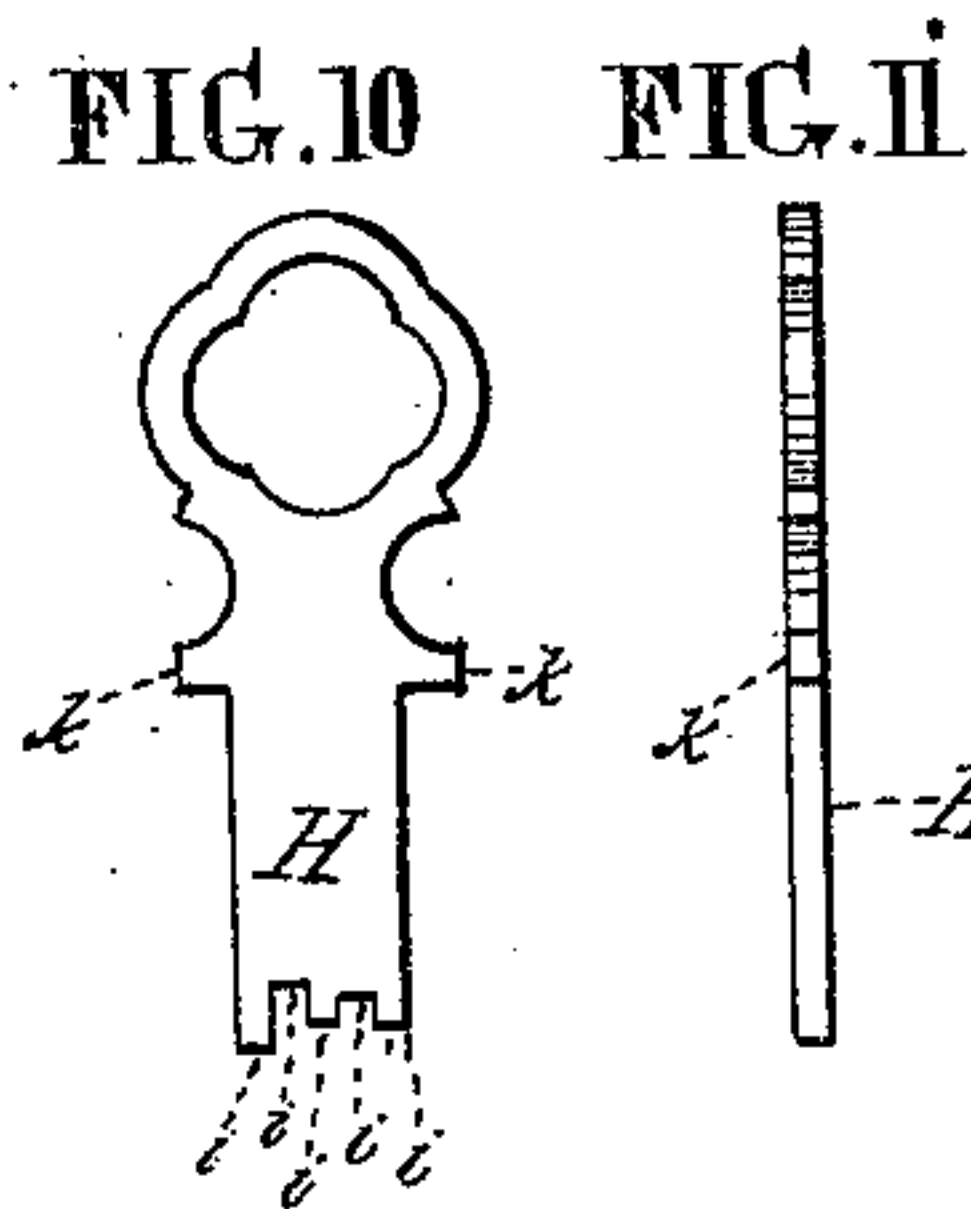
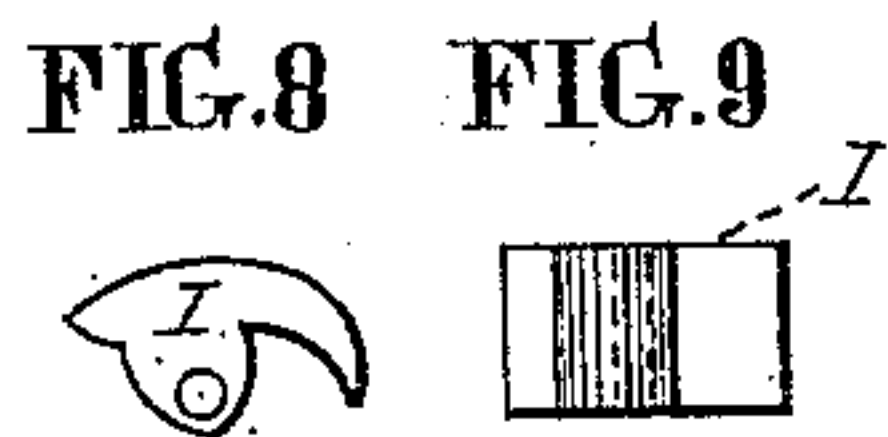
