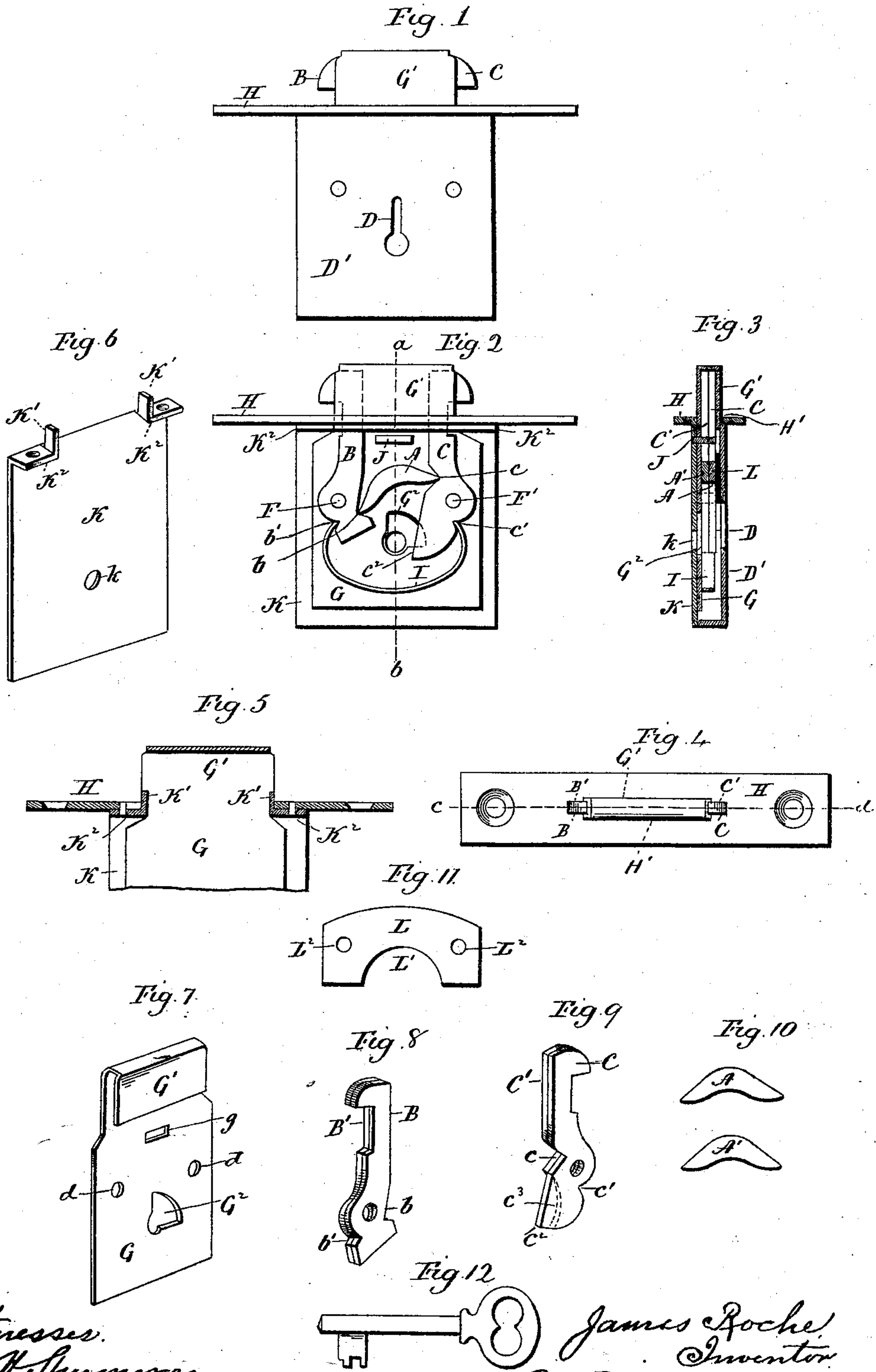


(No Model.)

J. ROCHE.
DESK LOCK.

No. 543,316.

Patented July 23, 1895.



Witnesses.

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DESK-LOCK.

SPECIFICATION forming part of Letters Patent No. 543,316, dated July 23, 1895.

Application filed May 6, 1895. Serial No. 548,277. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROCHE, of Terryville, in the county of Litchfield and State of Connecticut, have invented a new Improvement in Desk-Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which
10 said drawings constitute part of this specification, and represent, in—

Figure 1, a view in front elevation of a lock constructed in accordance with my invention; Fig. 2, a view thereof with the cap or cover
15 and guard-plate removed; Fig. 3, a view thereof in vertical central section on the line *a b* of Fig. 2; Fig. 4, a plan view of the lock; Fig. 5, a view thereof in longitudinal section on the line *c d* of Fig. 4 and designed with particular reference to showing the guard-fingers
20 formed integral with the case-plate; Fig. 6, a detached perspective view of the said case-plate; Fig. 7, a detached perspective view of the housing and its shank; Fig. 8, a detached
25 perspective view showing one pair of locking-bolts; Fig. 9, a similar view showing the other pair of locking-bolts; Fig. 10, a view showing the two tumblers; Fig. 11, a detached plan view of the guard-plate; Fig. 12, a view of the
30 key.

My invention relates to an improvement in self-locking cabinet-locks, particularly designed for desks, and therefore often styled "desk-locks," the object being to produce at
35 a low cost for manufacture a simple, compact, and effective lock, composed of few parts, not liable to derangement, guarded against the insertion of a picking-tool, and constructed with particular reference to being operated
40 by a single-bitted key.

With these ends in view my invention consists in a cabinet-lock having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out
45 in the claims.

