

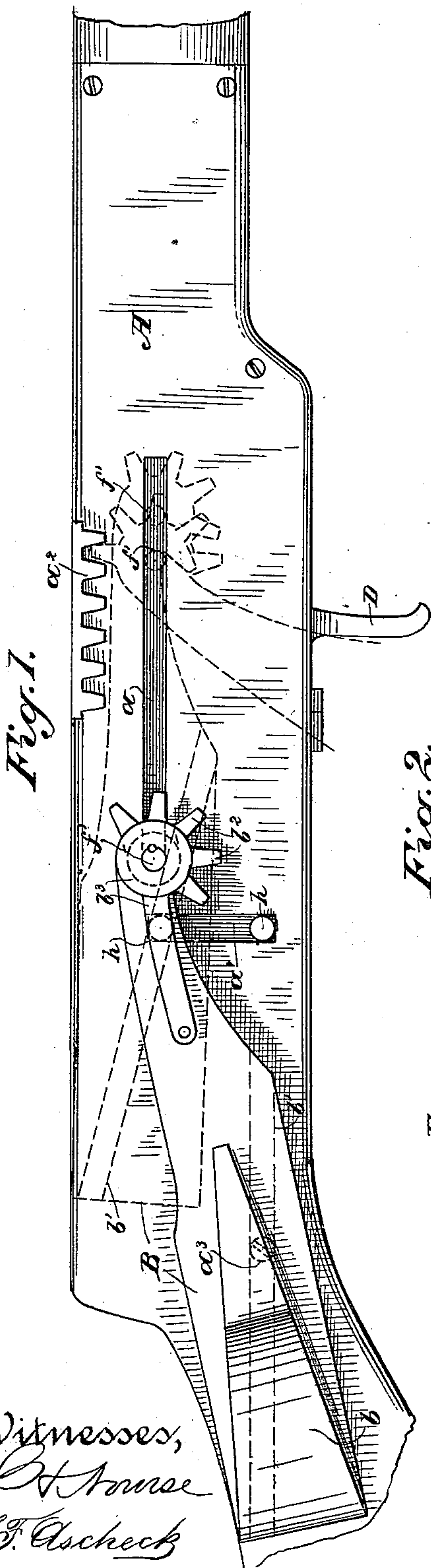
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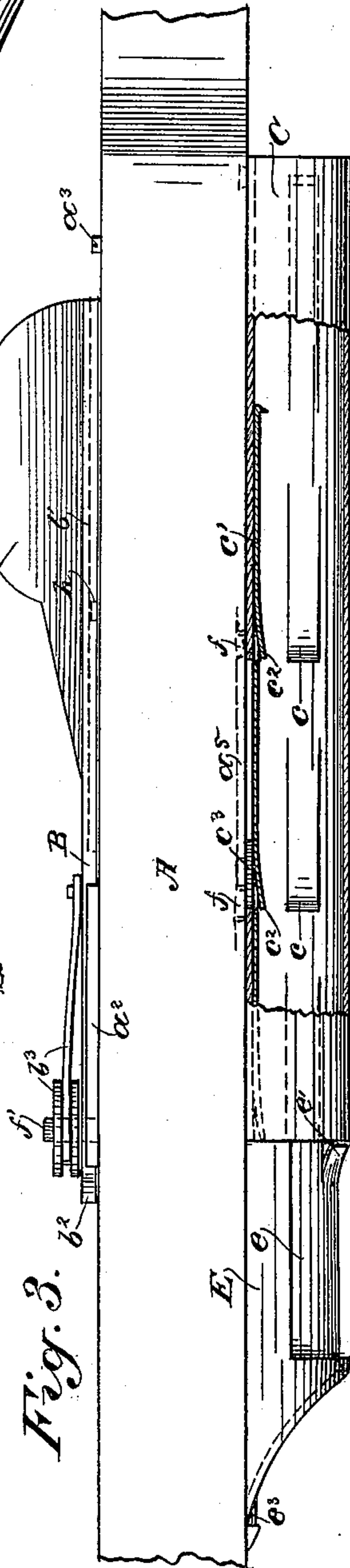
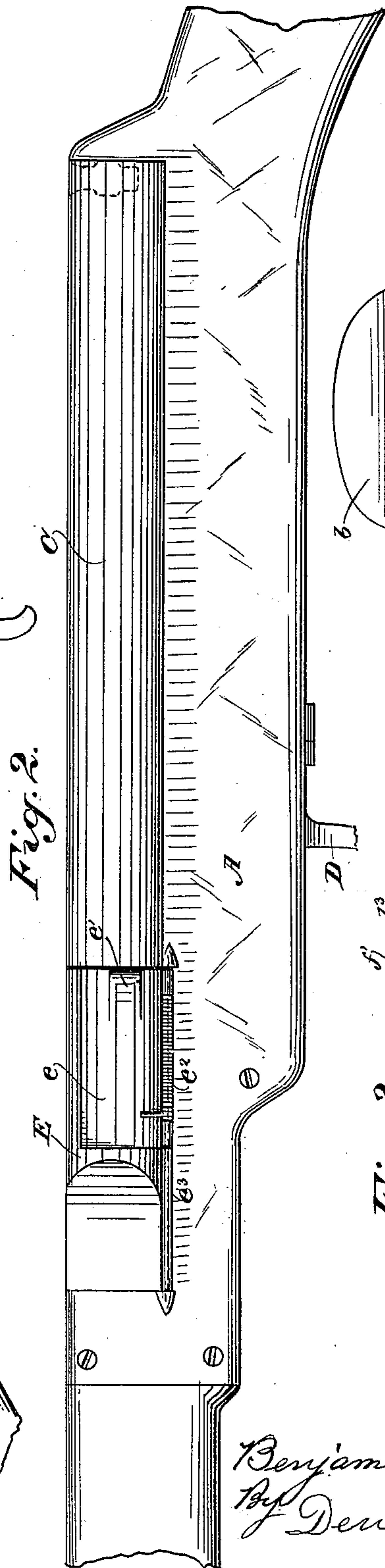
B. F. PETTIT.
MAGAZINE GUN.

