

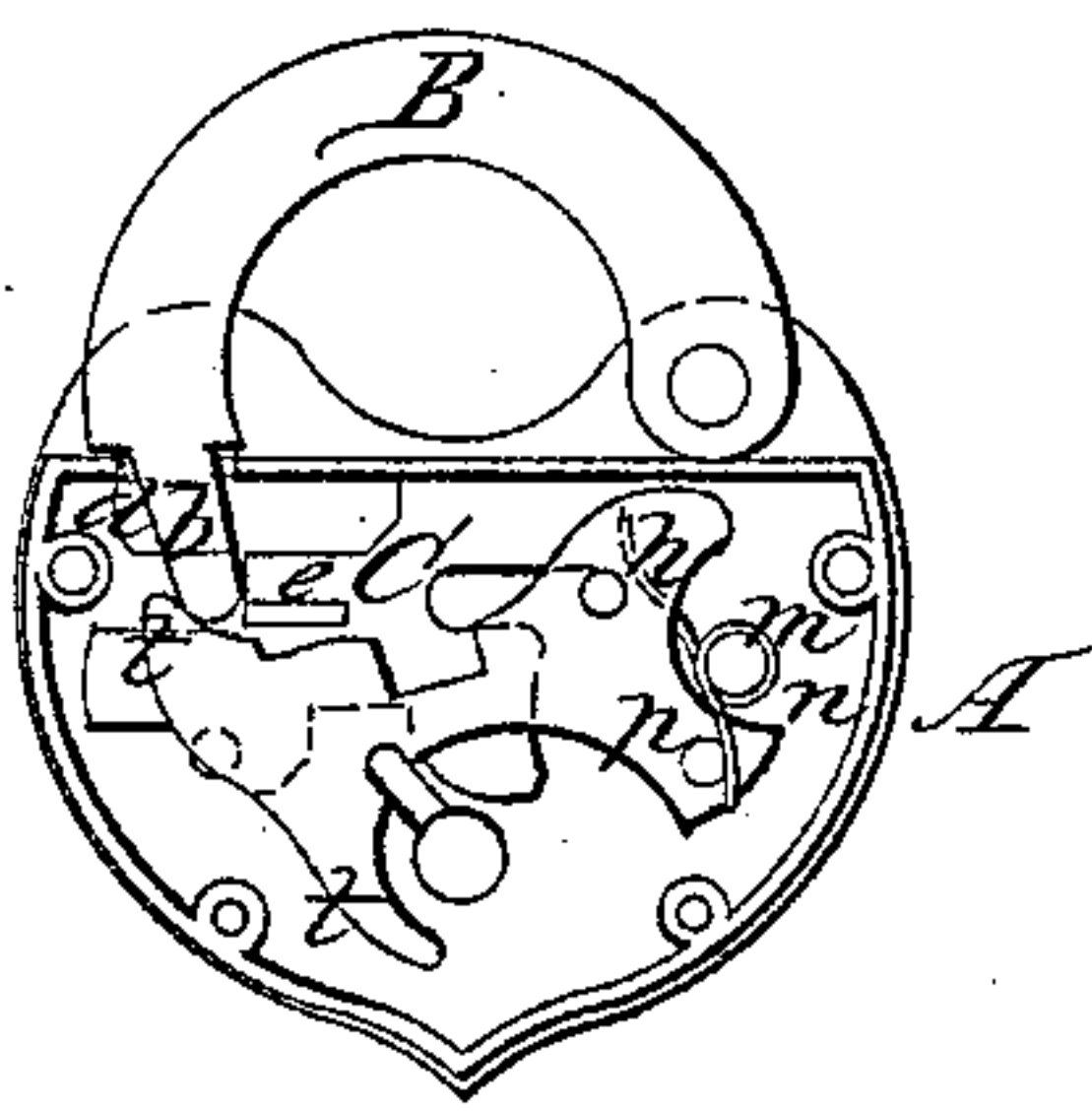
*C. Liebrich,*

*Padlock.*

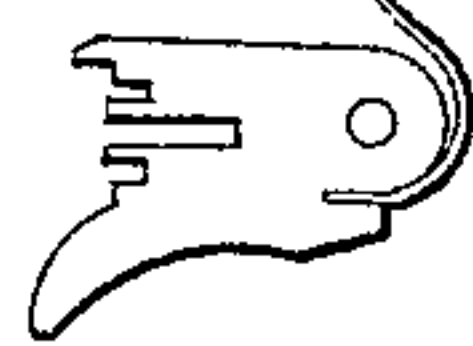
*N<sup>o</sup> 39,486.*

*Patented Aug. 11, 1863.*

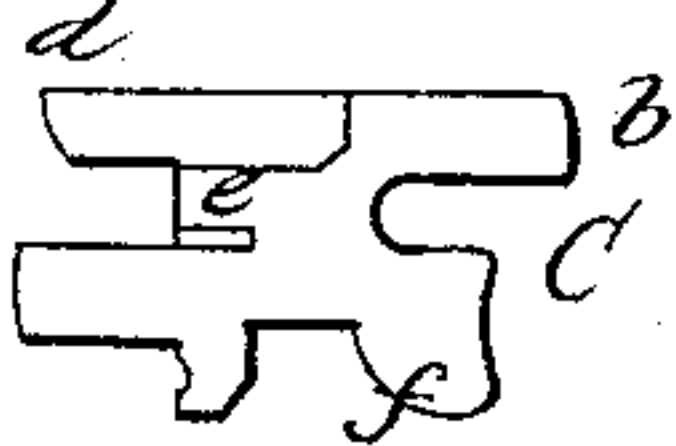