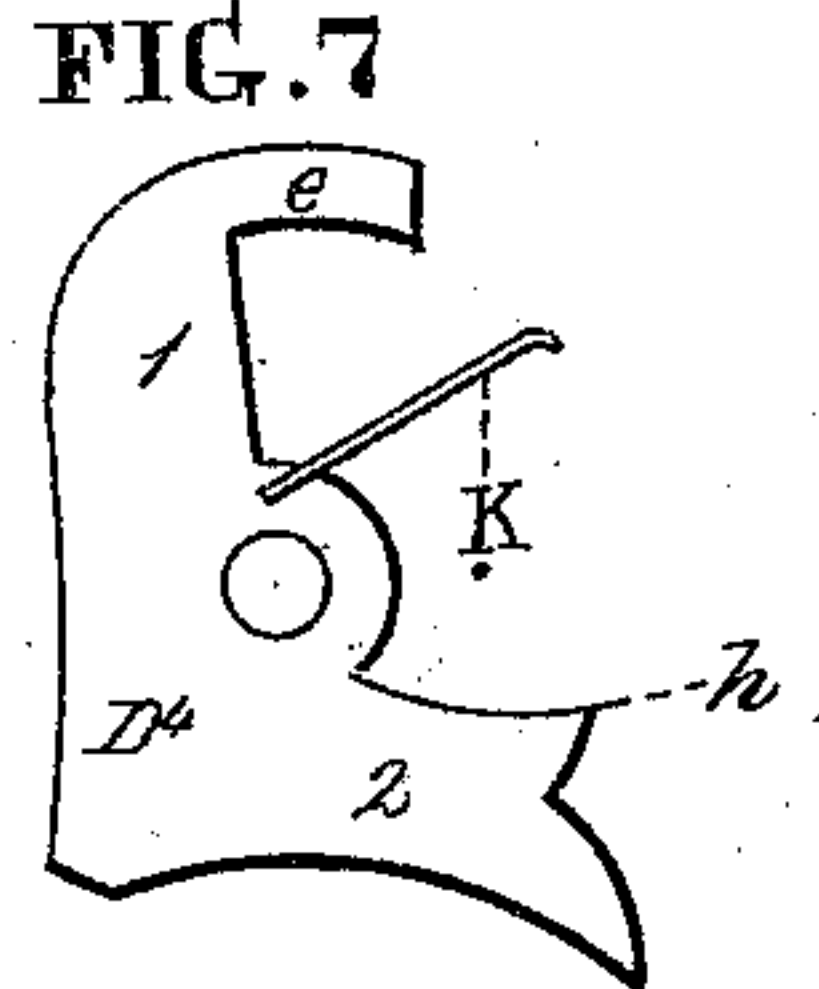
