

No. 657,918.

Patented Sept. 18, 1900.

J. L. COPPING & G. D. TREECE.

MAGAZINE FIREARM.

(Application filed May 26, 1900.)

(No Model.)

Fig. 1.

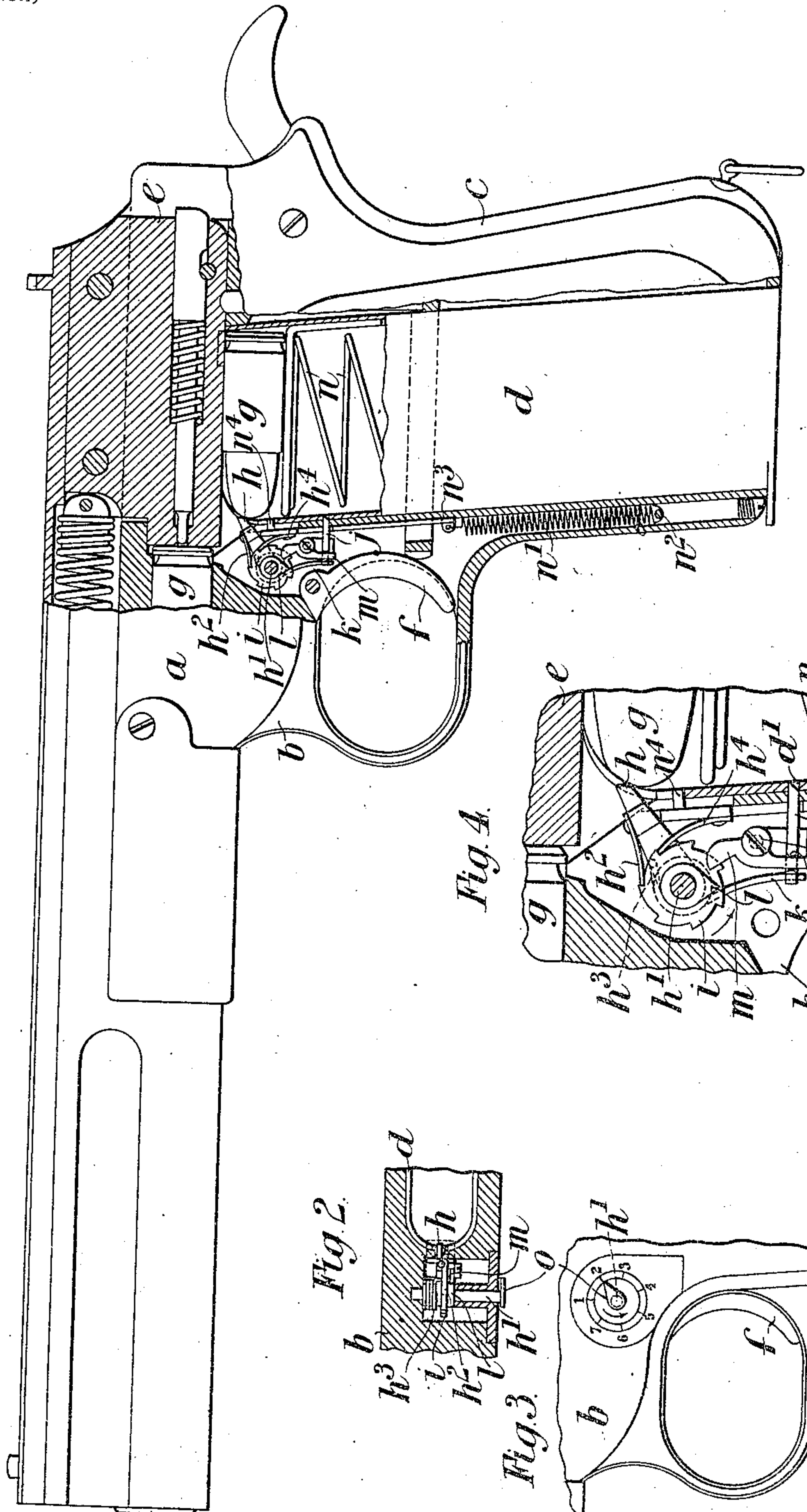


Fig. 4.

