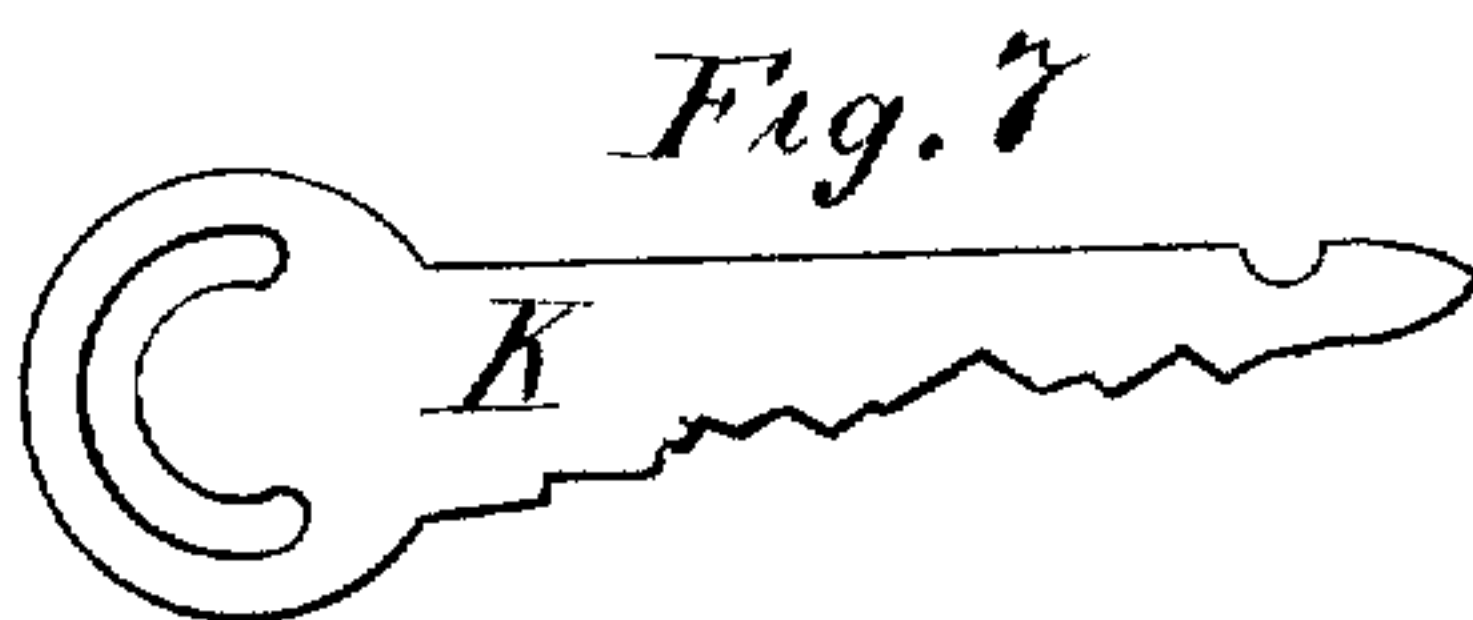
