C. W. CHAPPELL.

Improvement in Combined Latch and Lock for Sliding Doors.

No. 125,168. Patented April 2, 1872.

Fig. 1.

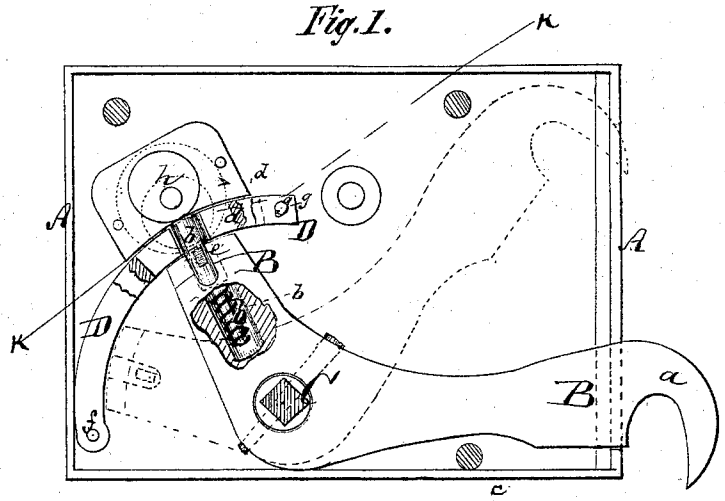


Fig. 3.

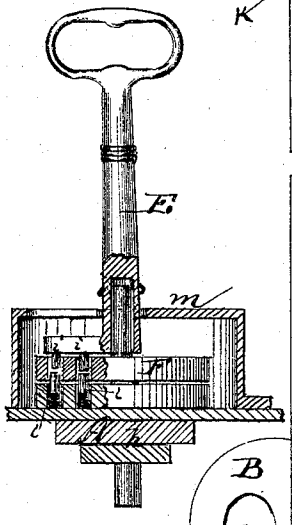


Fig. 2.

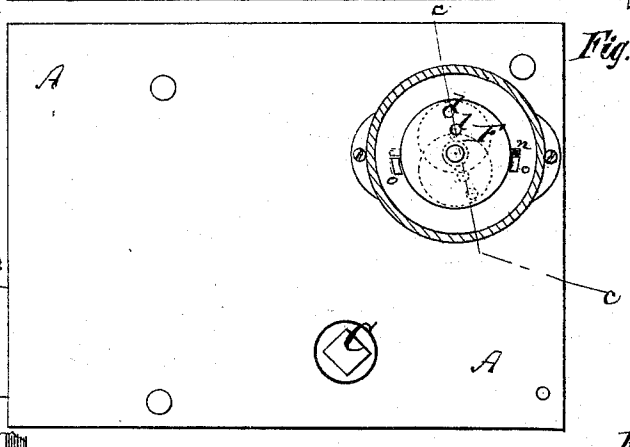


Fig. 4.

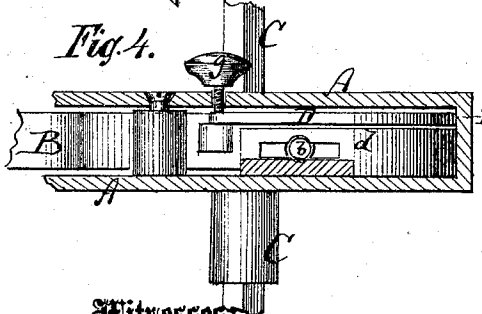


Fig. 5.

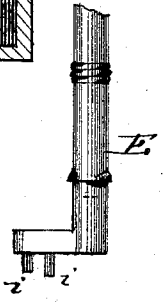
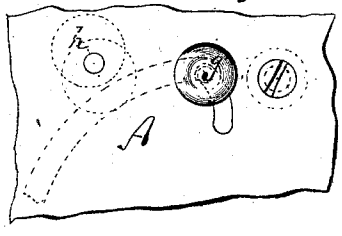


Fig. 6



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UNITED STATES PATENT OFFICE.

CHARLES W. CHAPPELL, OF WATERTOWN, WISCONSIN.

IMPROVEMENT IN COMBINED LATCHES AND LOCKS FOR SLIDING DOORS.

Specification forming part of Letters Patent No. 125,168, dated April 2, 1872.

Specification describing a new and Improved Door-Lock, invented by CHARLES W. CHAPPELL, of Watertown, in the county of Jefferson and State of Wisconsin.

Figure 1 represents a face view, partly in section, of the inner side of my improved door-lock. Fig. 2 is a face view, partly in section, of the outer side of the same. Fig. 3 is a detail transverse section through the outer shell, the line *c c*, Fig. 2, indicating the plane of section. Fig. 4 is a section on the line *k k*, Fig. 1. Fig. 5 is a side view of the key, and Fig. 6 a face view of a portion of the inner lock-plate.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved lock for folding or sliding doors; and consists in a new arrangement of swinging latch and mechanism for locking the same by a spring-bolt, and unlocking it from the outside by means of an eccentric and from the inside by a lever.

A in the drawing represents the lock-case, of rectangular or other form and suitable size. B is the locking-latch, pivoted within the case A and projecting through the end of the same, where it has a hook, *a*, as shown. The pivot of the latch B is the spindle C, with knobs at both ends. When the latch is not locked by the spring-bolt *b* the spindle can be turned to swing it up and open the door. As long, however, as the spring-bolt *b*, which is fitted into the inner end of the latch B, projects into a rib, *d*, of the lock-case, the latch cannot be turned, and holds the door locked. The spring-bolt *b* has a projecting lug, *e*, playing in a slot of the latch, as in Fig. 1. A lever, D, pivoted at *f* within the lock-case, is just above the lug *e*. A knob, *g*, or thumb-screw, projects from the free end of the lever D through a slot in the inner face-plate of the lock. When, by taking hold of the knob *g*, the lever D is swung down, it carries the spring-bolt *b* out of the rib *d* and liberates the latch B so that it can be swung. Thus the latch can be conveniently worked from the inside. To open the door from the outside, however, requires the aid of a key, E, which is used to turn an eccentric, *h*, and by its means to crowd the bolt *b* out of the rib *d*, the eccentric working against the upper end of the spring-bolt within a recess of the rib, as indicated in Fig. 1. The key E has projecting pins *i i*, which fit into apertures of a disk, F, that is mounted upon the arbor of the eccentric *h*. Spring-pins *l l* fit into these apertures of F, as in Fig. 3, and are crowded inward by the pins *i* before the eccentric can be turned, it being consequently necessary that the proportionate lengths of the pins *i* and *l* should be exactly determined to cause the removal of the pins *l* from F without at the same time effecting the entrance of the pins *i* into the sockets of the pins *l*. The key-hole plate *m* of the lock may be raised to form an outer shell on the lock-case, as in Fig. 3, or may be the outer plate of the case A. The disk F has a projecting ear, *n*, which, striking against fixed stops *o*, arrests it in its positions of holding the eccentric elevated or lowered.

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

The swinging latch B, arranged in combination with the spring-bolt *b*, rib *d*, lever D, and eccentric *h*, all arranged to operate substantially as herein shown and described.

CHARLES W. CHAPPELL.

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