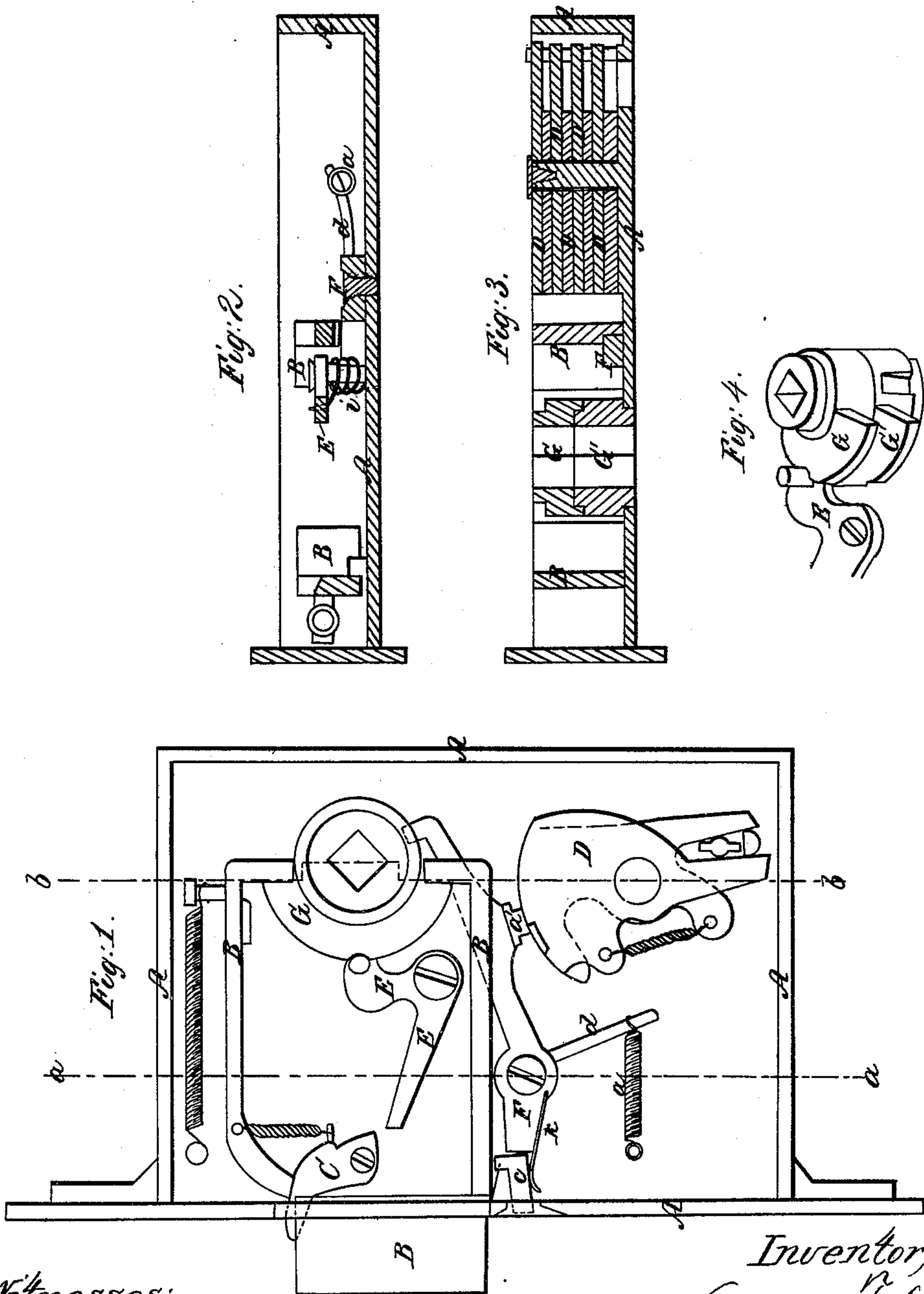


A. F. Whiting.

Lock.

Nº 91,394.

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ANDREW F. WHITING, OF GREENVILLE, CONNECTICUT.

Letters Patent No. 91,394, dated June 15, 1869.

IMPROVEMENT IN KNOB-LATCHES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ANDREW F. WHITING, of Greenville, in the county of New London, in the State of Connecticut, have invented certain new and useful Improvements in Door-Locks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a view of the lock, the outer plate being removed for the purpose of showing the interior thereof.

Figure 2 is a transverse section on line *a a* of fig. 1.

Figure 3 is a transverse section on line *b b* of fig. 1.

Figure 4 is an elevation of the tumblers *G G'*, showing their relation to the lever *E*.

Corresponding letters represent corresponding parts in the several figures.

This invention relates to an improved door-lock; and

It consists, first, in the combination of a dog or catch, which is attached to the main bolt or slide of said lock, in such a manner as to move with it; and a lever, having a catch or guide attached to its outer end, with the tumbler and locking-disk, as will be more fully described hereafter.

And secondly, it consists in the combination of the double tumbler, and a lever or dog, with a catch, which is attached to and moves with the main bolt of the lock.

And thirdly, it consists in the arrangement of the above-named parts with reference to the other portions of the lock.