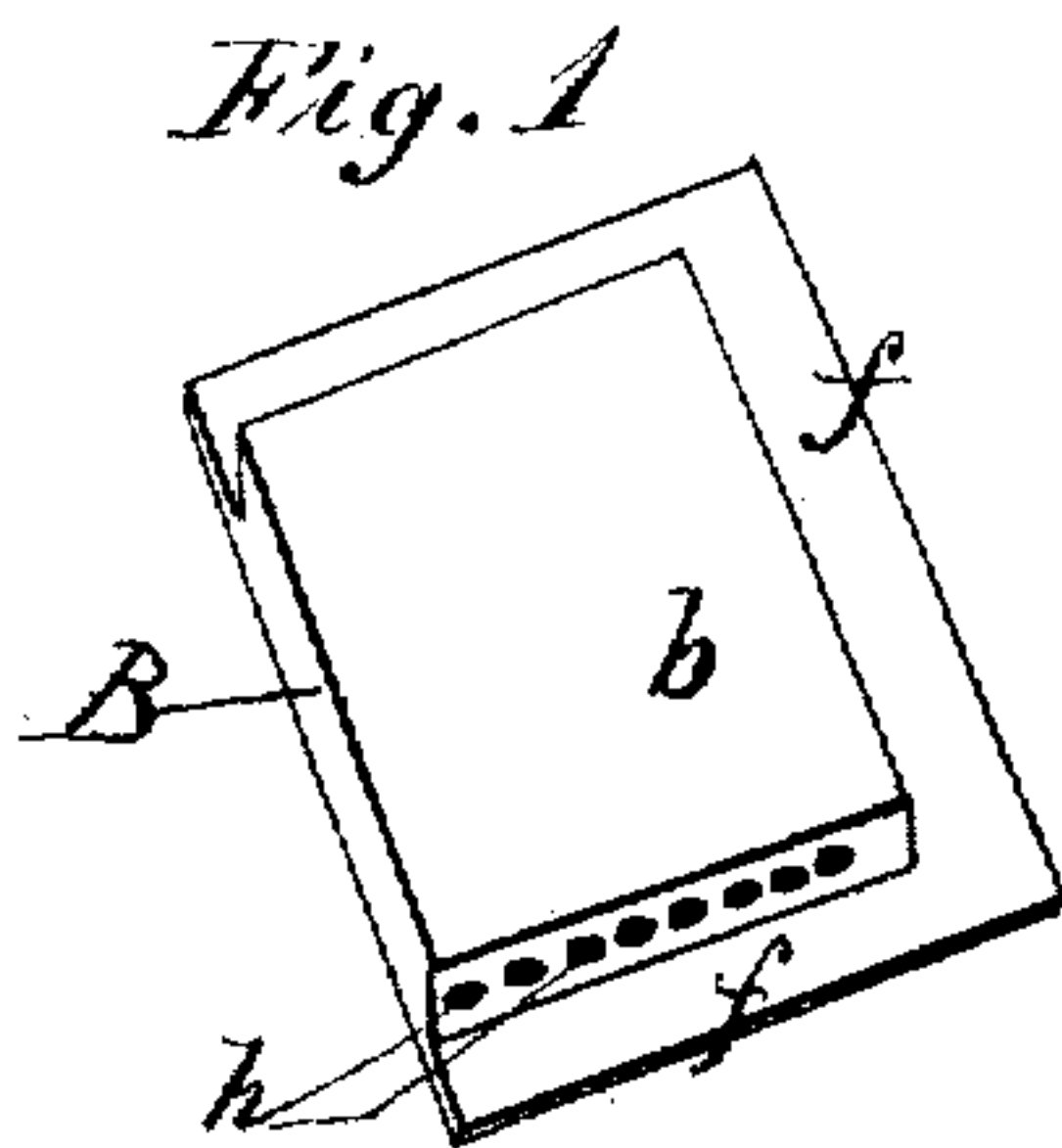
