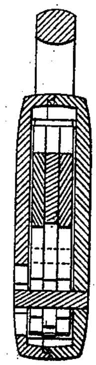


Fig. 1.

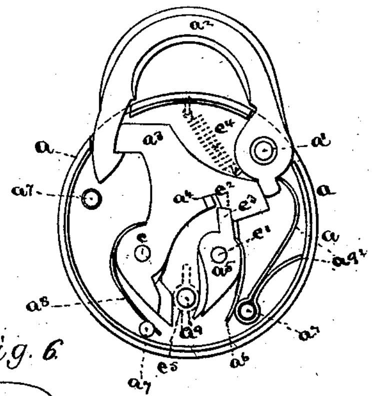


Fig. 2.

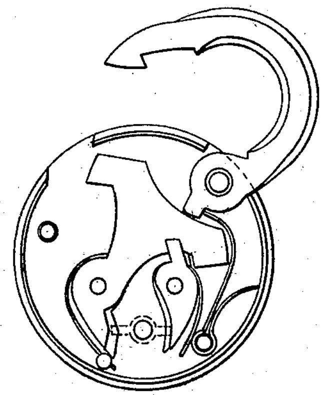


Fig. 6

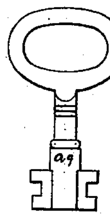


Fig. 3.

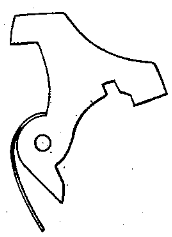


Fig. 7.

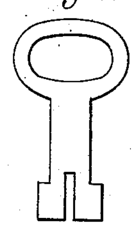
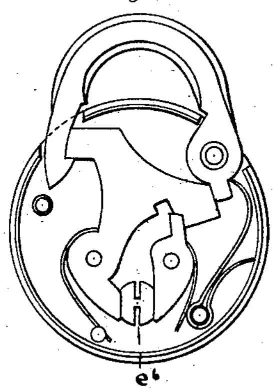


Fig. 4.

Fig. 5.



Witnesses.
Ch. Houghton
R. M. Campbell

Inventor.
Chas. C. Dickerman

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES C. DICKERMAN, OF BOSTON, MASSACHUSETTS.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 264,445, dated September 19, 1882.

Application filed November 17, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHARLES C. DICKERMAN, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented a new and useful Improvement in Locks, of which the following is a specification.

The object of my invention is to produce an inexpensive but substantial and reliable lock, which, when made with two or more locking-bolts and tumblers, cannot be unlocked by any instrument except the key made for it; and it consists in the peculiar form and arrangement of the locking-bolts and of the tumblers, and the operation thereof.

In the drawings annexed, Figure 1 shows a side view of my lock, which in this case is a padlock with one side of its case removed, exposing all the parts to view, and the hasp down and secured by the locking-bolt, and thus engaged and secured by a locking dog or tumbler. Fig. 2 shows the same as Fig. 1 with the hasp up and the locking bolt and dog disengaged. Fig. 3 shows a side view of the locking-bolt and its spring. Fig. 4 shows a side view of the locking dog or tumbler and its spring. Fig. 5 shows a side view of a padlock with one side of the case removed, and having a rotating trunnion in the key-hole, and which is opened with a flat or plate key, as shown in Fig. 7. Fig. 6 shows a side view of a key for the lock, as shown in Figs. 1 and 2. Fig. 7 shows a side view of a flat or plate key for the lock, as shown in Fig. 5. Fig. 8 shows a section of the padlock as shown in Fig. 1 on a vertical line across the middle of it.

a is the case of the lock.

a' is the pivot upon which the hasp swings, and is also a rivet holding the two sides of the case together at this point when the lock is finished.

a^2 is the hasp of the padlock.

a^3 is the locking-bolt.

a^4 is a receiving-notch in the back side of the locking-bolt.

a^5 is a locking dog or tumbler oscillating on a pivot, and which is thrown into position by a spring to engage the notch on the back side of the locking-bolt a^3 and secure it in a locking position in the hasp at each end.

a^6 is the spring, which is attached to the back side of the locking dog or tumbler a^5, and which, working against the pin a^7, throws the upper and engaging end of the locking-dog a^5 into the notch on the back side of the locking-bolt, thereby securing the locking-bolt in a locking position in the hasp.