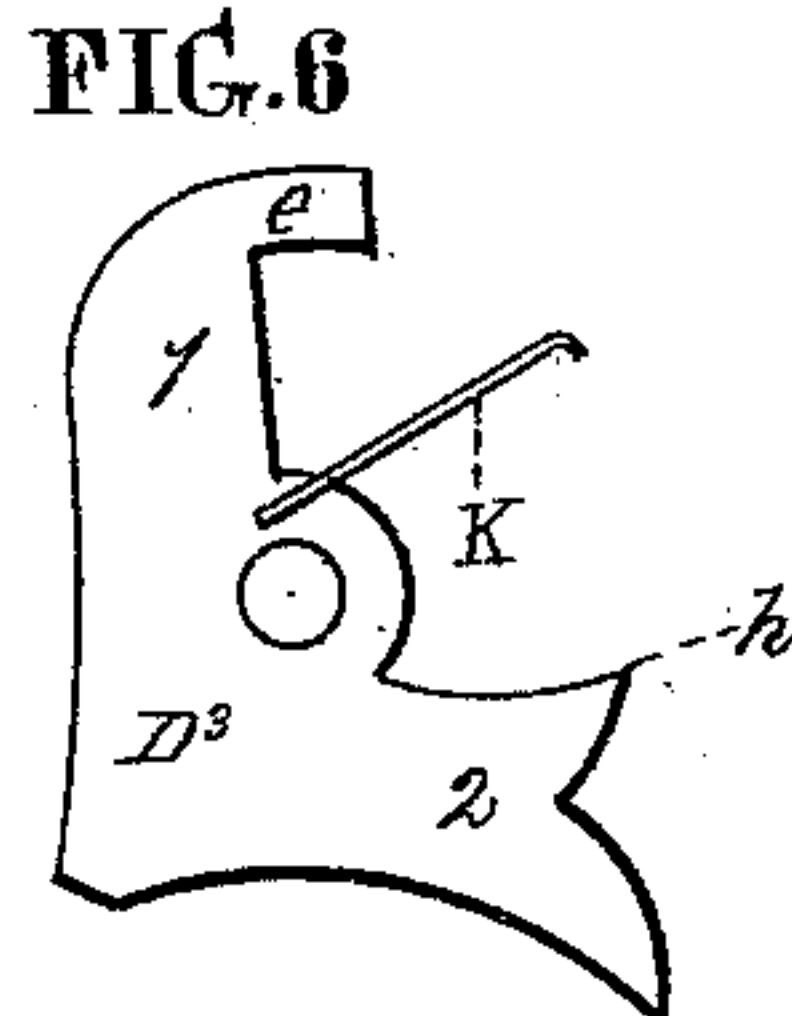
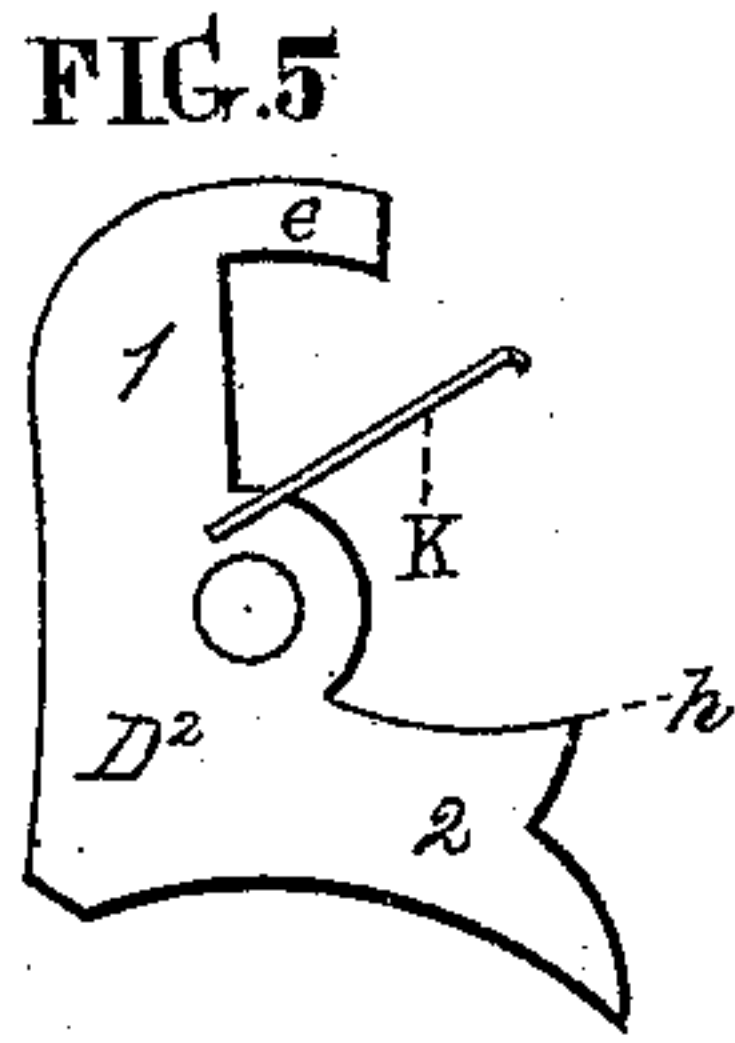