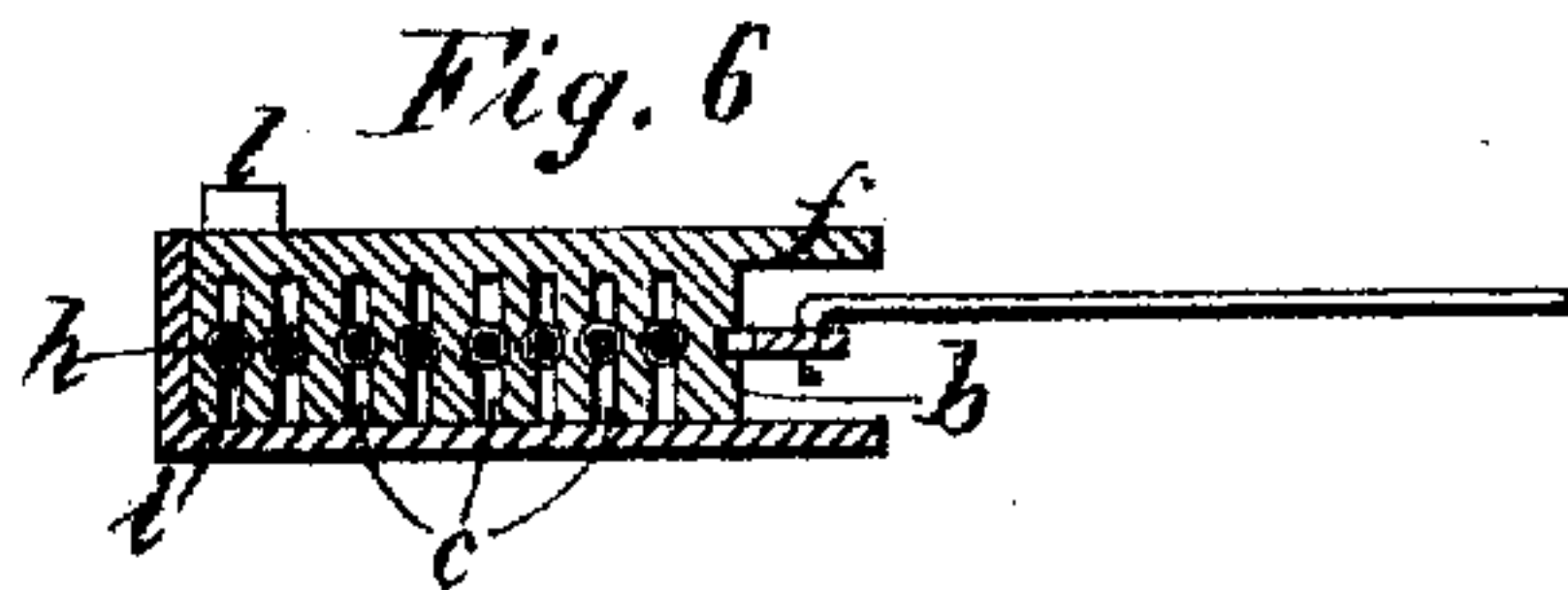
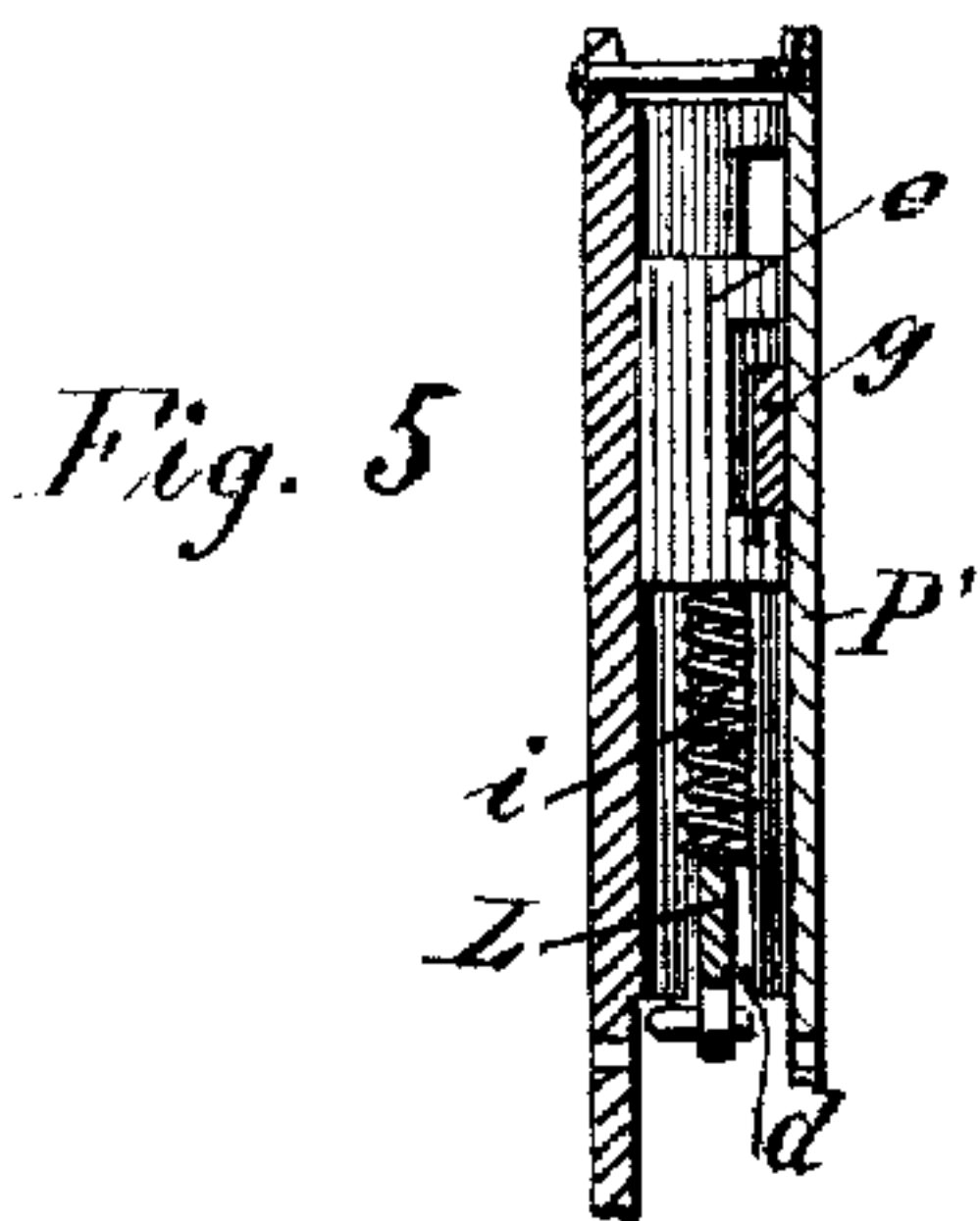
