T. PERCIVAL.
Door-Latch.

No. 198,811. Patented Jan. 1, 1878.

Fig. 1.

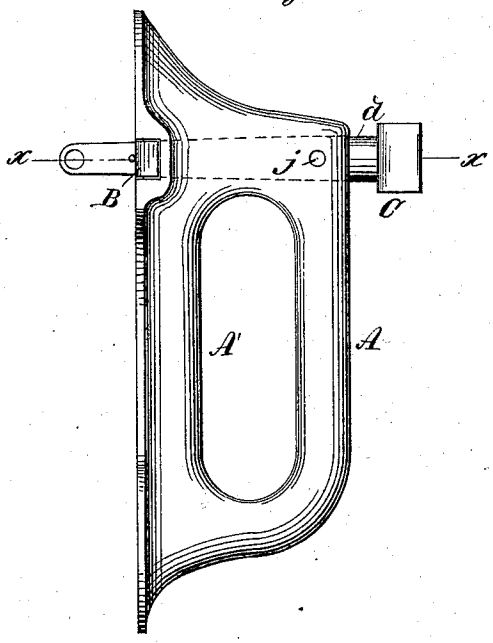



Fig. 2.

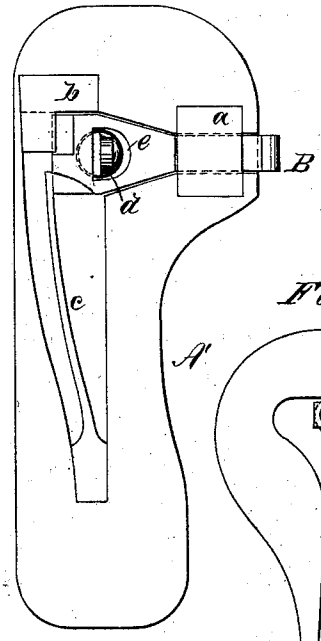



Fig. 4.

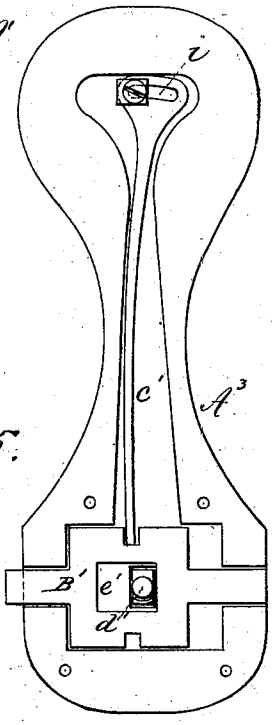



Fig. 3

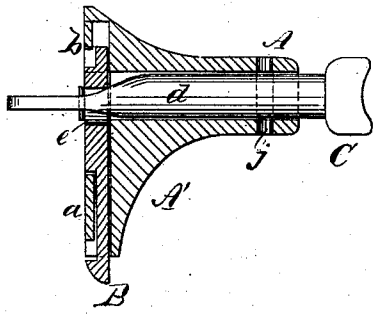
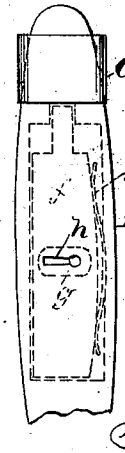



Fig. 5.




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# UNITED STATES PATENT OFFICE.

THOMAS PERCIVAL, OF NAPANOCK, NEW YORK.

## IMPROVEMENT IN DOOR-LATCHES.

Specification forming part of Letters Patent No. **198,811**, dated January 1, 1878; application filed September 22, 1877.

*To all whom it may concern:*

Be it known that I, THOMAS PERCIVAL, of Napanock, county of Ulster and State of New York, have invented a new and Improved Door-Latch, of which the following is a specification:

Figure 1 is a side elevation of my improved door-latch. Fig. 2 is a rear view of the same. Fig. 3 is a transverse section on line *x x* in Fig. 1. Fig. 4 represents a reversible form of latch, and Fig. 5 is a detail view of a locking device.

Similar letters of reference indicate corresponding parts.

My invention relates to latches for doors; and it consists in the combination of a sliding spring-bolt and a sliding thumb-piece for operating the bolt, and a device for locking the same, in combination with a handle that forms the case for containing the working parts.

In the drawing, A is a handle, having an oblong opening for receiving the hand, and having the base-piece $A^1$ for attaching it to the door.

The back of the base-piece is recessed to receive the sliding bolt B, which is kept in place by plates *a b*. A spring, *c*, bears against the end of the bolt, and projects it from the handle.

A bar, *d*, extends through the handle, at right angles to the base-piece, and through an aperture, *e*, in the bolt B, and is provided at its outer end with a thumb-piece, C. The bar *d* is flattened on a diametrical line where it passes through the aperture in the bolt B, so that turning the bar in either direction withdraws the bolt. The bar *d* is also tapered back from the flattened portion, forming a wedge or inclined surface, that withdraws the bolt when the bar *d* is pushed through the bolt.

The reversible form of latch shown in Fig. 4 consists of a base-piece, $A^3$, which is symmetrical in form, and is recessed to receive the bolt B′, having a central rectangular opening, *e′*, through which the bar *d′* passes, which also projects through the front of the handle, and is provided with a thumb-piece, C′. A triangular lug or wedge is formed on one side of the bar *d′*, which engages the bolt B′ at the side of the rectangular opening, when the said bar is pushed in. The edges of the bar *d′* are notched to receive the end of a bolt, *f*, that is placed in a chamber formed in the handle D. In this locking-bolt there is an aperture, *g*, for receiving the key that moves it, and a key-hole, *h*, is made in the handle. A spring, *k*, presses against the side of the bolt *f*, and prevents it from being moved except by the key.

The bolt B′ is notched in each edge at its center, to receive the end of the spring *c′*, which projects the bolt from the handle after it has been withdrawn by pressing the thumb-piece C′. The fixed end of the spring *c′* is widened, and in it an arc-shaped slot, *i*, is made, through which the screw passes which holds the end of the spring. The recess that contains the spring is contracted to form a bearing, over which the spring binds.

The sliding bolt is kept in place by a plate secured to the back of the base-piece by screws.

When it is desired to reverse the bolt, the plate is removed, the bar *d′* is removed and turned half around, and the bolt B′ is turned end for end, and the spring is shifted by loosening the binding-screw in the slot *i*. In either case the inner end of the bar *d* or *d′* is elongated, and is either provided with a knob, or is drilled transversely, to receive a temporary or permanent cross-bar or pin, for moving the bar from the inside of the door.

Instead of employing a sliding bolt for locking the bar *d* or *d′* a hole, *j*, may be drilled through the bar and the handle, as shown in Fig. 1, for receiving a padlock.

By attaching a catch-spring to the back of the base-piece, and employing the same sliding bar and thumb-piece, the device may be adapted to sliding doors.

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

1. The combination of a sliding bolt, B, spring, and sliding bar *d*, with handle A, having a base-piece, substantially as shown and described.

2. The bolt B′, having rectangular aperture $e'$, and notches for receiving the end of the spring, the spring $c'$, having a widened and slotted end, and the bar $d'$, in combination with handle D, having a base-piece, $A^3$, recessed to contain the spring and bolt, substantially as shown and described.

3. The bolt $f$, having the opening $g$ and the spring $k$, the chambered handle D, and the notched bar $d'$, in combination, substantially as shown and described.

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