*Fig. 1.*



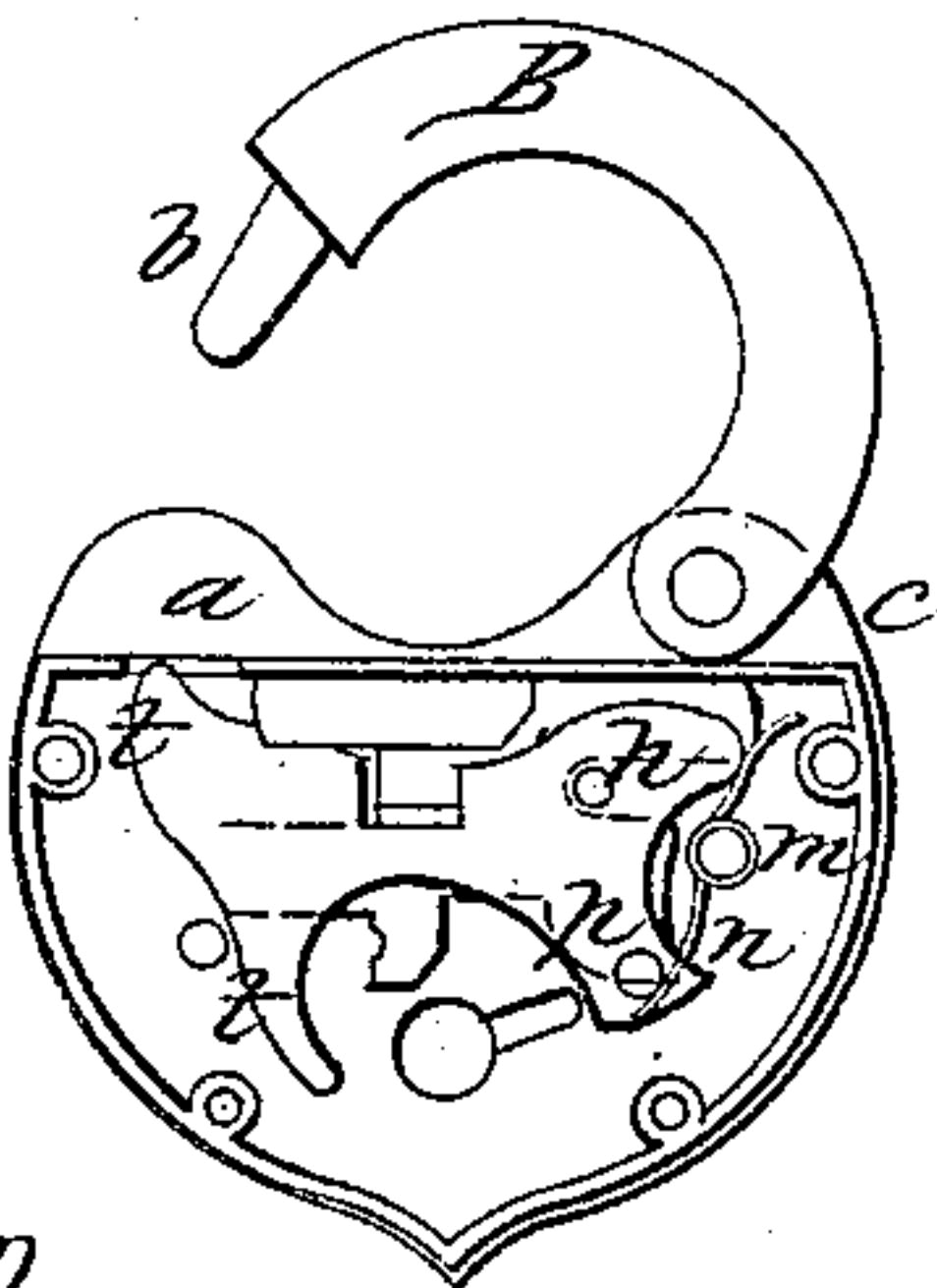
*Fig. 4.*



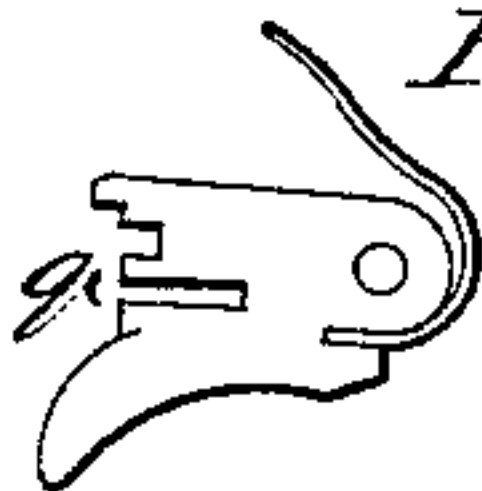
*Fig. 7.*



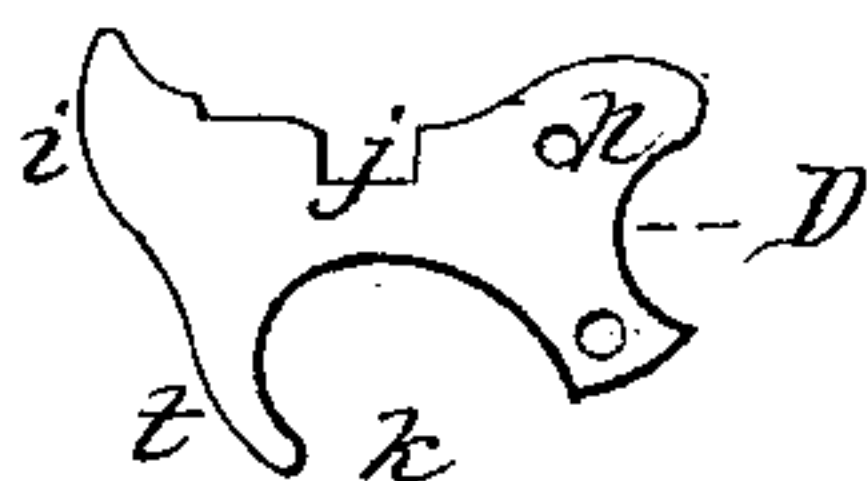
*Fig. 2.*