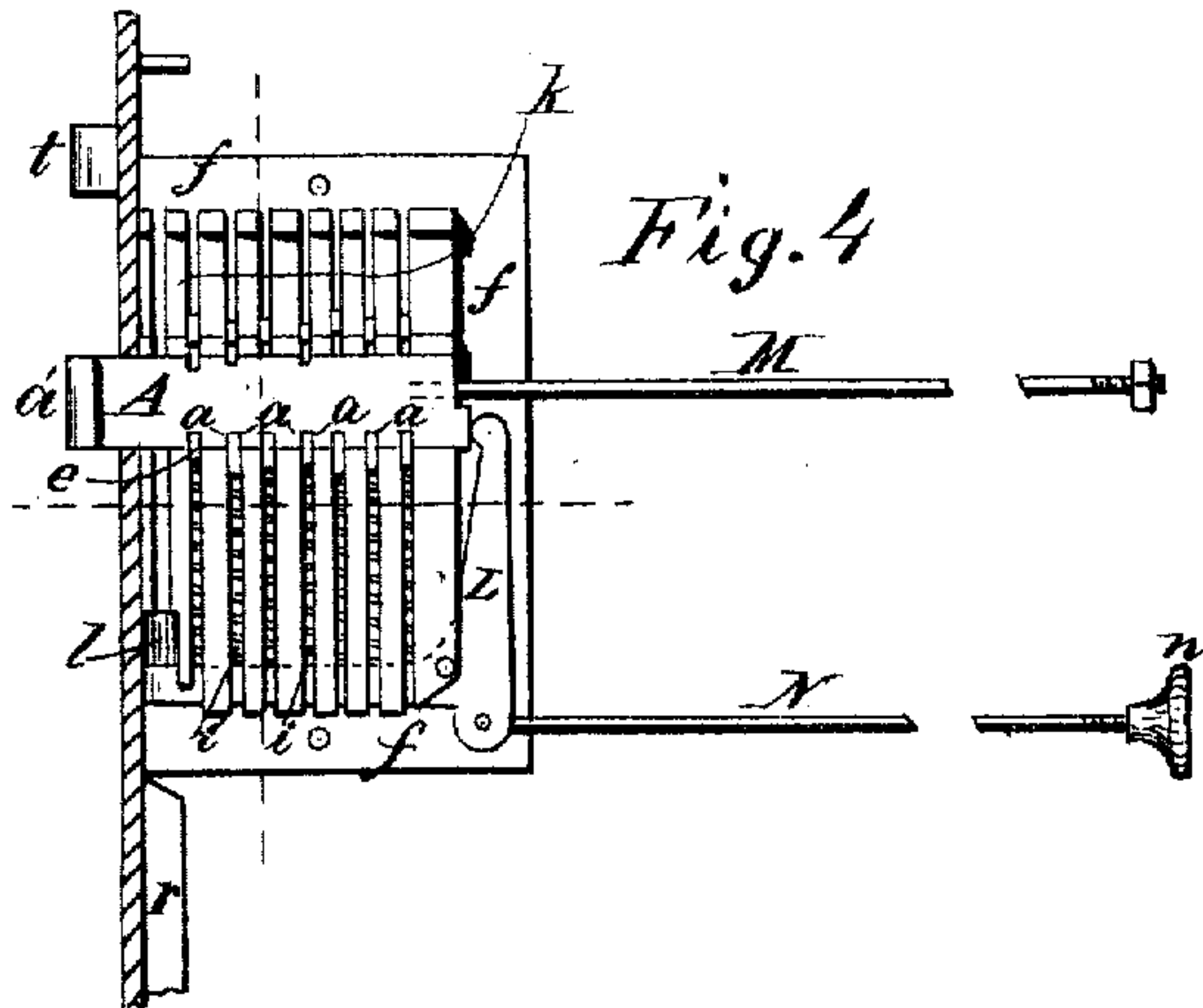