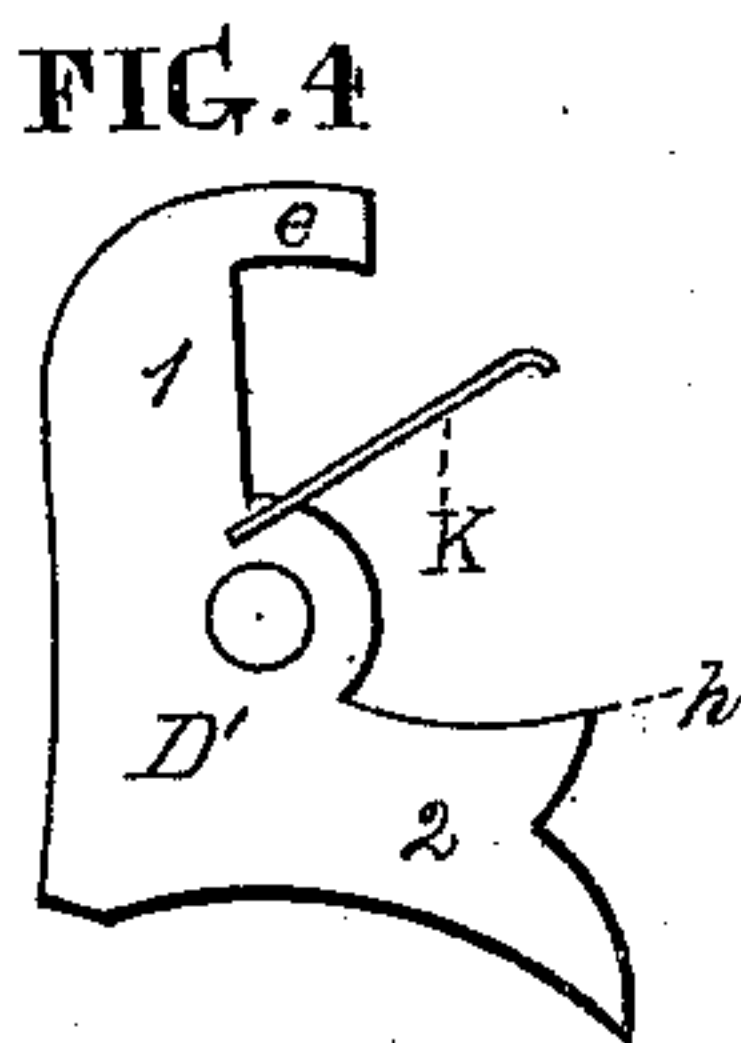
