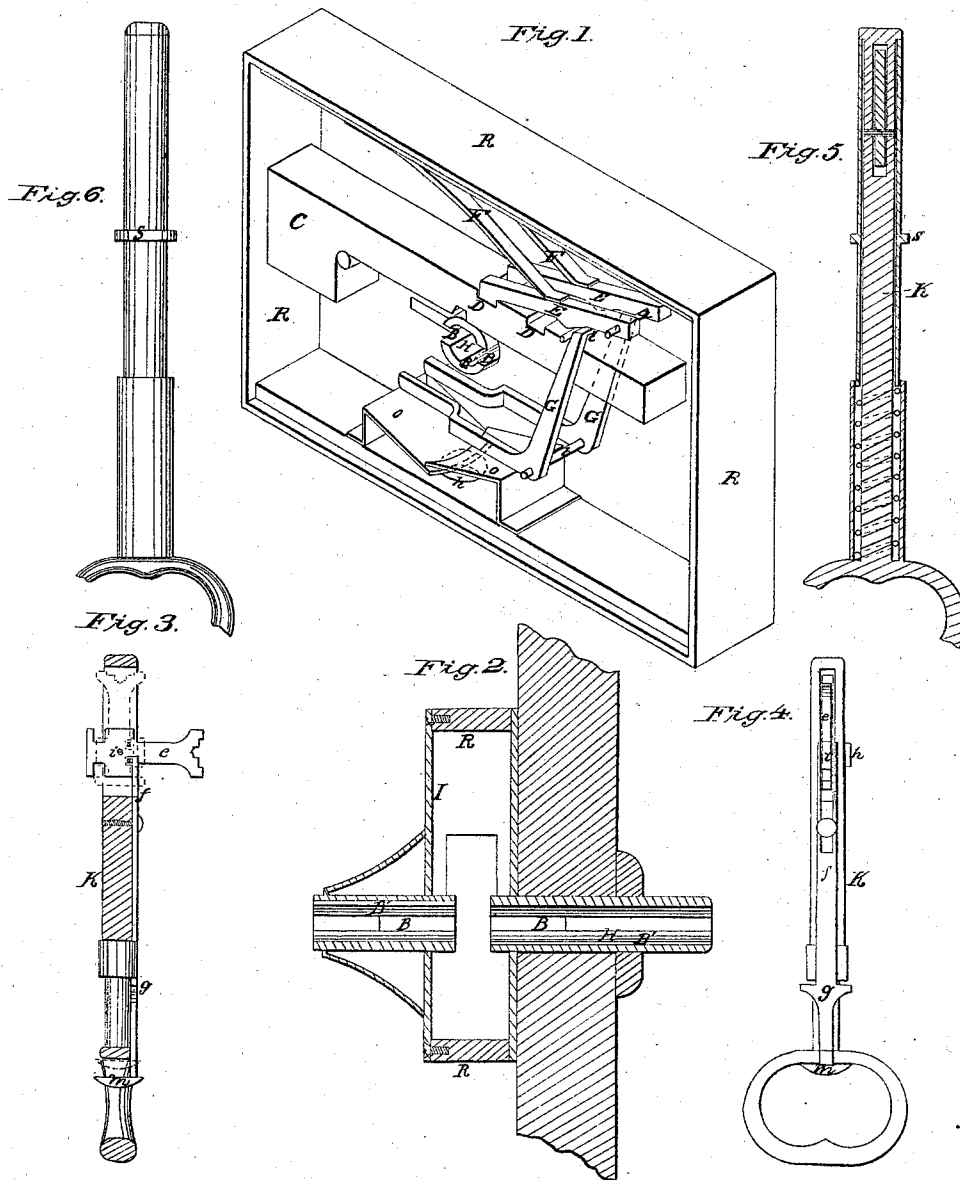


W. Cayce,
Lock.

N^o 11,412.

Patented Aug. 1, 1854.



UNITED STATES PATENT OFFICE.

WILLIAM CAYCE, OF FRANKLIN, TENNESSEE.

DOOR-LOCK.

Specification of Letters Patent No. 11,412, dated August 1, 1854.

To all whom it may concern:

Be it known that I, WILLIAM CAYCE, of Franklin, in Williamson county and State of Tennessee, have invented certain new and useful Improvements in Door-Locks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to letters of reference marked thereon, in which—

Figure 1, is an isometrical perspective of the interior of the lock. Fig. 2, is a vertical transverse section, taken through the key hole. Fig. 3, is a side view of the key, part in section and part in elevation, the bit being extended to the position it assumes, when inserted in the lock, it is also shown in red lines in its position when out of the lock. Fig. 4, is an edge view of the key, the bit being in the same position shown in red lines in Fig. 3. Fig. 5, is a sectional view, of another mode of constructing the key. Fig. 6, is a view of the exterior of the same, when out of the lock.

