

No. 626,501.

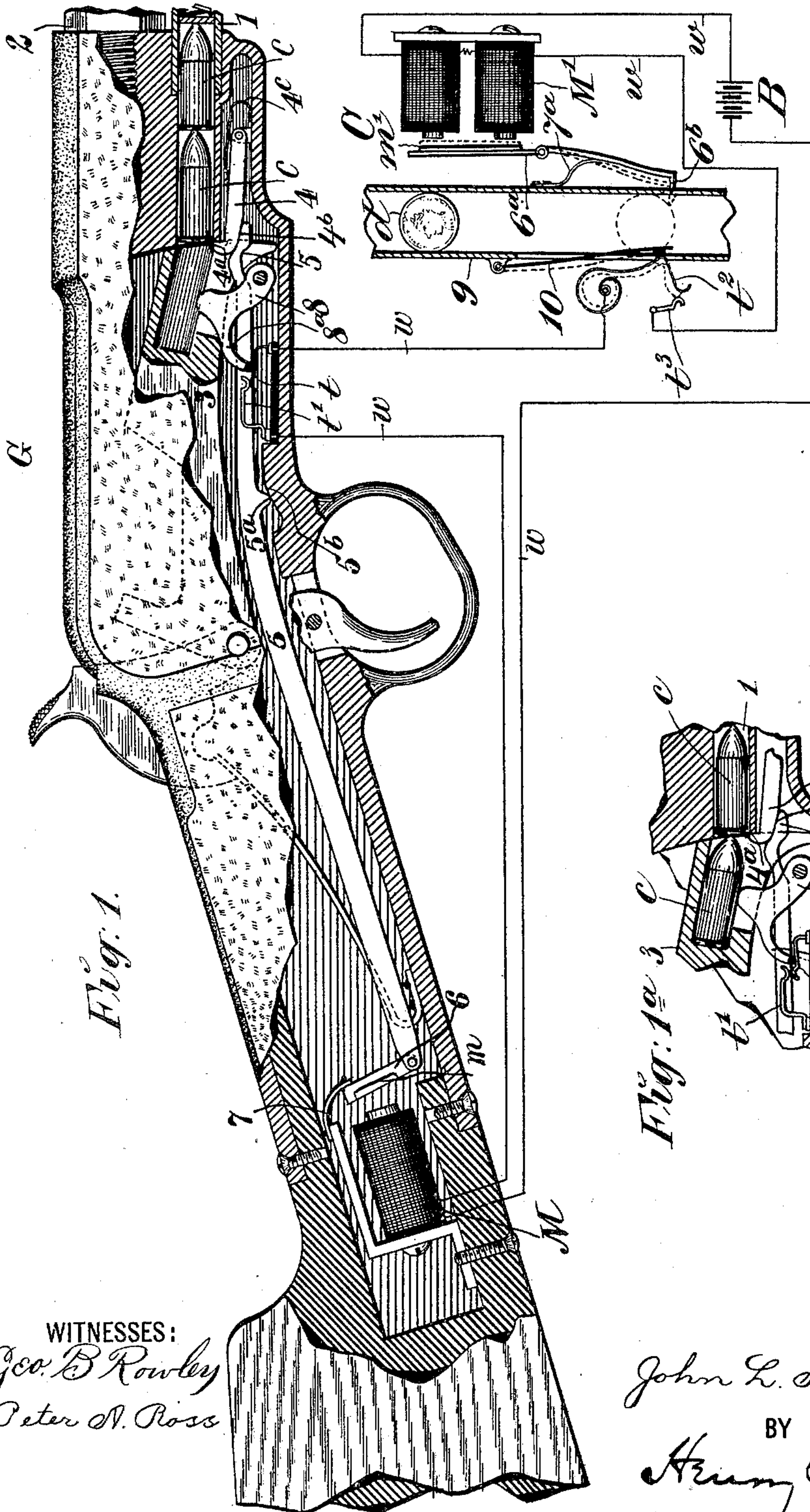
Patented June 6, 1899.

