(No Model.)

M. W. FRAIM.

PADLOCK.

No. 385,799. Patented July 10, 1888.

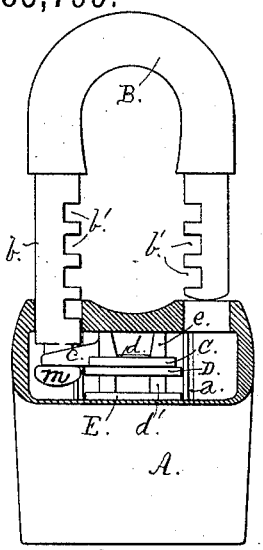

Fig. 1.

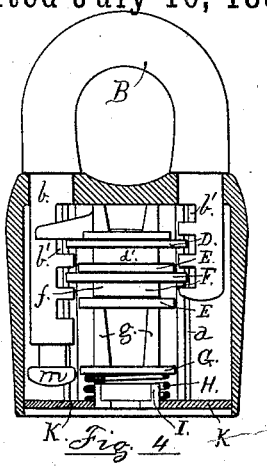

Fig. 4

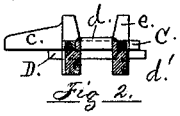

Fig. 2.

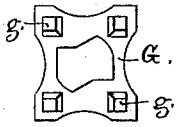

Fig. 5.

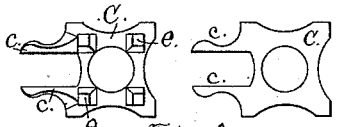

Fig. 3.

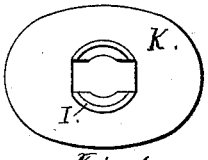

Fig. 6.

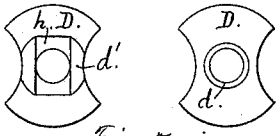

Fig. 7.

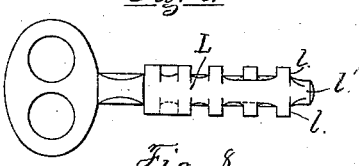

Fig. 8.

Witnesses.
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Dan'l H. Kerr.

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By his Attorney
Wm. R. Gerhart.

UNITED STATES PATENT OFFICE.

MILLER W. FRAIM, OF LANCASTER, PENNSYLVANIA.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 385,799, dated July 10, 1888.

Application filed March 12, 1888. Serial No. 267,927. (No model.)

To all whom it may concern:

Be it known that I, MILLER W. FRAIM, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Padlocks, of which the following is a specification.

My invention relates to improvements in that class of padlocks in which a U-shaped hasp or shackle, with notches cut in both arms thereof, is held in the case by means of tumblers resting upon stationary plates, the whole series of which are held together by means of a spiral spring resting on the bottom plate of the case, the stationary plates being placed in the case between vertical ribs, cast as part of the lock case, by which they are held immovably in place, and is an improvement on a padlock for which reissue Letters Patent No. 10,272, dated January 16, 1883, were issued to Edward F. Fraim and myself, as assignee of one-half interest; and the object of my improvement is to effectually prevent any movement of the tumbler first put into the case on its bearing on the stationary plate which was first inserted and which rests against the top of said case.

In the lock covered by the Letters Patent referred to the first plate put into the shell is a stationary plate, and is provided centrally with a small opening into which the small upper end of the key rests when the latter is introduced into the lock. It has been found that the tumbler resting against this plate is liable to a slight shifting of its position on its bearings, rendering necessary more or less lateral movement of the end of the key, in order to bring the tumbler into position to enable said key to be inserted in the opening in the stationary plate. This inconvenience my invention overcomes.

In the accompanying drawings, which illustrate the application of my improvement, Figure 1 is a side view of my improved lock, the upper part of the case being cut away to show the interior parts and with the shackle withdrawn. Fig. 2 is a vertical section through the inner stationary plate and tumbler, taken lengthwise of the lock. Fig. 3 are top and bottom views of the inner stationary plate. Fig. 4 is a side view of the lock, the whole side of the case being cut away and the shackle engaged by the tumblers. Fig. 5 is a view of the inner face of the filling-plate. Fig. 6 is a view of the interior face of the bottom plate of the case. Fig. 7 shows a view of the upper and lower faces of the innermost tumbler, and Fig. 8 is a face view of the key.

In the drawings, A represents the lock-case, and B the shackle.

The interior parts of the lock are the stationary plates C and E, held immovable between the vertical ribs *a*, the tumblers D and F, which are revolved between their bearings by the key L, to engage with or disengage from the notches *b'*, cut in the arms of the shackle B, a filling-plate, G, having four prongs, *g*, projecting upward and supporting the lower stationary plate, E, and a spiral spring, H, located between the said stationary plate and the bottom plate, K, of the case. This spring is held in place by the circular ribs I on the bottom plate, K, about which it is coiled.

The stationary plate C is provided with jaws *c*, which engage the head *m* of the arm *b* of the shackle when the latter is withdrawn from the lock, and prevent the separation of the shackle from the case. This stationary plate is also furnished with prongs *e*, that take the place of the ribs forming the concavity in the similar plate described in the patent before mentioned.

In my improvement the central opening in the stationary plate C is larger than that in the same plate in the original lock referred to. It is of sufficient size to receive the hub or disk *d*, surrounding the central opening through the tumbler D on its upper surface. This arrangement prevents any lateral movement of the tumbler on the inner plate, and at the same time provides an opening to receive the small upper end, *l'*, of the key L. The tumbler D is turned by the engagement of the shoulders *l* of the key with the rectangular recess *h* in the lower face thereof.

It will be observed that I have dispensed with any ribs or guides as a bearing for the hubs of the tumblers. These I have found could be omitted in my present arrangement, in which there are no tumblers located below the point at which they can engage the short arm of the shackle, for when the tumblers are

engaged with the shackle the former are kept in place by the latter, and when the tumblers are in the reverse position the vertical ribs *a* prevent any inconvenient lateral movement.

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

The combination, with the top stationary plate provided with a central opening, of the tumbler having a hub on its upper surface, which is received by said opening in the stationary plate, substantially as and for the purpose specified.

M. W. FRAIM.

Witnesses:
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