The same letters of reference, appearing in different figures, indicate corresponding parts.

In the accompanying drawing, (R) represents the rim of the lock, (C) the bolt, which is made sufficiently broad, to admit of the two tumblers or pawls (E E) locking into the grooves (D), (on the top of the bolt,) side by side, these pawls are hung on a pin (a), extending from side to side of the case, and are borne down by the springs (F, F,) one on each, and acting independently of each other; the pawls are operated through the elbow levers (G), having their fulcrum on the pin (b) extending from side to side of the case; one of these levers extends at one end, under the tube (H) which forms the key hole, and protrudes a short distance into the lock, to serve as a guard to said lever, while a similar protrusion on the inside of the loose plate (I), forming the key hole from the other side of the lock, guards the other lever in like manner, the other ends of these levers, extend upward, one on either side of the bolt, with lips (L) at their extremity turning under the pawls (E), and by which the pawls are raised, by depressing the ends of the levers under the key hole, which causes the lips at their upper end, to slide against the inclined planes on the under side of the pawls; the levers as well as the pawls, acting independently of

each other, must be operated simultaneously in order to release the bolt, that it may be shot forward or backward, as the case may be, by the ordinary action of a key.

The shank (K) of the key, is cylindrical, and is slotted near the end, to admit of the bit (e) closing in parallel with the shank; the bit is pivoted in said slot at (i), and is operated to throw it outward, or at right angle to the shank, by a sliding forked spring (f), which hooks onto a stub on each side of the bit, and extends along one side of the shank, either in a groove or on a flat, to the inside of the bow, where it terminates with a thumb button (m), for the convenience of pressing it downward, to throw the bit into the parallel position indicated by red lines in Fig. 3, in order to extract the key from the lock; said spring is also provided with a projection at (g), which, when the key is inserted in the lock, presses against the end of the tube (H) which forms the key hole, and draws the bit to the angular position shown in Fig. 3, in turning the key when in this position in the lock, the short T formed end of the bit, projects under the tubes of the key hole on each side, and depresses both the levers, which raise the pawls as before described, while the bolt is moved by the opposite end of the bit, outward or inward as required.

When the bit is closed to its position parallel with the shank, it projects at either side, slightly beyond the shank; to admit of these projections, the key hole is grooved on each side at (B); there is also a projection (h) on one side of the shank, at right angles to the projections formed by the bit, this passes in a groove (B') in the lower side of the key hole, on one side of the lock, and in the upper side, on the other side of the lock, to insure the key being inserted right side upward.

Another manner of making the key, is by inclosing the shank in a cylinder, which is forced down over the bit, when it is in its parallel position, by a spring around the shank, which is also inclosed by another cylinder, made fast to the bow of the key; the sliding cylinder, is made with a bead or collar (s) around it, which presses against the end of the key hole tube, when the key is pressed into the lock, and acts upon the bit to turn it outward, by a projection inside of said cylinder, which catches onto the fork (f), at a proper distance to give it the re-

quired motion, to throw the bit out at right angles to the shank.

5 Beneath the key hole inside the lock, I arrange two inclined planes (*o*), one overlapping the other, and inclining toward a hole (*p*) in the rim of the lock; the object of them, being to prevent the possibility, of blowing the lock up with gun powder, which, if poured in at the key hole, would fall on 10 the inclined planes, and discharge through the hole (*p*), without leaving a grain in the lock, while the overlapping of the inclines would prevent fire, in almost any form from, following the powder through the hole 15 (*p*) to its resting place, consequently it would be harmless.

20 The peculiar advantages of this lock, are that the levers which operate the pawls, are secreted under the key hole tubes, and the pawls or tumblers above the bolt, which being duplicated, and required to operate simultaneously with each other, and with the

bolt, are all inaccessible, by any instrument that could be introduced through the key hole, other than the hinged key herein described; while the arrangement of the inclined planes, and discharge aperture, precludes the possibility, of blowing the lock up with gun powder. 25

What I claim as new, and desire to secure by Letters Patent, is— 30

The arrangement of the levers and pawls, with the bolt, as herein described; that is to say, the levers being guarded, by the tubular key hole projecting inward over them, and 35 the pawls protected, by the broad bolt beneath them.

In testimony whereof, I have hereunto subscribed my name this 14th day of June 1854.

WM. CAYCE.

Witnesses:

JOHN CHRISTLEY,
JAMES P. PARTEN.