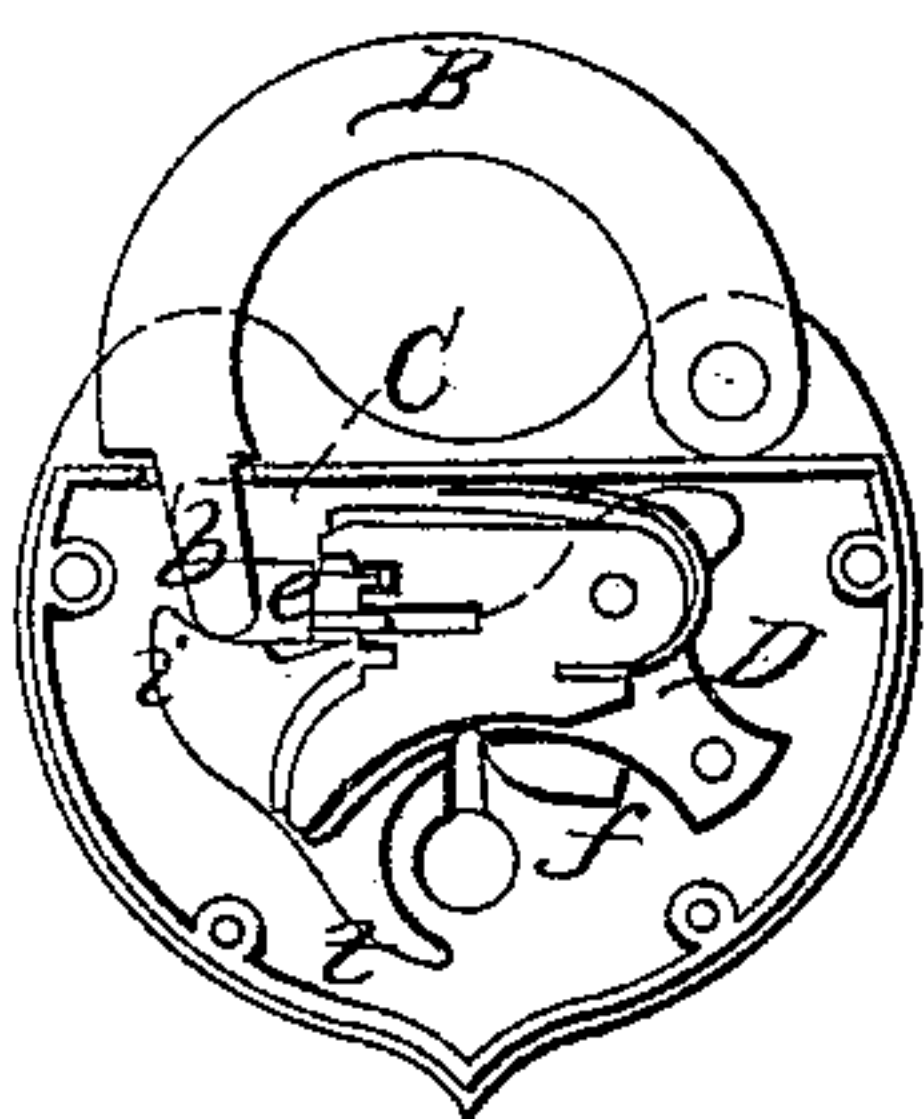
*Fig. 5.*



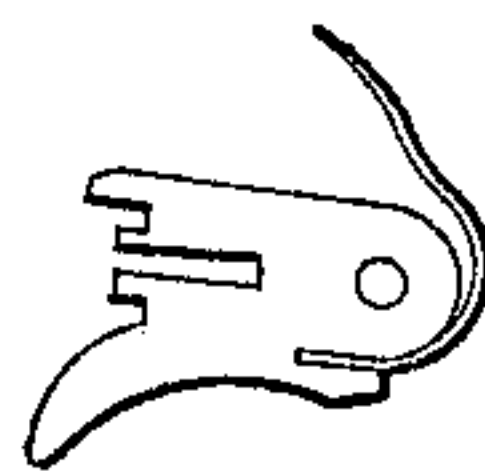
*Fig. 8.*



*Fig. 3.*



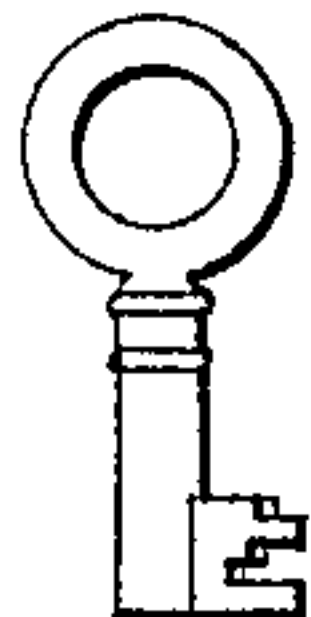
*Fig. 6.*



*Witnesses:*

*W. Albert Steel*  
*Charles Houston*

*Fig. 9.*



*Inventor.*

*Henry Howard*  
*C. Liebrich*

# UNITED STATES PATENT OFFICE.

CONRAD LIEBRICH, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. 39,486, dated August 11, 1863.