No. 534,516.

Patented Feb. 19, 1895.



Witnesses,
J. H. Morse
H. F. Aschbeck



Inventor,
Benjamin F. Pettit
By Derray & Co. attys

(No Model.)

B. F. PETTIT.
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2 Sheets—Sheet 2.

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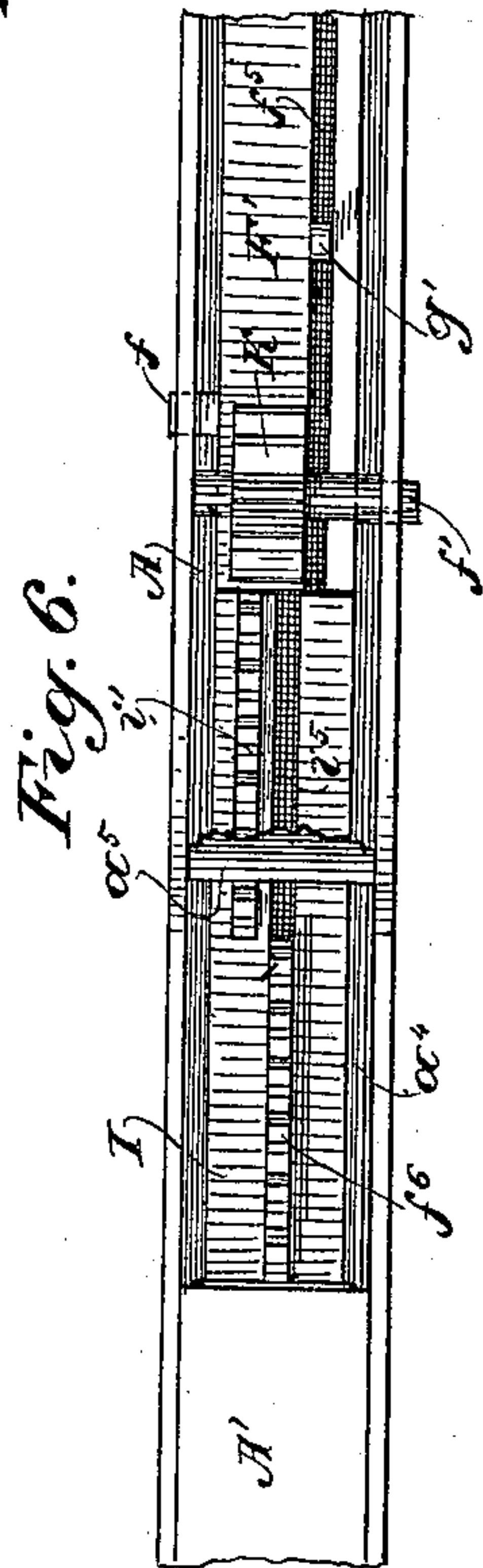
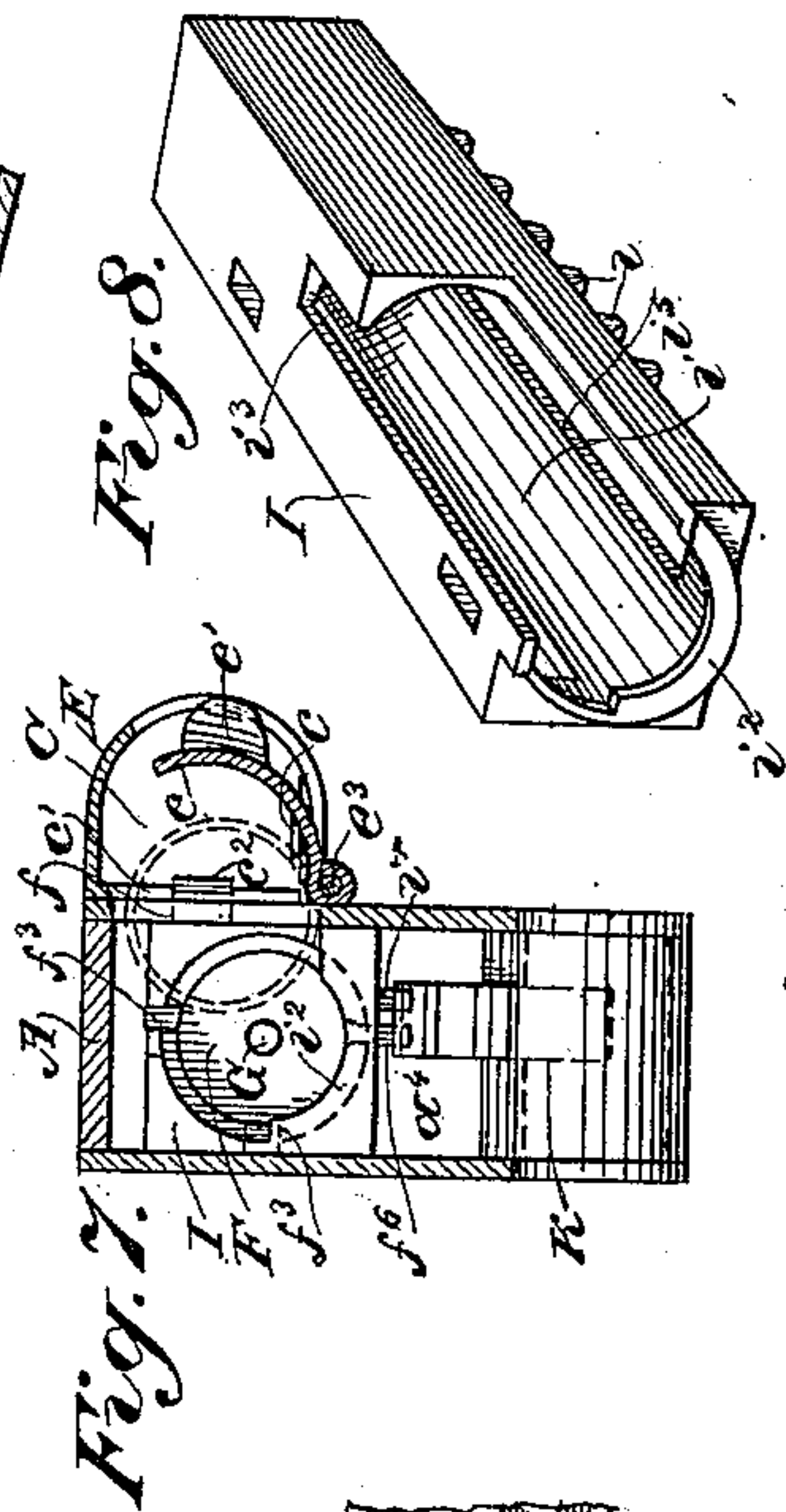