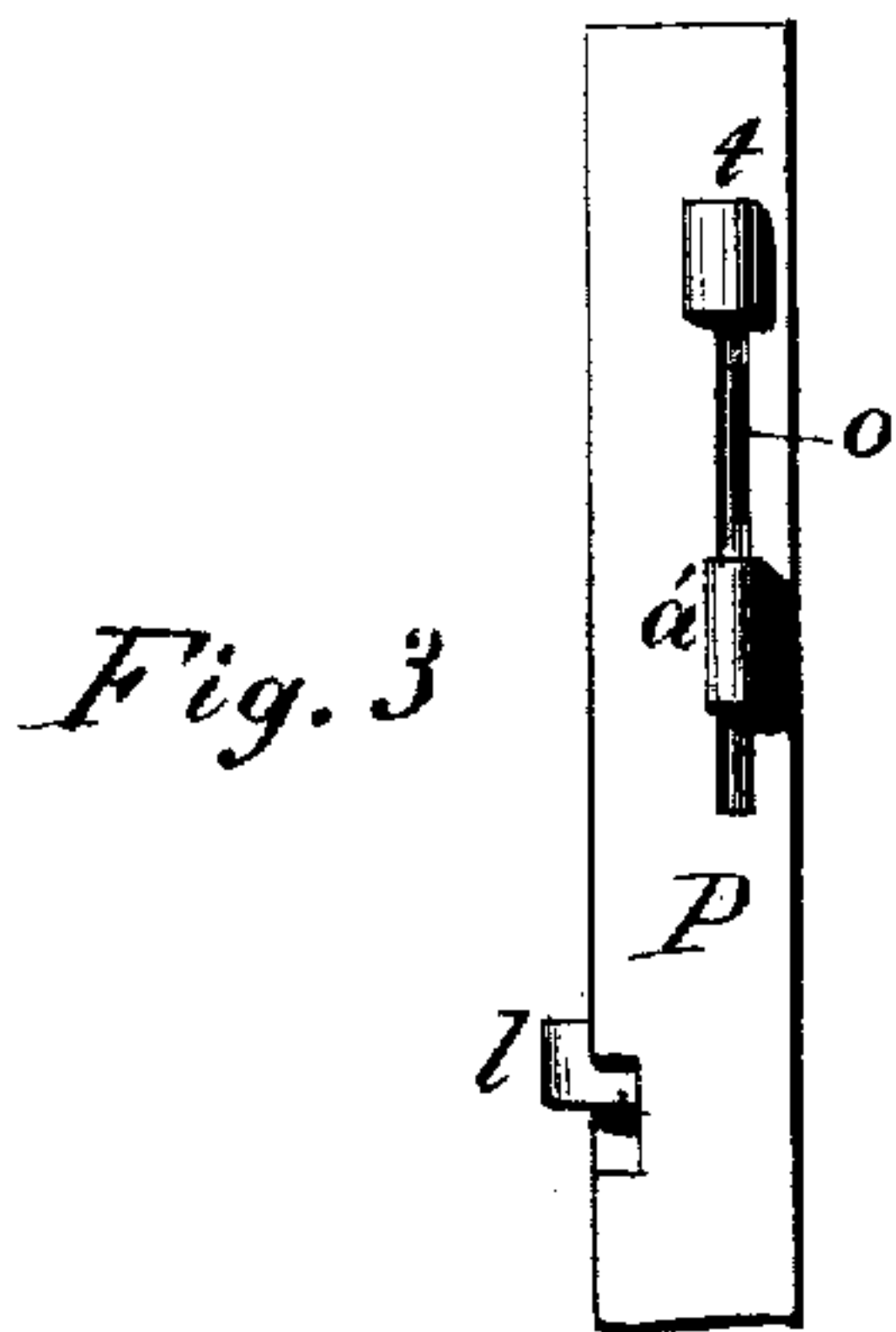


