

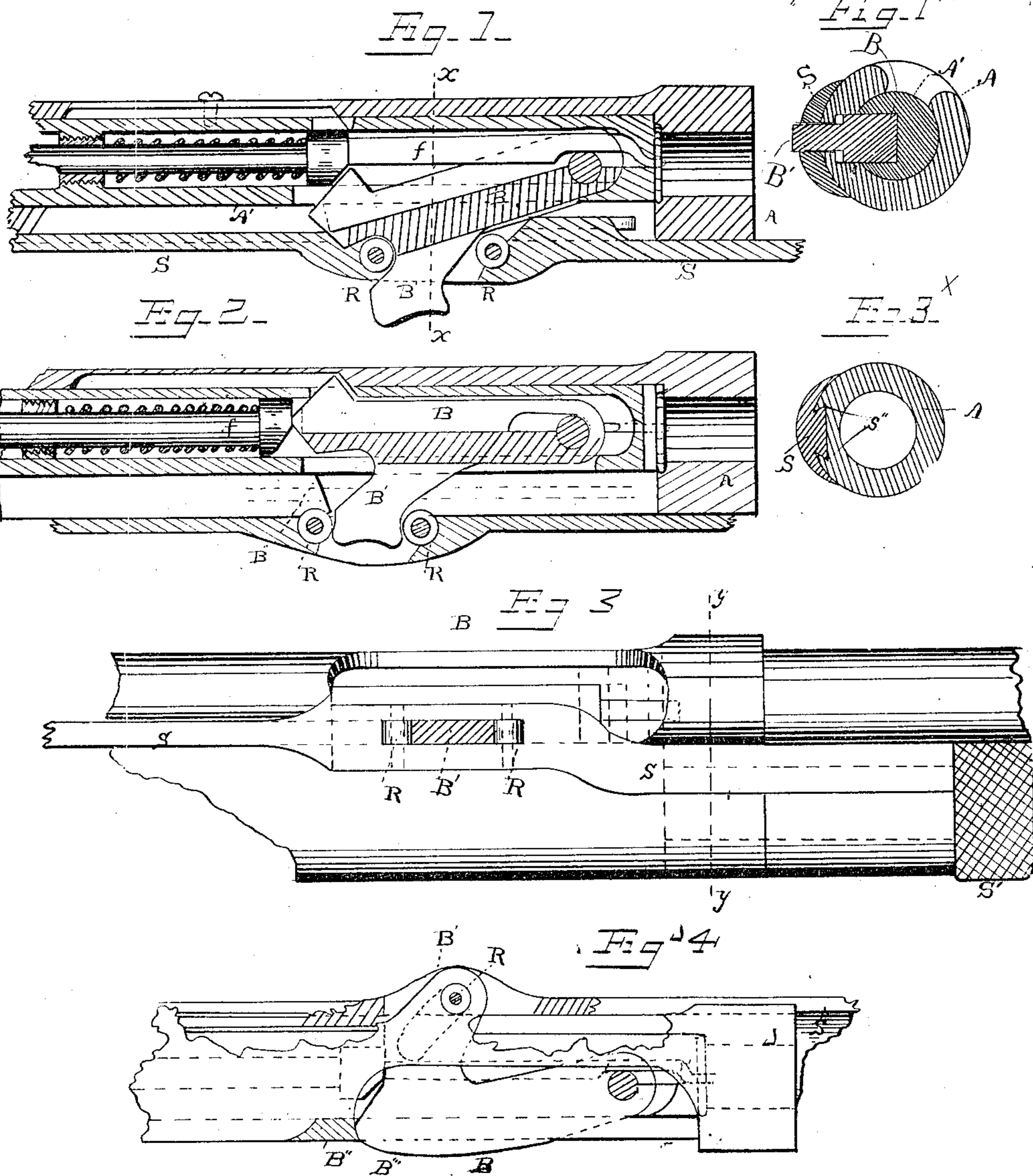
(No Model.)

