D. Ball,

Door Lock.

No. 833. Patented July 12, 1838.

Fig. 1.

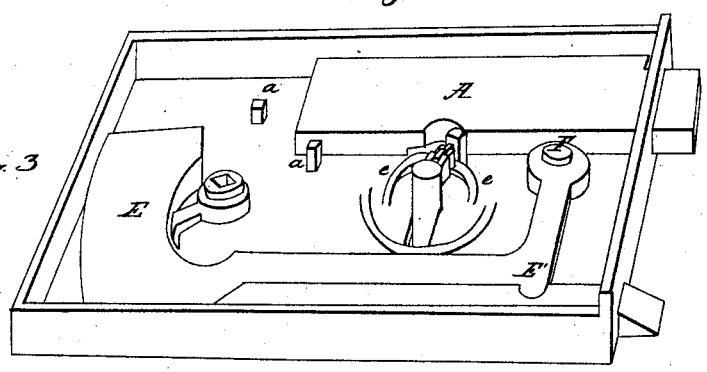
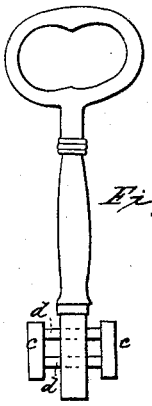


Fig. 3



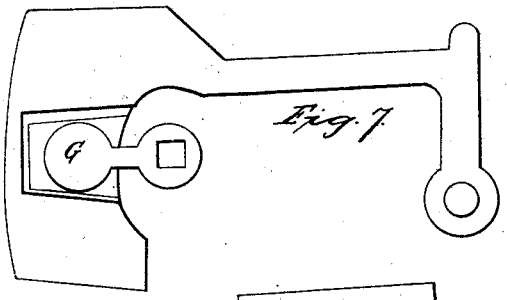


Fig. 7.

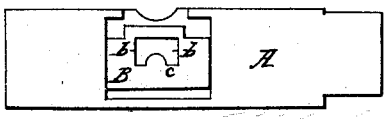


Fig. 2.

Fig. 6.

Fig. 4.

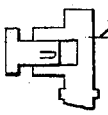


Fig. 5.

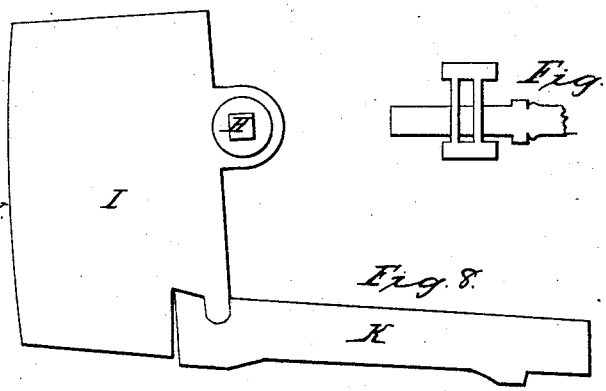


Fig. 8.

UNITED STATES PATENT OFFICE.

DANIEL BALL, OF KINGSBURY, NEW YORK.

DOOR-LOCK.

Specification of Letters Patent No. 833, dated July 12, 1838.

To all whom it may concern:

Be it known that I, DANIEL BALL, of Kingsbury, in the county of Washington and State of New York, have invented certain Improvements in Door-Locks; and I do hereby declare that the following is a full and exact description thereof.

I make the box of my lock, in general, of cast iron, in one single piece, although it may be made in any of the ordinary ways. The bolts also, and all of the other parts of the lock, I usually make of cast iron, in such a manner as that they may be taken from the flask, and immediately put together, and operate without the necessity of filing, or otherwise finishing; thus forming a lock, which, while it is not liable to be out of order, can be afforded at a price much below that of ordinary locks, to which it is at the same time much superior in its action. This lock may be made entirely without a spring of any kind, what is usually denominated the spring bolt being shot forward by the gravitation of a lever.

Figure 1, in the accompanying drawings shows the lock complete, with the exception of the top plate, which is removed to exhibit the interior. A, is the key bolt, retained in its place by studs *a*, *a*, cast with the box.

Fig. 2, shows the under side of this bolt, in which there is cast a cavity of about an eighth of an inch in depth to receive the sliding tumbler B, which moves freely up and down. Through this there is an opening *b*, *b*, which receives a pin, or stud, cast upon the box, and therefore not seen in Fig. 2, but its place is shown by the dotted lines at *c;* this sliding tumbler is lifted by the key, and its operation will be manifest. Although it will fall by its gravity, yet to insure its action I intend sometimes, to place a small bow spring bearing against its upper edge, and against the upper side of the cavity in the bolt as represented by the dotted line. A key of the ordinary construction may be used with the lock, but where special security is required, I use what I call a sliding bit key. A key of this description is shown at Fig. 3. C, C, are parts of the bit, connected together by wires *d*, *d*, which slide through the shank of the key. When a key of this kind is used, the key hole of course, must be adapted to it.

Fig. 4, represents a section of the bit, and sliding wires.

Figs. 5 and 6, show a sliding bit in another form, and is the kind represented as used in Fig. 1. In this figure the wheel, *e*, *e*, is eccentric, and serves to lengthen out the bit of the key after it enters the key hole, and to guide it to act upon the bolt and sliding tumbler, which an ordinary key that would pass into the key hole would not reach; this eccentricity may be varied at pleasure, and the sliding bit, also, may be in like manner, varied in its construction.

D, Fig. 1, is my substitute for a spring bolt; E, E′, is a lever by which this bolt is thrown forward, the projection E′, being received into a corresponding hollow in the bolt, and its fulcrum being at F. The manner in which this lever by its weight, throws the bolt forward, will be readily seen; and in Fig. 7, which shows its under side, the operation of the cam G, in lifting the lever, by the turning of the handle, is also shown. A cavity is cast in the lever, to receive the cam G.

In Fig. 8, another form of the weighted lever is shown, which requires no cam, the shank of the handle passing through this weight, or lever, at H, by which this lever or weight I, is made to operate upon the bolt K.

It will be manifest that the weighted lever; the sliding bit key; and other parts of my lock, are susceptible of much variation in form, while their peculiar characteristics will still remain the same. I do not intend therefore to limit myself to any particular form, or mode of construction; but to claim as my invention, and to secure an exclusive right by Letters Patent, to—

1. The within described mode of constructing the key bolt with its sliding tumbler, either with or without a spring, constructed in the manner set forth.

2. I also claim the use of a sliding bit-key, to operate by means of eccentric wheels as described; and I likewise claim the causing of the bolt, usually called the spring bolt, to shoot forward without the aid of a spring, by means of a weighted lever, operating by its gravity, whatever shape, or form, it may be thought proper to give to such a lever.

DANIEL BALL.

Witnesses:

JAMES MCCLORY,

SIMON THORN.