

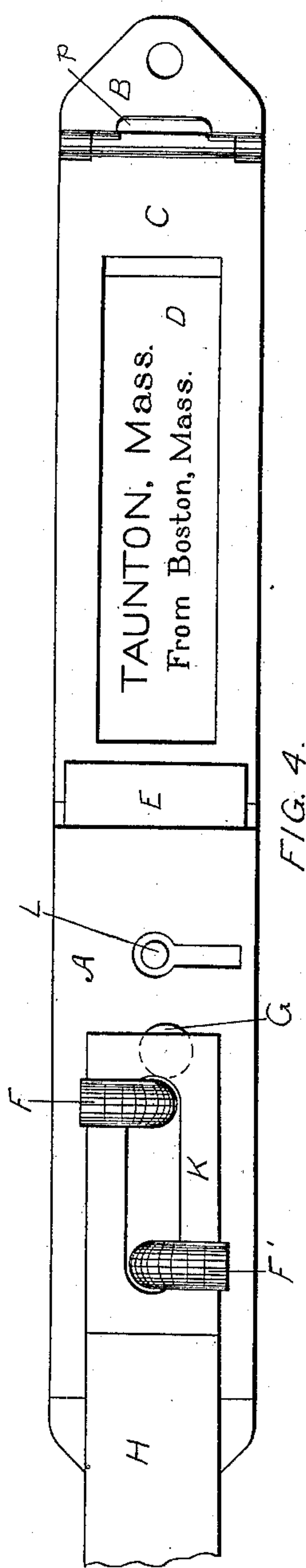
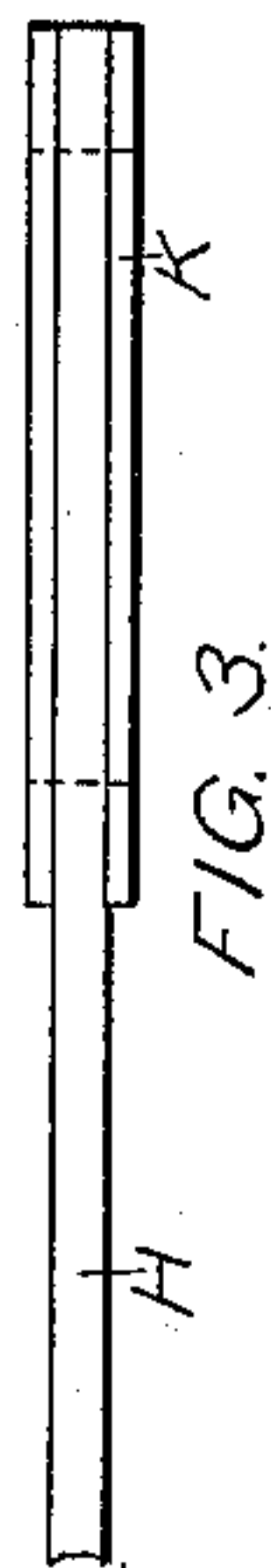
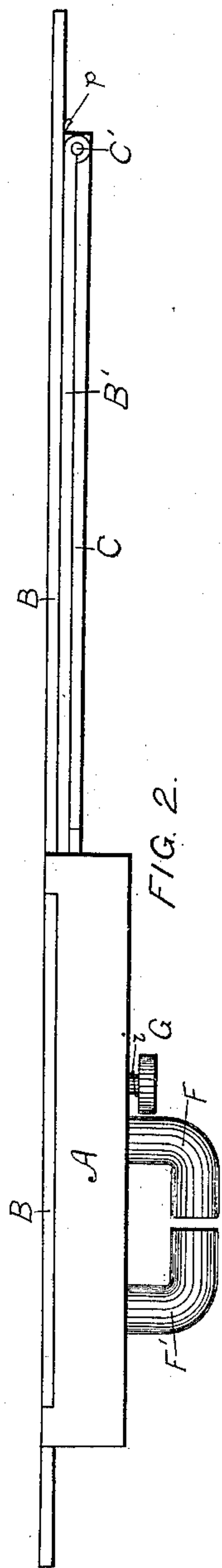
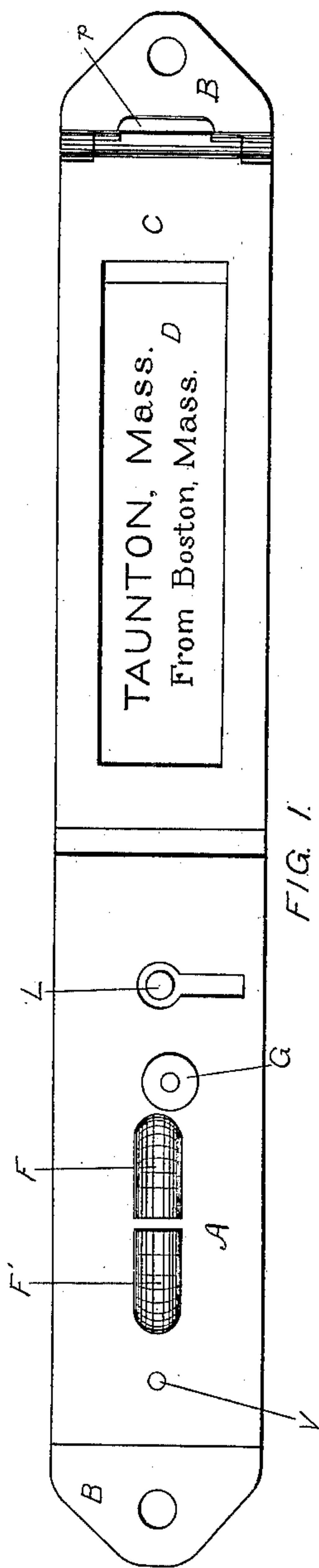
(Model.)

