(No Model.)

F. W. MIX.

PADLOCK.

No. 344,669. Patented June 29, 1886.

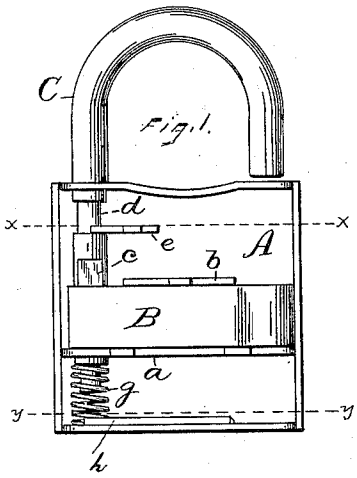


Fig. 1.

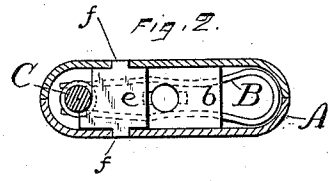


Fig. 2.

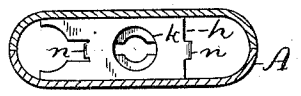


Fig. 3.

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UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE CORBIN CABINET LOCK COMPANY, OF SAME PLACE.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 344,669, dated June 29, 1886.

Application filed June 27, 1885. Serial No. 169,947. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have made certain new and useful Improvements in Padlocks, of which the following is a specification.

My invention relates to that class of padlocks that have a sliding shackle, which shackle is also free to swing after its short end has been withdrawn from the case.

In the accompanying drawings, Figure 1 is a front elevation of my padlock with one side of the case removed. Fig. 2 is a transverse section of said lock on line *x x* of Fig. 1, and Fig. 3 is a like view on line *y y* of Fig. 1.

A designates the lock-case, having cross-plates *a b*. Between these plates is the spring-catch B. The shackle C, which both slides and swings, has its longest member passed through holes in one end of the case, and in one end of the cross-plate *a*. The shorter member of the shackle C also enters a hole in the end of the case when the device is locked; but when the shackle is unlocked and slides outward this member clears the end of the case, as shown in Fig. 1, so that the shackle may swing in its bearings. Notches or recesses *c* are formed in opposite sides of the shackle, within which notches the leaves of the spring-catch B engage to lock the shackle within the case. The catch is released by a key which takes its bearings in holes in the plates *a b*, and at the end of the case which is opposite the shackle. (See Figs. 2 and 3.)

The parts thus far specifically described are all old and not claimed as my invention. It is also old in this connection to form an annular groove in the shackle at a point just within the case, and to throw the shackle outward by means of a sheet-metal spring, one end of which is fixed to the case, while the other end engages the groove of said shackle. In this construction the outward movement of the shackle is limited by the free end of the spring coming in contact with the end of the case.

A prior patent shows a padlock of another class—viz., one whose shackle slides, but does not swing, in which a lug on the long arm of the shackle lies in a slot in the case and serves to limit the outward movement of the shackle, which was forced out by a spiral spring placed under the heel of the shackle, all of which prior art is hereby disclaimed.

In the longer member of the shackle C, at a point within the case, I form a wide annular groove, *d*, fully as wide as the whole distance that the shackle moves in and out, the lower or inner shoulder of which groove engages the stop-plate *e*. This plate is shown in plan view in Fig. 2 in connection with the sectional view of the case and shackle, and is so shaped that one edge fits closely to the reduced neck that forms the bottom of the groove *d*. It is stationary within the case, and for convenience of so securing it I form lugs *f f* on two of its opposite edges, which lugs drop into mortises made in the sides of the case. The construction is not only inexpensive, but it enables me to first insert the shackle C, and then put in the stop-plate, which, by engagement with the lower or inner shoulder of the groove, limits the outward movement of the shackle, as shown in Fig. 1. By this construction the stop-plate forms no part of the spring, and the stop is formed wholly independent of the end of the case. Furthermore, the annular groove and the edge of the stop-plate can be better fitted to each other than can the sheet-metal spring and groove in the shackle of one of the padlocks herein disclaimed, because the swinging movement of the spring necessarily moves it to and from the bottom of the groove in the shackle, and requires a loose fit.

The shackle is forced outward by means of the spiral spring *g*, placed under its heel at one of the lower corners of the case. The upper end of this spring is held in place by means of a short tenon on the heel of the shackle. At the bottom or lower end of the case is a plate, *h*, having a round key-hole, *k*, which is concentric with the winged key-hole in the end of the case, (see Fig. 3,) and with the end of the case serves to form a bearing for that end of the key to turn in. The end of this plate which is nearest the spring is cut out, as shown in Fig. 3, so as to serve as a spring-guard to prevent the lower end of the spring from working sidewise out of place toward the key-hole. The plate *h* is secured to the end of the case by means of lugs *n n*, bent down therefrom, and

extending through the bottom end of the case. The spring is prevented from working out of place in the opposite direction by means of the wall of the case; but, if desired, the plate *h* may be extended sufficiently to make it surround the end of the spring.

If desired, other ordinary form of locking mechanism may be substituted for the spring-catch B, which locks the shackle within the case.

I claim as my invention—

1. In a padlock of the class shown and described, the combination of a suitable case, the shackle mounted therein so as to slide outwardly, and then swing or turn on its longer member, said shackle also having an annular groove, a stop-plate, one edge of which is fitted to and engages with said annular groove for forming a stop independent of the end of the case, a spiral spring placed under the heel of the shackle, and mechanism for locking the shackle within the case, substantially as described, and for the purpose specified.

2. In a padlock of the class described, the combination of the shackle C, mechanism for locking the shackle within the case, a spiral spring located under the heel of the shackle, and the plate *h*, extending to one side to form a spring-guard, and having a round key-hole concentric with the winged key-hole in the case, substantially as described, and for the purpose specified.

FRANK W. MIX.

Witnesses:
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