(Model.)

H. BALUSS.

DOOR LOCK.

No. 306,460. Patented Oct. 14, 1884.

Fig. 1.

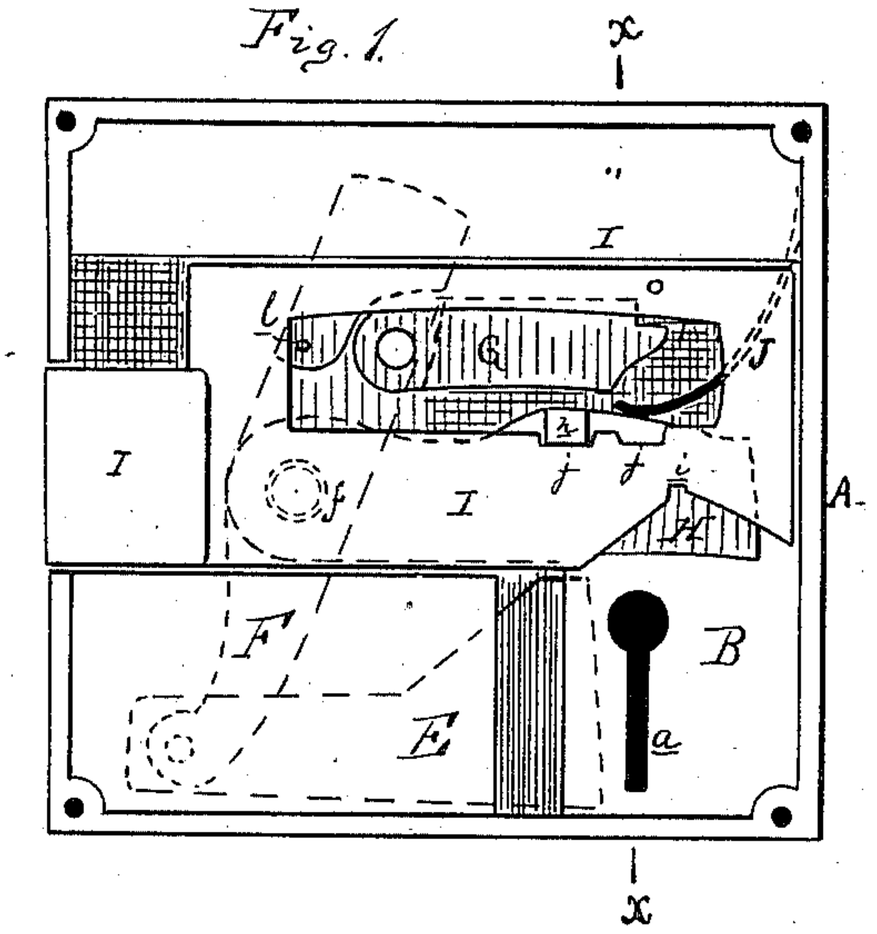


Fig. 4.

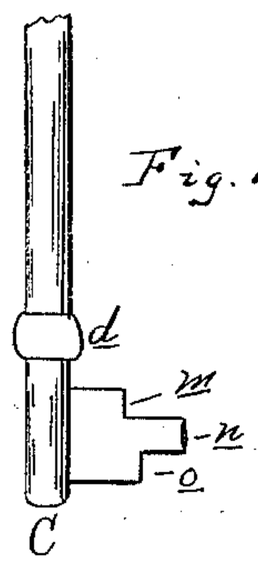


Fig. 2.