E. F. GOODWIN.  
LOCK.

2 Sheets—Sheet 1.

No. 383,522.

Patented May 29, 1888.



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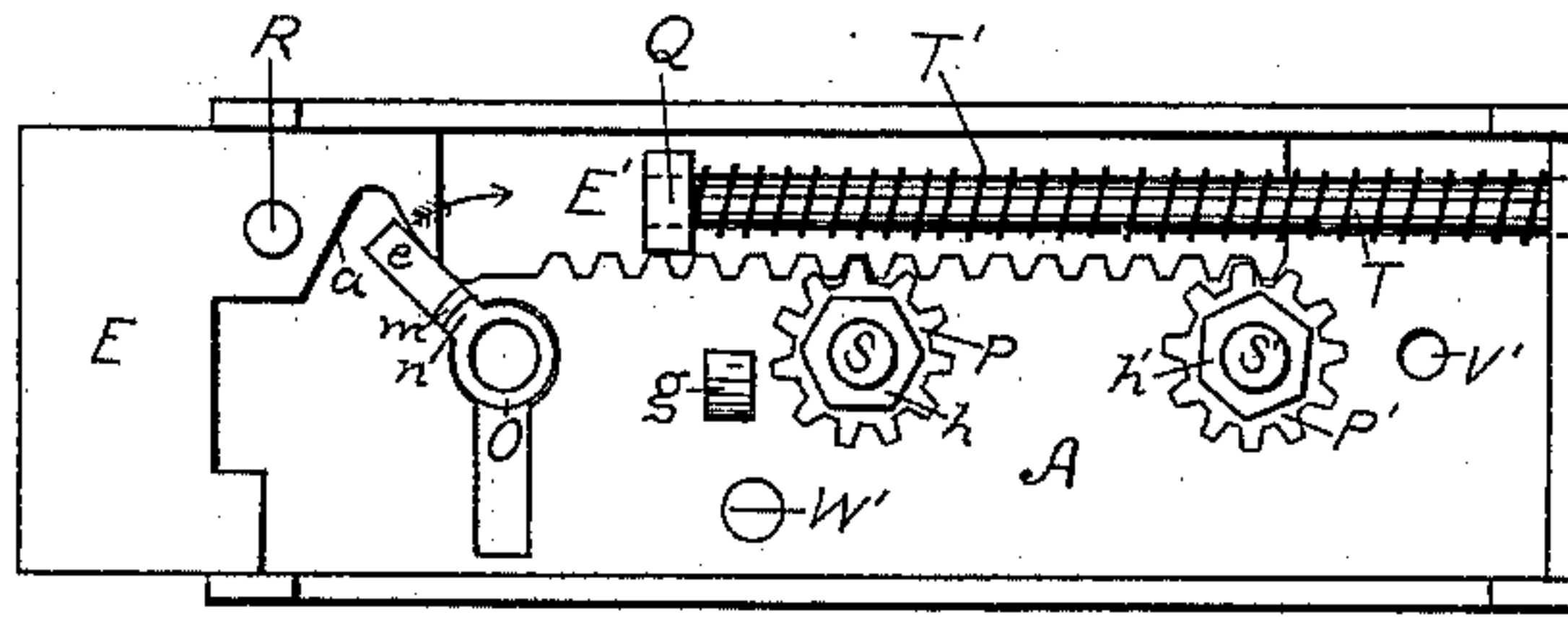


FIG. 5.