J. L. McCULLOUGH.
MAGAZINE TARGET GUN.

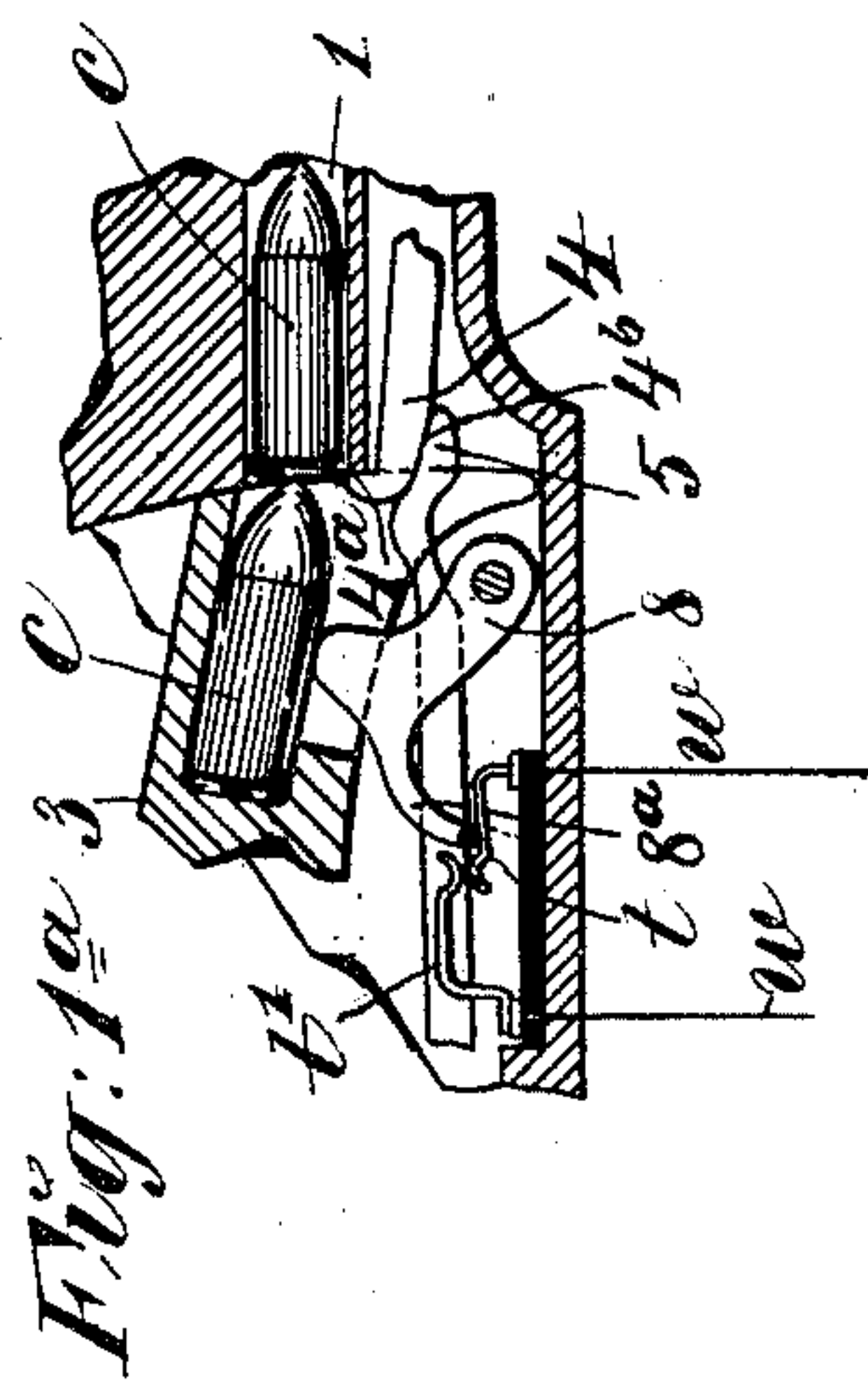
(Application filed Feb. 24, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
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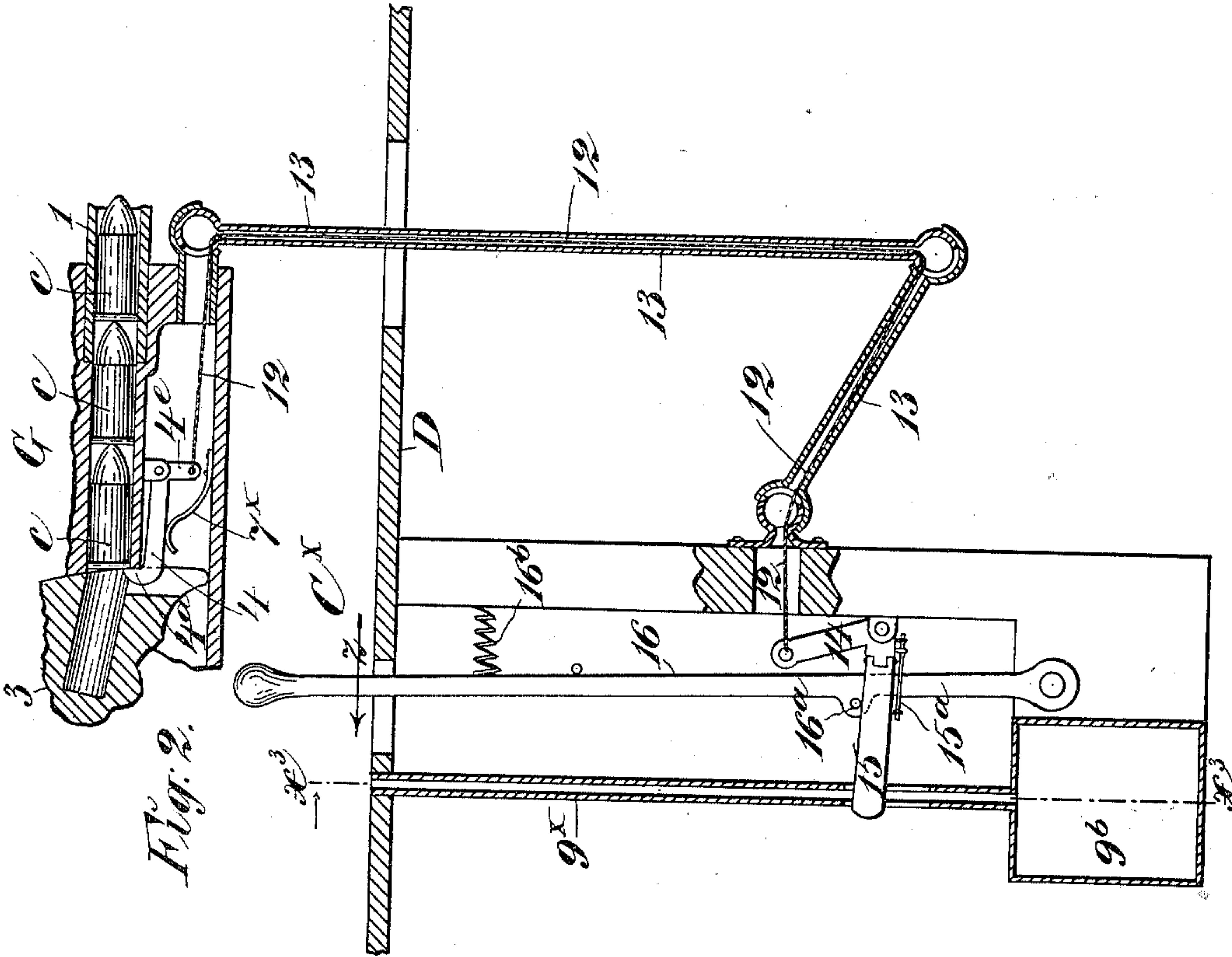


