

J. C. Mix,

Padlock.

N^o 37,515.

Patented Jan. 27, 1863.

Fig: 1.

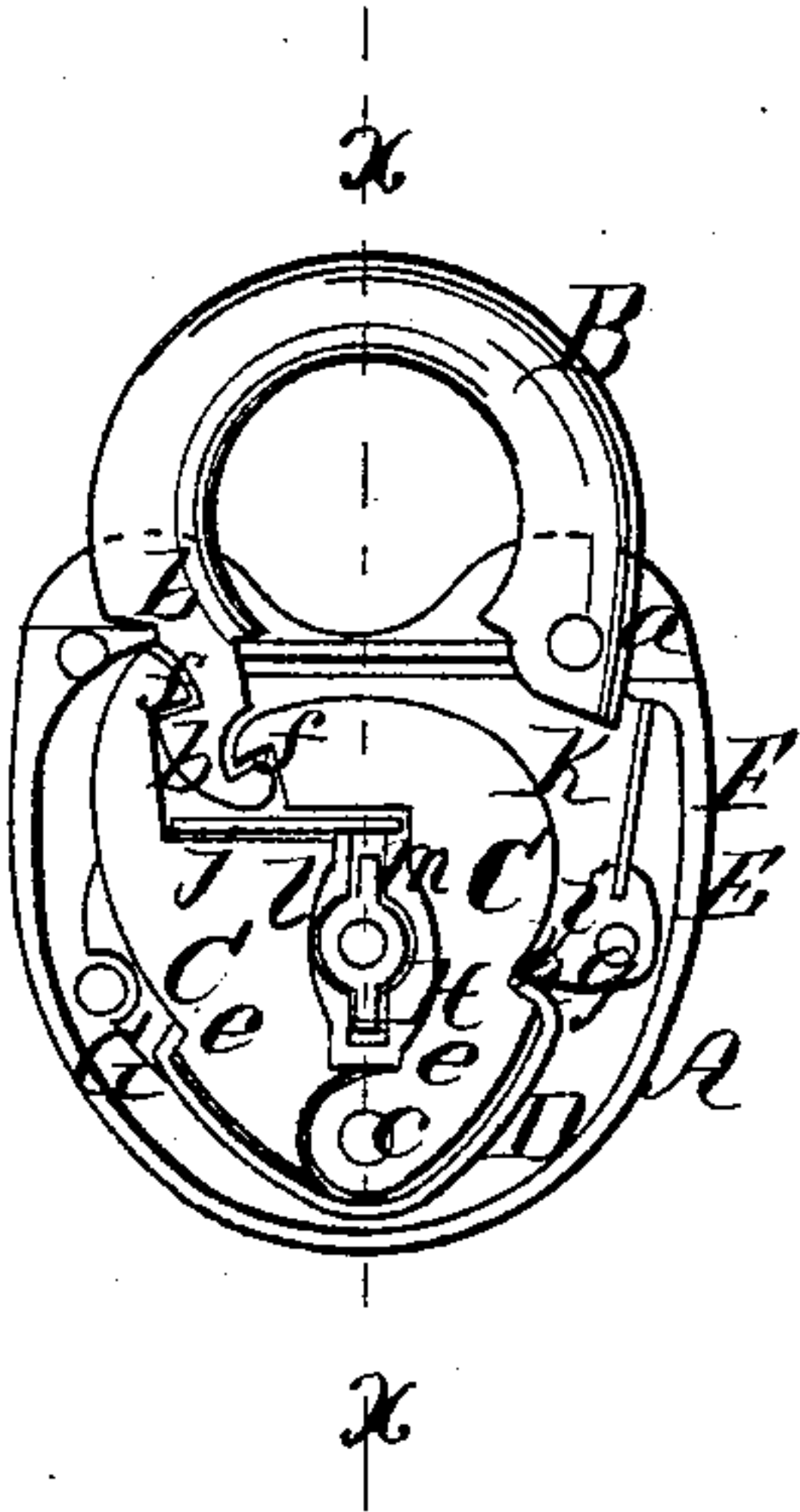


Fig: 2.

