E. DORMAN HODGSON.

Improvement in Locks.

No. 120,743. Patented Nov. 7, 1871.

Fig. 1.

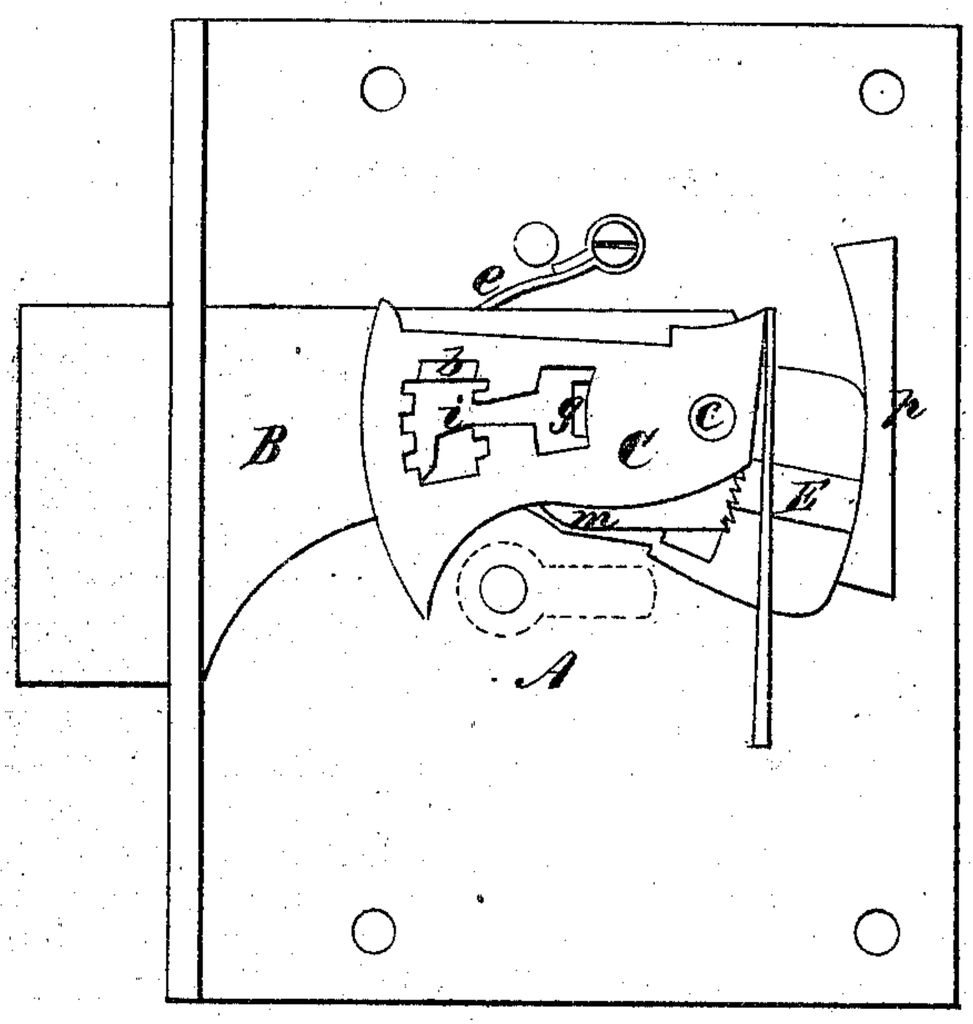


Fig. 2.