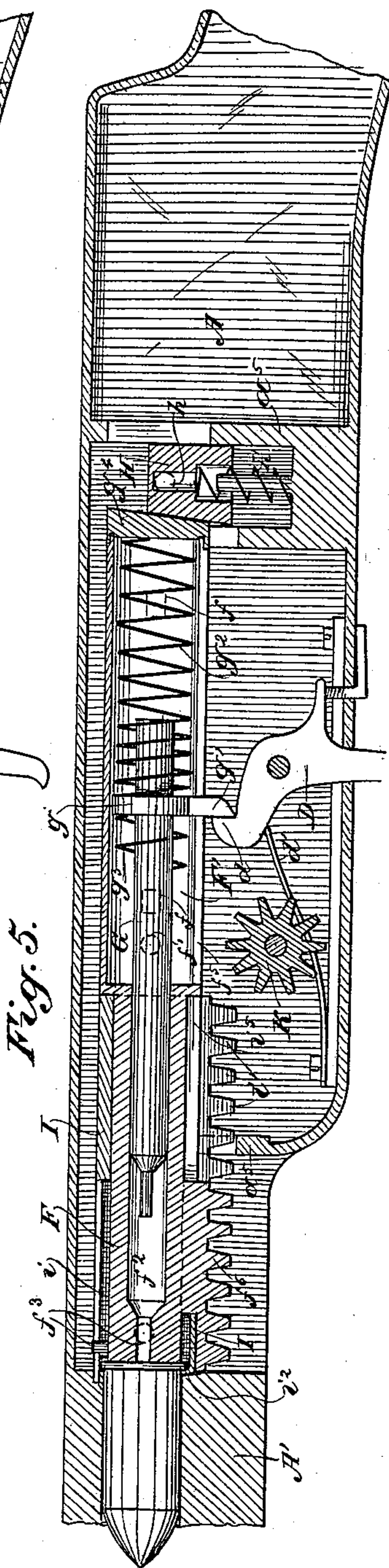
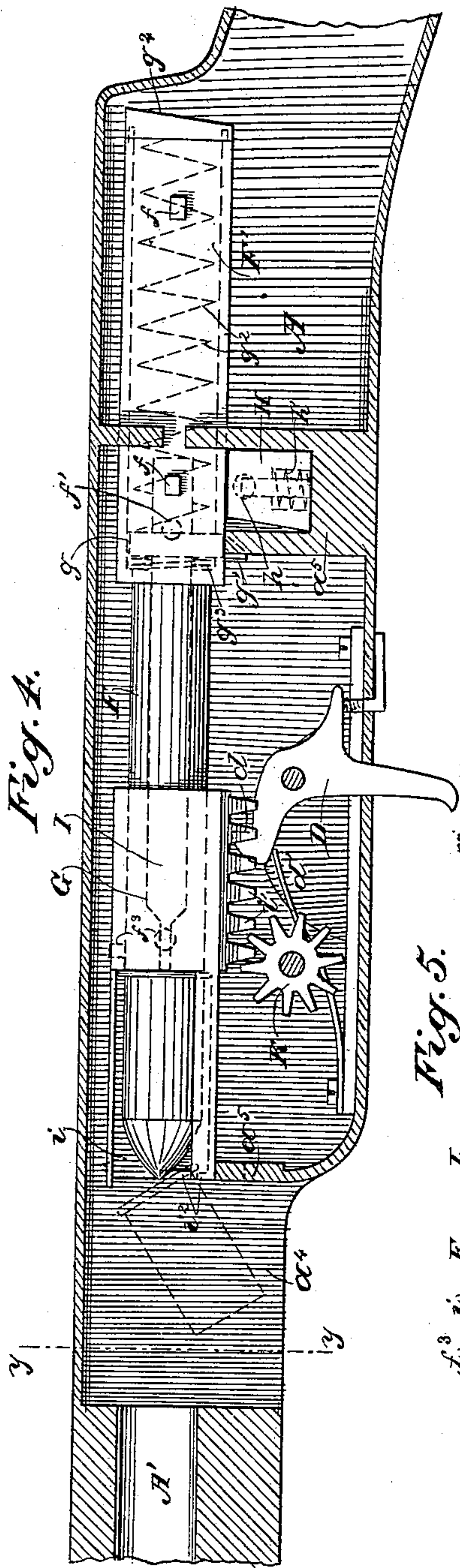
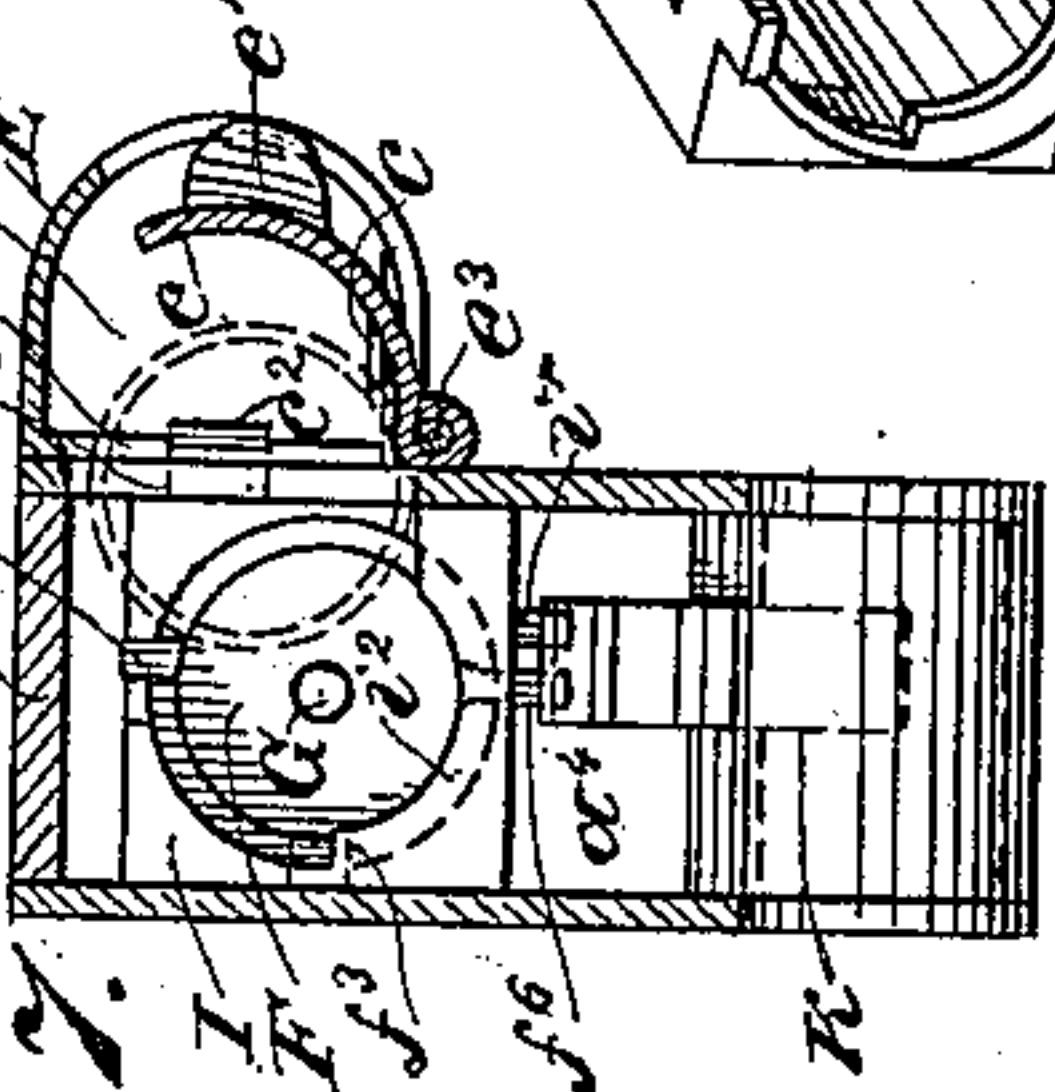