Fig. 2.

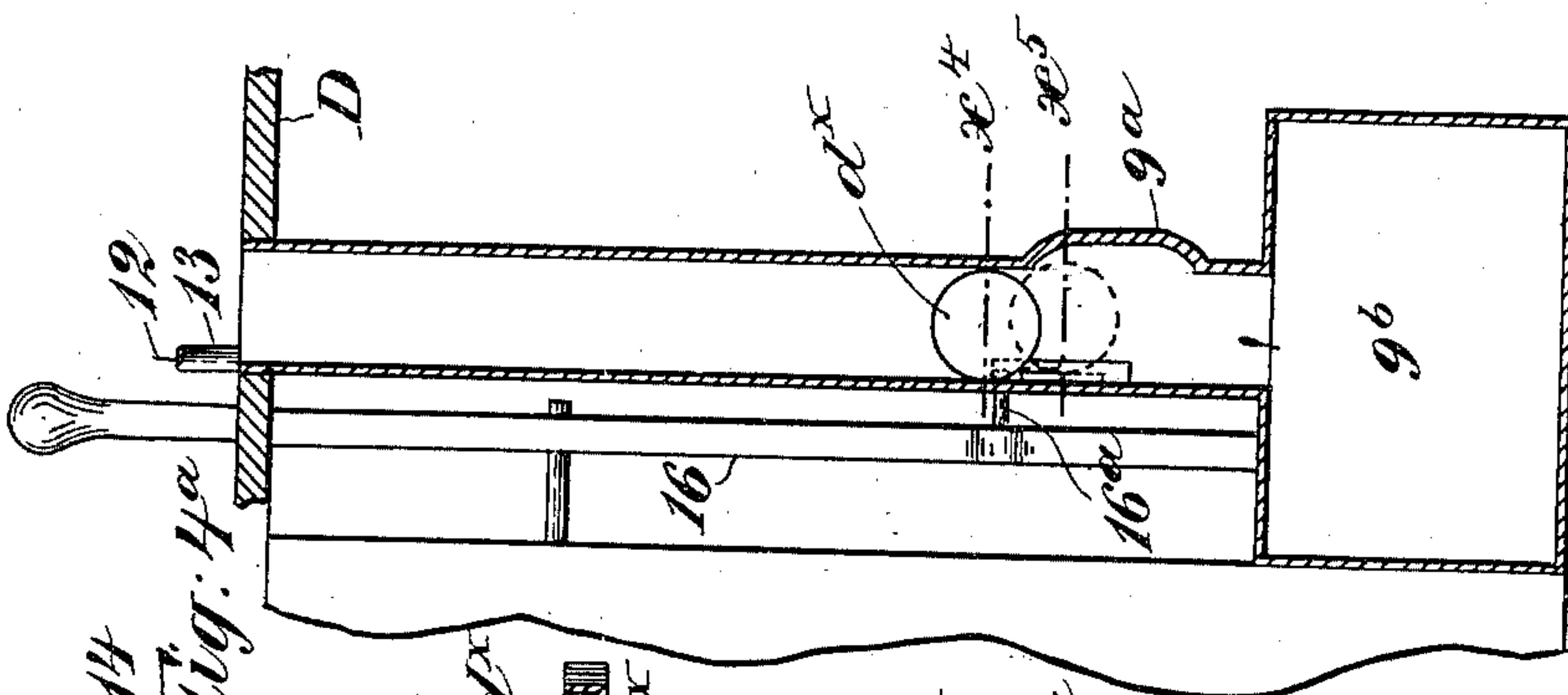


Fig. 3.