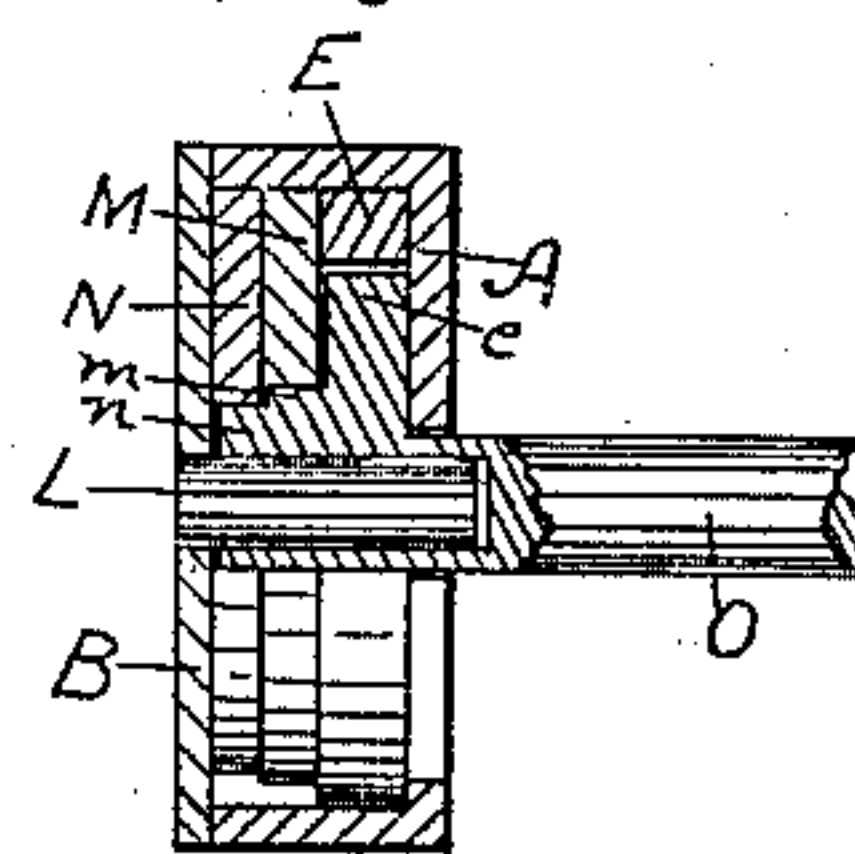


FIG. 9.

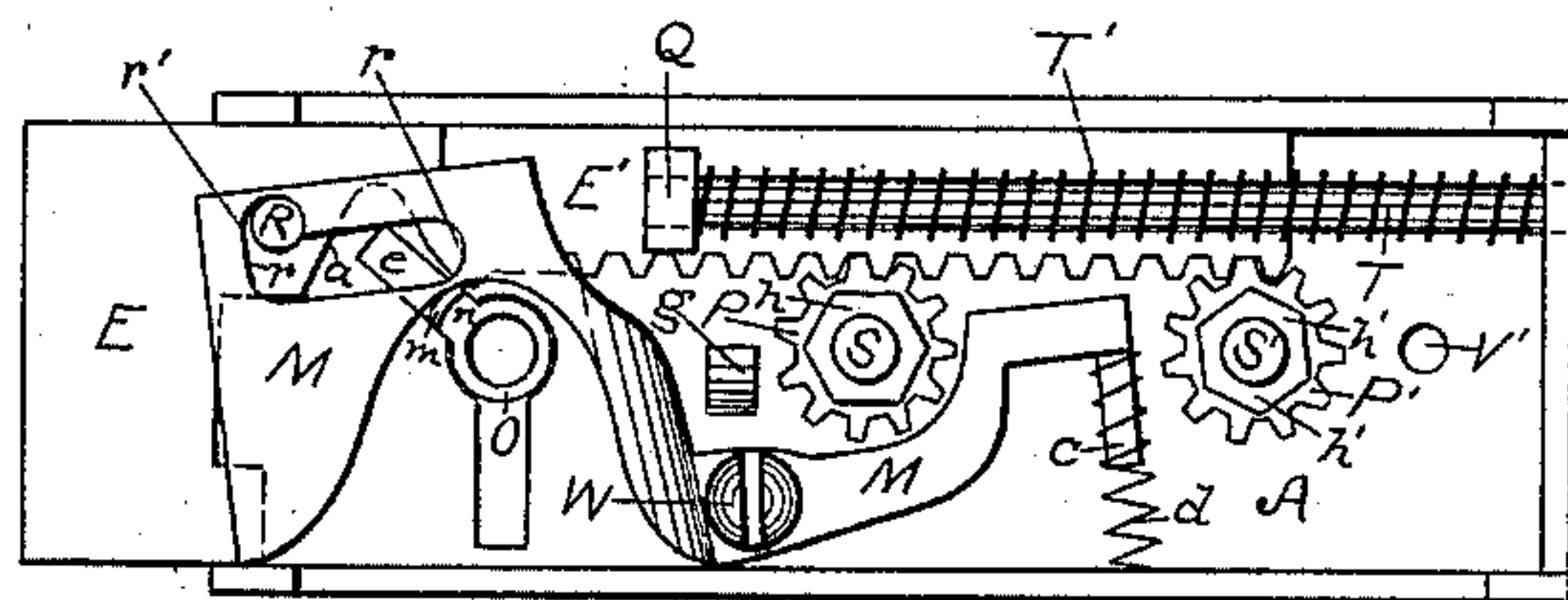


FIG. 6.