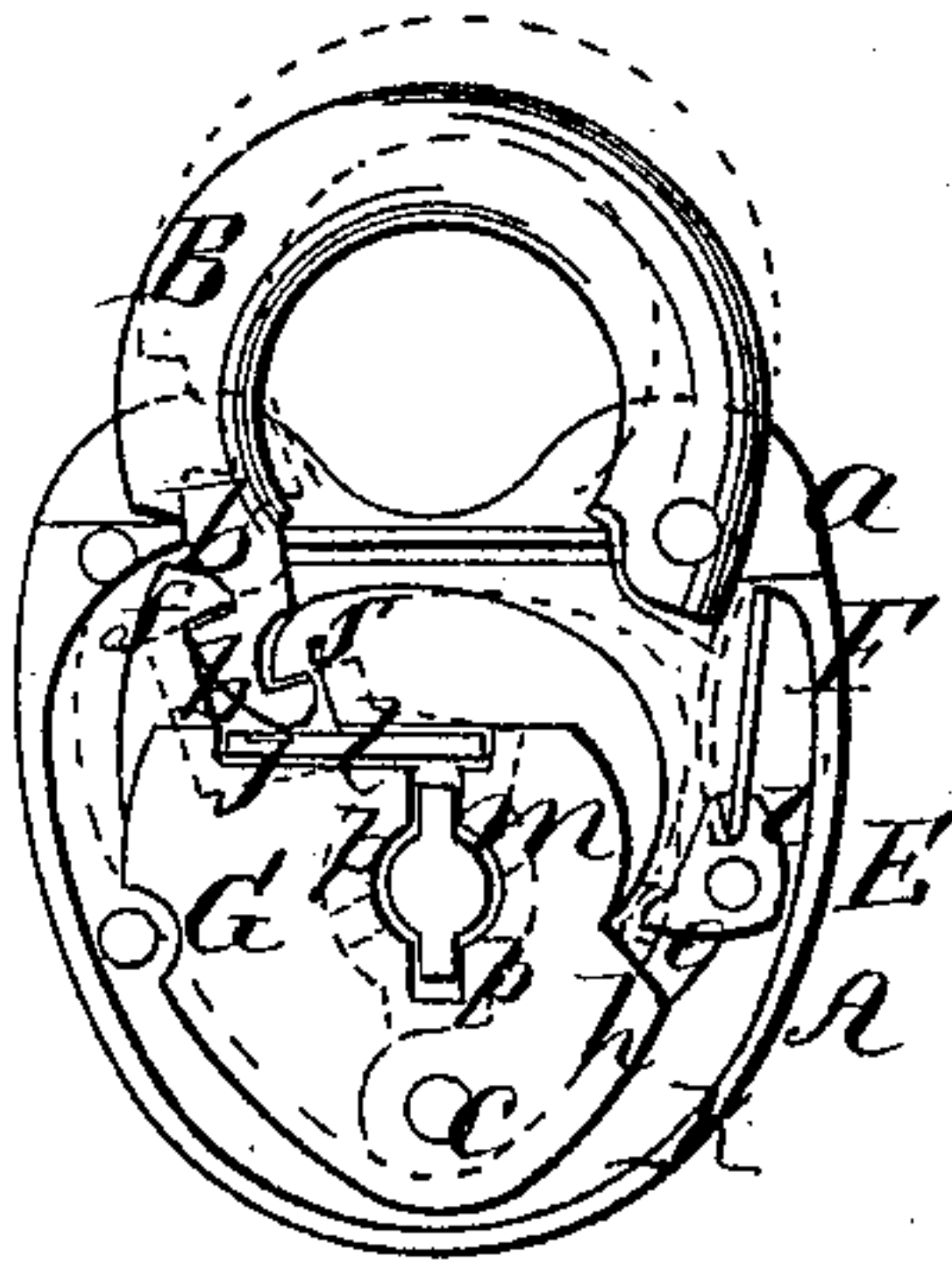


Fig: 4.