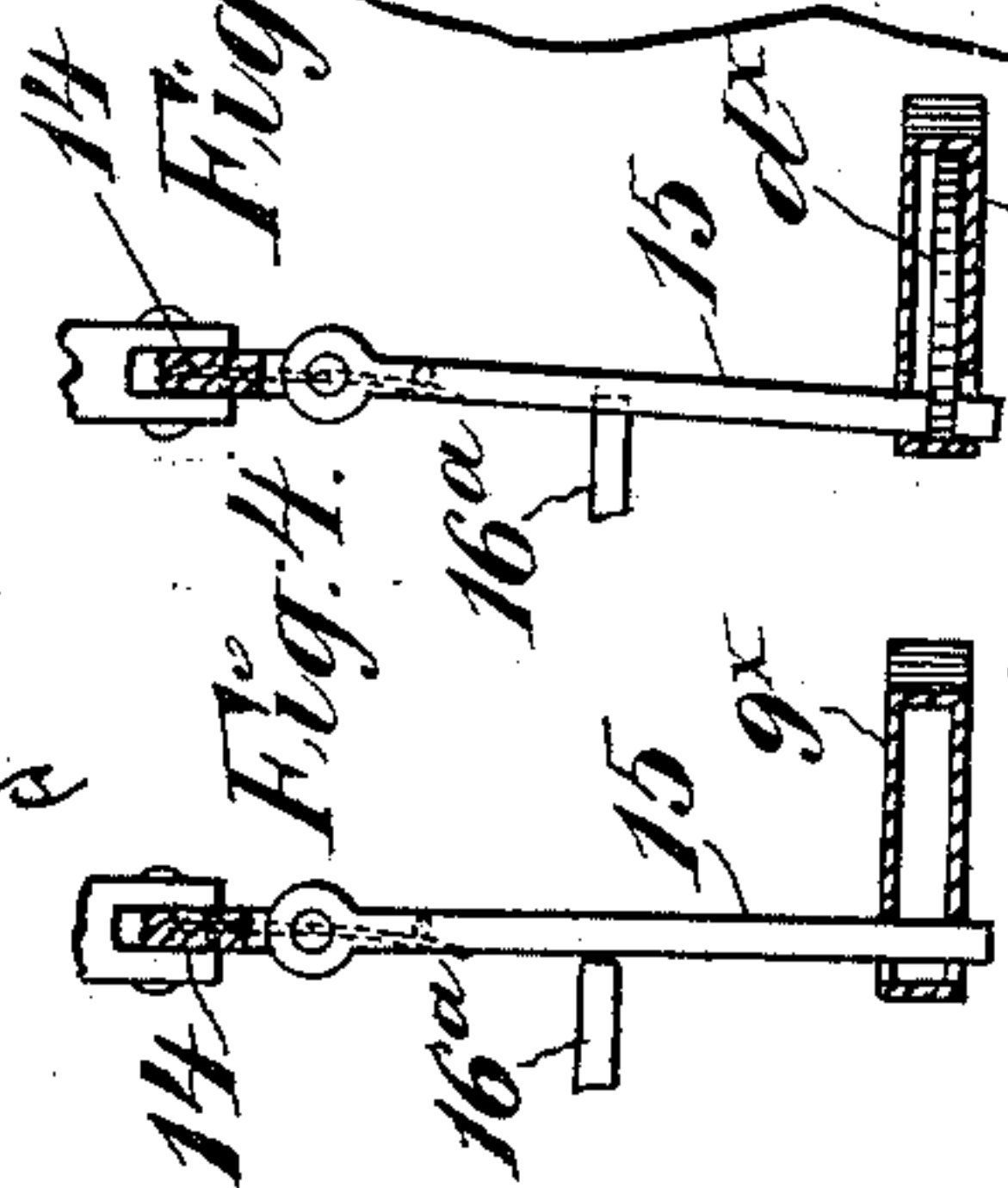


Fig. 4.