W. H. BRAMBLE.

LOCKS FOR POST OFFICE BOXES.

No. 175,818.

Patented April 11, 1876.



WITNESSES;

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UNITED STATES PATENT OFFICE.

WILLIAM H. BRAMBLE, OF DECATUR, ILLINOIS.

IMPROVEMENT IN LOCKS FOR POST-OFFICE BOXES.

Specification forming part of Letters Patent No. 175,818, dated April 11, 1876; application filed October 4, 1875.

To all whom it may concern :

Be it known that I, WILLIAM H. BRAMBLE, of Decatur, in the county of Macon and State of Illinois, have invented a new and Improved Post-Office Lock; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the block from which the lock-frame is constructed. Fig. 2 is an end elevation of the same. Fig. 3 is a front elevation of the lock; Fig. 4, a plan of the lock, showing the face-plate in section, the back-plate being removed; Fig. 5, a vertical cross-section of the same; Fig. 6, a horizontal cross-section of the same, and Fig. 7 a plan of the key.

Similar letters of reference in the accompanying drawings denote the same parts.

The object of this invention is to simplify and perfect the construction of permutation-locks, and to adapt them for more advantageous use upon post-office boxes than heretofore.

To these ends the invention consists, first, in a new mode of constructing the frame or plate which supports the working parts, and in the frame or plate thus constructed; secondly, in the combination of a permutation-lock with a key and sliding bar so constructed as to unlock, when the key is inserted, by simply pressing the finger on the sliding bar; and, thirdly, in the details of construction, substantially as I will proceed to describe.

In the construction of my improved lock, I first prepare a block, B, Fig. 1, of brass or other suitable metal, having a flange, *f*, extending around the rear edge and two ends, so as to leave a plain flat face on one side, and on the other side a raised bed, *b*, surrounded on three sides by the flange. I then bore a series of small holes, *h h*, into the end of the bed *b* to the depth required for the accommodation of the springs, hereinafter described, and as many in number as there are to be sliding plates or detents employed in the lock. I then saw a series of kerfs or channels, *c*, from the top of the bed *b* down through the center of each hole *h* to the level of the flange *f*. After this I saw a kerf or channel, *d*, into

the end of the bed *b* to the distance of one-half or three-fourths of an inch, more or less. I then mill out a channel, *g*, for the sliding bolt, and another channel, *k*, for the key, and cut away one corner of the block for the accommodation of the catch or latch-lever. The block is then ready to receive the working parts of the lock.

