

F. W. FOLSOM.
Locking Latches.

No. 152,475.

Patented June 30, 1874.

Fig. 1.

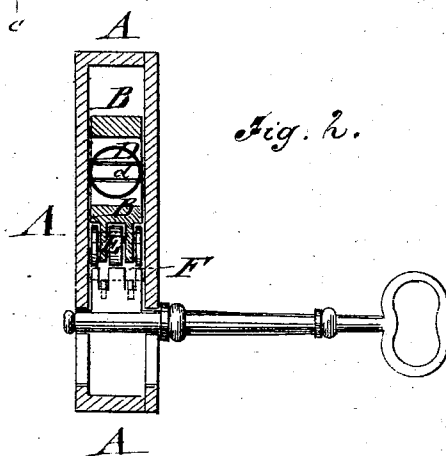
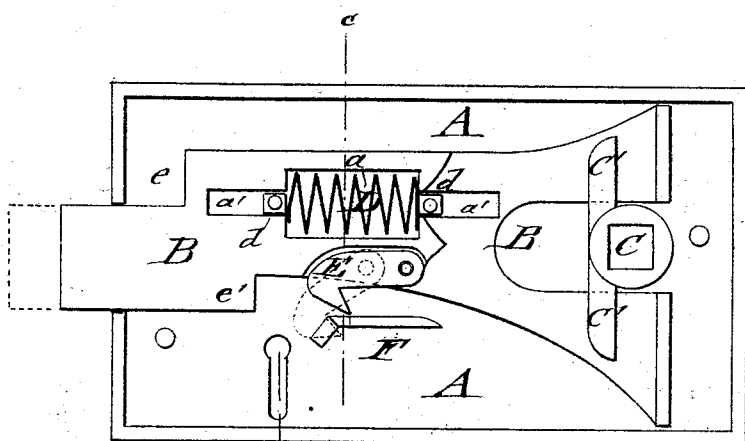


Fig. 2.

WITNESSES.

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FRANK W. FOLSOM, OF TAYLOR'S FALLS, MINNESOTA.

IMPROVEMENT IN LOCKING-LATCHES.

Specification forming part of Letters Patent No. **152,475**, dated June 30, 1874; application filed May 9, 1874.

To all whom it may concern:

Be it known that I, FRANK W. FOLSOM, of Taylor's Falls, in the County of Chisago, and State of Minnesota, have invented a new and Improved Door-Lock, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front view of my improved door-lock, with top plate detached; and Fig. 2 a vertical transverse section of the same on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish a simple, strong, and convenient door-lock, which is not liable to get out of order, takes up less room than the locks at present in use, and serves, by the use of one bolt and spring only, the double purpose of being opened and closed by the door-knob and locked by the key. My invention consists of a door-lock, with a single bolt, operated by a spiral spring acting in either direction, and recessed to be acted upon by door knob and key, so that when locked by the latter one or more hooks, pivoted to the bolt, catches over the recessed inclined end of a horizontal guide-plate, and admit only the withdrawing of the bolt by releasing the hooks from the guide-plate.

In the drawing, A represents the casing, and B the bolt, of my improved door-lock. The rear end of bolt B is flanged and recessed for sliding along the shank C of the door handle or knob, as carried back by the cross-bar C' acting on the rear flanges. The middle part of bolt B is provided with a wider recess, *a*, and smaller slotted extension *a'*, the former for placing the strong spiral spring D therein, the latter for sliding the bolt along the spring-supporting pins or standards *d*. The action of spring D on either side of the bolt B carries the bolt back into its original position, whether being operated by the door-knob or by the key. A rectangular recess, *e*, along the upper fore part of the bolt B, is equal to the distance of the cross-bar C' to the rear flanges, and allows thereby the forward motion of the bolt by means of the key acting on a shoulder, *e'*, at the lower front part of the same. One or more pivoted catch-hooks, E, are applied to suitable recesses of the lower middle part of the bolt and slide during the fore and return motion of the same, caused

by the knob, with their hook ends along a horizontal guide-plate, F. The front end of guide-plate has a slight downward inclination, and as many slots as there are hooks E, whose ends are formed with nearly the same angle of inclination to the body of the same, for the purpose of producing an intimate interlocking of hooks and guide-plate when the bolt is carried forward far enough to admit of their dropping into the recessed end. The key is recessed to correspond with the number of hooks, and passes exactly between the inclined end of the guide-plate, being placed in such a manner into the lock that it clears the recesses of the guide-plate and acts on the shoulders *e'* of the bolt, carrying the same forward and locking the door. This carries also the hooks E forward far enough to drop with their ends into the recesses of the guide-plate, and keep the bolt locked in the forward position thereby attained.

For unlocking the bolt the key is required to be turned in the same direction as before, so as to raise thereby the catch-hooks out of the recesses until the hook-ends are carried by the simultaneous action of the spring on the bolt onto the horizontal part of the guide-plate, and thence along the same to the original position.

The simplicity of the lock makes it less liable to get out of order, and allows its cheaper manufacture, while the mode of locking the bolt by the catch-hooks renders it very difficult to open, and secures thereby the bolt more completely than by the common construction.

A sufficient variety of keys may be produced by increasing the number and size of the hooks, so that each key can only open the lock for which it is made.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of bolt B, having pivoted hooks E, and double-acting spring D, with recessed end of horizontal plate F, and recessed key, for releasing the hooks and carry-bolt back for unlocking, substantially in the manner and for the purpose described.

FRANK WM. FOLSOM.

Witnesses:

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