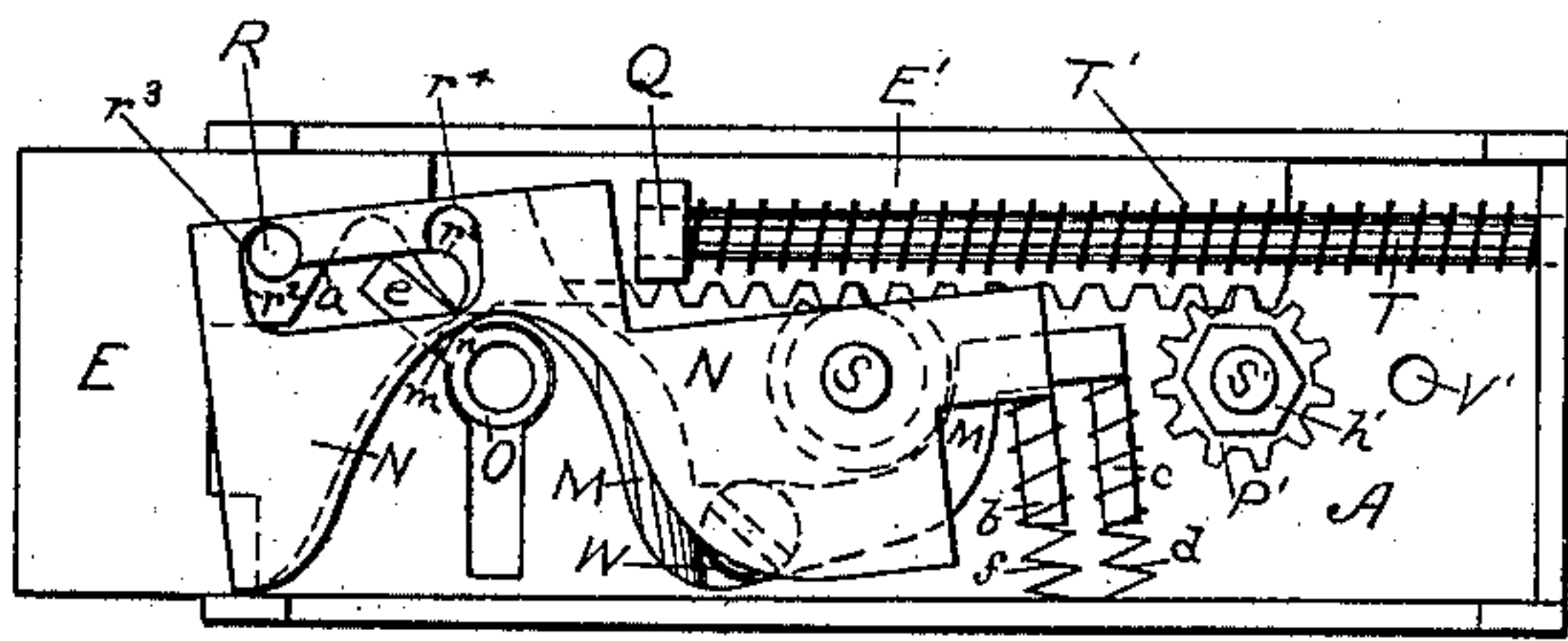


FIG. 7.

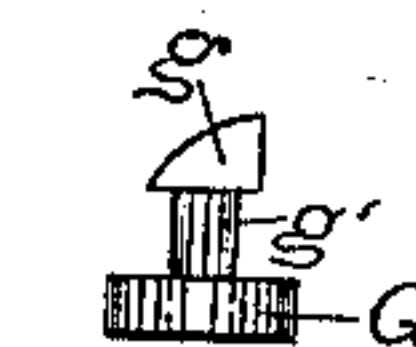


FIG. 11.

