W. P. Wentworth,

Door Lock.

No. 66,059. Patented June 25, 1867.

Fig. 1.

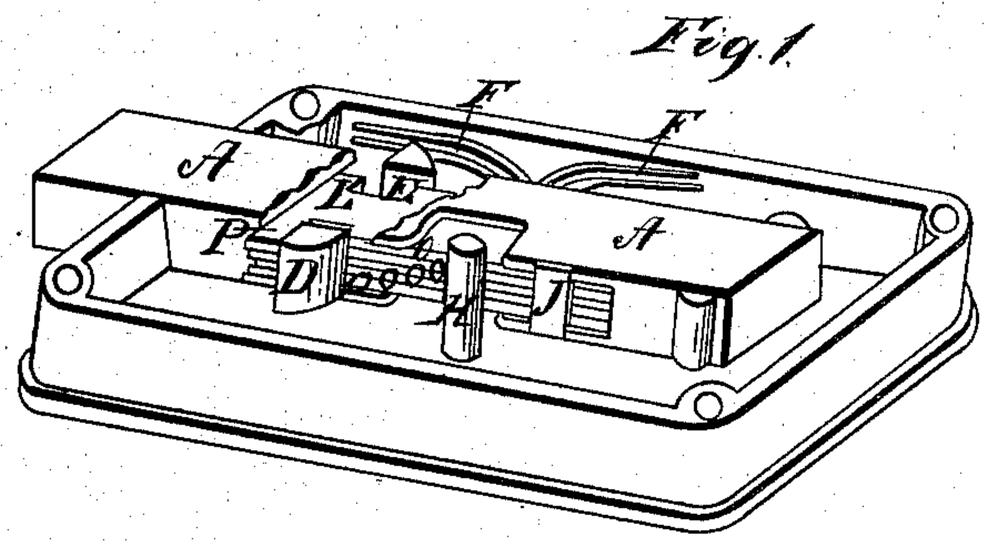


Fig. 2

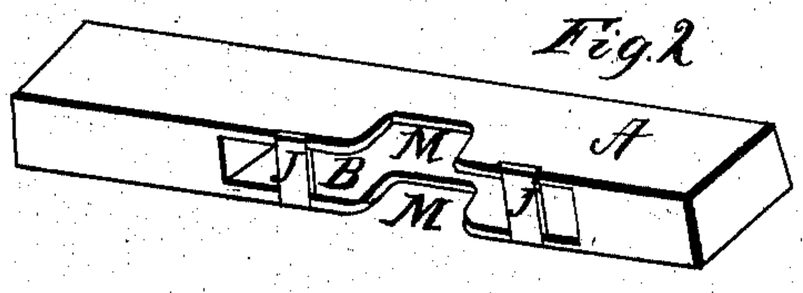


Fig. 3

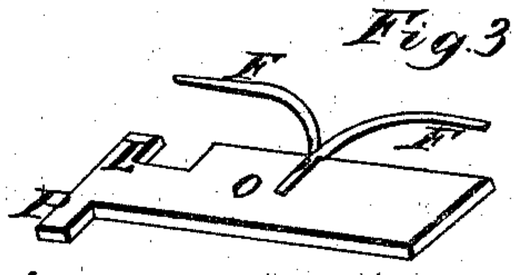
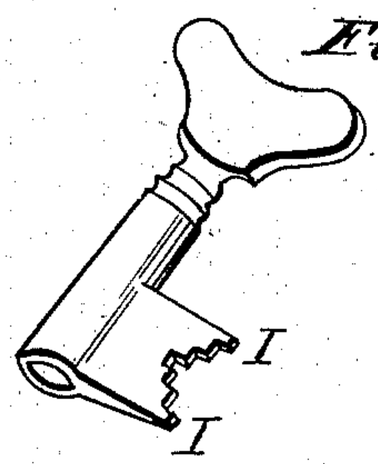


Fig. 4



Witnesses
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W. P. WENTWORTH, OF DETROIT, MICHIGAN.

