WILLIAM WILCOX.

Improvement in Padlocks.

No. 120,557. Patented Oct. 31, 1871.

Fig. 1.

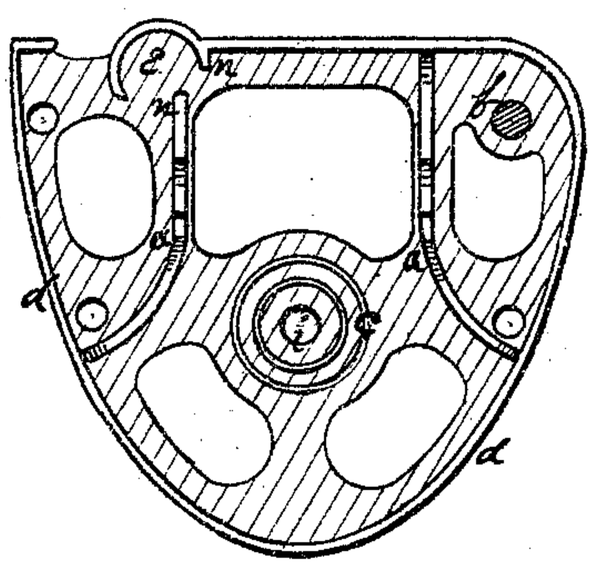


Fig. 2.

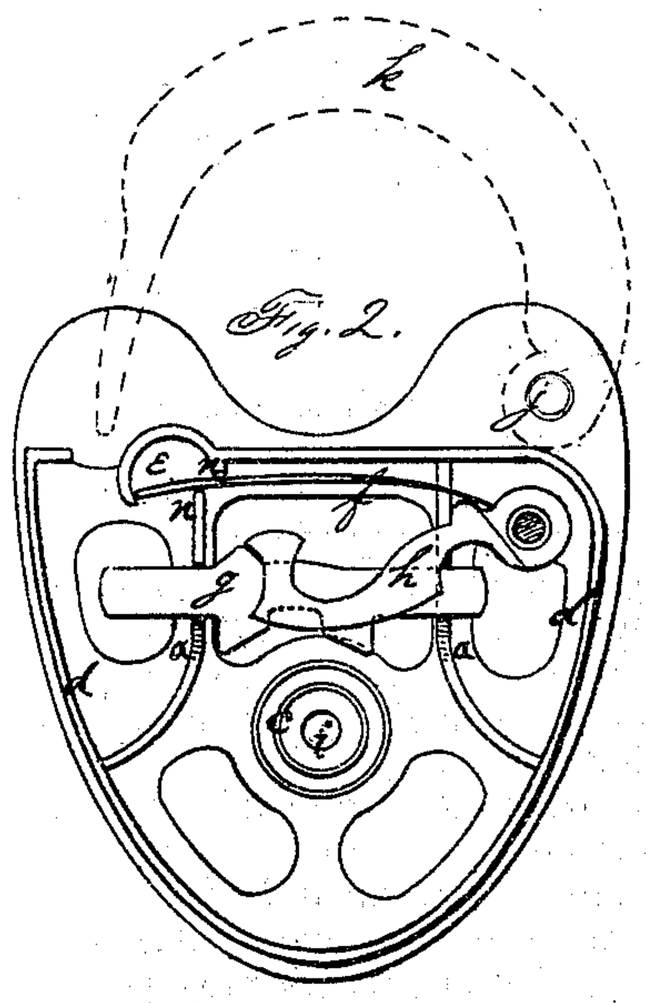


Fig. 3.

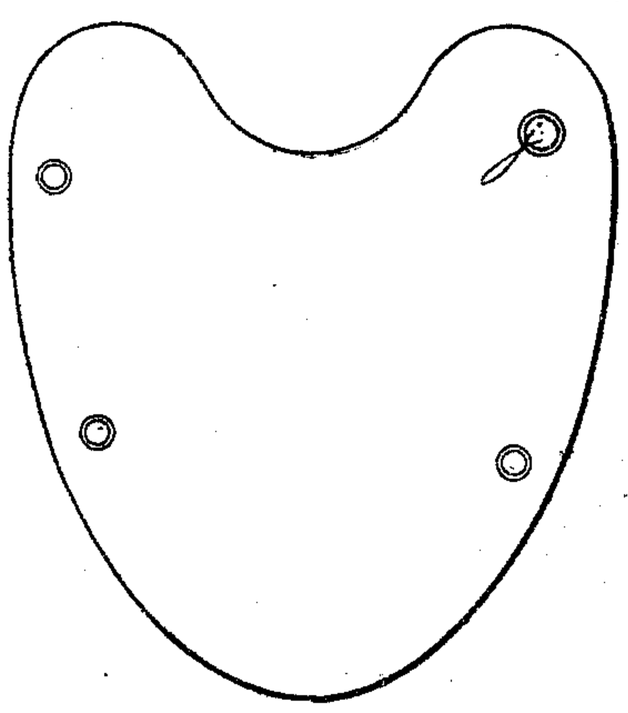
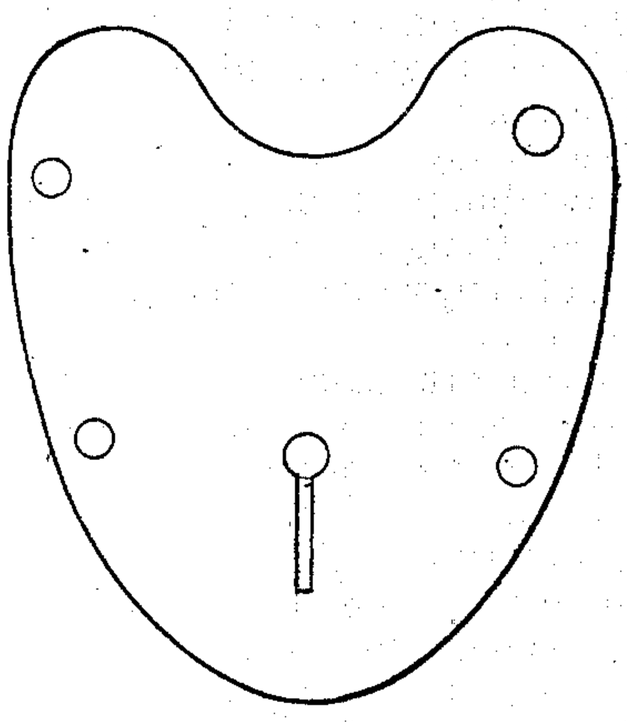