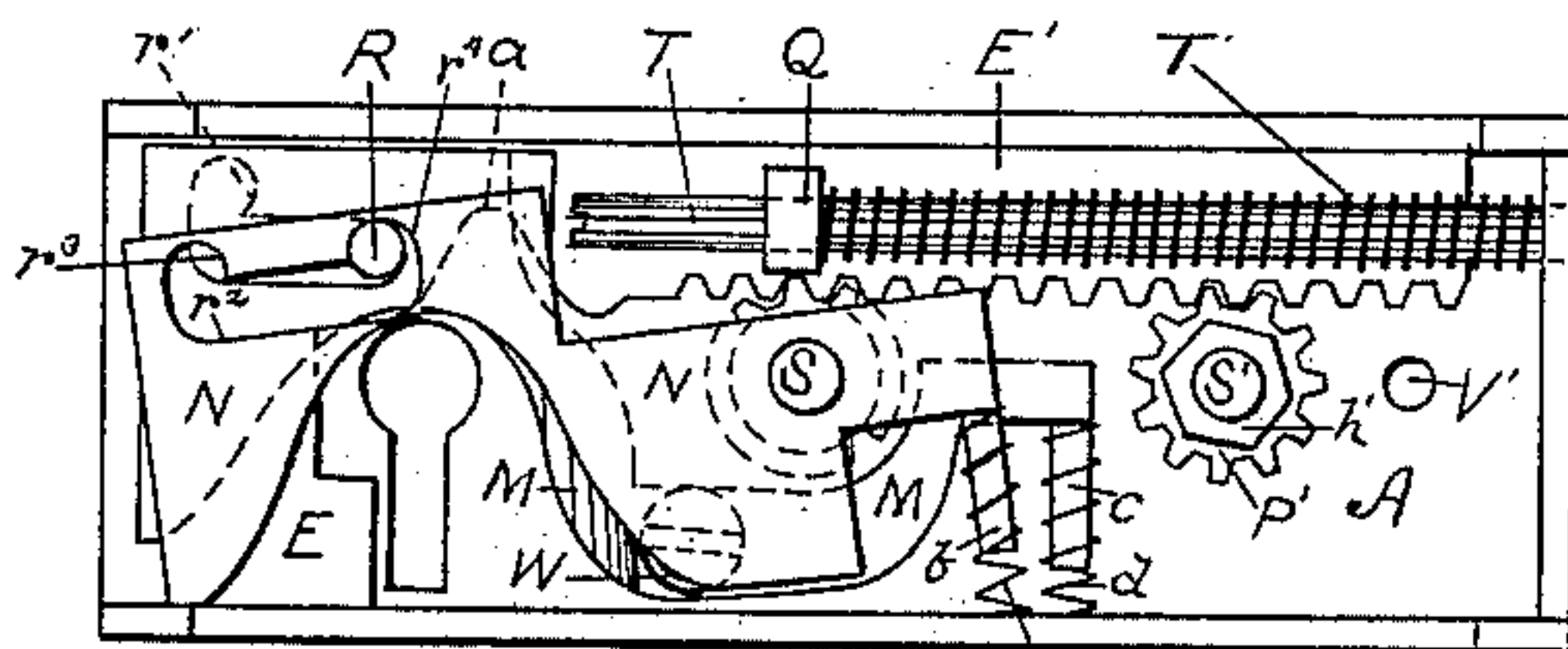


FIG. 8.

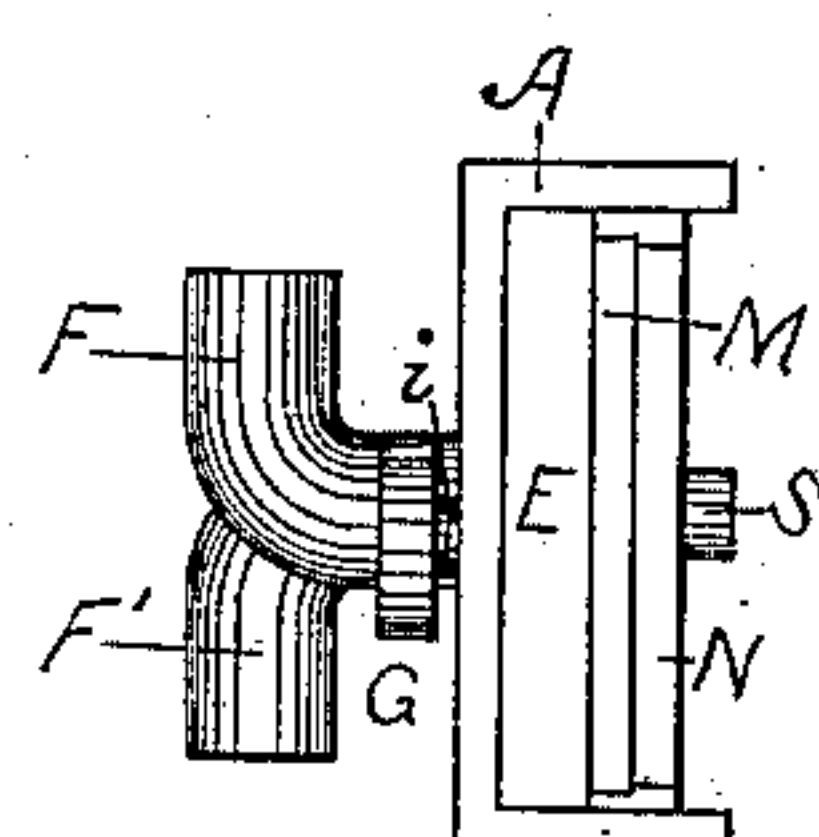


FIG. 10.