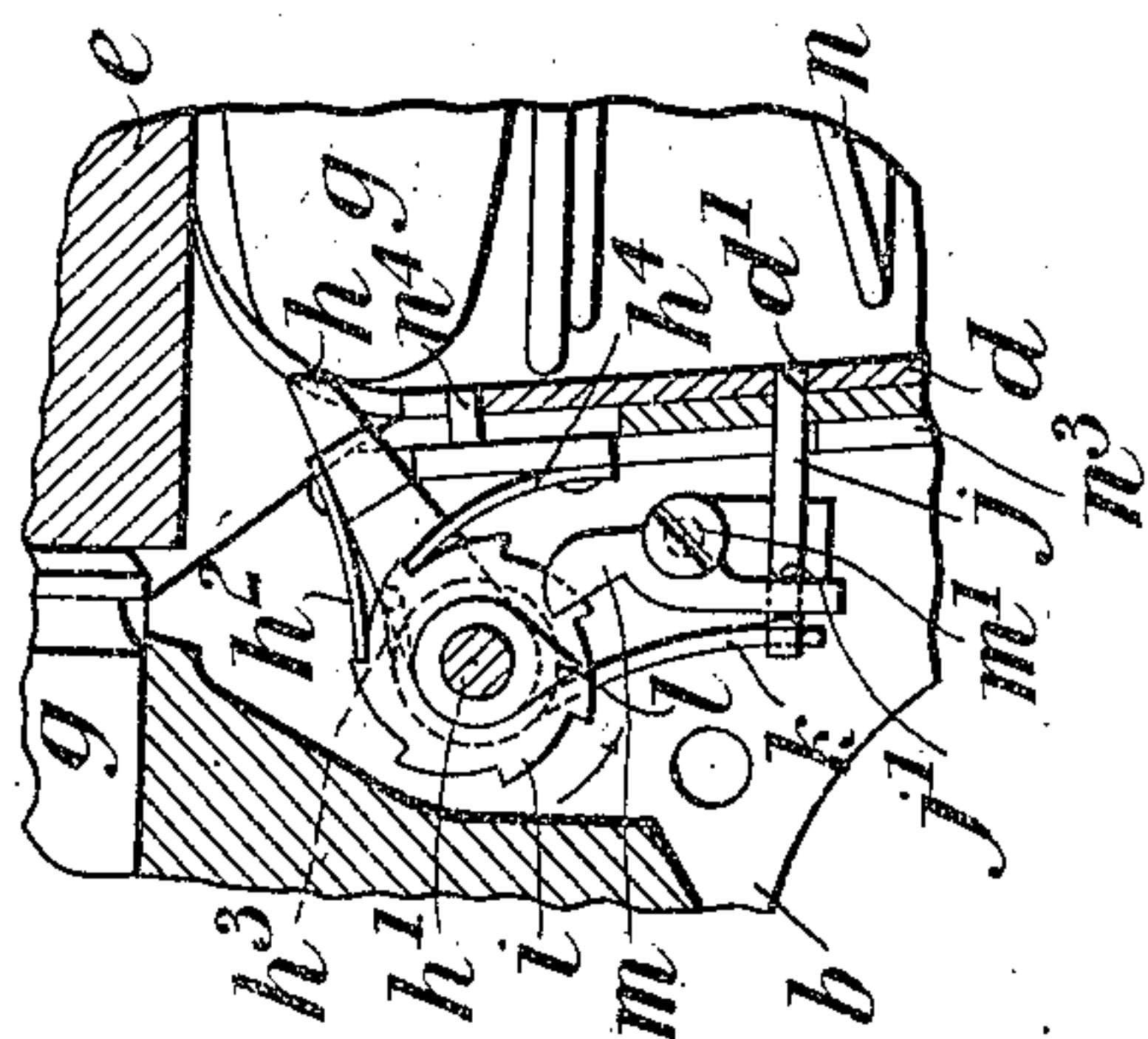


Fig. 2.