Fig. 8.



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UNITED STATES PATENT OFFICE.

BENJAMIN F. PETTIT, OF SAN LUIS OBISPO, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO M. GREENBERG, OF SAME PLACE.

MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 534,516, dated February 19, 1895.

Application filed August 30, 1894. Serial No. 521,750. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. PETTIT, a citizen of the United States, residing at San Luis Obispo, San Luis Obispo county, State of California, have invented an Improvement in Magazine-Guns; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in magazine guns.

It consists in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a view of the right hand side of the gun. Fig. 2 is a similar view of the left hand side. Fig. 3 is a top view of the gun. Fig. 4 is an interior view of the same, the front plate being taken off, and the locking bolt being pushed back to receive a new charge. Fig. 5 is a longitudinal section of the same, the gun being ready to be fired. Fig. 6 is a bottom view of the gun. Fig. 7 is a transverse section on the line $y-y$ of Fig. 4. Fig. 8 is a detail view of the receiver.

The object of my invention is to provide a magazine gun with a mechanism by which the cartridges are transferred singly from the magazine to a carrier and thence to the barrel of the gun, and means by which the carrier and breech bolt are operated successively, the latter being locked, and the firing pin set in position to discharge the gun after it has been loaded.

A is the frame of the gun within which the various parts of the mechanism are contained, and A' is the barrel of the gun.

C is a magazine which is fitted upon one side of the gun, and is provided with spring tongues c so arranged that one end will rise into the pathway of the cartridges as they are introduced into the magazine and prevent their return, these springs being depressible to allow the cartridges to pass over them. Other spring tongues c^2 are connected with the operating mechanism c' so as to be reciprocated thereby, and they move in the magazine and advance the cartridges to be introduced into the gun.

From the front end of the magazine the cartridges are delivered through an opening

in the inner side at E, and pass into the open side of a carrier I.

e is a hinged door of the magazine at a point opposite the opening through which the cartridges are placed in the gun, and through this door cartridges may be introduced singly if it is desired to load the gun without disturbing the cartridges which are in the magazine.

e^3 is the hinge and e' is a small flap struck out of the door and turned outwardly. This flap e' is for the purpose of guiding the point of the cartridge on this door e , the latter having a spring e^2 fixed to its hinge by which this door is kept pressed inwardly. The entering cartridge will press it first outwardly, and the spring e^2 will then immediately recoil and roll the cartridge over into the receiver I (Figs. 3 and 7).

The mechanism of the gun is actuated by a sliding plate B having a projecting knob or handle b upon one side by which it is pressed forward and elevated to load the gun, then depressed and returned to its normal position, ready for reloading. These two movements complete the whole process of loading the gun and preparing it to be discharged, discharging the empty shell and placing the mechanism in condition to again load the gun.

b' is a groove or channel made in the plate B, and a^3 is a stationary pin projecting from the side of the gun into the groove or channel b' so that when the plate B is pushed forward, it moves upon and is guided by this pin until it has passed beyond the pin. During this forward movement the channel b' engages with a pin h which projects from the side of the locking wedge H within the frame, so that this pin, being in engagement with the channel, is in readiness to be moved upward in the slot a' when the forward movement of the slide B and the breech bolt, which is carried by it, has been completed. The front end of the slide B is fitted over a pin f' attached to one side of the breech bolt F which reciprocates within the receiver of the gun as will be hereinafter described, and the forward movement of this pin carries the breech bolt with it. As soon as the breech bolt has reached its forward position, the slide

B being then clear of the guide pin a^3 , is lifted from the rear end and this, acting upon the pin h , forces the wedge-shaped locking block H into the space behind the breech bolt, thus locking the apparatus in readiness to be fired.

The carrier I, which may be either rectangular, polygonal, or round, as may also be the rear portion F' of the breech bolt, is slidable in front of the breech bolt, and has a central opening i into which the front cylindrical portion F of the breech bolt is moved during the process of placing the gun in condition for firing.

Upon the lower side of the cartridge carrier are formed teeth i' , and upon the lower part of the front end of the breech bolt, are also formed corresponding teeth f^6 . The lower part of the carrier is grooved or channeled, as shown at i^5 so that at the proper time when the breech bolt is introduced into the carrier to force the cartridge from the carrier into the barrel of the gun, these teeth projecting through this slot or channel, will be allowed to move forward after the carrier has reached its most forward position and has become stationary. The position of the two sets of teeth is normally side by side, and in this position they engage the loosely revoluble pinion K, so that both the carrier and the breech bolt must move together for a portion of the distance, as they are locked together by reason of the two sets of teeth engaging the same pinion. The operation of this part will then be as follows: The breech bolt and carrier being in their rearmost positions, the breech bolt will be drawn back so that its front end just enters the rear of the carrier, and there will be sufficient space in front of it to allow a cartridge to enter the carrier from the magazine in front of the breech bolt. When the plate B, upon the side of the gun, is now moved forward in the slot a , the two sets of teeth i' and f^6 upon the carrier and breech bolt respectively, engaging the pinion K, cause the latter to rotate, and both the carrier and the breech bolt move forward, maintaining their relative positions to each other by reason of the pinion locking them together. The number of teeth upon the carrier is such that when the carrier has reached a point where it forms contact with the rear end of the barrel A', the teeth i will have passed beyond the pinion K, and the breech bolt will then be free to continue its movement which it does by reason of the continued movement of the slide plate B, until it has forced the cartridge into the breech of the gun. This operation being completed, the slide B will be in the position previously described where it is clear of the guide pin a^3 , and is in engagement with the pin h of the locking slide block H. The slide B now being lifted up, as previously described, lifts the pin h in the slot a' and the locking block H until it passes behind the rear end g^4 of the breech bolt, thus preventing the latter from being forced back when the discharge takes place.