3 Sheets—Sheet 1.

A. BURGESS.  
MAGAZINE FIRE ARM.

No. 289,972.

Patented Dec. 11, 1883.



WITNESSES.

S. W. Brown.

Chas. J. Simpson

INVENTOR

Andrew Burgess.  
by Warwick and Bartlett  
His attys.

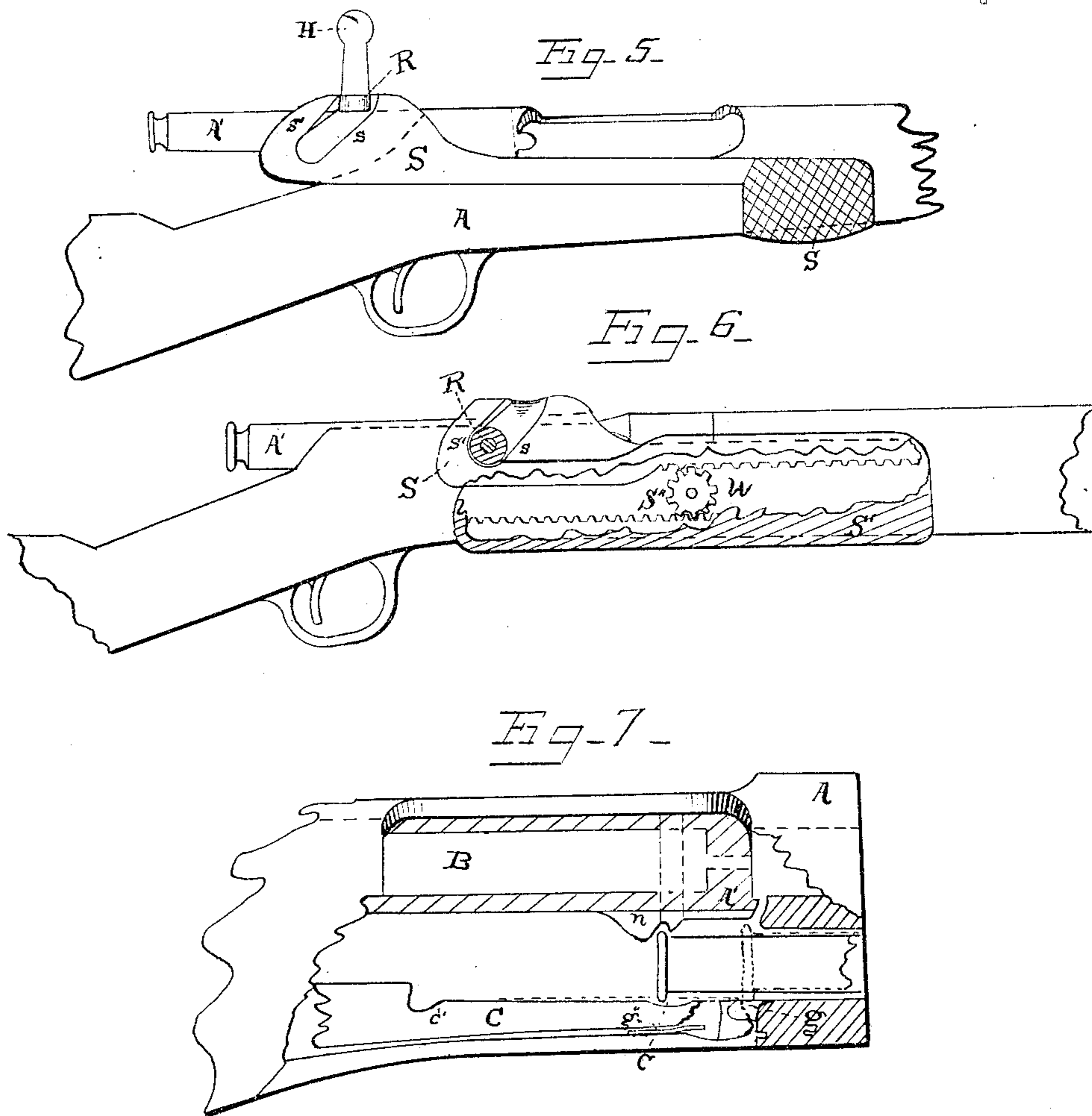