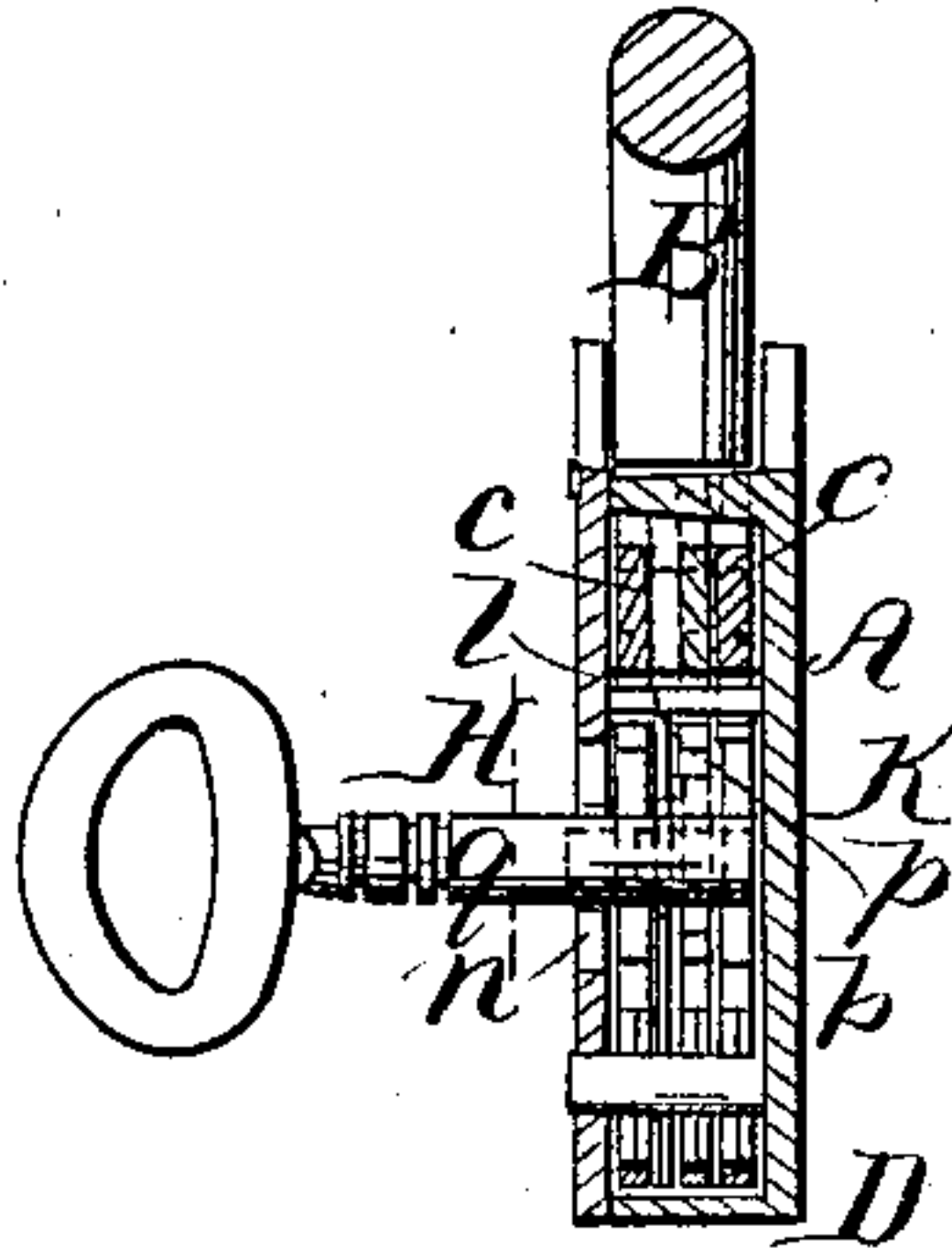
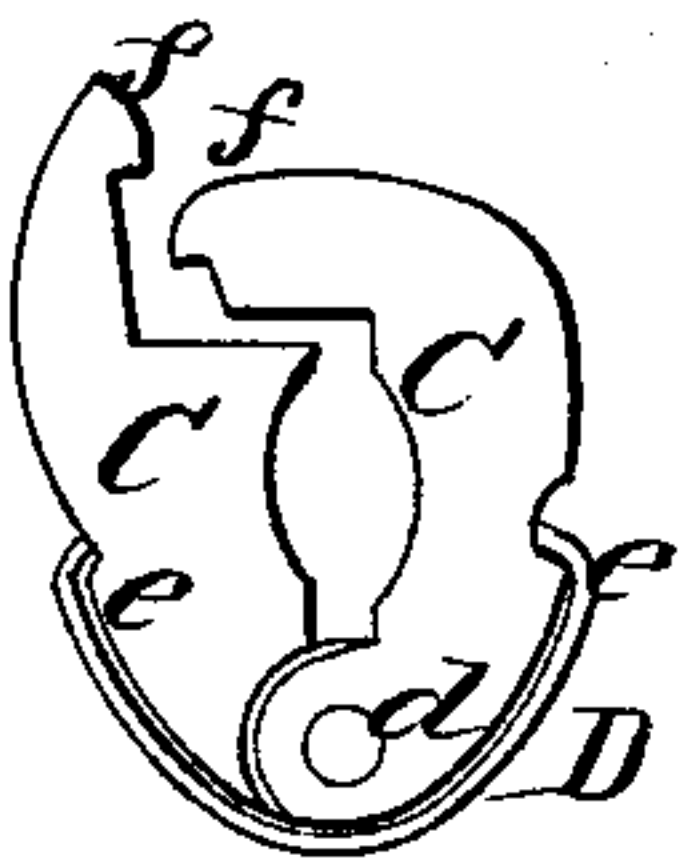


Fig: 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES C. MIX, OF TERRYVILLE, CONNECTICUT.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 37,515, dated January 27, 1863.

