W. E. SPARKS.

REVERSIBLE KNOB LATCH.

No. 190,162. Patented May 1, 1877.

Fig. 1.

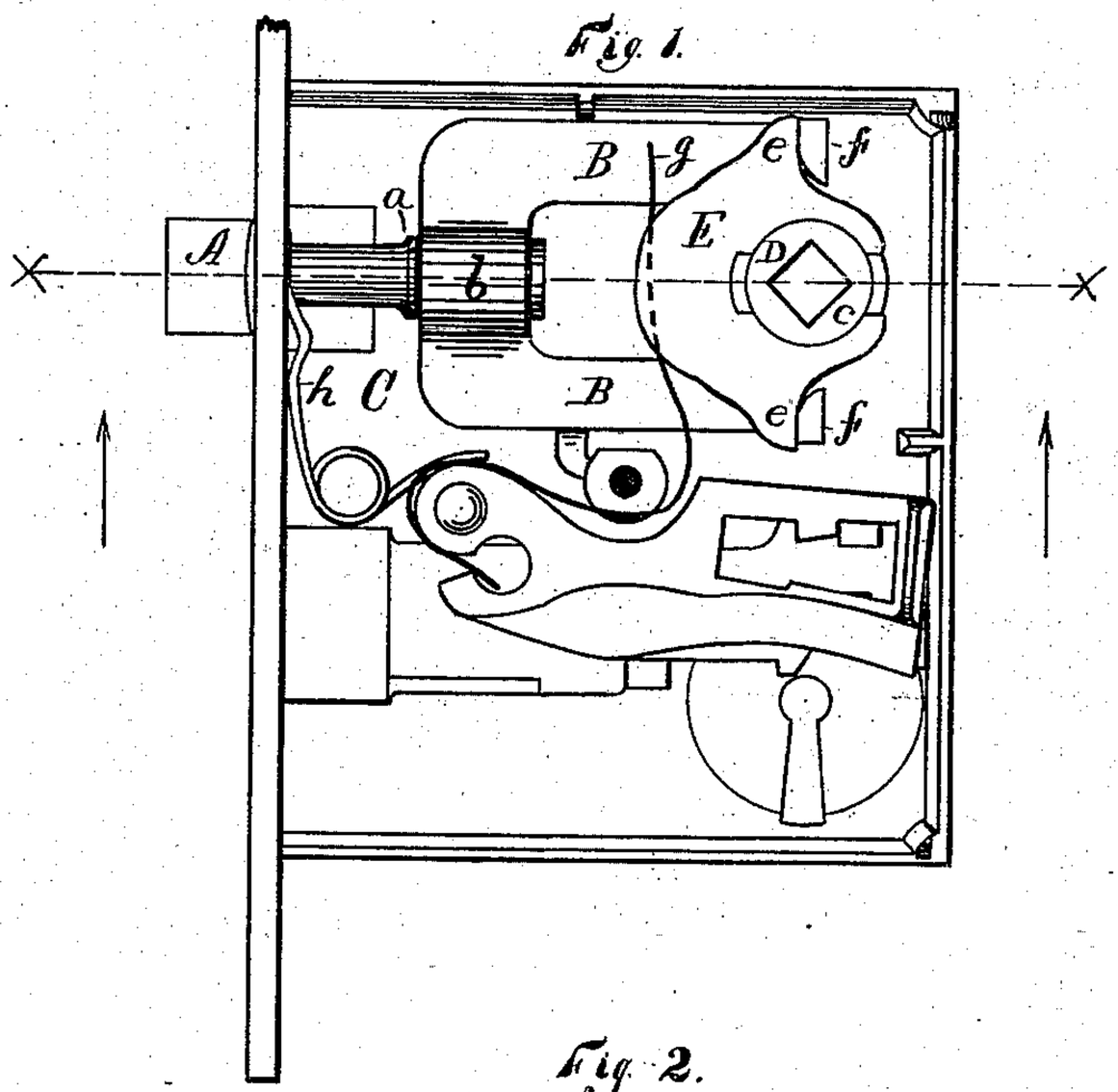

Fig. 2.

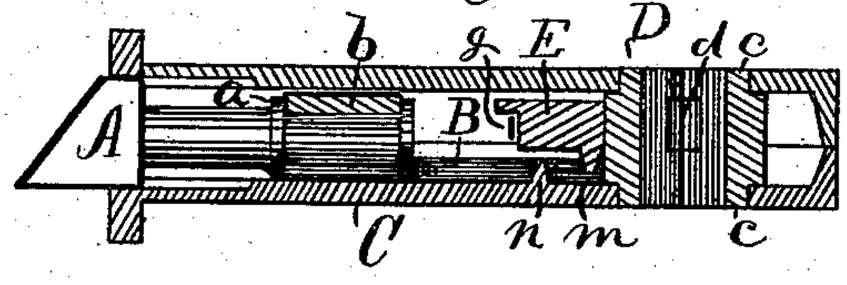

Fig. 3.

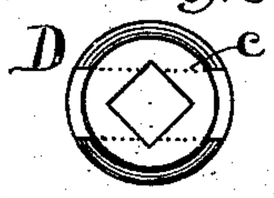

Fig. 7.