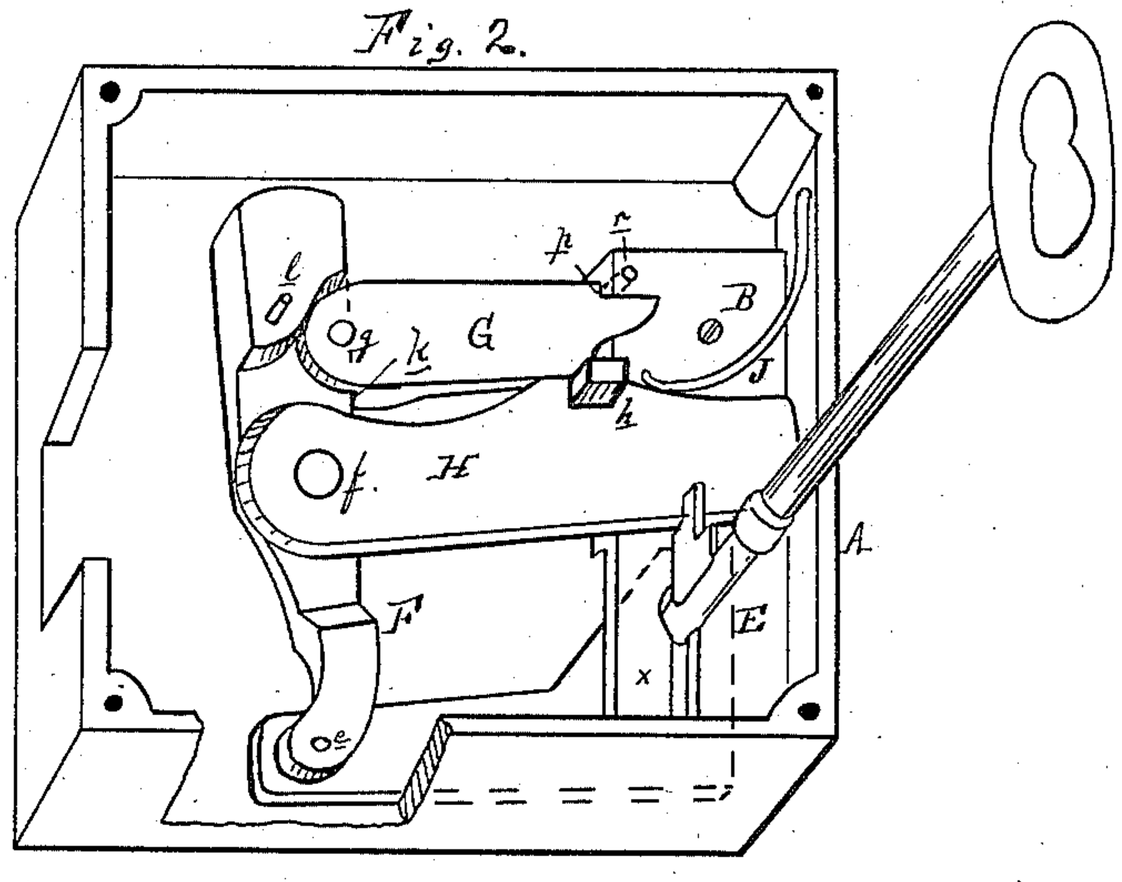
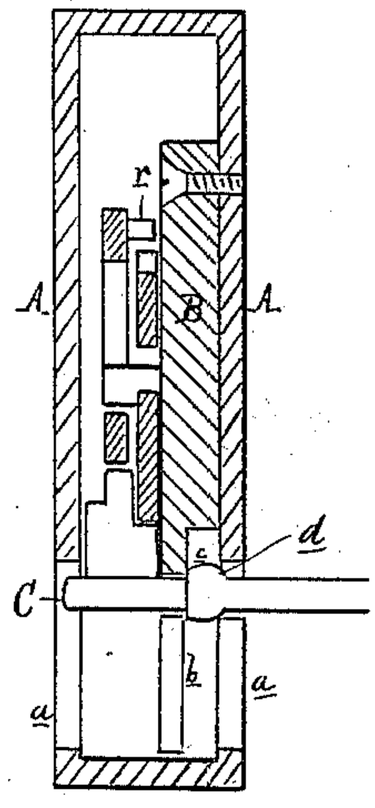


Fig. 3.



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UNITED STATES PATENT OFFICE.

HAMILTON BALUSS, OF WAYNE, MICHIGAN.

DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 306,460, dated October 14, 1884.

Application filed January 23, 1884. (Model.)

To all whom it may concern:

Be it known that I, HAMILTON BALUSS, of Wayne, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Door-Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in door-locks, by means of which the action, when the lock is operated from the outside or front of the door, will be the same as in locks of ordinary construction, while if operated to lock the closed door from the inside the key will not only project the locking-bolt, but at the same time close the key-hole upon the opposite side, so that nothing can be introduced into the lock through said key-hole. This is accomplished by so constructing the lock and the key thereof that when the door is locked from the inside the key, in addition to throwing out the locking-bolt, also moves a metallic plate across the key-hole upon the outside, entirely closing the same, so that a burglar cannot introduce nippers to turn the key, tools for picking the lock, explosives to blow it up, or chloroform or other like anæsthetics to stupify or render insensible the occupants of the apartment into which the locked door leads.

The invention consists in the peculiar construction of the various parts of the lock, their various combinations and operation, as hereinbefore and more fully hereinafter described.

Figure 1 is an elevation from the rear or inner side of the lock, with the cover removed and the bolt withdrawn, showing the position of parts when the device is unlocked. Fig. 2 is a perspective with the cover removed, showing the mechanism for actuating the shutter. Fig. 3 is a vertical cross-section on the line X X in Fig. 1. Fig. 4 is an elevation of a section of the key.

In the accompanying drawings, which form a part of this specification, A represents the inclosing-case, provided with key-holes *a* in each side and coincident with each other. B is a plate secured to the inner front side of this shell, as shown in Fig. 3, and for the purposes of this description the outer side of the lock as attached to a door will be called the "front" and the rear side of the lock will be so termed in contradistinction to the front side. This plate B is halved out, as shown at *c* in Fig. 3, and has through it, coincident with the key-holes *a* on either side, another key-hole, *b*. The key-hole on the front of the lock is slightly larger at its upper end, so that when the key is inserted from the outside the shoulder *d* will pass through the outside or front key-hole and impinge against the prolongation of the plate B, so that the extreme end of the stem of the key C will enter the rear key-hole. The purposes of this will hereinafter be seen.