The locking slide H is chambered vertically from below, and moves up and down upon a guide pin projecting from the lower part of the breech and surrounded by a light spiral spring h' which is compressed when the locking block is moved down and extends itself when the locking block is moved upwardly.

G is the firing pin. This firing pin is slidable in the chamber f^2 in the interior of the breech bolt, and its front end is reduced and extended, as shown, so as to pass through a small hole in the front end of the breech bolt and strike upon the primer in the rear end of the cartridge shell for the purpose of exploding the same. Upon the rear part of this firing pin is a collar g having a lug g' projecting downwardly from it and adapted to engage with the point d of the trigger D.

d' is a spring acting to hold the point d of the trigger in position to be engaged by the lug g' .

g^2 is a spring inclosed in the hollow rear portion F' of the breech bolt F and pressing against the collar g . When the parts are withdrawn to their rearmost position, this spring is extended, but when the breech bolt is moved to force the cartridge into the barrel of the gun, the spring is compressed, and the firing pin being arrested by the lug g' which is held against the point d of the trigger, the breech bolt will move forward leaving the firing pin withdrawn, as shown in Fig. 5, and in position to discharge the gun. This discharge is effected by pulling the trigger until the lug g' is released when the firing pin will be forced forward by the tension of the spring g^2 and will explode the cartridge.

i^2 is a segmental rim formed around the front portion of the lower part of the carrier, and adapted to engage the front of the rim of the cartridge shell. This flange i^2 acts to withdraw the cartridge shell from the barrel of the gun after it has been discharged and when the carrier is again retracted, and by encircling only the lower half of the shell rim allows the shell to tilt out of this flange i^2 as soon as the shell is clear out of the barrel and to drop out through the open space a^4 in the lower part of the breech of the gun, just in rear of the rear end of the barrel, and which is of sufficient length to allow the cartridge shell to be ejected downward when the carrier is withdrawn.

The movement of returning the parts to their normal position will be as follows: The slide B is first depressed, moving downward with it the pin h which carries the locking wedge H below the rear end of the breech bolt. The slide B is now drawn backward and the channel b' engaging the guide pin a^3 it is moved directly backward, drawing with it the breech bolt.

The upper part of the carrier I is slotted as shown at i^3 , and a pin f^3 projecting upwardly from the breech bolt travels in this slot or channel until it strikes the rear end of the channel. At this point the gear teeth i' and

f^6 again stand side by side, and the further withdrawal of the bolt, moves the carrier with it. The two sets of teeth then engage with the rotary gear K and the carrier and breech bolt are again locked to move in unison, and are thus withdrawn to the position shown in Fig. 4, in readiness for the carrier to receive another cartridge.

a^2 is a short toothed rack fixed upon the side of the frame, and b^2 are teeth formed in the front end of the plate B, as shown in dotted lines Fig. 1. This part of the plate is slipped over the pin f' and then a grooved washer is placed over it. A spring b^3 fits in the groove of the washer and holds the plate B down over the pin f' . The teeth on this plate are in such position that if the cartridge is easily moved into the breech of the gun, the uppermost of the teeth pass beneath the rack a^2 without engaging it, but if it be found that the cartridge sticks and does not properly enter the breech of the gun, the plate B may be forced down, as shown in dotted lines in Fig. 1. After it has been pushed as far forward as possible, and a tooth of the plate engaging the rack, it will act as a lever to force the cartridge fully into place. In the same manner, if a cartridge shall stick and be difficult to extract, the same engagement of the teeth of the plate and rack, and a movement of the plate in a reverse direction, will serve to produce the necessary leverage to withdraw the shell.