In carrying out my invention I employ two diagonally-arranged longitudinally-bowed doubly-pointed sliding tumblers *A A'*, corresponding to each other and taking at their
50 respective ends into notches *b* in the hooked

locking-bolts *B B'* and the notches *c* in the hooked locking-bolts *C C'*, the said tumblers being interposed between the said bolts and located above the center of the lock with their concaved or cut-away edges facing downward
55 toward the keyhole *D*, so as to clear the bit of the single-bitted key *E*. The bolts *B B'* are pivoted upon a stud *F*, while the bolts *C C'* are pivoted upon a corresponding stud *F'*, the said studs being riveted in the wide flat shank
60 or tail *G* of the housing *G'*, which projects through the face-plate *H* of the lock and receives the hooked ends of the bolts.

It will be noticed that the notches *b* in the bolts *B B'* are located below the stud *F* and
65 that the notches *c* in the bolts *C* and *C'* are located above the stud *F'*, so that the tumblers engage with the bolts of one pair below the pivotal center thereof and with the bolts of the other pair above the pivotal center thereof,
70 whereby the tumblers are given a diagonal position in the lock. The inner tumbler of the two tumblers *A* and *A'* and the inner bolts of the two pairs of bolts *B B'* and *C C'* rest upon the inner face of said tail or shank of
75 the housing. Two corresponding bowed steel springs *I I'* have their respective ends entered into notches *b' c'*, formed in the bolts *B B'* and *C C'* below the pivotal centers thereof. These springs exert a constant effort to throw
80 the hooked ends of the bolts outward into their locked or projected positions. A stump *J*, interposed between the bolts and located centrally above the tumblers, passes through the opening *g* in the shank *G* of the housing
85 *G'* and secures the shank to the case-plate *K* of the lock, the inclosure of the mechanism of the lock being completed by a cap or cover *D'*, corresponding in size to the case-plate *K*, and constructed with a keyhole *D*, before
90 mentioned, and with two perforations *d d'*, receiving the outer ends of the studs *F* and *F'*, which have the additional function of securing the cover to the case-plate.

The shank *G* of the housing is constructed
95 with a centrally-arranged sector-shaped key-opening *G²*, which receives the outer edge of the bit of the key and limits the rotary movement thereof, the inner portion of this opening being located in line with an opening *k*,
100

formed in the case-plate to receive the end of the shank of the key. It will be observed by reference to Figs. 8 and 9 that the bolts C and C' are made longer than the bolts B and B', the inner edges of their lower ends being constructed to form operating-faces c^2 c^3 , with which the bit of the key engages, the clearance-opening G^2 being arranged so as to permit the key to swing toward the lower ends of the bolts C and C', but preventing it from swinging toward the bolts B and B'.

It will be apparent from the foregoing description that when the lower ends of the bolts C and C' are thrown outward under the action of the key their upper ends will be moved inward, whereby the tumblers will be slid from right to left against the lower ends of the bolts B B', which will be thrown outward, with the effect of retracting their hooked upper ends. The parts are constructed so that through the medium of the sliding tumblers the full movement of the bolts C C', which are directly acted upon by the key, will be repeated in the bolts B B', with which the key does not engage, but which are thus indirectly acted upon thereby. By the employment of the sliding tumblers I am thus enabled to operate both sets of bolts with a single-bitted key with the same effect that they would be operated by a double-bitted key.

Although I have shown two sliding tumblers and two sets of bolts, each composed of a pair of bolts, it is apparent that the number of bolts and tumblers may be increased or decreased, as desired.

For the purpose of guarding the lock against the insertion of a picking-tool into the housing under the hooks of the bolts, I construct the case-plate K with two corresponding parallel outwardly-projecting fingers K' K', which are separated from each other by the breadth of the housing and constructed in width to fit closely into the ends thereof, so as to prevent a picking-tool from being inserted thereinto, these fingers being formed integral with and turned outward at a right angle to the flanges K^2 K^2 , formed at the upper end of the case-plate for the purpose of riveting the same to the face-plate H of the lock. They project outward through the housing-opening H', formed in the said face-plate. A guard-plate L, having a key-sweep L' and constructed at its ends with perforations L^2 L^2 , may be set over the studs F and F', in which use it will hold the tumblers in

place, as well as assist in holding the springs in place.

It is apparent that in carrying out my invention I may make some changes from the construction herein described, and I would, therefore, have it understood that I do not limit myself to the same, but hold myself at liberty to make such changes as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a cabinet or desk lock, the combination with two hooked locking-bolts, of a doubly pointed sliding tumbler interposed between the said bolts, and engaging with them at points on opposite sides of their pivots respectively, whereby motion imparted to one bolt will be transmitted to the other, one of the bolts being constructed with an operating face for engagement by a key, substantially as described.

2. In a cabinet-lock, the combination with two pivotal key-bolts, a housing receiving the upper ends of the said bolts, a spring applied to the lower ends of the bolts below their pivotal points, and exerting a constant effort to throw their hooked ends outward, and a doubly pointed, sliding tumbler interposed between the bolts and taking into notches formed therein at points above and below the studs, on which they are pivoted respectively, one of the bolts being constructed with a depending operating face for engagement by a key, substantially as described.

3. In a cabinet lock, the combination with the face plate thereof, of a housing projecting through the said plate and open at its ends, hooked locking bolts having their hooked ends extending into the said housing and projecting from the ends thereof, means for operating the said bolts, and a case-plate secured to the face-plate, and provided with two outwardly projecting guard fingers extending through the housing-opening in the face-plate and into the open ends of the housing, which they partially close, and guard against the insertion of picking tools thereinto, substantially as described.

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

JAMES ROCHE.

Witnesses:

R. J. PLUMB,
OTIS B. HOUGH.