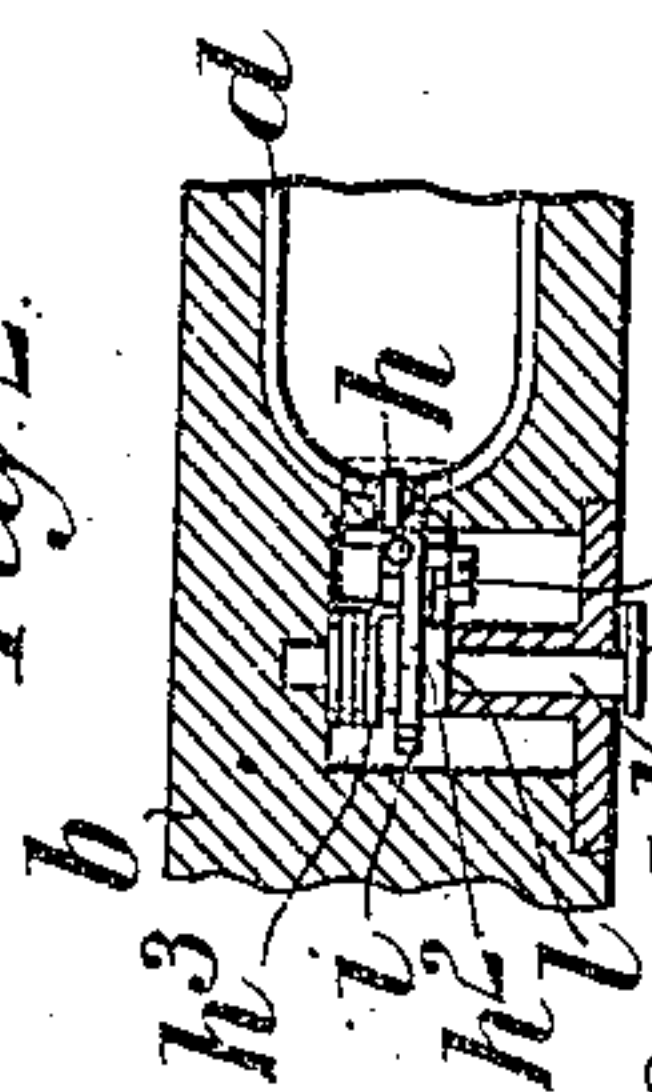
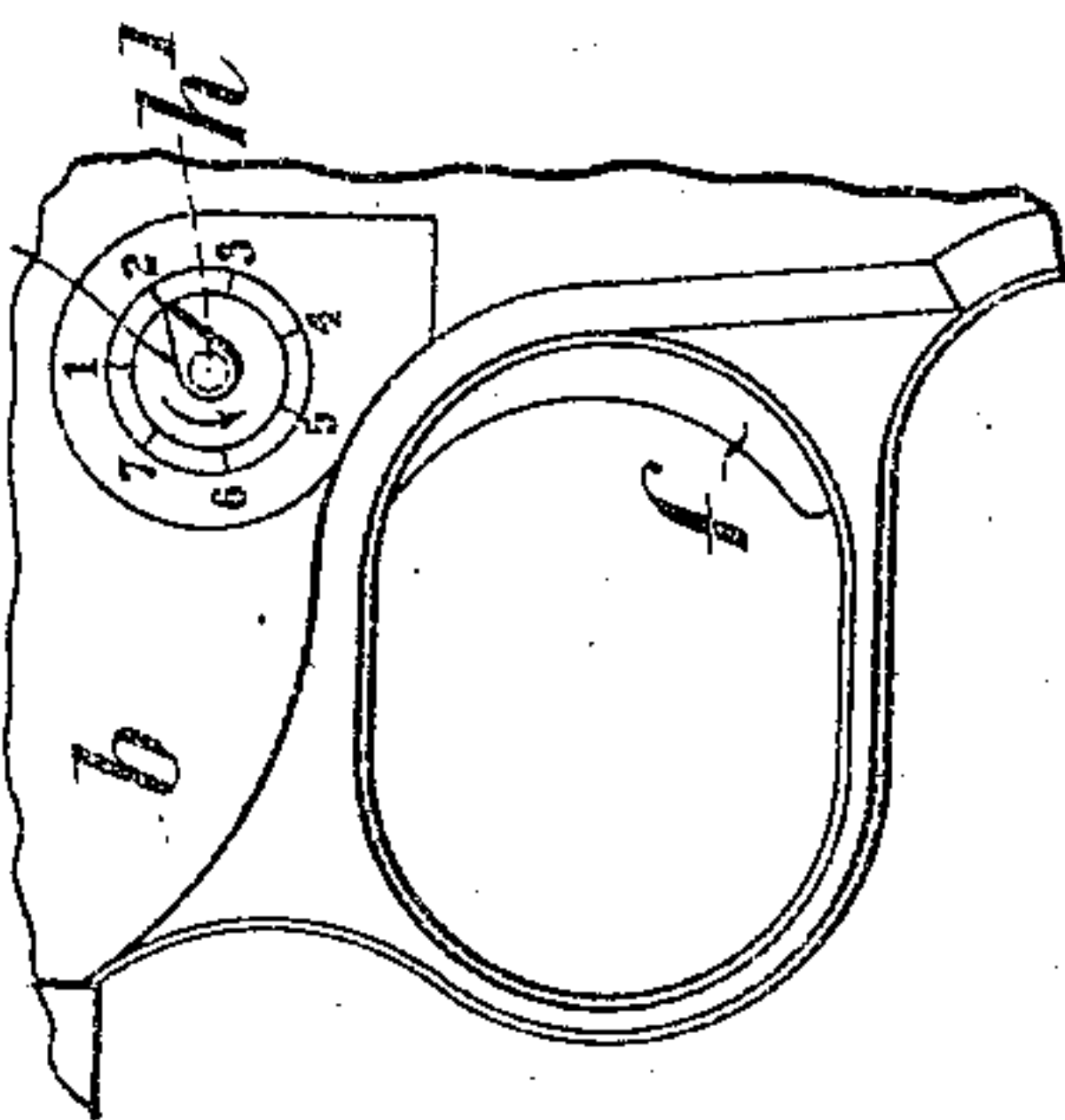


