(No Model.)

W. E. SPARKS.

MORTISE LATCH.

No. 332,456. Patented Dec. 15, 1885.

Fig. 1.

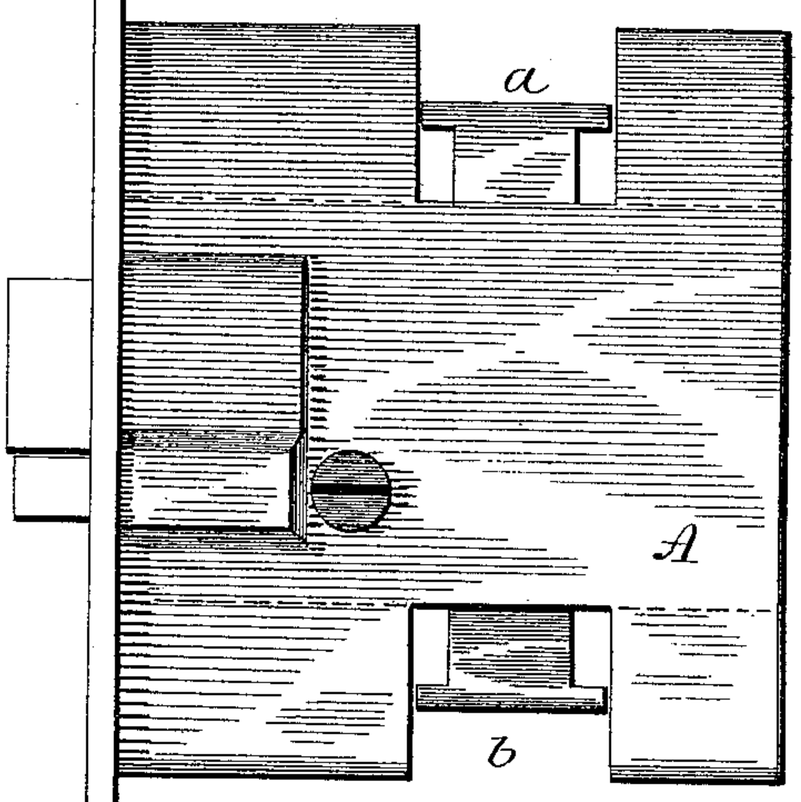


Fig. 5.

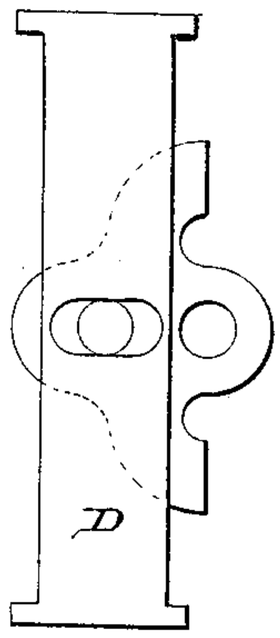


Fig. 2.

