H. Oaks,

Lock.

No. 47,325. Patented Apr. 18, 1865.

Fig. 1.

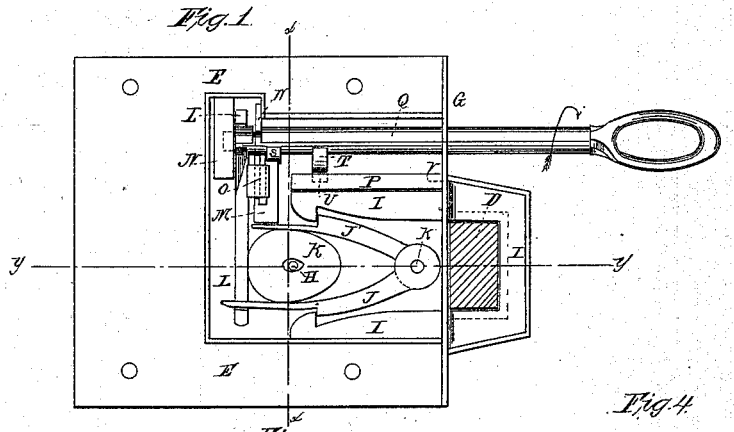


Fig. 2.

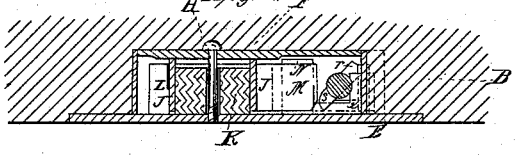


Fig. 3.

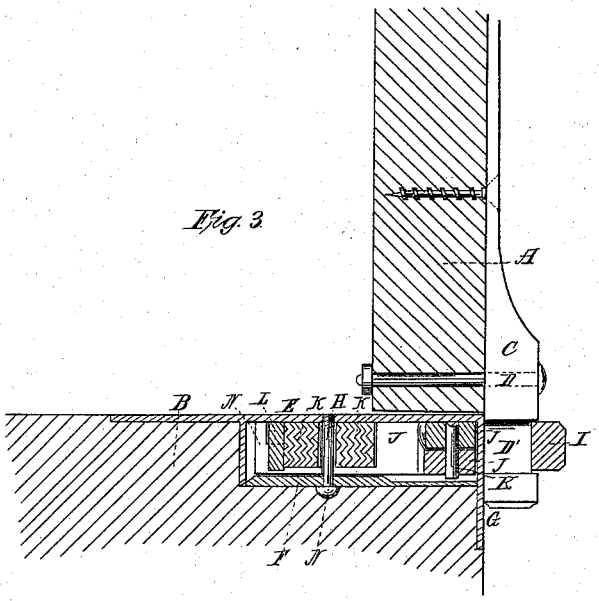
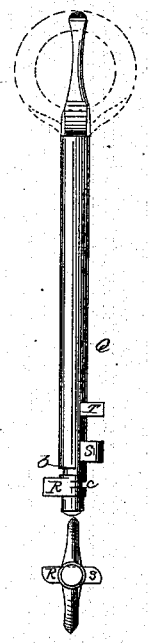


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY OAKS, OF WAYNESBOROUGH, PENNSYLVANIA.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **47,325**, dated April 18, 1865.

To all whom it may concern:

Be it known that I, HENRY OAKS, of Waynesborough, in the county of Franklin and State of Pennsylvania, have made certain new and useful Improvements in Locks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is an elevation of the lock with the plate or lid of the box removed. Fig. 2 is a section on the line *x x*, Fig. 1. Fig. 3 is a section on the line *y y*, Fig. 1. Figs. 4 and 5 are views of the key.

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

The object of my invention is to provide a lock especially adapted—in the form herein shown—to fastening doors which open outwardly, such as barn, stable, and outhouse doors.

