

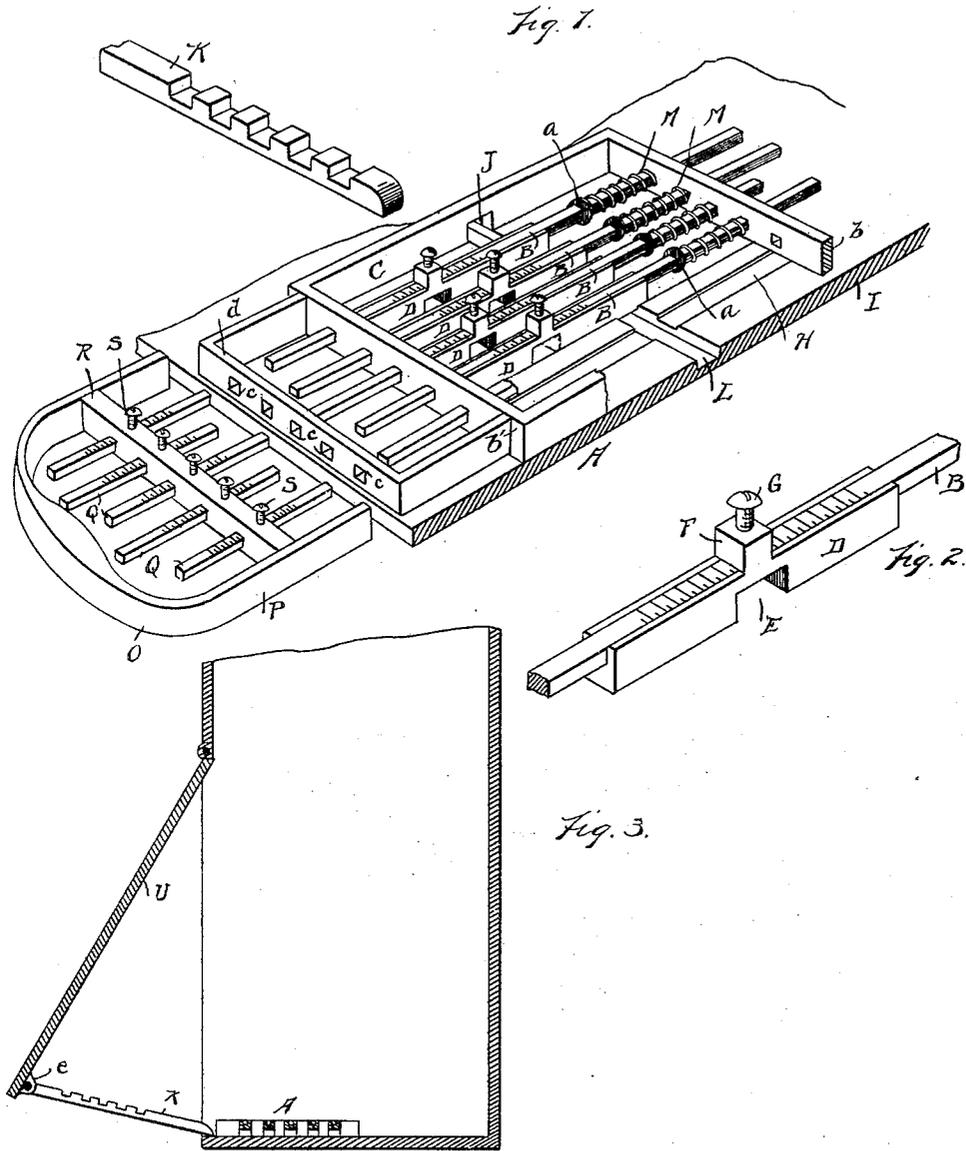
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J. G. SAXE.
LOCK.

(Application filed Aug. 14, 1901.)

(No Model.)



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LOCK.

SPECIFICATION forming part of Letters Patent No. 690,191, dated December 31, 1901.

Application filed August 14, 1901. Serial No. 72,025. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. SAXE, a citizen of the United States, residing at Delray, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates generally to locks, and particularly to a combination-lock; and the invention consists in the peculiar construction of a lock of the type referred to and in the novel arrangement and combination of its various parts, as will be more fully hereinafter described.

In the drawings illustrating my invention, Figure 1 is a sectional perspective view of the lock. Fig. 2 is a detached sectional perspective view of one of the lock-bars; and Fig. 3 is a sectional view through a mail-box, showing my lock applied thereto.

In the drawings thus briefly referred to, the reference-letter A represents the lock proper, comprising, essentially, a series of lock-bars B, preferably five in number, one of the bars being partly broken away for the purpose of illustrating the construction of the base. These bars, as shown, are preferably arranged for sliding movement and within a frame C, the bars projecting through suitable openings formed in the frame ends for this purpose, and the openings being preferably rectangular, conforming to the external contour of the bars and preventing rotary movement of the latter.