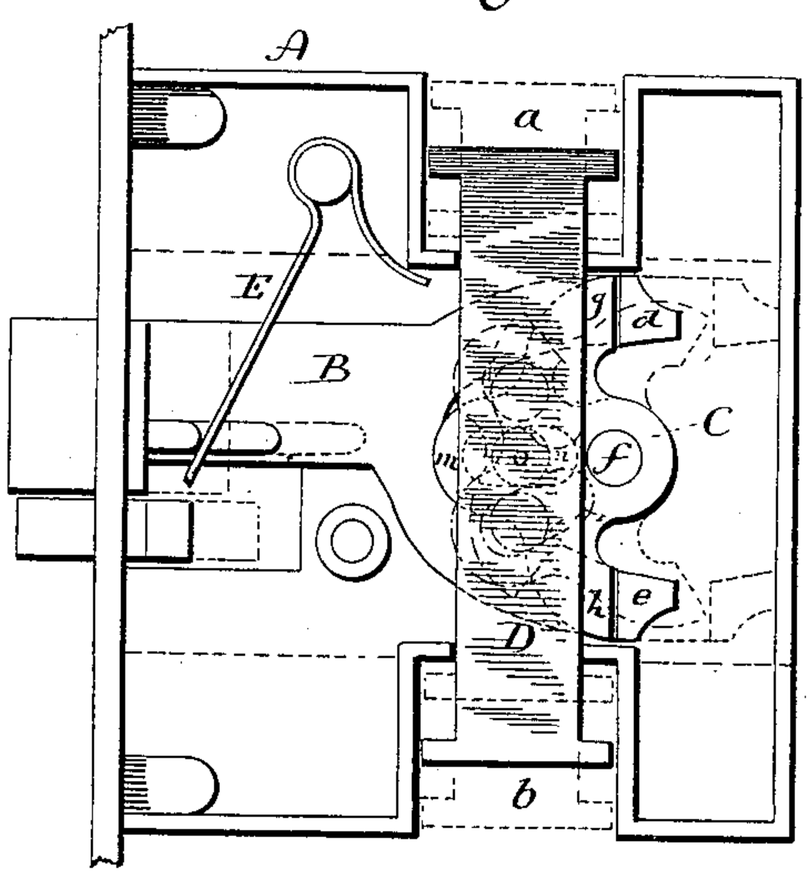


Fig. 3

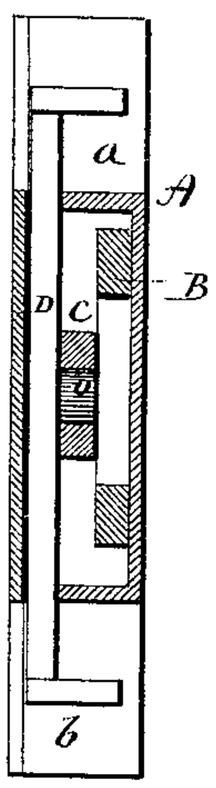
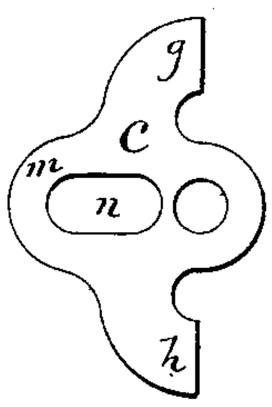


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM E. SPARKS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO SARGENT & CO., OF SAME PLACE.

MORTISE-LATCH.

SPECIFICATION forming part of Letters Patent No. 332,456, dated December 15, 1885.

Application filed October 5, 1885. Serial No. 178,961. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SPARKS, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Mortise-Latches; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the latch complete; Fig. 2, a side view, cover-plate removed; Fig. 3, a vertical section cut through the lever at the pivot, showing edge view of the slide; Fig. 4, the lever detached; Fig. 5, a modification.

This invention relates to an improvement in mortise-latches, and particularly to that class which is operated by a thumb piece or lever extending into the door, and adapted to either a right or left hand door, and is an improvement on the invention for which Letters Patent of the United States No. 102,723, were granted me May 3, 1870. In the usual construction of this class of latches to reverse the latch it is necessary to open the case and reverse the lever by which the bolt is drawn.

The object of this invention is to avoid this difficulty and provide a latch which is adapted for either a right or left hand door without change of any of its parts; and it consists in constructing the case with recesses, one in the upper edge and the other in the lower edge, the inner end of the bolt with two arms, each of the said arms provided with a shoulder combined with a three-arm lever hung within the case between the said two shoulders on the bolt, the third arm constructed with a slot, and a slide guided for vertical movement through the case, its ends extending into the said recesses, and provided with a stud to engage the said slot in the lever, as hereinafter described.

A represents the case, constructed with a recess, *a*, in its upper edge, and a like recess, *b*, in its lower edge.

B is the latch-bolt, constructed at its inner end with two arms, each of the said arms forming a shoulder, respectively, *d e*.

C is a three-arm lever hung within the case on a pivot, *f*, between the two arms of the bolts, two of the arms, *g h*, adapted to engage, respectively, with the shoulders *d e*, the other arm, *m*, at substantially right angles to the arms *g h*, constructed with a slot, *n*.

D is a slide guided by the edges of the case for vertical movement through the case, its ends extending, respectively, into the recesses *a b*, and is constructed with a stud, *o*, upon its under side, to engage with the slot *n* in the arm *m*.

E is a spring hung within the case, the tendency of which is to throw the bolt, but yield to allow it to be drawn.

The bolt is drawn by moving the slide either upward or downward. If upward, the stud *o*, working in the slot *n*, turns the lever and forces the arm *g* of the lever against the shoulder *d*, thereby drawing the bolt, as shown in broken lines, Fig. 2, or the reverse action of the slide, the engagement of the stud and slot being the same, the arm *h* of the lever is forced against the shoulder *e*, thereby drawing the bolt, as in the previous operation, so that whether the latch is in a right or left hand door one of the ends of the slide is always downward in position for engagement with the mechanism by which it is to be operated, and this without change in position of any of the parts of the latch mechanism.

The case A may be constructed narrow, as shown in broken lines, Fig. 1, without the recesses, and the ends of the slide project beyond the edges of the case.

The arm *m* of the lever may be constructed with the stud and the slide with the slot, as seen in Fig. 5; but I prefer the construction as hereinbefore described.

I claim—

1. The combination of the case A, the latch-bolt B, constructed with shoulders *d e* at its inner end, the slide D, adapted to move vertically through the case, its ends projecting, respectively, above and below the edges of the case, with the three-arm lever C, pivoted within the case between the said shoulders on the bolt, two of the arms of said lever adapted to engage, respectively, with the shoulders *d e*, the other arm of said lever adapted to engage with the slide, and the spring E, to throw the

bolt, but yield to allow it to be drawn, substantially as described.

2. The combination of the case A, constructed with a recess, *a*, in its upper edge, and a corresponding recess, *b*, in its lower edge, the latch-bolt B, constructed with shoulders *d e* at its inner end, the slide D, adapted to move vertically through the case, one end extending into the recess *a* and the other into the recess *b*, with the three-arm lever C, pivoted within the case between the said shoulders on the bolt, two of the arms of said lever adapted to engage, respectively, with the shoulders *d e*, the other arm of said lever adapted to engage with the slide, and the spring E, to throw the bolt, but yield to allow it to be drawn, substantially as described.

WILLIAM E. SPARKS.

Witnesses:
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