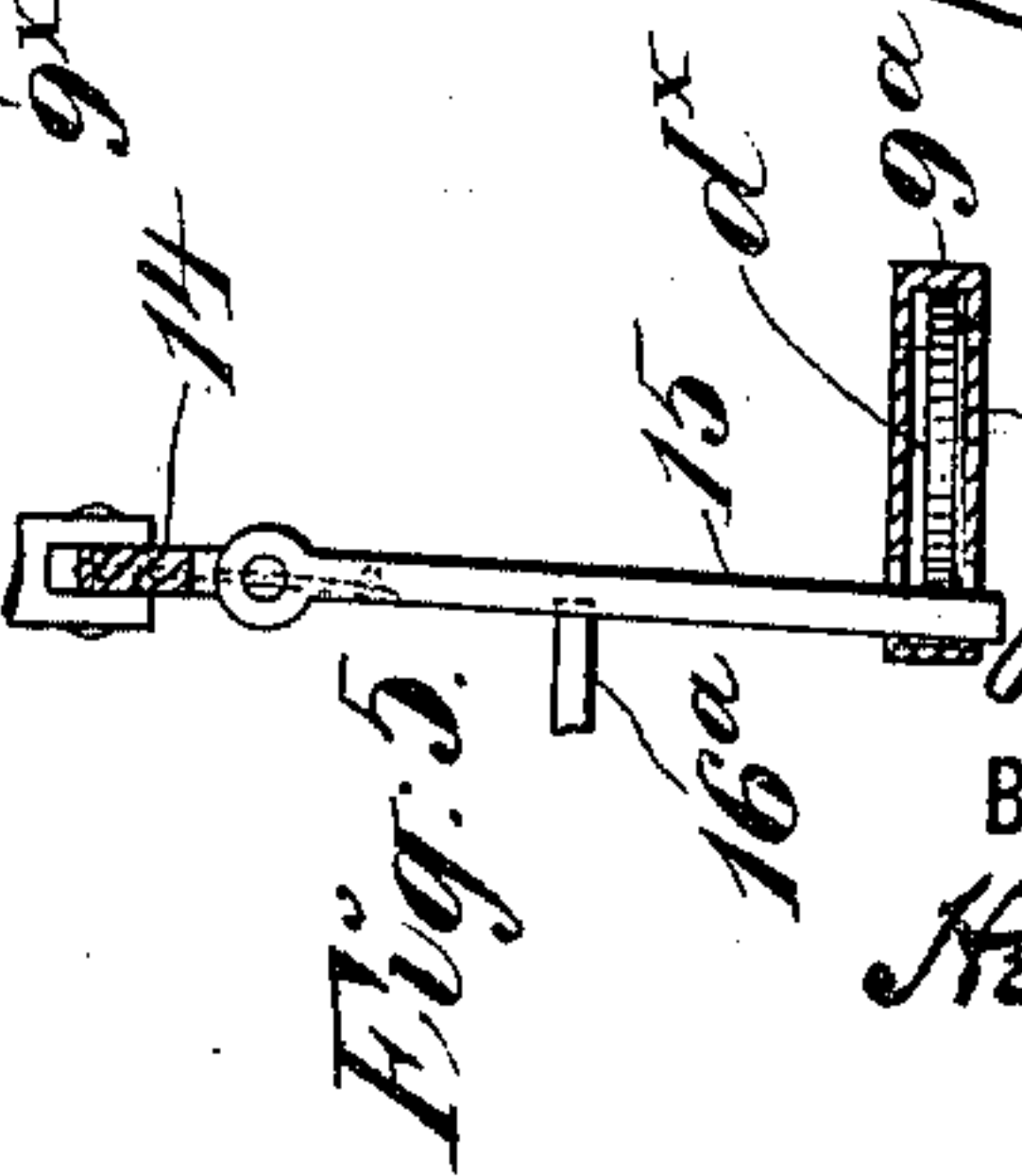


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN L. McCULLOUGH, OF NEW YORK, N. Y.

MAGAZINE TARGET-GUN.

SPECIFICATION forming part of Letters Patent No. 626,501, dated June 6, 1899.

Application filed February 24, 1899. Serial No. 706,679. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. McCULLOUGH, a citizen of the United States, residing in the borough of Brooklyn, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Magazine Target-Guns, of which the following is a specification.

This invention relates to target-guns so combined with a coin-controlled apparatus that the dropping of a coin in the slot serves to put the gun in operative condition for firing; and the object of the present invention is to provide a magazine target-gun with means controlled by the dropping of a coin in the slot and with a magazine-lock, whereby the cartridges are normally locked against movement from the magazine into the carrier-block or its equivalent and must be unlocked by the coin before the gun can be used.

In the accompanying drawings, which serve to illustrate embodiments of the invention, Figure 1 is a sectional diagrammatic view showing the gun and coin-controlled mechanism as constructed where electromagnetic means are employed for operating and controlling the device; and Fig. 1^a is a view of the magazine-lock, showing the parts in a different position from that seen in Fig. 1. Fig. 2 is a fragmentary sectional view of the magazine and coin-controlled device, illustrating mechanical operating and controlling means; and Fig. 3 is a section through the coin-slot at line x^3 in Fig. 2. Figs. 4 and 4^a are cross-sections at line x^4 in Fig. 3, showing the same parts, but in different positions. Fig. 5 is a cross-section at line x^5 in Fig. 3.

Referring primarily to Fig. 1, G represents the gun as a whole, and C the coin-controlled mechanism. 1 is the magazine of the gun; c, the cartridges therein; 2, the barrel, and 3 the carrier-block, which receives the cartridges and elevates them one by one to the barrel in a well-known way. The gun illustrated is of a well-known kind, and the ordinary mechanism thereof is too well known to require special description, as it forms no part of the present invention. Under the magazine 1, at its rear or inclosed end, is situated a pivoted detent 4, the rear free end of which has a shoulder 4^a, that takes behind the rear car-