The lock-bars described are preferably of equal length, and each is provided with a block D, having a longitudinal groove formed in its top to receive the bar. Each block is also recessed or apertured on its under side, as shown at E, and the openings are so formed within the blocks that when the latter are in parallel alinement, as indicated in Fig. 1, no two of the apertures or notches in the blocks will be in registration.

F is a connecting member or cross-block arranged centrally on the top of each block, and G designates a set-screw extending through the cross member into engagement with the bar. The blocks are thus adjustable upon the bars and are adapted to travel upon the actuation of the bars within grooves H, formed

in a suitable base plate or section I, upon which the frame rests.

The frame at one side is recessed centrally, as at J, the size of the recess corresponding to the size of the opening or notch in the blocks. Through this opening the lock-hasp K is adapted to extend and to slide within a cross groove or guideway L in the base. The hasp, as shown, is in the form of a notched bar, the notches corresponding in number to the number of bars and being adapted to receive the blocks, which when the hasp is inserted within the lock are adapted to slide within the notches.

From the construction of the lock as thus set forth it will be obvious that the hasp can only be inserted within the frame or withdrawn from the latter when the notched blocks upon the bars are in registration in alinement with the notch J in the frame side. The blocks are maintained normally out of alinement with the hasp by means of coiled springs M, which encircle the bars and bear normally against collars *a* upon the latter and the frame end *b*. As shown in Fig. 1, the construction of the parts is such that the blocks are held normally against the frame end *b'* to one side of the notch J in the frame. To actuate the bars for the purpose of bringing the notches in the blocks into registration in alinement with the notch J, through which the hasp passes, a key O is employed, consisting, essentially, of a holder P and a series of wards Q, each having a sliding engagement with the holder and adjustably secured therein. The holder is preferably yoke-shaped in configuration, as shown, and is provided with a cross-bar R, which connects the parallel members of the yoke at a considerable distance from their free ends, the latter serving in the manner hereinafter set forth as guides for the key. The cross-bar is provided with longitudinal openings extending therethrough, in which the wards are arranged, and the latter are preferably secured in position by means of set-screws S, as plainly shown in Fig. 1.

In operation the key-wards are presented against the ends of the lock-bars, and by forcing the key inward against the tension of the springs the notches in the blocks are brought into proper alinement with the hasp

and will allow of the latter being withdrawn or inserted. The different combinations of the lock are obtained by adjusting the notched blocks upon the lock-bars and by effecting a corresponding adjustment of the wards within the key. Thus when a block on one of the lock-bars is moved toward the end of the latter opposite to the spring the corresponding ward in the key is moved forwardly through the cross-bar R a corresponding amount. It will be obvious from the description of the lock that a great many combinations can be made, and at the same time the lock is exceedingly simple in form, durable in construction, and may be readily and cheaply manufactured.

It is to be noted in the construction of the lock that in addition to having the notches in the blocks normally out of alinement when the blocks themselves are in parallelism the blocks are capable of movement rearwardly beyond the line of registration with the notch J in the frame. By means of this construction persons tampering with the lock are prevented from ascertaining by the insertion of wire or similar devices within the lock how far the respective lock-bars are required to be moved to permit of the withdrawal of the hasp. I preferably provide the frame with an extension of less width than the frame. This extension is preferably rectangular in configuration and is provided with a series of openings *c* in the end *d*, which are adapted to receive the wards of the key. The extension, as will be observed, forms a guide for the key in order that the lock may be readily manipulated, and as a further convenience the extension is of a width to fit and slide between the end portions of the yoke-shaped frame, the end portions referred to serving as additional guides and facilitating the insertion of the key.

In Fig. 3 my improved lock is shown as applied to a mail-box, the hasp being carried by the lid or door U of the box and being preferably pivoted between ears or lugs *e*. By thus connecting the hasp sidewise movement is prevented and the necessity of pro-

viding a guide, such as shown in Fig. 1, for the notched bar is obviated. Also it will be obvious that the lock-bars may be arranged upon the bottom of the box in such manner that the frame described in which the bars are shown to travel may be entirely dispensed with. I do not desire, therefore, to be limited to the exact construction shown and described, as the lock is susceptible of many modifications without in any manner departing from the spirit of my invention.

What I claim as my invention is—

1. In a lock, the combination with the notched hasp, of a series of slidable lock-bars extending transversely of the hasp and adapted to engage the notches therein, and a notched member adjustably secured to each lock-bar, one or more of said members being arranged with the notch or notches normally out of alinement with the hasp.

2. In a lock, the combination with the notched hasp, of a series of slidable lock-bars extending transversely of the hasp and adapted to engage the notches therein, a notched block having a sliding engagement with and adjustably secured to each lock-bar, and springs for said lock-bars adapted to maintain the notched blocks normally out of alinement with the hasp.

3. In a lock, the combination with a base-section having a plurality of grooves formed therein, of a frame mounted upon the base having a hasp-opening formed in one of its sides, a series of lock-bars extending through the frame ends and having a sliding engagement therewith, notched blocks adjustably secured to the lock-bars and sliding within the grooves formed in the base and springs for said lock-bars acting to maintain the blocks normally in abutment with one of the frame ends.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN G. SAXE.

Witnesses:

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