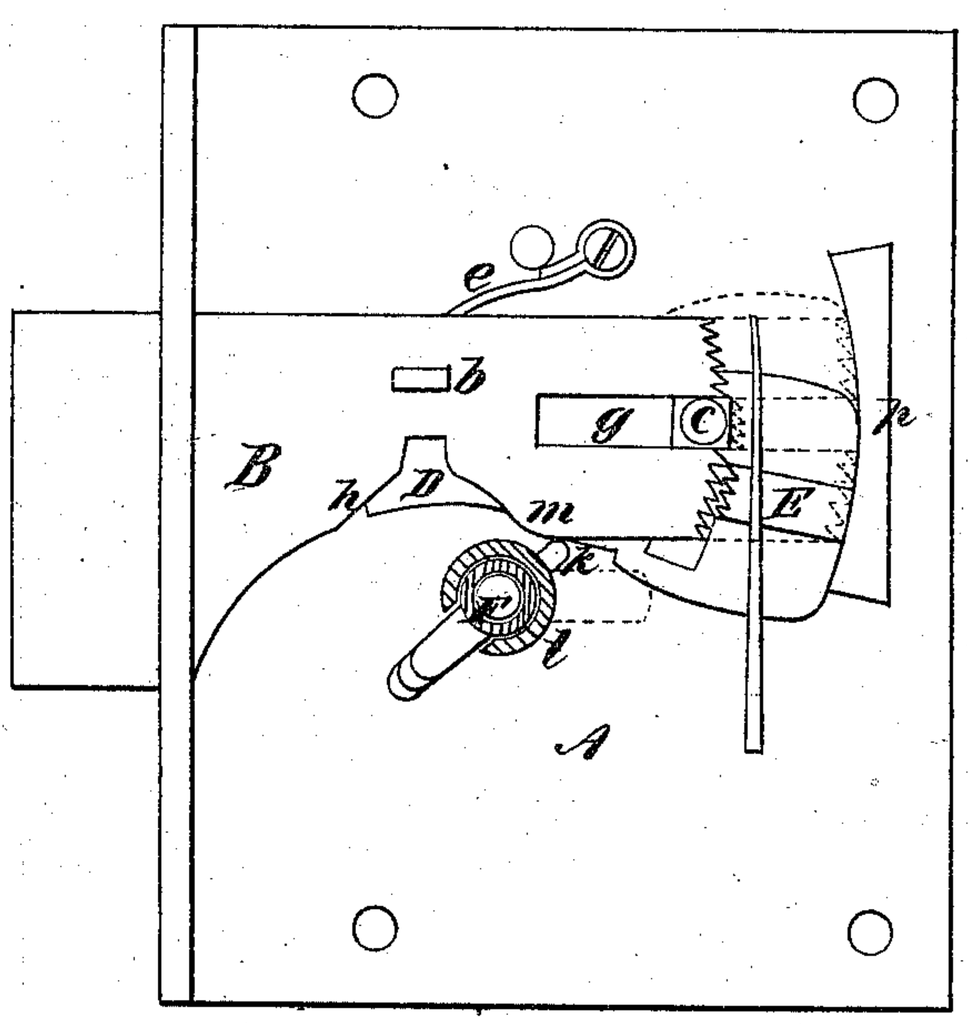


Fig. 3.

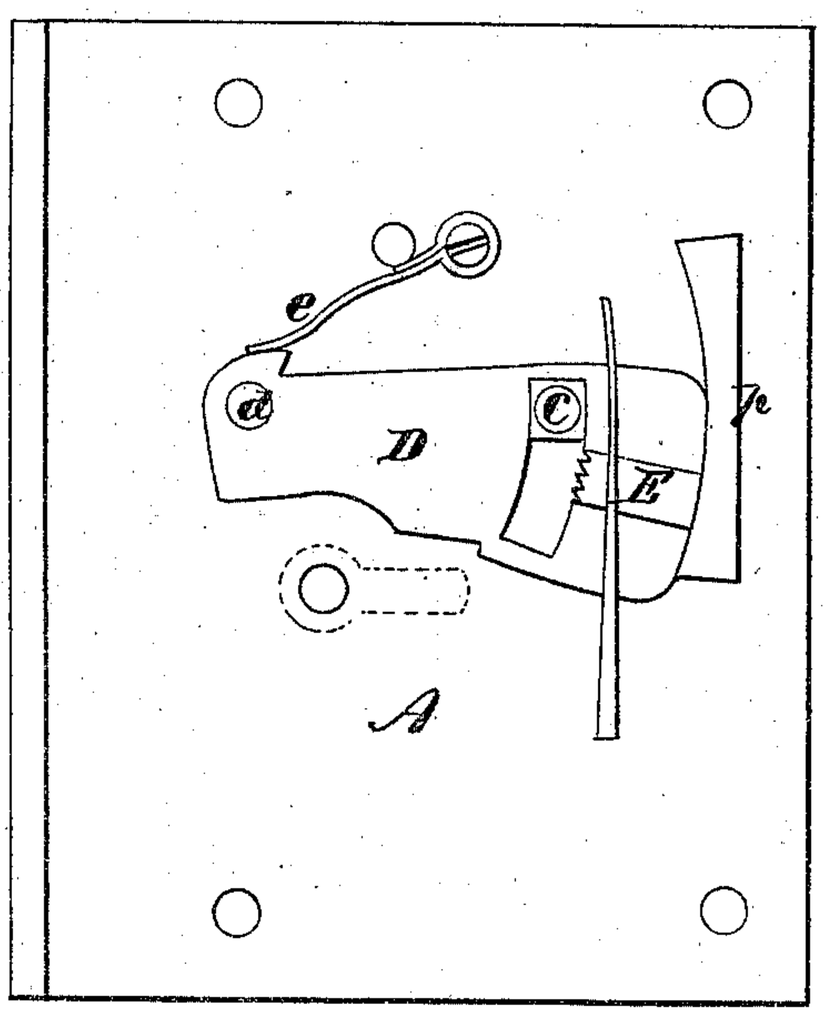


Fig. 3.a

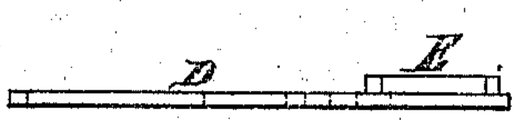
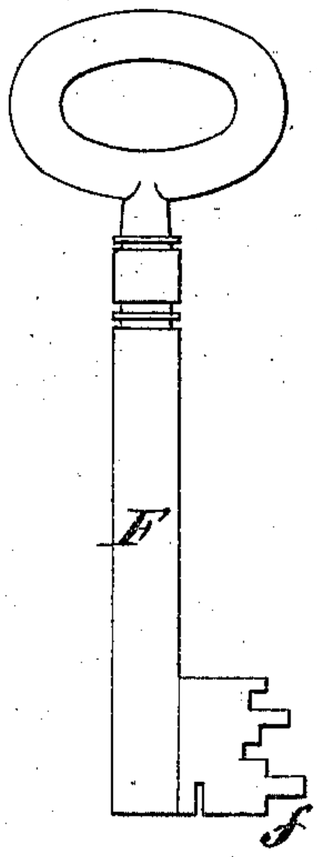


Fig. 4.