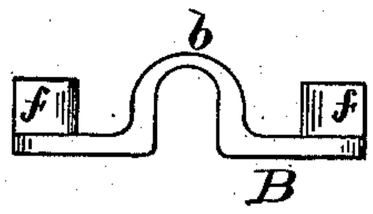

Fig. 4.

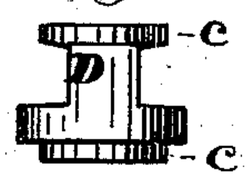

Fig. 5.

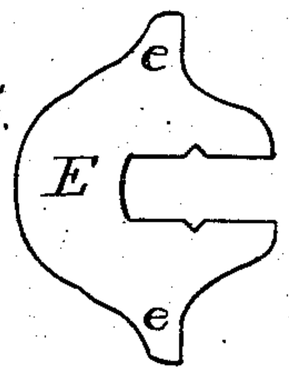

Fig. 6.

Witnesses.
H. K. Gale.
D. F. Gale

Inventor.
William E Sparks
By James Shepard Atty

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM E. SPARKS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO P. & F. CORBIN, OF SAME PLACE.

IMPROVEMENT IN REVERSIBLE KNOB-LATCHES.

Specification forming part of Letters Patent No. **190,162**, dated May 1, 1877; application filed March 17, 1877.

To all whom it may concern:

Be it known that I, WILLIAM E. SPARKS, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Reversible Latches, of which the following is a specification:

My invention consists of the combination of the slotted hub with the slotted plate, having V-shaped depressions in the side walls, as hereinafter described.

In the accompanying drawings, Figure 1 is a front elevation of a latch which embodies my invention, the same being represented with one-half of the case removed in order to better show the parts. Fig. 2 is a horizontal section of the same taken on line *x x* of Fig. 1. Figs. 3 and 4 are detached views of the hub of said latch; and Figs. 5, 6, and 7 are detached views of parts of said latch.

A designates the latch-bolt, rounded and headed at its inner end, substantially as in ordinary reversible latches. The head at the end forms one shoulder, and between this and the square part of the bolt A there is another shoulder, *a*. B designates the yoke or horse-shoe, as it is called, the arms of which rest upon one side or plate, C, of the case, as shown. The front end of the yoke B has a U-shaped bridge, *b*, open at the rear, as clearly shown by the end view of said yoke in Fig. 7. The width of the bridge from right to left is such as to fill the space between the shoulders on the rounded part of the bolt A, as shown, the solid portion of the bridge extending over the latch-bolt upon the side opposite the plate C, which the arms of the yoke rest upon—that is, the U-shaped bridge has the bottom of the U opposite the bearing-surface of the yoke, which rests upon the plate C.

By this construction of the yoke, bridge, and latch-bolt, these parts not only necessarily move together, but a very firm connection for a swivel-joint is formed, and when the front plate of the case is removed, as shown, the parts are not liable to become accidentally detached.

D designates the hub, having bearings *c c* at each end, which take into the two side plates of the latch-case. Through the center of the hub D, as in ordinary latch-hubs, there is a square cavity to receive the ordinary knob-spindle. The middle portion of the hub D, upon two opposite sides, is slotted, as clearly shown in Fig. 4, which slots or openings connect with the square cavity made lengthwise through the hub at two of the corners thereof, one of which connecting-openings is shown at *d*, Fig. 2.

Fig. 3 is an end view of the hub, the broken lines in which figure indicate the depth of the slots, and Fig. 4 is a side elevation of the hub as viewed from the rear edge of the latch.

E designates a slotted plate, bearing arms *e e*, which engage with lugs *f f* of the yoke B. In the opposite side walls of the slot, in the plate E, there are V-shaped depressions, as shown by the detached side view of said plate in Fig. 5. Fig. 6 shows an edge view of said plate.

The hub D is slipped into the slot of the plate E, the latter resting in the slots in the sides of the hub, and the hub and plate placed in proper position in the case, as shown in Fig. 1. One arm of the spring *g*, bearing upon the front edge of the plate E, keeps the plate pressed firmly against the hub and holds said plate in place. The other arm of said spring actuates the tumblers on the lock-bolt.

The length of the slot in the plate is such in relation to the V-shaped depressions and the hub, that when the hub and plate are forced together by the spring *g*, the V-shaped depressions will coincide with two corners of the square cavity through the hub. A spring, *h*, continually presses upon the latch-bolt A to project it from the case.

Before the insertion of the knob-spindle the latch-bolt A, yoke B, and plate E may all be drawn forward to reverse the latch in the ordinary manner, when the spring *g* will return said parts to the position shown in Fig. 1. A lug, *m*, on the plate E engages with a lug, *n*, on the plate C of the case, and prevents the plate, yoke, and latch from being drawn forward farther than required to reverse the latch.

When the knob-spindle is inserted in the hub, two corners of it engage with the V-shaped depressions in the plate, so as to pre-

vent it from being moved forward, while the flatted sides of the hub, engaging the walls of the slot in plate E, cause it to rotate with the hub and knob-spindle, so as to operate the latch-bolt through the yoke B in the ordinary manner.

I claim as my invention—

In a reversible latch, the hub D, slotted as described, in combination with the slotted plate E, having V-shaped depressions in the side walls of the slot, substantially as described, and for the purpose specified.

WILLIAM E. SPARKS.

Witnesses:

CHARLES PECK,

E. L. PRIOR.