

Locking Latches for Doors.

Patented Oct. 14, 1873.

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IMPROVEMENT IN LOCKING-LATCHES FOR DOORS.

Specification forming part of Letters Patent No. **143,692**, dated October 14, 1873; application filed May 17, 1873.

To all whom it may concern:

Be it known that I, EDWARD HALSEY, of the city of San José, in the county of Santa Clara and State of California, have invented certain Improvements in Door-Locks, of which the following is a specification:

My invention consists in a novel combination of devices to form a springless locking-latch, as will be hereinafter explained.

Figure 1 is the interior view of the lock, showing the combination and arrangement of the several parts. Fig. 2 is a section, showing the combination of the tumblers; Fig. 3, the several tumblers; Fig. 4, the bolt.

A is the lock-case. B is a lever, pivoted at C, having an index-finger, *a*, and thumb *b*, which, by depression or elevation, act on the weighted lever D, and are operated by means of a knob attached to a spindle, which passes through the square perforation E in pivot C. D is a weighted lever, pivoted at F, (which pivot may be attached to the lock-case, or made a part of the lever D, and have corresponding sockets or bearings in the lock-case,) having the upper arm *c* of sufficient weight to cause the lower arm *d* to force the bolt G out of the lock, and into its corresponding socket or receptacle in the door-casing. The lever D has a finger, *e*, which projects above the thumb *b* sufficiently to allow its engagement by the thumb *b*, when the lever B is elevated by the knob. It also has a shoulder, *f*, on which the index-finger *a* presses when the lever B is depressed by the knob, both of which actions cause the lower arm *d* of the lever D to withdraw the bolt G from its socket in the door-case into the lock. The bolt G has a shoulder, *h*, against which the arm *d* works in forcing it from the lock. It also has a pin, *g*, which projects sufficiently to engage with the arm *d* and cause the withdrawal of the bolt into the lock. It operates through a slot in the lock-case, and is guided in its movement by pins *j j* attached to the lock-case, and is made reversible by turning over, so that it turns between the opposite guide-pins attached to the lock-case cover. On the inner end of the bolt there is an elbow, I. The tumblers J J J are shoe-shaped and pivoted at K, hav-

ing slots or openings *l l l*, through which the elbow I passes in locking and unlocking. The slots may be made at irregular distances in the edge of the tumblers, so that the elbows *m m m m m* shall be of different lengths. On the outer edge of the elbows *m m m m m* are short toes *o o o o o*, which, when the bolt G is locked and pressure is applied to the outer end, prevent the adjustment of the tumblers necessary to allow the withdrawal of the elbow I into the tumblers through the slots *l l l*. When unlocked, one or more of the elbows *m m m m m* project over or hook on the elbow I, and admit of the use of the bolt as a latch. The tumblers are raised in proper position to allow the passage of the elbow I through the slots *l l l* by a key, which is formed to correspond with the position of the tumblers when the combination is made. The screw P, which fastens the sides of the lock-case together, is also placed in such position as to form a stop, which prevents the tumblers from being raised or forced past the elbow I of the bolt G when locked. The key-stop *r* is affixed to the lock-case, and prevents the key from raising the tumblers higher than is necessary to form the combination. In order to unlock the bolt it is necessary to raise the tumblers by turning the key until it strikes the stop *r*, and then withdrawing the bolt by using the knob. To lock, the tumblers must be raised as before, which frees the bolt and allows the lever D to force it out of the tumblers through the slots *l l l*.

I claim as my invention—

The combination of the lever B, the index-finger *a*, the thumb *b* with the weighted lever D, the pivot F, the finger *e*, the shoulder *f*, and the bolt G, the shoulder *h*, the pin *g*, the elbow I, the pins *j j*, the tumblers J J J, the pivot K, the slots *l l l*, the elbows *m m m m m*, the toes *o o o o o*, the stop P, and key-stop *r*, substantially as and for the purposes hereinbefore set forth.

EDWARD HALSEY.

Witnesses:

JOS. SMITH,
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