It consists of an arrangement of expanding jaws whose teeth act as detainers to the hooks on the shanks of the hasp, which incloses the bar which is affixed to the door, the teeth of the jaws being unclasped by the rotation of a key, whose bits act upon two plates, one of each of which operate upon each of the jaws to cause them to release the hasp.

To enable others skilled in the art to which my invention relates to fully understand and use the same, I will proceed to describe its construction and operation.

A is the door, and B the door-post against which the door shuts. C is a bar, rigidly attached to the door by the bolt D and other appropriate fastenings. The lock consists of the usual large plate E, the side plates, and the cap F, and attached to the larger plate and forming a right angle therewith is a flange-plate, G, which fastens on that side of the door-post or scantling which faces outwardly. Pivoted on the inside of this lock are two pieces, J J′, having shoulders or catches upon them, which engage with the notches on the shanks of the hasp I, which embraces the narrow portion D′ of the bar C, and, entering the hasp-orifices of the lock, is there detained when the door is locked. The hasp is loose and is pushed in by hand after the door is closed, forcing its way against the pressure of the spring K, which tends to expand the jaws J J′ until the notches on the former having slipped past the teeth on the latter, the jaws suddenly expand and the vertical faces of the projections on both are fairly engaged.

So much for the locking and means for locking, which consists of a hooked clevis embracing the bar of the door and retained in the lock by the toothed expanding-jaws. It is now necessary to describe the method of compressing the jaws so as to disengage the teeth from the catches on the hasp by withdrawing them, which permits the door to be opened.

The key consists of the shank and three bits, R S T, also two circumferential grooves, *b c*, which are cut only partly around the shank and on opposite sides. The key is inserted into the hole provided for that purpose in the plate G of the lock, being manipulated so that the three bits may all pass in at the single notched enlargement to the circular hole, which approximately corresponds to the size of the shank Q, the end of which, when the key is thrust home, enters the stump N. The bit R of the lock at this time occupies a cavity in the bar L, to which the end of the jaw J is attached. At the same time the bit S lies in a cavity in the bar M, which is attached to the jaw J′. The bars L and M are guided in their reciprocatory motion by the stumps N O, and as the key is turned over to the right the curved faces of the bits R S impinge upon the sides of the recess, in which they rotate and thrust the bar M downward, while the bar L is drawn up. The effect of this motion is very apparent and is represented in Fig. 1, where the catches and notches are not quite withdrawn from engagement with each other, while the india-rubber spring K is shown in its partially compressed state. As the bits R and S, in the revolution of the key, press upon the portions of the bars L M immediately exposed to them, the bars are moved to such an extent that the edges of the plates L M project into the grooves *b c* of the key-shank and act to some extent as tumblers. The object of this arrangement is to compel a certain degree of relative fitting of the key to the lock and provide an additional safeguard against tampering with the lock with a key not specially prepared.

The purpose of the bit T and its corresponding groove U in the plate P is to admit of a

change in various locks, so that the keys of each shall not fit any but their appropriate locks. The groove having been made in any part of the channel bounded by the plate P on one side, the bit of the key is made to correspond. Several bits, variously arranged, may be used at discretion. The security in this respect depends on the absolute fitness of the parts, which is necessary to the motion, and the turning of the key tests the fact.

The notch V in the plate P is for the purpose of admitting the revolution of the bit R as the key is rotated to bring it round to the notch in the key-hole after the passage of the bits S and T out at the same notch.

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

1. The hooked detachable hasp I, in combination with the bar D, the expanding-jaws J J′, and spring K, substantially as and for the purpose described.

2. The combination of the expanding-jaws J J′ and spring K with the drawing and thrusting bars L M, operated, respectively, by the bits R S on the key, as described.

3. The key Q, with the operating bits R S, as described, and the supplementary safety-bit T, located on the shank relatively to a notch in the side of the passage-way occupied by the shank in unlocking and affording a means of adapting each key to a specific lock, as described.

To the above specification of my improvement in locks I have signed my hand this 1st day of February, 1865.

HENRY OAKS.

Witnesses:

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