a^7 a^7 a^7 are the rivets holding the two sides of the case together, and answering as pivots for the springs a^6 and a^8.

a^8 is the spring on the front or left-hand edge of the locking-bolt a^3, which swings the locking-bolt forward into the catches on the end of the hasp, securing it so that the hasp cannot be raised and the lock opened until the key is turned.

a^9 is the pivot on which the key is placed in the lock and turned.

e is a pivot upon which the locking-bolt a^3 swings.

e' is the pivot upon which the locking dog or tumbler a^5 swings.

e^2 is the locking-notch in the back edge of the locking-bolt a^3, in which the upper end or engaging-bolt of the locking dog or tumbler a^5 is thrown by the action of its spring a^6.

e^3 is the engaging-bolt of the locking dog or tumbler a^5, which, being thrown by the action of the spring a^6 into the notch e^2 in the locking-bolt, holds it securely locked.

e^4 is a spiral spring which may be used instead of the spring a^8.

e^5 is a transverse section of the key in the lock.

e^6 is the revolving trunnion in the key-hole, as shown in Fig. 5.

The hasp a^2, the locking-bolt a^3, and the locking dog or tumbler a^5 are the moving or working parts of the lock.

In Figs. 1 and 2 two locking-bolts and two locking dogs or tumblers are shown, and any desirable number of both may be placed in a lock. The locking-bolts and the locking dogs or tumblers may be made by punching them out of sheet metal of a proper thickness, or by molding and casting, or in any other known manner, all alike except as to the notches a^4 and e^2, and the lower ends or points of the locking-bolts, which are milled or otherwise cut in forms varying a little, and the lower ends of the locking-dogs a^5 may also be varied in form, so that they will not range exactly in line. The edges of the key-bits are notched, so that when they are turned against the lower

ends of the locking-bolts and locking-dogs they will strike all of them on both sides, the locking-dogs first, so as to disengage the engaging-bolts e^3 from the notches e^2, so that the notches a^4 can engage with the bolts e^3, and then the key engages the lower ends of the locking-bolts, throwing them out of the hasp and throwing the notches a^4 in the locking-bolt into line, so that when the locking-bolt is thrown back they will fall onto the engaging-bolt e^3. The lower ends of the locking-bolts a^3 and of the locking-dog a^5 may be so shaped that the two sides of the double-bitted key shown in Fig. 6 will exactly counterpart, so that the key may be put into the lock either side up and turned either way to open the lock; or they may be so shaped that one side of the key must be adapted to work against the locking-bolt and the other side to work against the locking dogs or tumblers. To close this lock and secure it, it is only necessary to bring down the hasp into place, when the springs a^6 and a^8 throw the locking-bolt into the hasp and firmly secure it there by the locking-dog passing under the rear part of the locking-bolts a^3. The notches e^2 in the back side of the locking-bolts a^3 are used as stops for the locking dogs or tumblers a^5 principally, and may be used or not, as desired.

If two or more of the locking-bolts and of the locking-dogs are placed in a lock, it is practically an impossibility to open the lock without its key. None but a skillful expert would pick such a lock.

The case of the lock may be made of brass or iron or any suitable metal, and in any suitable form, either cast or struck up in two or more parts, or in any other known manner produced. I, however, prefer to make the case in circular form, with the sides crowning, as shown in drawings. The crowning shape adds strength to the case, and consequently makes the lock more durable and desirable.

The locking dog or tumbler a^5 and the operation thereof are believed to be entirely new and original, as also the combination of it with the locking-bolt a^3. The use of the locking dog or tumbler a^5, which is movable and independent with each of the locking-bolts, makes the lock much more secure than when constructed with the ordinary stationary stud or fence, and, besides, serves in this case to securely confine the locking-bolt a^3 in position when the lock is locked, so that it is impossible to disengage the latter from the hasp until after the dog a^5 has by the operation of the key been passed into the notch a^4 of the bolt a^3.

I claim—

1. In a padlock, the locking-bolt a^3, provided with the notches a^4 and e^2, in combination with locking dog a^5, as shown and described.

2. In a padlock, the locking-bolt a^3 and the locking-dog a^5, in combination with the double-bitted key, one bit of which engages the lower end of the locking-bolt and the other the lower end of the locking-dog in unlocking, substantially as shown and described.

CHARLES C. DICKERMAN.

Witnesses:

F. M. LORING,

CHAS. C. WILLIAMS.