Letters Patent No. 66,059, *dated June* 25, 1867.

IMPROVEMENT IN DOOR-LOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, W. P. WENTWORTH, of Detroit, in the county of Wayne, and State of Michigan, have invented a new and improved Lock; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of my invention with a portion of the slotted bolt removed in order to show the situation of the pawls inserted in the slot.

Figure 2 is the bolt separated from the lock-case and emptied of the pawls.

Figure 3 is one of the pawls, all of which are nearly uniform in outline.

Figure 4 is the key which operates both the bolt and the pawls.

This invention consists in providing the bolt with a slot for the purpose of inserting pawls which will exactly slide between two posts placed upon either side of the bolt when acted upon by a key peculiarly constructed for that purpose; but if acted upon by a key in the least respect different from the required form, some of them will catch upon one post or the other, thereby rendering it impossible to spring the bolt.

A, fig. 1 and fig. 2, is the bolt, and B is the slot. M M are recesses in the shell of the slot, against the sides of which recesses the two points I I of the key, fig. 4, press in turning, thereby moving the bolt back and forth. J J are bars firmly attached to each lower edge of the slot to prevent the pawls O O O O O from sliding down and out of the bolt. F F are springs attached to the pawls, and operating against the top of the lock-case to keep the pawls in the required position when not acted upon by the key. The pawls O O O O O correspond in length with the slot B, and move smoothly up and down in the slot B, the width of the front end of each pawl O, including the catches P and L, exactly corresponding with the width of the bolt. The posts D and E are placed so that the bolt will exactly pass smoothly and evenly between them, and when the pawls O are lifted in the required manner they do not in the least hinder the free movement of the bolt. When the bolt is sprung forward, as in fig. 1, the lower edges of the pawls O present a perfectly even surface between the bars J, that is, where the key strikes them in turning, while the edges of the lower projections or catches F of the pawls are quite uneven, no two of them being of equal length. The distance between the lower edge of the catch P and the upper edge of the catch L of each of the pawls being exactly equal, also exactly equal to the width of the bolt, it is necessary to use a key provided with notches, exactly fitting the different lengths of the catches, in such a manner that it will raise the lower edge of each of the catches P to an exact level with the lower edge of the bolt at one and the same time, else nothing is accomplished toward opening the lock, for the least variation from the exact required form of key will certainly raise some of the pawls too high or not high enough, consequently some of the catches will hold fast against one post or the other. The recesses M in the bolt are so shaped that the key does not strike them until the pawls are all lifted to an exact level with the bolt. The pawls O are of different thicknesses, consequently the notches in the key must correspond to the different thicknesses, as well as to the different lengths of the catches, or the key is useless. The key-post H is not necessarily a part of the lock, but it is necessary to my model to steady my key when the cover of the case is removed to witness the operation of the lock.

In door-locks it is necessary that the two halves of the number of pawls (that is from the centre of the slot to each side) should correspond, both in width and thickness, in order that the key may be used from each side of the lock; but for safe or other locks which require to lock only from one side, no uniformity is necessary in the arrangement of the pawls. It is only necessary that the key exactly fits them. The number of pawls may be increased or diminished at pleasure, a great number requiring a greater thickness of bolt. By varying the number of pawls a greater number of changes may be effected. By varying the thickness of the pawls the number of changes may be doubled; and by varying the relative position of the pawls of different thicknesses the number of changes may be trebled. Changes may also be made by varying the distance of the key-hole from the bolt, so that hundreds of locks may be made, each of which will obstinately refuse to yield save to its own identical key. The peculiar construction of the lock renders it obvious that is impossible for any person to make a key which will unlock it unless he has the inside of the lock to make it by, and it is also plain that no wax impression can be taken, for if the wax is firm enough to lift one pawl it must lift them all, and no impression is made, for the edges present an even surface where the key strikes them.

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

The slot B in the bolt A, in combination with the enclosed tumblers or pawls O, operating as set forth.

W. P. WENTWORTH.

Witnesses:

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