Fig. 4



Scale, Natural Size.

Witnesses

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Stephen J. Henry,

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UNITED STATES PATENT OFFICE.

WILLIAM WILCOX, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. 120,557, dated October 31, 1871.

To all whom it may concern:

Be it known that I, WILLIAM WILCOX, of Middletown, Middlesex county, State of Connecticut, have invented certain new and useful Improvements in Padlocks; and the following is a specification thereof.

The padlock is one of the cheapest locks of commerce. The rough handling it receives in common use renders it desirable to have the outer shell or front and back plates made of wrought metal; and the present most economical method, process, or plan of constructing such padlocks is to make the inner parts—such as the bolt, the posts for sustaining the bolt, the wards, and the rim for inclosing the edges of the lock—by first punching them in shapes from sheet metal and afterward forming them as required with suitable dies, such parts being subsequently united by hand. This requires many punches, dies, and much machinery, very expensive not only in first cost, but also in operation and repairs. It moreover necessitates a great amount of hand labor to set up the work.

The object of my invention is to produce a cheap and durable padlock; and it consists in a cast-metal rim, strengthened by a web and braces, forming a skeleton, which supports the working parts of the lock.

To enable others to make and use my improvements I will proceed to describe the same, referring to the drawing hereto annexed.

I first provide a skeleton, Fig. 1, comprising posts *a*, for holding the bolt and forming its ways; a tumbler-pin, *b*, concentric wards *c*, and outer rim *d*—parts usually and hitherto made by punching and forming them from sheet metal. I connect all these pieces with each other by a suitable web, as illustrated in Figs. 1 and 3, and thereby render it practicable to form them at one operation in one piece of casting. The skeleton thus made also comprises a recess, *e*, Fig. 1, having two bearing points, *n n*, for the butt of the spring *f*. A hole is also formed at *i* within the wards *c* for receiving the stem of the key, in order to dispense with the boring of the stem and the expense of a central pin. The inner working parts are so arranged in or upon the skeleton that the bolt *g* is held in place by means of its bearings or ways in the posts on its one side and by the tumbler *h* on the other side. The spring *f* is cramped into its proper location, and held in place at one end by the side of the recess *e* and at the other end by the shape of the tumbler, and laterally by its own resilience. The cast-metal skeleton not being adapted in most cases for holding the hinge-pin *f* of the hasp *k*, (as when made of gray iron,) I provide a wrought-metal plate, Fig. 3, for the back of the lock, to constitute one of the wrought-metal casings, and in this I firmly secure the hasp-hinge pin.

In the process of assembling and uniting the parts, which is greatly simplified by this mode of construction, it is only necessary to drop the working parts, in their proper order, into the skeleton and place it on the back plate; then rivet a front plate, Fig. 4, also of wrought metal, over the whole. I usually have rivets passing quite through the skeleton and both plates; but they may be formed on the skeleton if it be cast of ductile metal.

When the lock is finished no key-hole shows at the back, as the back plate hides the bearings or hole *i* in the skeleton for the key-stem before specified.

It will therefore be seen from the above description that the chief expense in making an ordinary padlock is here avoided by casting all the inner fixed parts in one piece, while the wrought metal operations of punch and dies are retained only so far as necessary to produce the outer wrought-metal plates.

I am aware that locks have been made of cast metal by casting the back plate, rim, and stationary parts in one piece; therefore I disclaim that mode of making locks.

What I claim, and desire to secure by Letters Patent, is—

The cast-metal skeleton, consisting of the rim *d* and supports for the interior movable parts of the lock, in combination with the wrought-metal front and back plates, substantially as and for the purpose set forth.

WILLIAM WILCOX.

Witnesses:
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