Witnesses.

Edwin P. Alexander

F. C. Hereford.

Inventor.

E. Dorman Hodgson.

120,743

UNITED STATES PATENT OFFICE.

EDMUND DORMAN HODGSON, OF LONDON, ENGLAND.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 120,743, dated November 7, 1871.

To all whom it may concern:

Be it known that I, EDMUND DORMAN HODGSON, of London, England, have invented an Improvement in Locks, of which the following is the specification:

My invention relates to that class of locks in which a serrated projection falls behind the bolt after it has been thrown forward, and thus prevents its backward movement until the projection is removed; and my invention consists of a slotted and serrated bolt having certain inclined edges, in combination with a lever having a serrated projection, suitable tumblers, and with a sleeve slotted for the passage of the bit of a key, and having a projection so arranged as to insure the meshing of the serrations of the bolt and projection after the bolt has been pushed forward.

Figure 1 is an elevation of my improved lock with the case or cover removed. Fig. 2 is a similar view with the tumblers removed. Fig. 3 shows the spring-lever in its proper position in the lock, the bolt and tumblers being removed; and Fig. 4 shows the key.

The same letters of reference indicate corresponding parts in all these figures.

A is the lock-plate, and B the bolt, which is provided with the usual stump *b* and spring-tumblers C working on the fulcrum or pivot *c*. D is a spring-lever, carrying the projection E. This lever, which is shown with its projection E in side elevation in Fig. 3, turns on a fixed center or pivot, *d*, and is held down by a spring, *e*. It is situate underneath the bolt, or between the bolt and the lock-plate, as seen in Fig. 2, and is elevated into its proper position when opening the lock by the extra step *f* on the key F, Fig. 4. A curved slot in the lever D permits it to work freely across the fulcrum-pin *c* of the tumblers. The actual projection E consists of a thickened part of the rear end of the lever D, (see Fig. 3,) such thickened part, when not exactly opposite to the slot *g* in the rear end of the bolt, serving as an effectual obstruction to its being forced back by violence. In order to prevent the projection E from being lifted by picks or otherwise when the bolt is shot out, I make ratchet or inclined teeth in the front end of the projection and in the rear end of the bolt and cause the two to interlock, as will be seen on reference to Fig. 1 of the drawing, where the projection is in the position it assumes when the bolt is locked.

The action of this lock when unlocking is as follows: The key F, on being inserted into the key-kole, the position of which is shown in dotted lines in Figs. 1, 2, and 3, first elevates the tumblers C to their proper height for the stump *b* on the bolt B to pass forward into their true gatings. It then shoots the bolt B sufficiently far forward to disengage the teeth of the projection E from those of the bolt B. This additional outward movement of the bolt is effected by the action of the key upon the incline *h* in the bolt before it has entered sufficently far into the talon *i* of the bolt to move it backward. The key, continuing its rotation, then elevates the lever D sufficiently to bring the projection E opposite to the slot *g* in the bolt B, and then withdraws the bolt in the usual way. The slot *g*, in which slides along the projection E, and the bolt and projection assume the position shown in red lines in Fig. 2, when the key is withdrawn. In locking the bolt the key first lifts the tumblers and then moves outward the bolt B in the usual manner; but so soon as the rear end of the slot *g* in the bolt has cleared the projection E the latter is forced downward by the spring *e*, bringing the projection E opposite the solid portion of the rear end of the bolt B and effectually preventing it from being forced back. In order that the inclined teeth on the rear end of the bolt B may become engaged or interlocked with those in the projection E it is necessary that the bolt B should be moved back slightly before the key is withdrawn. This backward motion is effected by means of the arm *k*, Fig. 2, on the sleeve *l*, fitted inside the lock-case, and revolving with the key, such arm coming in contact with the incline *m* on the bolt B before the key arrives at the position for enabling it to be withdrawn from the lock. In Fig. 2 the arm *k* is just about to act upon the incline *m*. The bolt and projection will then be interlocked together, as shown in Fig. 1, and no lifting of the projection can be effected until the bolt has been disengaged from it or moved outward slightly, as hereinbefore described.

I claim—

The combination of the slotted and serrated bolt B, its stump *b*, and inclined edges *h* and *m*, the lever D and its serrated projection E, the tumblers C, and the sleeve or curtain *l*, slotted for the passage of the bit of the key, and having an arm, *k*, the whole being constructed and operating as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

E. DORMAN HODGSON.

Witnesses:

EDWIN P. ALEXANDER,

THOS. I. HANDFORD.

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