Fig. 3.



Witnesses.

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## MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 657,918, dated September 18, 1900.

Application filed May 26, 1900. Serial No. 18,145. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES LLOYD COPPING and GEORGE DYSON TREECE, subjects of the Queen of Great Britain, residing at  
5 Dashwood House, New Broad street, London, England, have invented new and useful Improvements in Breech-Loading Small-Arms, of which the following is a specification.

Our invention relates to breech-loading  
10 small-arms of the kind wherein the cartridges are fed into the breech-chamber from a magazine, the invention being applicable to fire-arms wherein the several operations of the gun are automatically effected by the recoil  
15 or performed by hand.

The object of the said invention is to provide means whereby the cartridge-holder, which is inserted into the magazine or which forms the magazine, shall be automatically  
20 ejected from the gun directly the last cartridge is delivered from the same into the breech and, if desired, to arrange means whereby the number of cartridges which the magazine contains shall be indicated.

25 In the accompanying drawings we have shown a suitable arrangement for carrying out the invention.

In the said drawings, Figure 1 is a sectional side elevation of a magazine-pistol having the  
30 improvements applied thereto. Figs. 2 and 3 are a sectional plan and a side elevation of a detail; and Fig. 4 is a sectional side elevation thereof, drawn to a larger scale.

35  $a$  is the barrel of the pistol,  $b$  the frame carrying the same, and  $c$  the handle or grip, which is made hollow to take the cartridge-magazine  $d$  in the usual manner.

$e$  is the breech bolt or block, and  $f$  the trigger, of the pistol.

40 In connection with the aperture through which the cartridges  $g g$  pass from the magazine  $d$  to the breech-chamber is an arm  $h$ , pivoted upon a spindle or pin  $h'$ , mounted in the frame  $b$  and carrying a ratchet-wheel  $i$ , the said arm  $h$  being provided with a spring-pawl  $h^2$ , arranged to engage with the teeth of the said ratchet-wheel  $i$ . The free end of the arm normally projects into the path of the  
45 cartridges  $g g$  in such a manner that as each  
50 cartridge is moved past the same it impinges

upon the arm and causes it to oscillate, so that through the medium of the pawl  $h^2$  a certain amount of rotation is imparted to the ratchet-wheel  $i$ , as shown clearly in Fig. 4.

$h^3$  is a spring which returns the arm  $h$  into  
55 the path of the cartridges after each movement, and  $h^4$  is a detent for preventing the ratchet-wheel  $i$  turning back after it has been set forward and for rotating the said wheel when a new magazine is inserted, as herein-  
60 after described.