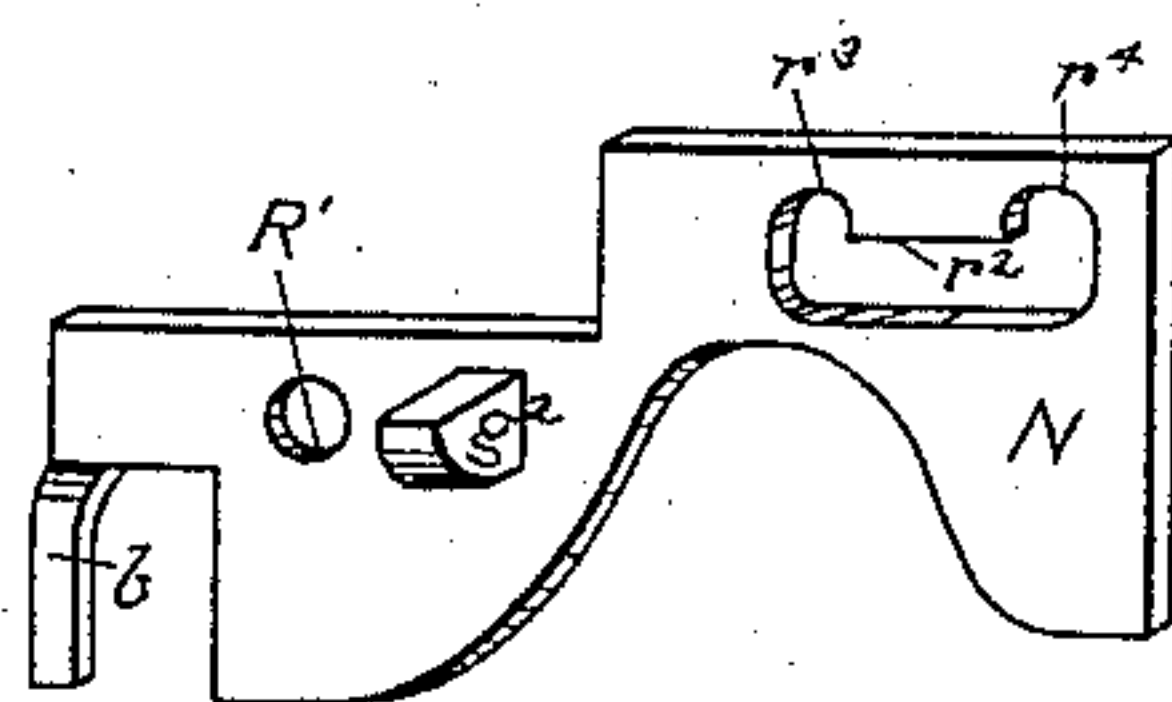


FIG. 12.

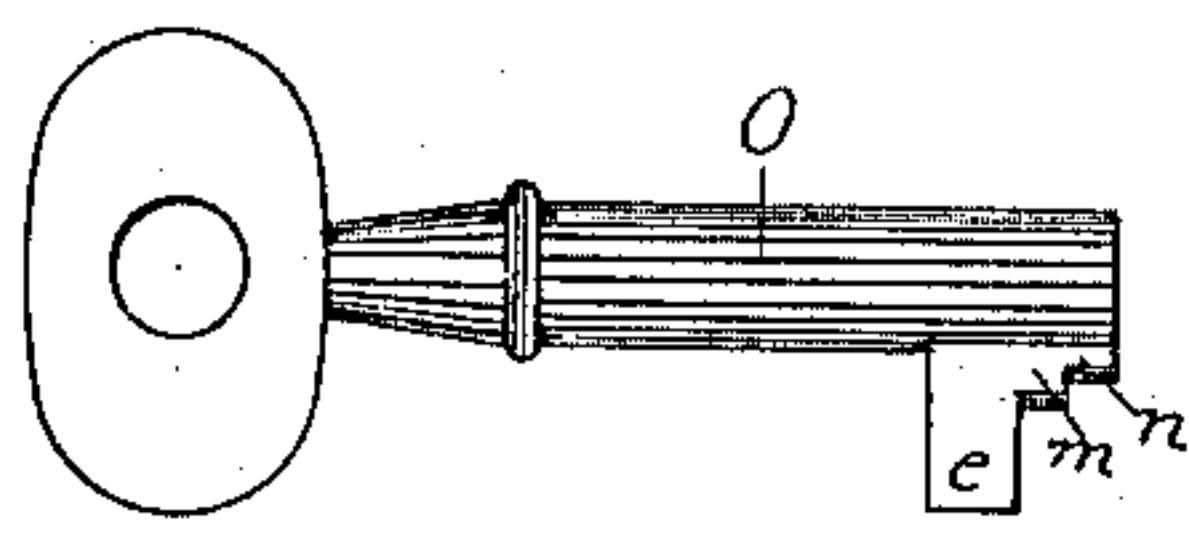


FIG. 13.

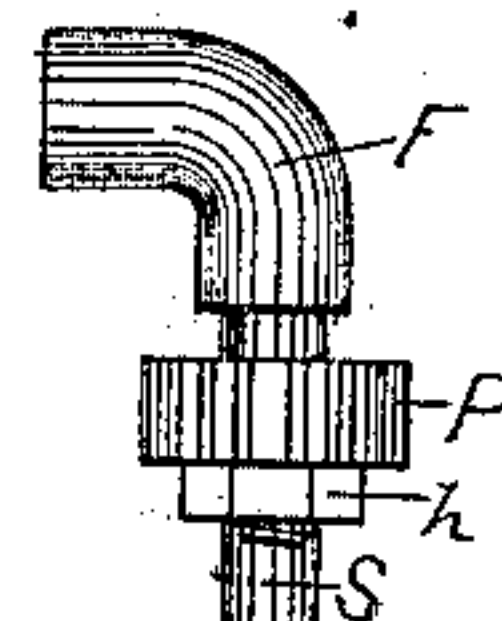


FIG. 14.

