

W. B. MASON
Seal Lock.

No. 229,003.

Patented June 22. 1880.

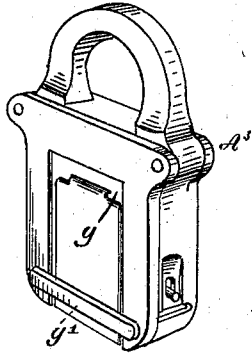


FIG. 1.

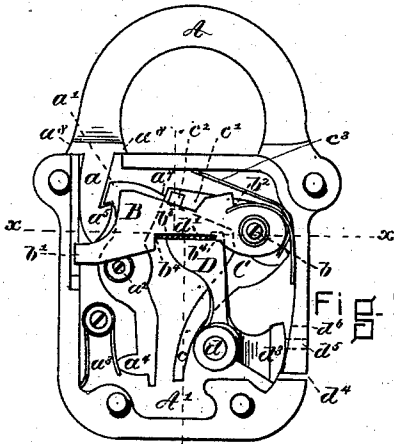


FIG. 2.

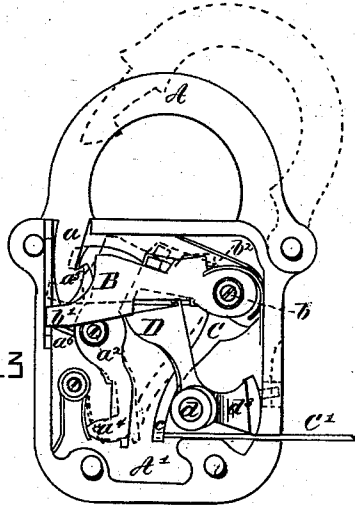


FIG. 3.

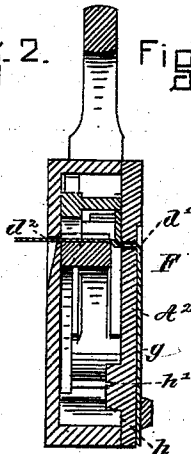


FIG. 4.

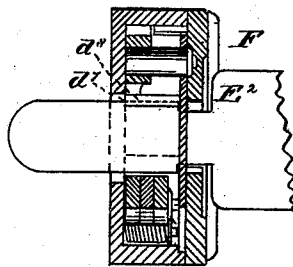


FIG. 5.

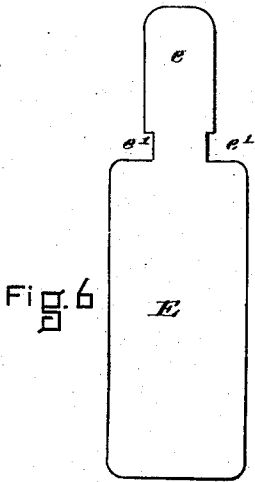


FIG. 6.

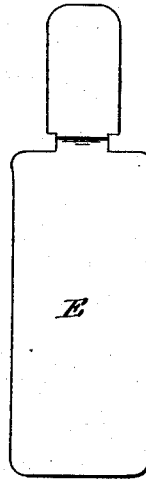


FIG. 7.

WITNESSES

Thos. A. Black
A. J. Cutting

INVENTOR

William B. Mason

UNITED STATES PATENT OFFICE.

WILLIAM B. MASON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GEORGE M. PATTEN, OF SAME PLACE.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 229,003, dated June 22, 1880.

Application filed November 27, 1878.

To all whom it may concern:

Be it known that I, WILLIAM B. MASON, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented an Improvement in Locks, of which the following is a specification.

This invention relates to that class of seal-locks which embraces the insertion of a seal-blank or closing of the lock and the canceling of the seal by the opening thereof; and it consists in the mechanism hereinafter described for this purpose.

In the drawings, Figure 1 is a perspective of a padlock embodying my invention. Fig. 2 is a central section thereof, showing the position of the operative parts of the lock when it is closed. Fig. 3 is a section upon the same line, showing the position of the operative part of the lock when closed and in dotted lines when open. Fig. 4 is a cross-section. Fig. 5 is a section upon the line $x x$ of Fig. 2. Figs. 6 and 7 are plans of the seal-blank.

It is very desirable for certain purposes, particularly for custom-house uses, for post-office employment, and, in fact, for the securing of any article or valuable, to prevent locks being tampered with or opened without authority, and to provide some inexpensive and easy method by which the lock, when closed, cannot again be unlocked without destroying a seal or blank, which shall indicate that the lock has been so touched. Various means have been employed for effecting this purpose, and among the most common may be mentioned the use of a seal of plastic material molded upon the key-hole or over some slide covering the same, and the employment of glass and paper for protecting the key-hole or for indicating when the lock has been opened or tampered with. These methods, however, are somewhat objectionable, owing to the liability of the seal being broken or displaced accidentally.

In my invention the lock is automatically sealed upon being closed, and cannot be reopened until the seal is destroyed.

In the drawings the invention is shown as applied to a padlock. I do not, however, confine myself to this particular use, as the same combination of elements for producing the

same result may be used for any of the ordinary locks.