tridge in the magazine normally, as in Fig. 1, and prevents it from being pushed by the magazine-spring back into the chamber of the carrier-block. This detent 4 is upheld in locking position by the pressure of the end of a rod 5, which takes under the detent and bears on a bevel or incline 4^b on the under side of the same. This rod 5 extends back into the stock of the gun and is coupled to the free end of the armature-lever 6 of an electromagnet M in the gun-stock. The lever 6 carries the armature *m* and has a spring 7, which yields to the pull of the magnet and serves normally to hold the rod 5 pressed against the inclined shoulder on the detent 4. In addition to the incline on the under side of the detent 4 the rod 5 may have a cam projection 5^a to ride up an incline 5^b, formed on the metal casing of the gun when the said rod is advanced by the spring 7. Either or both of the devices described may be used for raising the detent 4. Obviously when the electromagnet M is excited and attracts its armature the armature-lever will draw back the rod 5 and allow the detent 4 to fall, so as to unlock the magazine and allow the rear cartridge to move back into the carrier-block, as seen in Fig. 1^a. If gravity be not relied on to depress the detent 4, a light spring 4^c may be employed for the purpose.

The circuit, which includes the coils of the magnet M, is designated by *w* and is represented diagrammatically in Fig. 1.

It is desirable for reasons that will be hereinafter explained that the cartridge which is released shall as it moves back into the carrier-block break the circuit through the magnet M and allow the rod 5 to again press the detent upward elastically, so that it may take behind the next following cartridge in the magazine and lock the latter, and this is effected by means of a pivoted circuit-breaking piece 8, the upper end of which projects upward into the path of the cartridge through a slot in the carrier-block 3. In the circuit *w* is a normally-closed break adjacent to the circuit-breaker 8, one of the terminals *t* at the break being a spring on which bears an arm 8^a on the pivotally-mounted piece 8, and when the cartridge enters the chamber in the carrier 3 it strikes and rocks the piece 8 and

causes it to press the spring-terminal t out of contact with the other terminal t' , thus breaking the circuit. This is shown in Fig. 1^a.

The coin-controlled apparatus C will now be described. 9 is the coin-chute, and d represents a coin inserted therein. When this coin descends, it acts by gravity and lateral pressure of its edge on a light-hinged wiping-plate 10 to press the latter back and cause a spring-terminal t^2 to make contact with another terminal t^3 , both at a normally open break in the circuit w . This has the effect to close this circuit through the electromagnet M in the gun and so unlock the magazine; but it also closes the circuit through another electromagnet M' in the coin-controlled apparatus, and when this latter magnet is excited it attracts its armature m' , thus rocking its armature-lever 6^a. The lower end of this lever carries a stop-piece 6^b, which enters the coin-chute and arrests the further descent of the coin d , as indicated by dotted lines in Fig. 1; but when the cartridge enters the carrier-block 3 it acts through the piece or rocker 8 to break the circuit through the two electromagnets, and the spring 7^a of the armature-lever 6^a instantly withdraws the said lever, and by thus removing the stop-piece 6^b allows the coin d to fall from the chute into the usual coffer or receptacle set to receive it.

In the drawings the conductors forming the circuit w are represented diagrammatically for convenience of illustration. It may be said, however, that the wires leading from the magnet M forward to the terminals t t' will be or may be inside of the hollow casing of the gun. The wires of the circuit leading from the gun to the coin-controlled apparatus may be in the form of a cord or cable, such as those well known to electricians. B is the generator which supplies the circuit w .

The magazine-lock may be controlled by a coin through mechanical instead of electrical or electromagnetic means, but not, perhaps, so satisfactorily. Mechanical devices suitable for this purpose are illustrated in Figs. 2 to 5, and these will now be described.

G in Fig. 2 represents a part of the gun sufficient to illustrate the novel features, and C^x represents the special coin-controlled mechanism. As in Fig. 1, 1 is the magazine, 3 the carrier-block, and 4 the detent for locking the magazine. In this case the detent 4 is upheld by a spring 7^x and has an arm 4^e, to which is attached an operating flexible connector 12, such as a fine annealed wire, catgut, or the like. This connector 12 extends through a jointed tube 13 to the coin-controlled device C^x, where it is attached to one arm 14 of a bell-crank lever. The other arm 15 of this lever is hinged so that it may move laterally to a limited extent, and this hinged arm passes through the coin-chute 9^x and plays loosely in a slot therein near one edge of said chute, so that the coin d^x in falling