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# UNITED STATES PATENT OFFICE.

EDWARD F. GOODWIN, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO  
EDWARD F. GOODWIN, TRUSTEE, OF SAME PLACE.

## LOCK.

SPECIFICATION forming part of Letters Patent No. 383,522, dated May 29, 1888.

Application filed December 12, 1887. Serial No. 257,597. (Model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. GOODWIN, a citizen of the United States, residing at Taunton, in the county of Bristol and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention consists of an improved spring-lock, especially intended for use on mail-pouches, which may be used either with or without a hinged tag-holder, as hereinafter described. If used in connection with the tag-holder, the lock serves the double purpose of locking both the hinged top of the tag-holder and also the hasp attached to the fastening-strap of the mail-pouch. The lock may be used, however, for general purposes with advantage either as a sliding-bolt lock or as a hasp-lock.

Figure 1 of the drawings is a plan view of my improved lock with tag-holder attached in an unlocked position. Fig. 2 is a side view of the same. Fig. 3 is a side view of the hasp of the lock attached to the fastening-strap. Fig. 4 is a plan view showing both the hasp and tag-holder in a locked position. Fig. 5 is a view looking into the interior of the lock, the back plate being taken off and the two spring-tumblers removed. Fig. 6 is a similar view with the addition of one of the spring-tumblers. Figs. 7 and 8 are similar views showing the lock in a locked and unlocked position, respectively, all the parts being in place. Fig. 9 is a section through the center of the key-hole. Fig. 10 is an end view of the lock, its back plate being removed. Fig. 11 shows the spring-wedge and push-button. Fig. 12 is a perspective view of the outer spring-tumbler. Fig. 13 represents the key, and Fig. 14 one of the locking-arms detached.

A is the case or chamber inclosing the working parts of my improved lock, and B is the back plate of the lock, and in the combined lock and tag holder here illustrated the plate B forms also the back of the tag-holder. The tag-holder consists of a receiver, B', to contain the tag D, and a cover, C, forming a frame to hold the tag in place and pivoted on the hinge C'. The plate B B is securely fastened to the body of the mail-pouch.

F F' are two locking-arms, which, when in an unlocked position, as shown in Figs. 1 and 2, together somewhat resemble a staple in form, and over which the hasp K easily fits. This hasp K is similar to that ordinarily used on the fastening-straps of mail-pouches, the strap being secured to the flap of the pouch in the usual manner. When this hasp is pressed over the locking-arms F F' and against the push-button G, the said arms immediately spring at an angle to their former unlocked position, (preferably perpendicular thereto,) thereby locking the hasp securely, as shown in Fig. 4. Simultaneously with the turning of the locking-arms F F' the bolt E slides out and locks down the hinged cover C of the tag-holder, both the locking-arms and the sliding bolt being actuated by the mechanism illustrated in Figs. 5 to 14, inclusive. The unlocking is accomplished by the key O, having the three steps e, m, and n, and turning on the post L, attached to the back plate, B.

The sliding bolt E is provided with the pin R and the key-notch a, in which the step e of the key works. Either attached to or forming an integral part of the sliding bolt E is the toothed rack E'.

T is a rod firmly secured to the end of the case A, and passing along the rack E' through the guide Q on the face of the rack. When the key O is turned in the direction of the arrow, the step e bearing against the walls, the notch a moves the sliding bolt E into the case, thus unlocking the tag-holder. The main spiral spring T', embracing the rod T and confined between the guide Q and the end of the case A, tends, by its resiliency, to keep the bolt E in a locked position. The locking-arms F F' are made of the shape shown in Fig. 14, having their upper or locking portions bent or made preferably at right angles to the spindles SS'. The said spindles SS' pass through holes in the top of the case A, in which they are fitted to turn easily, and on the inner side are provided with the gear-wheels P P', keyed or otherwise secured to the spindles SS', so as to turn with the same. The gears P P' work with the rack E', and the locking-arms, F F', attached to them are in a locked position when the bolt E is locked. The same move-



ment of the key that slides back the bolt E moves the rack E' along the gears PP', thereby turning the arms F F' in the position shown in Figs. 1 and 2, at right angles, thus unlocking them.