The hasp A is provided with the notched tongue a , which engages with the tumbler-catches a' when locked. These tumbler-catches a' are pivoted at a^2 to the case A' of the padlock. The springs a^3 , bearing against the recessed projections a^4 on the lower end of the tumbler-catches, serve to keep the outer upper end of the catches in position to close into the notch a^5 in the tongue a . The stops a^6 prevent the tumbler-catches from being thrown by the springs a^3 too far into the path of the tongue a .

A seal-locking bar, B, is pivoted at b to the case A' of the lock, and projects into the pathway of the tongue a when the hasp is unlocked, and by contact with the end of the hasp at b' is thrown downwardly against the stress of the spring b^2 .

Hung upon the pivot b is the rock-lever or locking-pawl C. This locking-pawl has an arm, c , which projects downwardly into the path of the key when the lock is open, as shown in dotted lines in the lower part of Fig. 3, and the position of the key is shown at C', Fig. 3. This locking-pawl is provided upon its arm c' with the projection c^2 , which bears upon the top of the locking-bar B. A spring, c^3 , acts to hold the locking-pawl in position with the projection c^2 bearing upon the said locking-bar B.

When the hasp is locked the end of the arm c' of the locking-pawl abuts against one or more of the upper edges of the tumbler-catches at a' .

A seal-supporting lever, D, is pivoted at d to the case of the lock, and is so hung that its upper surface, d' , may be flush with the lower surface of the seal-slot d^2 in the case, to serve as a bed in supporting that portion of the seal-blank within the case. The arm d^3 of this seal-supporting lever is formed so as to project over the key-hole d^4 when the surface d' is flush with the seal-slot, as described. Projecting from the end of this arm d^3 is the pin d^5 , which projects to and enters the slot d^6 in the case A', in order that the end of the arm d^3 , which covers the inner end of the key-hole, may be lifted in unlocking, as hereinafter described.

Three tumbler-catches only are shown in the drawings; but more can be employed if necessary. Also, as many locking-pawls *c* may be used as desirable, although but one is shown in the drawings.

The seal E employed with this lock preferably is made of very thin annealed brass; but it may also be made of any other suitable material if provided with the tongue *e* and recesses *e'* between the main portion of the blank and the tongue.

To seal the lock the tongue is inserted from the side F of the case through the seal-slot d^3 in the cover of the case A², which is on a line with the seal-slot d^2 , and is passed through the lock and projects from the seal-slot d^2 upon the other side.

The shoulder E² of the seal-blank comes in contact with the cover A² when the seal is in position for locking. Within the lock the tongue is supported upon the face *d'* of the seal-supporting lever, and the recess b^3 in the locking-bar B is arranged to shut thereon. The edge of the tongue shuts within the recess d^7 , formed in the projection d^8 of the side supporting-lever. The closing of the hasp A shuts the locking-bar B upon the seal, the recess b^3 closing upon the tongue of the seal-blank on the portion between the recesses *e'* in the blank. The walls b^4 upon sides of the recess b^3 in the locking-bar close into the recesses *e'* in the blank, and thereby securely lock the seal-blank in position within the lock, and it cannot be withdrawn therefrom without destroying it, because the shoulders forming the walls of the recesses *e'* in the blank come in contact with the faces of the locking-bar b^4 beyond the line of the recess b^3 . The tongue a^5 of the hasp in closing throws back the tumbler-catches in its descent until it has closed sufficiently to permit them to spring back into the notch therein. In inserting the seal-blank the upper face of the seal-supporting lever D is brought in line with the under surfaces of the seal-slots d^2 d^3 , and the key-hole d^4 is closed upon its inner side.

The main portion of the seal-blank may have impressed upon it such designating-marks as may be necessary, and is folded upon the cover A² of the lock within the recess *g*, the bar *g'* serving to hold the same in position within the recess. That portion of the tongue of the seal-blank which projects through the slot d^2 is turned downwardly against the case of the lock.

The projection *h* is provided with the groove *h'*, which serves as a guide in directing the thrust of the key in unlocking.

I prefer to make the bottom and walls of the case A', containing the mechanism, in one casting or piece with the projection A³. To this projection I pivot the hasp A, as shown. The hasp is further provided above the tongue *a* with the projecting portions a^8 , which close upon the case and cover the hole therein in which the tongue projects when the same is

locked, thereby preventing dirt, water, or snow from injuring the working parts of the lock.

If desirable, the seal-supporting lever may be made of steel and case-hardened at its end d^3 , in order that the same may be sufficiently hard to resist any attempts to enter the lock by cutting off that portion which projects into the path of the key stopping the key-hole.

The pin d^5 should be sufficiently strong to lift the seal-supporting lever from the key-hole, but not strong enough to lift the seal-supporting lever against the seal-blank with force enough to disturb the locking-seal.

It will be observed that the seal-blank has been properly inserted, but before the lock is closed that one edge of the tongue of the seal-blank is held by a recess upon the seal-supporting lever, and that the portion of the tongue inclosed beneath the recesses *e'* is underneath the recess b^3 in the locking-bar B.