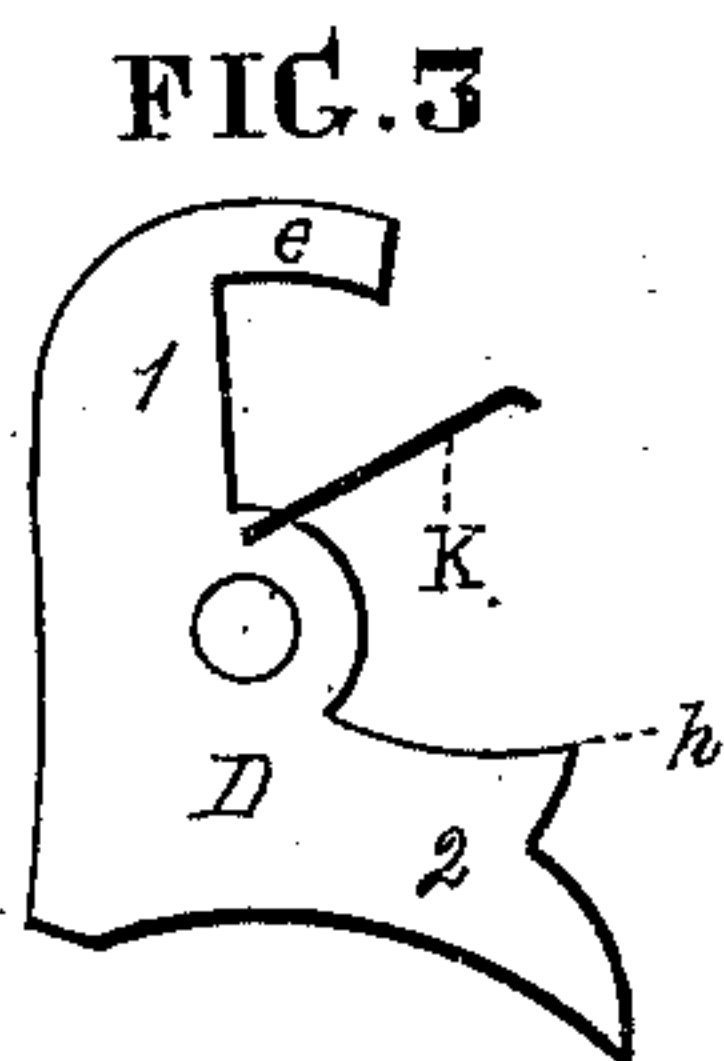
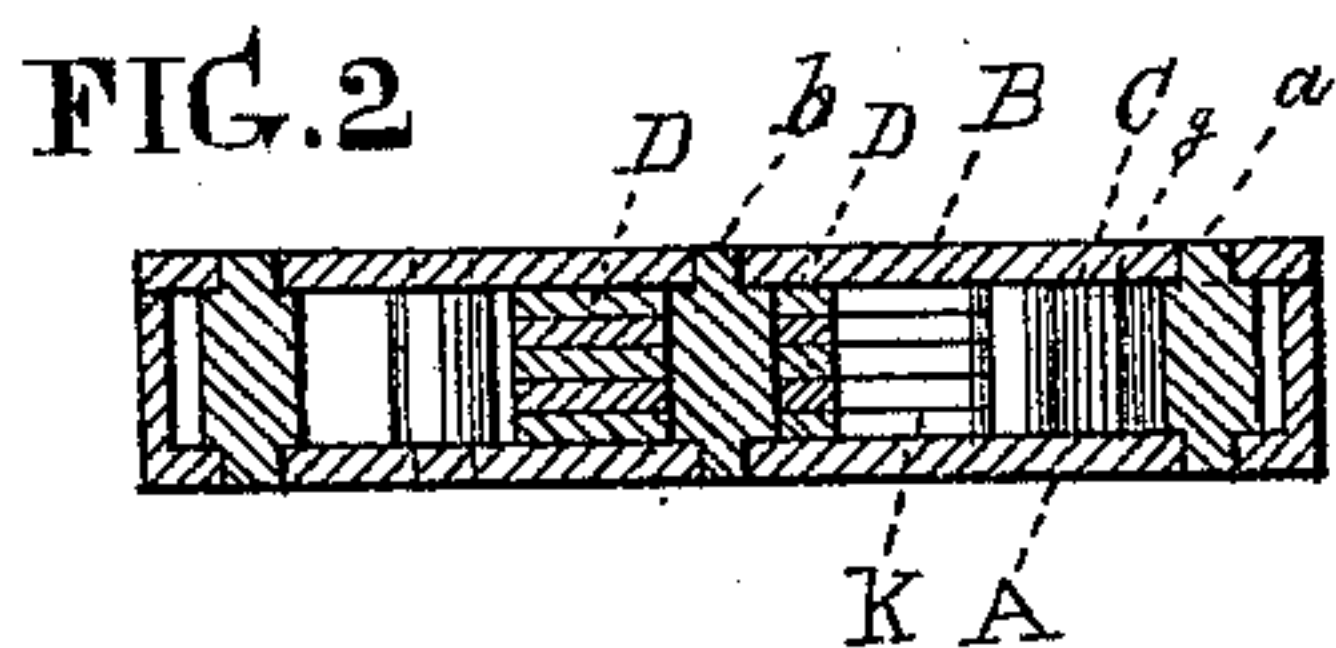