*To all whom it may concern:*

Be it known that I, CONRAD LIEBRICH, of Philadelphia, Pennsylvania, have invented an Improvement in Padlocks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My improvements, which are fully described hereinafter, have been made with the view of rendering padlocks more difficult to pick than those of ordinary construction, and to render them especially serviceable for mail-bags and other like objects.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a sectional view of my improved padlock with the tumbler removed and the shackle depressed; Fig. 2, the same with the shackle raised; Fig. 3, a sectional view of the lock with the tumblers, and showing the key in the act of moving back the bolt; Figs. 4, 5, and 6, views of the three tumblers detached from the lock; Fig. 7, a detached view of the bolt; Fig. 8, the same of the lever, and Fig. 9 the key.

Similar letters refer to similar parts throughout the several views.

A is the outer casing of the lock, forming a box for containing the tumblers, bolt, lever, &c., and is of a form somewhat similar to that of ordinary padlocks, there being no openings in the casing other than one in front for the admission of the key, and another in the upper edge of the casing for the admission of the tongue *b* of the shackle B, the latter being hinged to projections *c* on the opposite sides of the casing.

C is the bolt, which is so guided that it can have none other than a horizontal movement within the casing, this bolt being provided with a projection, *d*, of a proper form for fitting into the recess of the tongue *b* of the shackle B. The bolt has, also, a projection, *e*, which will be especially alluded to hereinafter, and a rounded shoulder, *f*, against which the key, Fig. 9, bears.

D is what I term the "lever," which is hung loosely to a pin, *h*, projecting from the casing, the lever having a projection, *i*, to be acted up-

on by the tongue of the shackle, a recess, *j*, for receiving the projection *e* of the bolt, and on the under side a concavity, *k*, to allow for the free turning of the key without disturbing the lever. To a pin, *m*, projecting from the casing, a spring, *n*, is hung loosely, this spring having two arms, one of which bears against a pin, *p*, on the lever D, the other bearing against the projection *l* of the bolt C, Fig. 7, so that the spring has a tendency to maintain the lever in its most elevated position, as seen in Fig. 2, as well as to retain the bolt C at the limit of its forward movement, as seen in Fig. 1. In the present instance, three tumblers, Figs. 4, 5, and 6, are used, all being hung loosely to the pin *h*, and each having a separate spring bearing against the upper edge of the casing, and tending to depress the tumblers when the latter are not raised by the action of the key. Each tumbler has a slot or recess, *q*, which receives the projection *e* of the bolt when the tumblers have been raised to their proper position by the key. Supposing the shackle to be depressed and retained by the projection *d* of the bolt, as seen in Fig. 1, and supposing it to be desirable to release the shackle, the key, Fig. 9, is inserted into the lock and turned to the position shown in Fig. 3, in doing which a properly-situated recess in the key passes freely over the projection *t* of the lever D without disturbing the latter, the key acting on the under side of the tumblers so as to raise the latter and cause all their recesses *q* to coincide with each other and to be in a proper position to receive the projection *e* of the bolt. After arriving at this point the tumblers remain stationary, while the movement of the key is continued and bears against the rounded shoulder *f* of the bolt C, moving the latter back so that its projection *e* shall pass into the recesses *q* of the tumblers, at the same time the lever D, which has hitherto been retained in its depressed position by the projection *e* of the bolt, is now, by the movement of the latter, released, and is allowed to be raised by the spring *n* to the position shown in Fig. 2, the projection *e* taking its place in the recess *j* of the lever, which thus retains the bolt at the limit of its backward movement. The moment the shackle is released from the bolt it is forced upward by the lever D, and is in a proper position for insertion into the staple to which the lock has to be secured. On depressing the



shackle it first strikes against the end *i* of the lever, moves the latter down, so that the projection *e* of the bolt is released from the recess *j* of the lever, when the spring *n*, bearing against the projection *l* of the bolt, moves the latter forward, its projection *d* taking its place in the recess of the tongue *b* of the shackle, so that the movable parts of the lock are again in the position shown in Fig. 1.

As regards the security of the lock, it will be evident that it possesses all the advantages of a superior door-lock, and none of the disadvantages of the usual padlock.

I claim as my invention and desire to secure by Letters Patent—

1. The lever *D*, in combination with the shackle *B* and the spring *n*, or its equivalent,

when the said lever is formed and hung to the lock, substantially as set forth, for the twofold purpose of throwing up the shackle when the bolt is withdrawn from the same, and of retaining the bolt when withdrawn, as described.

2. Forming on the lever *D* a projection, *t*, arranged substantially as described, so as to serve the purpose of a cross-ward.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

C. LIEBRICH.

Witnesses:

HENRY HOWSON,  
JOHN WHITE.