It will also be seen that in the insertion of the seal-blank to this position the seal-supporting lever has assumed such a position that its arm d^3 closes the key-hole. The lock is then in position to be closed.

It will be observed, further, that after the hasp is shut and the tumbler-catches have engaged with the notch in the tongue the locking-bar has closed upon the seal-blank and holds the same securely in place, as heretofore described.

It will further be seen that this locking-bar cannot be lifted until the hasp is withdrawn as the end of the hasp-tongue bears upon the end of the locking-bar.

It will also be seen that when the locking-pawl C locks behind one or more of the tumbler-catches *a'*, and is held in that position by the spring *c'*, no jar or shaking of the lock can throw the tumbler-catches out and allow the hasp to be withdrawn, and also that if the locking-pawl is thrown back accidentally or intentionally the tumbler-catches cannot be shaken from the notch in the hasp unless the locking-seal is removed, as said seal bears against their inner edge sufficiently to prevent them from being displaced or thrown back by concussion or jar.

It will also be noticed that this locking-pawl C has an arm, *c*, which projects into the path of the key when the lock is closed.

The seal-slots are so placed in relation to the tumbler-catches that when the tumbler-catches are closed one edge of the tongue of the seal bears against the edge of one or more of the tumbler-catches and prevents their being thrown back to release the tongue of the hasp until the seal-blank has been withdrawn.

The locking-bar B holds the locking-pawl away from the behind tumbler-catches when the lock is open.

The hasp is secured to the case in the manner indicated, in order that no other openings into the case may be made than are actually necessary for the purpose of working the lock. The lock can be opened only by destroying the

seal by tearing off the broad part of the blank and withdrawing the tongue from the opposite side of the case. This enables the seal-supporting lever to be thrown back and the key to be inserted. If, when the lock is closed with the seal inserted, it were possible to throw back the seal-supporting lever, so that the key-hole would be opened and the locking-pawl thrown back, it would still be impossible to open the lock without removing the seal, as one edge of the tongue of the seal bears against one or more of the tumbler-catches, and therefore they could not be thrown back until that obstruction was removed.

15 In some instances the locking-bar may shut somewhat below the level of the upper surface of the seal-supporting lever D in locking the seal, in which case it would clamp the tongue of the seal between its lower inner edge and the upper outer edge of the seal-supporting lever. It is necessary to have the locking-bar as close to the cover of the case as possible, in order that the weakest portion of the seal-blank (which of necessity is that part embraced by the locking-bar) may be as near the tag end of the blank as possible, in order that in unsealing the seal may be severed or torn apart between the recesses e' .

30 Having fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of one or more tumbler-catches with a locking-seal, adapted and arranged in relation to said tumbler catch or catches substantially as shown, and for the purposes set forth.

2. The combination of a locking-bar, a seal-supporting lever, and a locking-seal, all arranged in relation to each other substantially as and for the purposes described.

3. The combination of one or more tumbler-catches, a locking-bar, a seal-supporting lever, and a locking-seal, all arranged in relation to each other to operate substantially as described.

4. The combination of one or more tumbler-catches, a locking-bar, a seal-supporting lever, and a locking-pawl, all arranged to operate in relation to each other substantially as described.

5. The combination of a locking-bar, a locking-seal, and a seal-supporting lever provided

with an arm, d^3 , which shall close the key-hole of the lock when the locking-seal is in position, substantially as and for the purposes described.

6. The combination of one or more tumbler-catches having arms extended into the keyway, a locking-pawl arranged to automatically lock one or more of the tumbler-catches, as set forth, and provided with an arm projecting into the keyway, and a seal-supporting lever provided with an arm closing the key-hole when the seal is in position, all arranged in relation to each other to operate substantially as described.

7. The combination of the movable seal-supporting surface d' , the seal-locking bar provided with the recess b^3 within the case A, and the seal-slots d^2 d^3 in said case, all arranged in relation to each other substantially as described.

8. The combination of a seal provided with recesses e' , the seal-supporting surface d' , the movable seal-locking bar B, and the case A, provided with seal-slots d^2 d^3 , substantially as described.

9. The combination of the seal-bearing lever, having the arm d^3 , the pin d^5 , and slot d^6 , all arranged in relation to each other substantially as and for the purposes described.

10. In a seal-lock, the combination of one or more tumbler-catches, adapted to automatically engage with the hasp and to be operated only by the key or on closing the hasp by the free end of the hasp, as a device to lock the hasp, with a seal-locking bar adapted to be actuated by the free end of the hasp as a device for locking the seal and hasp of said lock, and with its case provided with seal-slots, substantially as described.

11. The combination of the hasp-engaging devices, the locking-plate B, and its spring with the locking-pawl C and its spring, the said locking-plate so adjusted in relation to the locking-pawl that when unlocked the locking-plate shall support the locking-pawl and prevent the same from falling into position behind the hasp-engaging devices, substantially as and for the purposes described.

WILLIAM B. MASON.

Witnesses:

THOS. WM. CLARKE,
A. J. OETTINGER.