down the chute strikes this hinged arm and moves it by an edgewise-wedging action outward laterally, but the coin lodges at said arm. In moving laterally, however, the hinged arm 15 is put into the path of a stud 16^a, projecting laterally from an operating-lever 16, which projects upward through a slot in the counter or frame D. The operation is simple. Normally the magazine is locked and the gun cannot be used, but if a coin d^x of the proper kind be dropped into the coin-chute it will strike the arm 15, press it laterally into the path of the stud 16^a, and remain lodged on said arm 15. If the lever 16 be now pulled over in the direction of the arrow z in Fig. 2, the stud 16^a will depress the arm 15 and, acting through the arm 14 and connector 12, draw down the detent 4, free the cartridge in the magazine, and allow it to enter the carrier-block; but when the arm 15 is depressed to a limited extent the coin d^x , following the arm, reaches a wider part or bay 9^a in the coin-chute, frees itself, and falls into the box 9^b below, when a spring 15^a shifts the arm 15 back again to its normal position and out of the path of the stud 16^a on the operating-lever. This lever has a spring 16^b, which returns it to its normal position. Any kind of pull may be used in lieu of the lever 16 for operating the device.

Fig. 4 shows the arm 15 in its normal position, and Fig. 4^a shows it displaced laterally by a coin.

Having thus described my invention, I claim—

1. The combination, with a magazine-gun having a depressible cartridge-carrier, of a magazine-lock connected with said gun and controlling the supply of cartridges to said carrier, and a coin-operated mechanism controlling said magazine-lock, whereby the latter is unlocked to supply a cartridge to the carrier by the payment of a proper coin, substantially as set forth.

2. The combination, with a magazine-gun, of a magazine-lock connected with said gun, and an electrical coin-operated mechanism controlling said magazine-lock, whereby the latter is unlocked to supply a cartridge by the payment of a proper coin, substantially as set forth.

3. The combination, with a magazine-gun, and a magazine-lock connected with said gun and controlling the movement of a cartridge from the magazine into the carrier-block, of an electric circuit, a generator and electromagnet M in said circuit, mechanism between said magnet and the magazine-lock whereby the magazine is unlocked when the magnet is excited, and a coin-operated mechanism adapted to close said circuit when a coin is inserted, substantially as set forth.

4. The combination, with a magazine-gun, and a magazine-lock connected with said gun and controlling the supply of cartridges thereto, of an electric circuit including a gener-

ator and a lock-controlling electromagnet M, mechanism between said magnet and lock whereby the magazine is unlocked by the excitation of said magnet, a coin-chute, means
 5 whereby the dropping of a coin into said chute closes said circuit, a coin-detainer in said chute and controlled by said circuit, and means whereby the cartridge moving out from the magazine breaks said circuit and sets free
 10 the detained coin, substantially as set forth.

5. The combination with a gun having a magazine 1, and a carrier-block 3, of a detent which takes behind the rear cartridge in the magazine and prevents it, normally, from passing
 15 into the chamber of the carrier-block, a coin-operated mechanism, and means substantially as described, whereby the payment of a coin displaces said detent and frees the cartridge, as set forth.

20 6. The combination with a gun having a magazine 1, and a carrier-block 3, of a detent which takes behind the rear cartridge in the magazine and stops it, an electric circuit including a generator and electromagnets M
 25 and M', a coin-chute, means at said chute whereby the coin dropped into the chute closes

said circuit through said magnets, mechanism between the magnet M and said detent, whereby the magnet when excited allows said
 30 detent to fall and free the cartridge, a coin-stop, controlled by the magnet M', and the device for breaking the circuit at the gun, said device comprising the rocking piece 8, in the path of the cartridges, and the terminals
 35 t and t', substantially as set forth.

7. The combination with a gun having a magazine, and means for carrying the cartridge received from the magazine into line with the cartridge-chamber in the barrel, of
 40 a detent which engages the rear cartridge in the magazine and prevents it, normally, from passing to the depressed carrier, and means substantially as described whereby the payment of a coin displaces said detent, substantially
 45 as set forth.

In witness whereof I have hereunto signed my name, this 21st day of February, 1899, in the presence of two subscribing witnesses.

JOHN L. McCULLOUGH.

Witnesses:

PETER A. ROSS,
 HENRY CONNETT.