E is a slide, shown in dotted lines in Fig. 1 as retracted, and in similar lines in Fig. 2 as projected to cover the key-hole, such plate sliding laterally under the operation of the hereinafter-described mechanism between the front plate of the shell and the prolongation of the plate B. One end of this plate E is pivotally secured at *e* to the lever F, which is pivoted upon a stud, *f*, projecting rearward from the front plate. Near its upper end this lever F is pivotally secured at *g* to the arm G. H is the ordinary tumbler, one end of which is free, while its opposite end is pivoted upon the stud *f*, and this tumbler is provided with a lug, *h*.

I is the bolt with a recess, *i*, cut in its lower face, which is cut away from the base of such recess in an inclined direction on either side, as shown in Fig. 1. The bolt I is longitudinally slotted in its body, and the lower side of this slot is provided with a recess, *j*, designed to engage, according to the position of the bolt, with the projections *h* on the tumbler H. The arm G is provided with a shoulder, *k*, and a spring, J, is employed, its free end impinging against the upper side of the tumbler H to enforce the engagement of its projection *h* with the recess *j* alternately as the bolt is projected or retracted.

To the lever F is secured a pin projecting within the slot in the bolt, and its office is by impingement against the end of said slot when the bolt is retracted to force the other parts to their original position.

In practice, when the key is inserted from the outside the shoulder *m* lifts the tumbler H from its engagement with the bolt I, and allows the fin *n* of the bit to project the bolt. A reverse movement of the key first unlocks the

tumbler H from its engagement with the bolt, and then retracts the bolt in the same manner as in closing, the stop *h* forming in every instance an interlocking device between the bolt and the tumbler H.

When the key is inserted from the inside into the lock, the shoulder *o* of the bit lifts the tumbler H. Now, this shoulder, as seen in Fig. 4, is farther away from the center of the key than the shoulder *m*. This difference is sufficient to lift the tumbler H high enough to also lift the dog G sufficiently high to bring its shoulder *p* on the upper side of that dog in front of the pin *r*, secured upon the rear side of the bolt I, and as the further movement of the key projects the bolt the pin *r* carries the dog G with it. The movement of the dog G vibrates the lever F and projects the plate or shutter E across the path of the keyway between the two plates A and B, thus preventing the insertion of a key from the outside when the lock has been closed from the inside. In unlocking, the pin L upon the lever F restores the parts which actuate the shutter-plate again to its normal condition or position.

It will be seen that as far as the tumbler H is concerned, in operating the bolt I its function is the same as in every lock, but it has a different degree, to which it is raised up by the action of the shoulders *m* and *o*, which produces the difference in result in closing the lock either from the outside or inside.

The shutter-plate E cannot be accidentally displaced, or be maliciously tampered with, as it is firmly locked in place when closed across the path of the keyway by the impingement of the pin *r* against the shoulder *p* of the dog, and to insure such safe engagement with the dog G it is provided with the shoulder or stop *k*, which prevents the dog G from dropping out of engagement with the pin *p*.

What I claim as my invention is—

1. A lock provided with a reciprocating slide constructed to close or disclose the outer or front key-hole by means of the lever F, to which said slide is pivoted, and the tumbler H and dog G, secured to and carried by said lever F, and operated by the key employed to throw the locking-bolt from the inside, substantially as and for the purposes specified.

2. In combination, in a lock and with the locking-bolt thereof, a reciprocating sliding plate, E, and a lever, F, to which said slide is pivoted, tumbler H, and dog G, also secured to and carried by said lever F, actuated by a key which operates said locking-bolt, such sliding plate constructed to remain inert when the locking-bolt is actuated from the outer side of said lock, and by the means of such system of levers when the locking-bolt is actuated from the inner side such sliding plate will close the outer key-hole, substantially as described.

3. In a key-hole protector, the combination, with the dog G, lever F, slide E, carried by said lever, the bolt I and tumbler H, of a key having on its actuating-fin two shoulders on opposite edges of said fin, and of unequal distances from the axis of the stem, for the purpose of lifting said tumbler H to different heights, substantially as and for the purpose specified.

4. In a key-hole protector, the combination, with the lever F, slide E, carried by said lever, bolt I, and pin *r*, of the dog G, carried by said lever F, and provided with a shoulder, *p*, substantially as specified.

5. In a key-hole protector, the combination of the lever F, pivoted upon a stud projecting from one of the plates of the lock, slide E, pivotally connected to and carried by said lever, dog G, also pivotally secured to said lever, and the bolt I, substantially as and for the purpose set forth.

6. In a key-hole protector, the combination, with the lever F, of the gravity-dog G, provided with shoulders *k* and *p*, said shoulder *p* arranged to engage with the pin *r* on the rear side of the bolt, whereby the dog is prevented from losing its engagement when the shutter is closed, substantially as set forth.

HAMILTON BALUSS.

Witnesses:
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