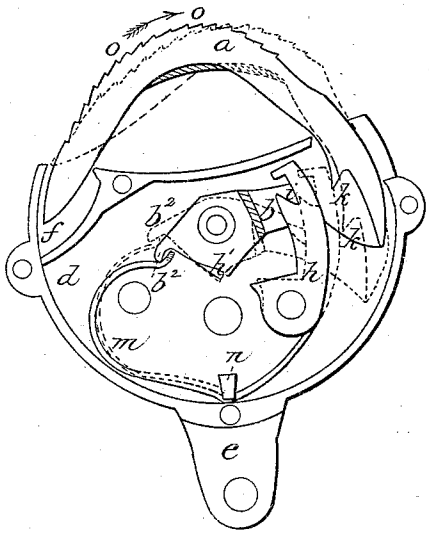
R. Kinsley,

Padlock.

No. 9,452. Patented Dec. 7, 1852.



UNITED STATES PATENT OFFICE.

RHODOLPHUS KINSLEY, OF SPRINGFIELD, MASSACHUSETTS.

PADLOCK.

Specification of Letters Patent No. 9,452, dated December 7, 1852.

To all whom it may concern:

Be it known that I, RHODOLPHUS KINSLEY, of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Padlocks, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same.

My improvements consist in the cheapness, convenience, and simplicity of its construction and operation, together with its security against being picked, rendering it valuable for the purposes of railroad cars.

The construction is as follows, reference being had to the accompanying drawing which is a side view, with the front plate of the lock removed, and with the hasp shown in black lines locked. The red lines show a view of the same unlocked.

The hasp (*a*) is either the segment of a circle, or of an eccentric form, as shown in the drawing, with a radial arm (*b*) extending from its rear end in toward the center, where it is pivoted at (*c*,); the shell (*d*,) of the lock is the segment of a circle, and may have a projection (*e*,) at the bottom for attachment; at the top of the lock where the end of the hasp enters, there is no opening, but a recess (*f*,), into which the end of the hasp fits when locked: the arm (*b*,) is enough thinner than the rest of the hasp, to admit a tumbler (*h*,) on either side, and from the side of this thin part a triangular shaped stud (*i*) projects, that catches on to a notch in the tumbler hereafter described; there is also another projection at (*k*,) farther out on the arm, as a guard against picking; the tumblers (*l*) are flat plates, slightly curved in their outline, and at their upper ends are notched, as shown in the figures: into these notches the studs (*i*,) fit; when the hasp is locked, the lower ends of the tumblers are pivoted upon a pin, just opposite the center of motion of the key: there is a lip (*b'*) extending down from the arm (*b*,) of the hasp for the bit of the key to strike against to throw the hasp forward sufficient to relieve the tumblers which are then pushed back by said bit from the studs (*i*,) till they are clear of them, and then the bit passes the lip (*b'*,) and thus releases the hasp, which flies back by a spring, to be described; a projection (b^2) beyond the fulcrum or center of motion of the hasp, serves for the spring (*m*,) to rest against to throw back the hasp and hold it steadily back in the position shown in red lines till it is again locked; this feature is very important, and differs from other locks; the nearest approaching this in character. The spring (*m*) is a loop of bent wire, the bight of which rests against the projection (b^2) above named, and thence the two parts curving downward parallel pass under a stud (*n*,); the two ends curve up behind the tumblers to bear them up into their places; the effect of this double spring, is, therefore, to hold the tumblers in place, and to throw the hasp back and hold it steadily in that position, the arrangement being such that the spring is at its greatest tension when locked, or the instant before precisely as it should be to produce the best effect. The hasp is locked by turning it in the direction the reverse of the arrow, by applying the finger to a projection (*o*,) on its outer face, until the tumblers are free to be forced under it by the tension of the springs, and the moment the hasp is released by the hand it is forced back by the tension of the spring to lock itself in the notches in the end of the tumblers.

From the foregoing it will be seen that this lock is perfectly protected against the usual mode of forcing open padlocks by blows applied to the case and pressure to the hasp; for if a wedge be forced in under the hasp, it will thereby be prevented from turning forward, and unless it does turn forward by the key, the tumblers cannot be disengaged. If a force be applied to the hasp to turn it back, it will be resisted by the tumblers, which act as abutments or braces, and if it be first drawn forward to disengage it from the tumblers, and the case be then struck to throw back the tumblers by the jar, they are caught by the notch above on the tumblers, and also acting under the tension of the springs (which are then greatest by reason of the forward position of the hasp) will keep their locking position, or resume it before the hasp can be released, and pass by them. When the bolt is unlocked the rear portion of it is received within the body of the case, and there held by the tension of the springs, and prevented from dangling, while at the same time the arrangement admits of the locking of

the bolt without the key, two objects much desired in padlocks for cars.

The arrangement of the springs to act on the tumblers and the hasp, and having a fulcrum at some intermediate point, present the advantage of exerting a greater force on the tumblers when thrown in to hold them in place, and on the hasp to give it such an impetus at the start, as to insure its being thrown open, even if some impediment should be accidentally in the way.

Instead of making the springs of wires, they may be made of sheet metal separated at one end to act separately on each tumbler.

The number of tumblers can be varied at pleasure, and the form of the case, hasp and tumblers may be varied at pleasure, so long as that portion of the hasp, which enters the case is the segment of the circle turning on a central axis, and the tumblers be made to receive a projection at the back of the hasp, or what is the equivalent, the hasp be made with a recess, to receive a projection on the tumblers.

What I claim as my invention is—

1. Giving a forward motion to the hasp and acting upon the tumblers by means of the same key, when the parts are arranged so that the key acts directly upon a portion of the hasp substantially in the manner described.

2. I claim the double acting spring herein described only when used in connection with such a form and arrangement of hasp as will cause it to actuate the tumblers and not only throw the hasp out but hold it thrown out and fully open in the manner described, confining my claim to this device.

RHODOLPHUS KINSLEY.

Witnesses:
JAMES T. REID,
JOHN SMITH.