The working parts consists essentially of, first, a sliding bar, A, having a thumb-piece, *a'*, and a series of lateral notches, *a a a*, and adapted to slide back and forth in the recess *g*, into which it closely fits; secondly, a series of sliding detent-plates, *e e e*, cut away on their upper edges to accommodate the bar A, and arranged in the channels *c* in such a position as to extend across the recess *g*, with one of their ends projecting into the key-passage *k*, and the other in contact with small spiral springs *i* operating in the holes *h*; thirdly, a catch or latch, *l*, supported by a bell-crank lever, L, one arm of which works in the channel *d*, while the other lies outside of the bed *b*, and extends to, and in contact with, the inner end of the sliding bar A, so that, when the latter is slid in, it will operate the lever and raise the latch *l* for the purpose of opening the door; and, lastly, a key, K, Fig. 7, adapted when slidden into the key-passage *k* to move all the detent-plates *e e* back, so as to disengage them from the lateral notches of the bar A, and allow the latter to move. In addition to all these parts a face-plate, P, and back-plate P' are required, the former having suitable openings to accommodate the key and the projecting end of the bar A, and the latter having suitable means for attachment, by screws or rivets, to the block B, and when the lock is to be used for post-office lock-boxes a rod, M, screwing into the edge of the bed *b*, and extending through the material of which the walls of the boxes or pigeon-holes are made may be employed for securing the lock to the box, and a stop, N, likewise passing through the wall of the box, may be used to enable the clerks within the office to prevent the box from being unlocked by any person outside, the thumb piece or milled head *n* screwing firmly against the inner edge of the lock-box when desired, in order to hold the lever L from moving, and thereby prevent the sliding

bar A from unlocking the box. When the head *n* is screwed out again the rod N may be used for unlocking the door from the inside, in case of the loss of the key, or whenever desirable.

This lock is set into a recess in the side wall of the lock-box, its metallic face-plate P covering the front edge of such wall, and the catch or latch *l* projecting laterally into the lock-box. The face-plate may be provided with a flange, *r*, adapted to fit into a vertical groove in the front edge of the wall, in order to hold the lock more securely in position. The box-door is hinged to the opposite side wall of the box, and shuts against the face-plate P, being provided with a hook which catches over the projection *l*, and securely locks the box. The box-door can thus be made very light and neat, inasmuch as it is not obliged to furnish a support for the lock.

When it is desired to unlock the box, the key K is to be inserted into the key-hole *o*, and then, without the necessity of turning the key, the door will be unlocked by simply pressing the bar A inward, the operation of the bar being to move the lever L and raise the projection *l*, so as to disengage it from the door-catch.

The box-door may be provided with a spring to automatically throw it open when unlocked.

The hinge supports of the adjacent door may be cast or formed on the face-plate P, as shown at *t*, which represents one of such supports, namely, the one at the upper end of the face-plate.

The projection *l* may be arranged so as not to project beyond the line of the side of the box, in which case it will offer no obstruction to the removal of mail matter from the box.

This lock is exceedingly compact, so that almost any number of permutations can be arranged on it by varying the number of the slide-plates *e*, the length of the gains or notches in their edges, their distance apart, &c. It is at the same time so simple in construction, and its frame so strong, that it cannot easily be broken or gotten out of working order.

As here described and shown, it forms an admirable fastening for post-office box purposes, and with slight and obvious adaptations it can be employed for any other purpose to which such a lock is applicable.

Being adapted to be supported by the side wall of the box instead of by the door, it enables the door to be made much lighter and neater than heretofore.

I claim as my invention—

1. The block B, having the flange *f*, the raised bed *b*, the holes *h*, and the channels *c d g k*, substantially as and for the purposes described.

2. The combination of a supporting block or frame, with the lever L *l*, bar A, spring-detents *e e*, and key K, substantially as and for the purposes set forth.

3. A lock for post-office boxes, having a metallic face-plate, and a slide-bar projecting therefrom, and adapted by suitable internal mechanism to be unlocked by simply inserting the key without turning it, and then pressing the slide-bar inward, substantially as and for the purposes described.

4. The combination of the lever L, the springs *i*, the plates *e*, and the slide-bar A, substantially as described.

5. The combination of the rod N and screw-head *n*, with the lever L of the lock, substantially as and for the purpose described.

6. A post-office box-lock, combined with a rod or strip adapted to be operated at the rear edge of the box for the purpose of preventing the lock from being unlocked by the key, substantially as described.

7. A post-office-box lock, combined with a rod or strip adapted to unlock the box from the rear side without a key, and also to prevent the box from being unlocked from the front side with the key, substantially as described.

WILLIAM H. BRAMBLE.

Witnesses:

M. CHURCH,
E. S. KARNER.