Fig. 5 shows this action clearly, the spring-tumblers being removed. Fig. 6 shows the tumbler M in position. This tumbler M is made, preferably, of thin metal, of the shape best shown in Fig. 6, and is pivoted to turn freely on the screw W, screwed into the inner side of the top of the case A. Near its forward upper corner it is provided with the slot  $r$ , in which works the pin R on the bolt E, and at its rear end it is furnished with the spring-holder  $c$  and the spiral spring  $d$ . The shape of the slot  $r$  (clearly shown in Fig. 6) is such that when the bolt E and the arms F F', are locked the tumbler M prevents the said bolt or locking-arms from being unlocked without the use of the key. To this end the slot  $r$  is provided with a circular retaining portion,  $r'$ , at its upper forward end, and by the upward action of the spring  $d$  on the rear of the tumbler M the forward end of the said tumbler drops when the bolt is locked, thereby allowing the pin R to slip into the said retaining portion  $r'$  of the slot. When the key O is turned in the direction of the arrow, the step  $n$ , bearing against the cam-shaped under side of the tumbler M, lifts the forward end, thereby releasing the pin R from the retaining portion  $r'$  of the slot and allowing the step  $e$  to accomplish the unlocking.

The second tumbler, N, a rear view of which is shown in Fig. 12, is similarly provided at one end with a spring-retainer,  $b$ , holding the spiral spring  $f$ . It has also a slot,  $r^2$ , working on the pin R, and is pivoted at R' on the spindle S of the locking-arm F. The office of this second tumbler is to hold the bolt E and the arms F F' in an unlocked position. The slot  $r^2$ , while furnished at its forward end with the retaining portion  $r^3$ , similar to  $r'$  in the tumbler M, has also the second retaining portion,  $r^4$ , at the other end of the slot  $r^2$ . The step  $n$  on the key O, working against the cam-shaped under side of the tumbler N, acts in a precisely similar manner to the step  $m$  on the tumbler M in releasing the pin R from the retaining portion  $r^3$ , and when the step  $e$  has accomplished the unlocking by sliding back the bolt the spring  $f$  forces down the forward end of the tumbler N, thereby allowing the pin R to slip into the second retaining portion,  $r^4$ , and holding the parts in an unlocked position against the pressure of the main spring T'.

The push-button G, Fig. 11, is provided with a stem,  $g'$ , which passes through the top of the case A and on the inner side terminates in the wedge-shaped head  $g$ . A spiral spring,  $i$ , Figs. 2 and 10, embracing the stem  $g'$  on the outside of the case, serves to keep the wedge-shaped head  $g$  normally pressed against the inner surface of the top of the case A. The back of the tumbler N is provided with

a cam,  $g^2$ , against which the wedge  $g$  bears when the push-button G is pressed on the outside. The parts being unlocked and the pin R being held in the retaining portion  $r^4$  of the slot  $r^2$ , the shapes of the cam  $g^2$  and the wedge  $g$  are such that when the said push-button G is pressed the forward end of the tumbler N is raised against the action of the spiral spring  $f$ , releasing the pin R from the retaining portion  $r^4$ , and allowing the main spring T' to accomplish the locking.

The case A is secured to the back plate, B, in any desired manner, as by a screw, V, having its head in the said back plate, B, and screwing into the tapped hole V'. The extreme outer ends of the spindles S S' preferably fit holes in the back plate, B, to turn easily therein, thus making a firm bearing for the locking-arms.

The lock may obviously be used without the tag-holder, in which case the projecting portion of the locking-bolt E might be dispensed with, the lock being used in this form with a hasp to take the place of the common padlock for general use. On the other hand, the rack and locking-arms may be dispensed with and the lock used as a sliding-bolt lock.

When in a locked position the arms F F' are preferably turned at right angles to the slot in the hasp K, though obviously if turned at any other angle the locking would be accomplished.

I claim—

1. In a spring-lock, a key-notched sliding bolt provided with a pin, in combination with a spring, two slotted pivoted spring-tumblers, one of which is provided with a cam, and a wedge provided with a push-button and working against the said cam, whereby the bolt is thrown out and locked in place, substantially as and for the purposes described.

2. In a lock, a key-notched sliding rack, locking-tumblers whereby the rack is secured in place, and pinions engaging with said rack and provided with locking-arms, in combination with a hasp, substantially as described.

3. In a spring-lock, a key-notched sliding bolt provided with a rack and a spring, two slotted pivoted spring-tumblers, one of which is provided with a cam, a wedge provided with a push-button and working against said cam, and pinions meshing with the rack and provided with locking-arms, in combination with a hasp, all arranged and operated substantially as and for the purposes described.

4. A mail-pouch and tag-holder lock consisting of bent revolving locking-arms provided with pinions, in combination with a key-notched sliding rack, a bolt secured thereto, and locking-tumblers, whereby a hasp is locked by said arms and the hinged top of a tag-holder simultaneously held in place by said bolt, substantially as described.

5. In a lock, a sliding key-notched rack provided with a spring and a pin, pinions engaging with said rack and provided with locking-arms, two slotted pivoted spring-tumblers, one



of which is provided with a cam, and a wedge  
provided with a push-button and working  
against the said cam, in combination with a  
hasp, whereby, when the hasp is pressed over the  
5 locking-arms and against the push-button, the  
locking-arms are turned at right angles, sub-  
stantially as and for the purposes described.

In witness whereof I have hereunto set my  
hand.

EDWARD F. GOODWIN.

Witnesses:

WM. B. H. DOWSE,  
ALBERT E. LEACH.