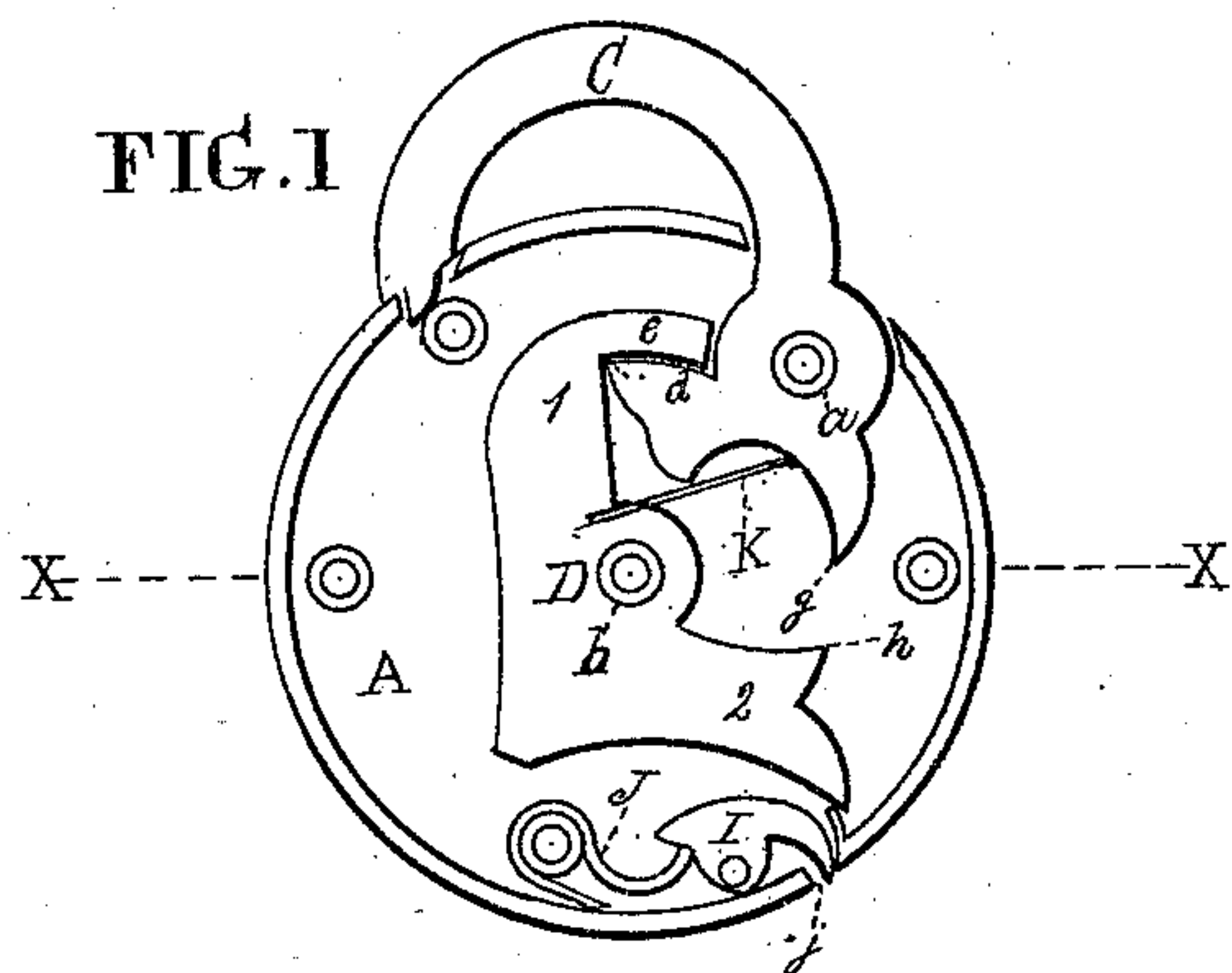