To all whom it may concern:

Be it known that I, JAMES C. MIX, of Terryville, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Padlocks and other Locks in which a Shackle or Hasp is Used; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an internal view of my invention, the side of the case nearest the eye being removed for the purpose of showing the interior. Fig. 2 is an internal view of the same, with one pair of the tumbler-catches removed to expose the mechanism behind it; Fig. 3, a detached view of a pair of the tumbler-catches; Fig. 4, a section of the invention, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a padlock and other lock of a similar class in which a shackle or hasp is employed—as a trunk-lock, for instance—which will be simple in construction, capable of being manufactured at a small cost, not liable to become deranged by use, or rendered inoperative by casual blows or concussions, as when accidentally dropped, and one which will be difficult to pick or open by illegitimate means.

To this end the invention consists in the employment or use of a series of pairs of tumbler-catches, each pair being provided with a spring arranged in a novel way, and the tumbler-catches used in connection with a dog and spring, and also with a ward-plate, all being arranged with a shackle, as hereinafter fully shown and described.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the case of a padlock; and B is a bow or shackle, one end of which is secured in the top of the case by a pivot, *a*, and the opposite end notched at two opposite sides, as shown at *b b* in Figs. 1 and 2. The pivoted end of the shackle B projects a short distance within the upper part of the case, as also shown in the above-mentioned figures.

Within the case A there is permanently se-

cured a pin, *c*. This pin is at the lower part of the case, and it forms a fulcrum for a series of pairs of tumbler-catches, C, one pair of which is shown clearly in Figs. 1 and 3. Each pair of tumbler-catches are lapped at their lower ends, and a hole, *d*, drilled through the lapped ends, so that they may be fitted on the pin *c* and allowed to turn or work freely thereon toward and from each other, and each tumbler-catch has a shoulder, *e*, on its outer edge, and over the shoulders of each pair of tumbler-catches the ends of a spring, D, project, as shown clearly in Figs. 1 and 3. These springs D encompass the lower parts of the tumbler-catches, and have a tendency to keep the upper parts toward each other. The upper ends of the tumbler-catches have each a projection, *f*, at their inner sides, as shown in Figs. 1 and 3.

E represents a dog, which is fitted loosely on a pin, *g*, in the case A. The form of this dog is shown clearly in Figs. 1 and 2, the lower part projecting outward towards the tumblers, forming an arm or lip, *h*, and the upper part, *i*, having a spring, F, attached to it, which extends upward and back of the lower part of the pivoted end of the shackle B, as shown in Figs. 1 and 2.

G is a plate, the lower part of which has a hole made in it, in order that it may be fitted on the pin *c*, on which the tumbler-catches are placed. This plate G is not allowed to turn on the pin *c*, it being retained in position by a plate, *j*, which is attached permanently to the plate *k* of the case, and fits in a notch or recess, *l*, in the upper edge of the plate, as shown in Fig. 2. The plate G has a key-hole, *m*, made in it, which is of the same form as the key-hole *n* in the plate *o* of the case A.

H represents the key, which is provided with bits *p*, projecting from opposite points of the tube *q*, the latter passing on or over a pin as it is entered in the case, and turning on said pin when acting against the tumbler-catches. The bits *p* of the key when in the lock are between the tumblers, and by turning the key the upper parts of the tumblers are forced apart, and the notched end of the shackle B is thereby liberated, the projections *f* being forced out of the notches *b b*, and as the tumbler-catches are thus forced apart those of the latter which are contiguous to

the dog E press down the lower part or lip *h* of the same, and the spring F is thereby made to press against the lower pivoted end of the shackle B and throw the opposite end of the shackle out from the case A when the projections *f* are entirely out from the notches *b b*, the spring D forcing the tumbler-catches back to their original position after they are relieved from the action of the key.

In consequence of having the tumbler-catches C C provided with springs D, as shown, there is no friction created by the spreading of the springs, as the tumbler-catches are forced apart by the key, for the reason that there is no sliding of the tumblers over the springs.

The dog E performs three functions—to wit, it serves as a stop for the tumblers, preventing them being forced back separately under the action of a pick in order to ascertain the length of the projections *f*, so as to form a key to unlock the lock; it prevents the tumbler-catches being casually misplaced by blows or concussions, and serves, in connection with the

spring F, to throw the shackle out from the case A.

The plate G performs the function of a ward, preventing the insertion of an improper key or pick into the lock.

I do not claim, broadly, or irrespective of the construction and arrangement herein shown and described, the employment or use of tumbler-catches; but,

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

1. The dog E and spring F, arranged, respectively, in relation with the tumbler-catches C and shackle B, to operate as and for the purpose herein set forth.

2. The ward-plate G, in combination with the tumbler-catches C, for the purpose specified.

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Witnesses:

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