The cartridge holder or magazine  $d$  is held in position in the grip  $c$  by a bolt or the like  $j$ , which is normally held in engagement with a notch or slot  $d'$  in the magazine by a spring  
65  $k$ . Now to withdraw the bolt when the magazine is empty we provide, in connection with the ratchet-wheel, a cam  $l$ , which rotates intermittently with the said ratchet-wheel and when the latter has completed a revolution  
70 impinges against one end of a lever  $m$ , which is pivoted at  $m'$  to the frame  $b$ , and the other end of which engages in a slot  $j'$  in the bolt  $j$  in such a manner as to withdraw the bolt from the notch  $d'$  against the action of the  
75 spring  $k$ , so that the magazine is released and left free to fall out under the action of gravity or to be forced out either by the spring  $n$ , which pushes the cartridges into the breech-chamber, or by the special spring  $n'$ , which is put  
80 into tension when the magazine is inserted into the grip, the said spring being secured at one end to the fixed pin  $n^2$  and at the other end to the slide  $n^3$ , carrying a projection  $n^4$ , against which the top of the magazine bears  
85 when pushed into the grip so as to stretch the spring.

To indicate the number of cartridges which remain in the weapon, we arrange upon the spindle  $h'$ , carrying the ratchet-wheel, a  
90 pointer  $o$  outside the frame  $b$ , the said pointer moving in front of a dial fitted in the frame and numbered in such a manner that as the pointer moves forward with the ratchet-wheel as each cartridge is delivered into the breech-  
95 chamber it stops opposite a figure upon the dial, indicating the number of cartridges remaining in the weapon. In the pistol shown in the drawings the dial is numbered to correspond to a magazine capable of holding  
100



seven cartridges, and the bolt *j*, which retains the magazine *d* in the gun, is so arranged in relation to the ratchet-wheel *i* that the magazine *d* will be ejected immediately  
 5 the last cartridge is fed into the breech-chamber and before it is fired, this arrangement being of especial advantage in firearms which operate under the action of the recoil, the discharge of the magazine indicating to the  
 10 person using the firearm that one cartridge only remains, whereby if a freshly-charged holder or magazine is inserted into the gun before the last cartridge is fired it will not be necessary to insert the first cartridge from  
 15 the recharged magazine into the barrel by operating the breech-bolt by hand, as is sometimes the case when the last cartridge is discharged before a freshly-charged magazine is inserted. To enable the pointer to be  
 20 moved from the numeral "1" to the numeral "7" when a fresh cartridge-holder is inserted, the above-named detent *h*<sup>4</sup> is secured to the slide *n*<sup>3</sup>, so that it drops with the said slide when the emptied holder is ejected and  
 25 is pushed up by the insertion of the fresh holder, thus rotating the ratchet-wheel *i* through a distance equal to the length of one tooth.

Although we have described and shown an  
 30 arrangement wherein the mechanism for releasing the magazine is actuated by the movement of the cartridges, it will be obvious that the said mechanism can also be operated from any other suitable intermittently-moving part  
 35 of the pistol.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

40 1. In breech-loading small-arms the combination with the cartridge-magazine, of means whereby the said magazine is automatically

ejected when the last cartridge has been fed from the magazine, substantially as hereinbefore described. 45

2. In breech-loading small-arms the combination with the magazine, of a spring-bolt engaging a slot or notch in the magazine so as to hold it in position, and of means for withdrawing the bolt out of engagement with the  
 50 magazine when the last cartridge has left the magazine, substantially as hereinbefore described.

3. In breech-loading small-arms the combination with the magazine, of a spring-bolt  
 55 normally engaging a slot or notch in the magazine, of a pivoted lever engaging the said bolt and of means such as a cam, a ratchet-wheel and a pawl-arm, which normally extends into the path of the cartridges,  
 60 for releasing the said bolt when the last cartridge has been fed from the magazine, substantially as hereinbefore described.

4. In breech-loading small-arms the combination with the magazine, of a spring-bolt  
 65 normally holding the magazine in position, of means for automatically withdrawing the bolt and of means such as a spring for ejecting the magazine when released, substantially as hereinbefore described. 70

5. In breech-loading small-arms the combination with the magazine, of a pointer and a dial, of a ratchet-wheel in connection with the pointer, and of a pawl for actuating the  
 75 ratchet-wheel, the said pawl being mounted upon an arm which normally extends into the path of the cartridges so as to be intermittently operated thereby substantially as, and for the purpose, hereinbefore described.

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Witnesses:

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