F. W. SCHULTZE & L. H. SEIDEL.

PADLOCK.

No. 176,759.

Patented May 2, 1876.



Witnesses.

Thomas P. Dewey.

George C. Hetzel

Inventors.

Frederick W. Schultze

Louis H. Seidel

Stephen Ustick attorney

UNITED STATES PATENT OFFICE.

FREDERICK W. SCHULTZE AND LOUIS H. SEIDEL, OF PHILADELPHIA, PA.

IMPROVEMENT IN PADLOCKS.

Specification forming part of Letters Patent No. 176,759, dated May 2, 1876; application filed January 15, 1876.

To all whom it may concern:

Be it known that we, FREDERICK W. SCHULTZE and LOUIS H. SEIDEL, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Double-Acting Tumbler-Locks, of which the following is a specification, reference being had to the accompanying drawings.

We have any desirable number of tumblers hung on a center pin of the case. These tumblers have, respectively, projections of different lengths on one arm, which connect with a shoulder of the shackle when the latter is swung into its closed position. They also have on another arm a pointed escape projection. These points of one tumbler are of the same distance apart as in all the other tumblers, and the outer point of the shoulder of the shackle and another point of the same are of the same distance apart, so that when the locking projections of the tumblers are brought into such position as to admit of the locking-point of the shackle escaping them for the latter to swing into its unlocked position, the other point of the shackle will also escape the points of the other arms of the tumblers. The bits of the key are so formed in relation to the points of their contact with the tumblers as to bring the locking-points and the escape-points, respectively, of the tumblers in range when the tumblers are brought to their unlocking position.

In the accompanying drawings, Figure 1 is a side view of the lock, with the cap-plate removed, to show the construction and arrangement of the interior. Fig. 2 is a cross-section, at the line *x x* of Fig. 1, with the cap-plate B in connection. Figs. 3, 4, 5, 6, and 7, are face views of the tumblers. Figs. 8 and 9 are a face and edge view, respectively, of the lever I. Figs. 10 and 11 are like views of the key H.

Like letters of reference in all the figures indicate the same parts.

A is the case of the lock, and B the cap-plate. C is the shackle, which is hung on the pin *a*, and D, D¹, D², D³, and D⁴ are tumblers, which are hung on the pin *b* in the center of the case A. The shackle has a shoulder, *d*, with which the projections *e* of the arms 1 of the tumblers connect to hold the shackle in its locked position. The projections *e* are of different lengths, each

varying from all the others from the tumbler D to the tumbler D⁴. The shackle has an escapement-point, *g*, and the tumblers an escapement-point, *h*, of the arm 2. These points of all the tumblers are equidistant from the projection *e* of the arm 1, so that when the tumblers are brought into the unlocking position the point *g* of the shackle will escape all of them. The bits *i* of the key H vary in length corresponding, respectively, to the varying lengths of the projections *e* of the arms 1 of the tumblers, and the parts of the arms 2 of the same, against which the bits bear, being constructed accordingly. When the key is pushed inward through the key-hole *j* of the case A, until the stops *k k* come against the latter, the locking projections of the tumblers are all freed from the locking-shoulder of the shackle, and the escapement-points being equidistant from the locking projections of all the tumblers, the point *g* of the shackle escapes them all, and thus allows the shackle to be swung into its unlocked position. I is a lever, which, by the action of the spring J, automatically closes the key-hole for keeping out the dirt, and to make the lock more difficult to be picked by obstructing the movement about of a picking instrument. It also serves to retain the key in its place until the shackle is again brought into its locking position. The key is then withdrawn. The springs K, which engage with the shackle C, as seen in Fig. 1, serve to close it when the key is withdrawn. By means of the escape-points of the arms 2 of the tumblers a very slight difference in length would prevent the lock being opened by another key that had the slightest error in the length of its bits, because such variation from the right bit would cause a lapping of the escape-points, and thereby prevent the unlocking of the shackle.

We claim as our invention—

The double-acting tumblers, having locking projections *e* of different lengths and escapement-points *h*, in combination with the shackle C, having upon its heel a locking-shoulder, *d*, and escapement-point *g*, substantially as and for the purpose set forth.

FREDERICK W. SCHULTZE.
LOUIS H. SEIDEL.

Witnesses:

THOMAS J. BEWLEY,
GEORGE C. HEZEL.