A represents the frame or casing of the lock, which consists of the usual number of plates, and which are secured together in any convenient manner.

B is the main bolt of the lock, which is constructed in the manner clearly shown in fig. 1 of the drawings.

C is the dog or catch, which is attached to the bolt *B*, by means of a screw, or by any other suitable device. This screw serves as the pivot or fulcrum upon which said dog or catch turns. This dog or catch is of such form as to enable it to be attached to the main bolt, with which it moves, and permits its outer end to pass through a slot cut in front or outer plate of the lock, and to come in contact with the clasp or keeper, which causes the outwardly-projecting end to be pressed in as the bolt moves out, by which means the inner end thereof is brought in contact with lever *E*, which it strikes, by means of any instrument which may be inserted between the lock and the casing of the door, or the staple or clasp above referred to.

D represents a series of disks, eight being the number in the present case, which is secured to any convenient part of the lock, and so arranged, one above or outside of the other, that their flat surfaces come in, or nearly in, contact with each other. These disks

are so constructed that their inner ends present the segment of a circle, while their opposite ends are in the form of a lever; or slight projections, which projections are so arranged as to permit a small key of peculiar construction to be passed between them, for a purpose to be hereinafter explained.

The above-described arrangement of the outer ends of the disks is effected by causing the projections named to extend from the disks upon one side of the centre thereof, so that as they are placed upon the stud or pivot upon which they turn, the first having its projection to the right hand of the centre thereof, and the second to the left, and so on alternately, the space for the reception of the key between such projection, will be made.

The inner ends of these disks, as before remarked, are formed with the segment of a circle upon their ends, each one of said disks having on its surface a recess, of sufficient depth to receive the projection upon lever *F*; and each of said disks has upon its side a projection, the first or outer one having such projection upon its inner end, or the end thereof, which has the segment of a circle formed upon it, while the next one has its projecting point upon the opposite end thereof, and so on, alternately, through the series, so that as their projecting points are drawn toward each other, the slots in the edges of said disks will be carried in opposite directions, and the bar or projection upon lever *F* cannot enter therein; but upon the insertion of the key from the outside of the door, it passes through the space between the rear ends of the disks, when, upon turning the same, the slots in the face of the disks are made to register or occupy the same position with reference to the bar or projection on lever *F*, which permits such projection to be drawn into said recess by the spiral spring *a*, acting upon the arm *d* of lever *F*. This movement of lever *F* also releases its inner end from a depression formed in the tumbler *G'*, into which a slight projection on its surface passes, which permits the main bolt of the lock to be thrown back, by means of the knob upon the outside of the door, which cannot be done until the operation above described has been performed.

E is a lever or dog, which is attached to the plate of the lock, in such a position as to be encompassed by the bolt thereof, said lever or dog being in the form of what is called a bell-crank lever, with its short end resting upon the peripheries of the tumblers *G* and *G'*, while its other end projects outward, so as to come in contact with the dog or catch *C*, as above described.

The short arm of the lever is provided with a projection upon each of its sides, which pass into depressions formed in the faces of the tumblers, in which position it is held by a spiral spring, *i*, as shown in fig. 2.

F is a lever, which is pivoted to the frame of the lock, and so arranged as that its inner end rests upon and enters in a depression found in the tumbler, as above described, while the projection *a* thereof enters the slots in the edges of the disks D.

To the outer end of this lever is attached a movable pin, *c*, which is so constructed as to partially rotate upon the end of said lever, and which is pressed upon by a spring, which causes it to be in contact with an incline formed on the bolt B, so that when the key has been inserted, and the disks brought in proper position to receive the projection upon lever F, and the knob upon the outside of the door has been turned, the door will have been unlocked, and as the bolt returns to its original position, the projection *a'* is raised out of the slots in the disks, while the projection upon the end of the lever F is carried into the depression in the recess in the tumbler G', which operation is performed by the swivelled attachment *c* of lever F coming in contact with the incline on bolt B, which returns all the parts to their original position, and prevents the door from being again unlocked from the outside until the above-described operation has been repeated.

G and G' are the tumblers, to which the shanks of the knobs are attached, one being for the outer, and the other for the inner knobs of the door; the two sections being united by a socket-joint, and so arranged as to be capable of being turned perfectly independ-

ently of each other, by which arrangement the door may always be unlocked from the inside by the use of the knob alone, while, to enable a person to unlock it from the outside, they key must be used.

The periphery of the largest diameter of these tumblers is provided with depressions, which receive the projection upon lever or dog E, for the purpose of regulating its position with reference to the dog or catch C.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent from the United States, is—

1. The combination of the dog or catch C, lever or dog E, tumblers G G', and sliding bolt B, substantially as shown and described.

2. The combination of the tumbler G', the lever F, disks D, and bolt B, substantially as and for the purpose described.

3. The arrangement of the incline on bolt B, with reference to lever F, disks D, and tumbler G', substantially as and for the purpose set forth.

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

ANDREW F. WHITING.

Witnesses:

JOHN S. HOLLINGSHEAD,

JOHN S. HOLLINGSHEAD, Jr.