In order to engage either one of the teeth with the rack, the back part b is simply raised so much away from the side of the barrel as to free the plate from either the stud a^3 or the pin h as may be desired, and then the plate B may be swung down until one of its teeth engages an adjacent tooth in the rack and so affords a hold for a leverage against the pin f' and the breech bolt.

c' is a sliding plate with the points c^2 projecting inwardly into the magazine so as to engage the cartridges and move them forward. This sliding plate carries on its inner side a lug c^3 which projects through a slot a^5 into the path of the lugs f fixed to the side of the part F' of the breech bolt, and as the bolt is advanced or retracted the respective lug will carry the slide plate c' with it and also a cartridge as previously described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a magazine gun, a magazine fixed upon the side of the frame having an opening between itself and the interior of the frame at the discharge end, a horizontally slidable carrier movable within the frame having a corresponding cut-away portion through which the cartridge is introduced from the magazine into it, a breech bolt slidable within the frame, and also slidable into the rear of the carrier so as to force the cartridge from the carrier into the barrel of the gun, rack teeth projecting from the lower part of the carrier, and also from the lower part of the breech

bolt so as to stand and move in parallel planes, and a pinion with which said teeth engage when standing side by side whereby the bolt and carrier are caused to move in unison during the engagement of the teeth.

2. In a magazine gun, a magazine fixed upon the side and having an opening from the discharge end into the interior of the frame of the gun, a carrier slidable longitudinally within the frame having a cut-away portion at one side through which the cartridge is delivered from the magazine into said carrier, a breech bolt slidable within the breech of the gun, and also within the carrier whereby the cartridge is forced from the carrier into the barrel of the gun after the carrier has reached its forward position, toothed racks projecting downwardly respectively from the carrier and the breech bolt, a pinion with which the toothed racks engage whereby the carrier and bolt are caused to move in unison while the teeth are engaged with the pinion, a sliding plate upon the exterior of the frame connected with the breech bolt whereby the forward movement of said plate moves the carrier and the breech bolt to a position in rear of the barrel of the gun, disengages the racks from the pinion so that a further movement of the plate forces the breech bolt forward and delivers the cartridge into the barrel of the gun.

3. A carrier slidable longitudinally within the frame of the gun having a side opening through which cartridges are delivered to it from a magazine, a breech bolt slidable into the rear of the carrier and adapted to force the cartridge from the carrier into the barrel of the gun, a firing pin slidable longitudinally within the breech bolt, a collar fixed to the firing pin having a lug adapted to engage the trigger catch whereby the firing pin is held stationary while the breech bolt is moved forward, a spring fixed within the breech bolt so as to be compressed when the firing pin is arrested, and adapted to extend itself and force the firing pin forward when released by pulling the trigger.

4. In a magazine gun, the carrier slidable within the frame adapted to receive cartridges from the magazine, the breech bolt slidable within the carrier, mechanism whereby the two are caused to move in unison until the front end of the carrier is in contact with the rear of the barrel, mechanism whereby the motion of the breech bolt is continued until the cartridge is forced into the barrel of the gun, and a vertically sliding locking block with mechanism whereby it is moved up behind the rear of the breech bolt to lock it in position while the gun is ready to be fired.

5. In a magazine gun, the longitudinally slidable cartridge carrier and breech bolt, a handled slide movable horizontally upon a guide pin on the exterior of the gun, a pin by which the front end of the slide is connected with the breech bolt whereby the latter is advanced or retracted by the movement of the slide, a vertically moving locking block hav-

ing a pin projecting outwardly therefrom and adapted to engage the slot or channel in the slide, said slide being disengaged from its guide pin and adapted to receive an upward movement whereby the locking block is moved upward behind the breech bolt.

6. In a magazine gun, the carrier slidable within the frame adapted to receive cartridges from the magazine, and a breech bolt slidable within the carrier adapted to force the cartridges from the carrier into the barrel of the gun, a locking block movable vertically behind the breech bolt after the latter has reached its forward position, a handled slide

movable upon the exterior of the gun whereby the carrier, breech bolt, and locking block are actuated, a toothed rack fixed upon the side of the gun and a mutilated pinion connected with the front end of the slide and adapted to engage the rack so that the slide may be employed as a lever to force the cartridge home or retract the shell from the barrel.

In witness whereof I have hereunto set my hand.

BENJAMIN F. PETTIT.

Witnesses:

H. E. MCKENNON,
J. F. FIEDLER.