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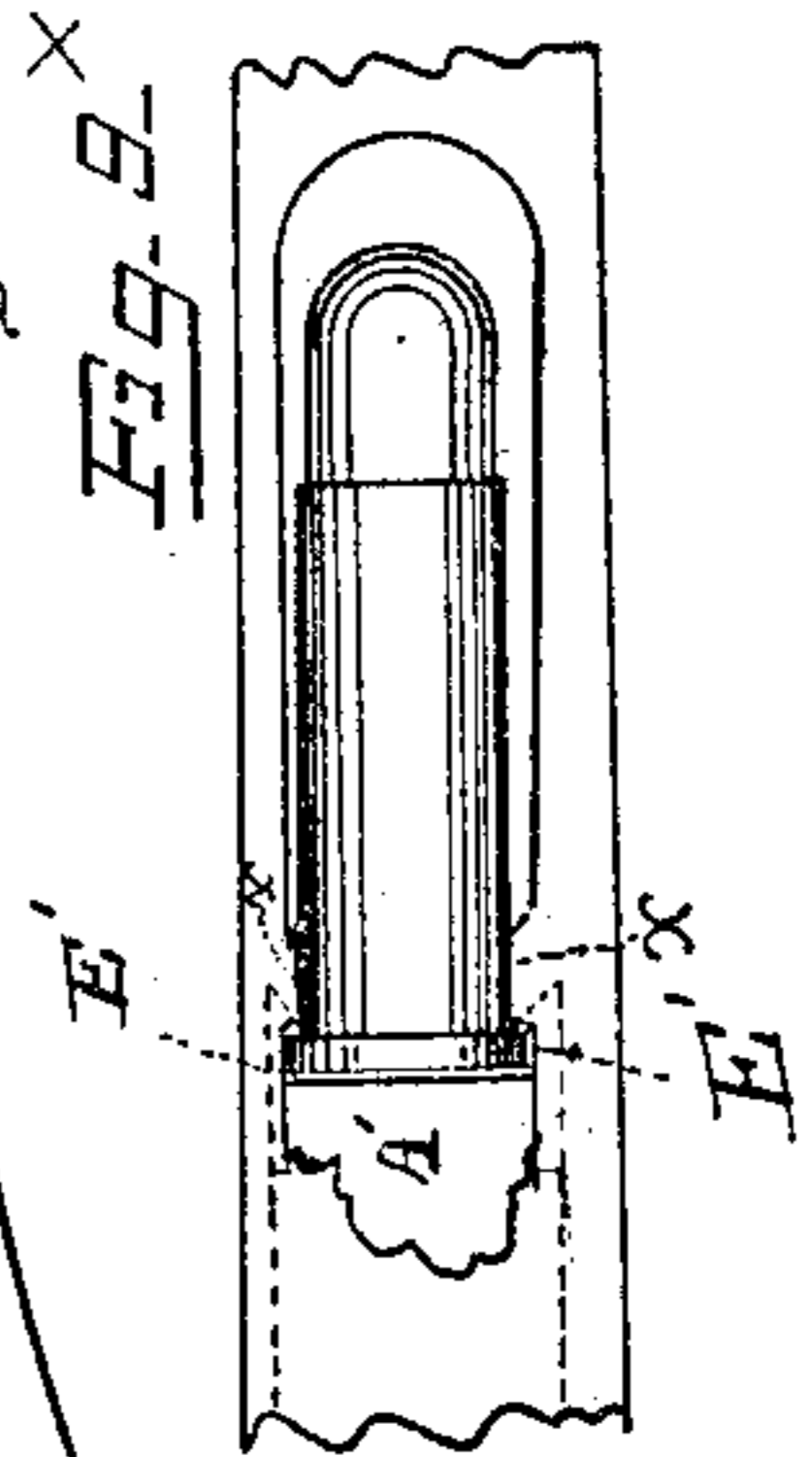
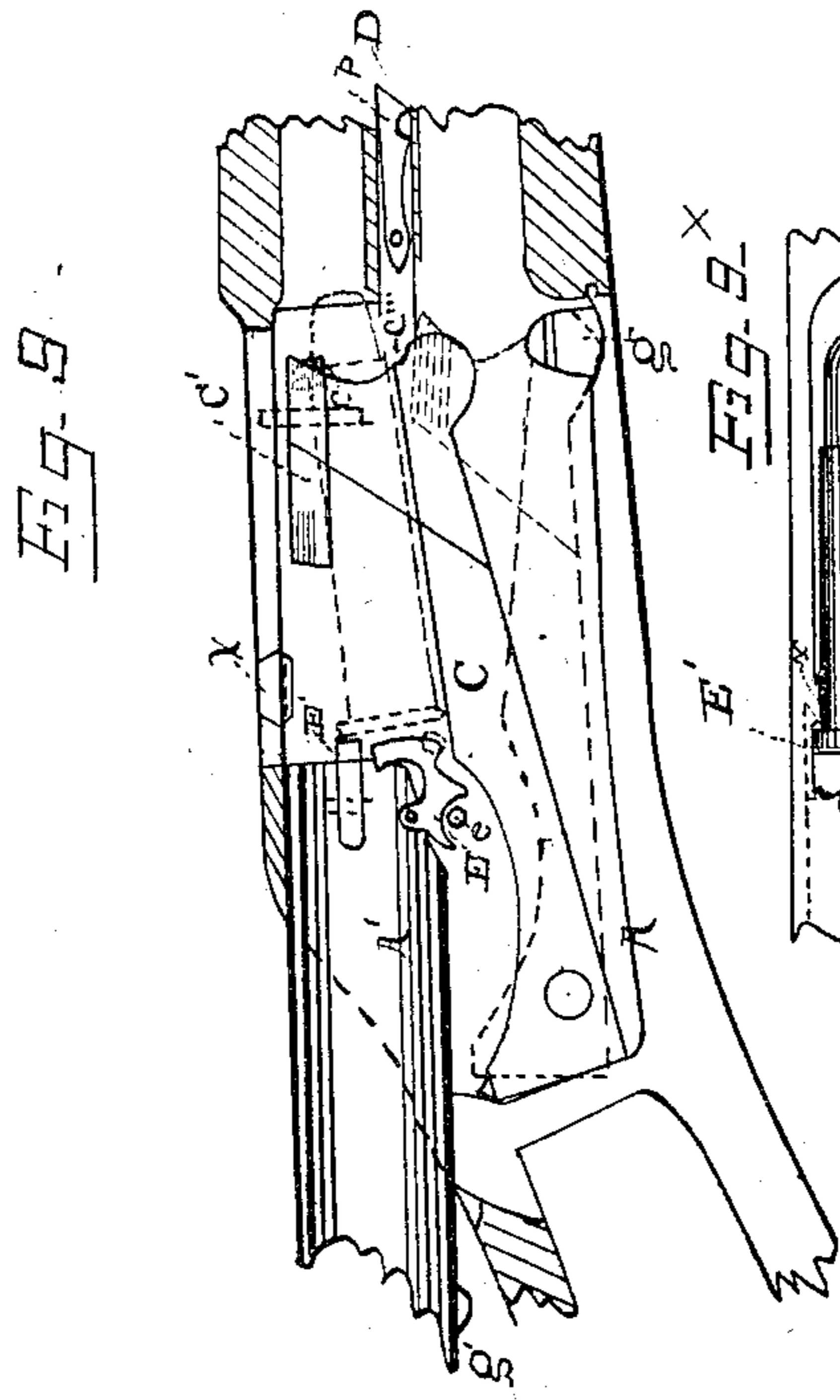
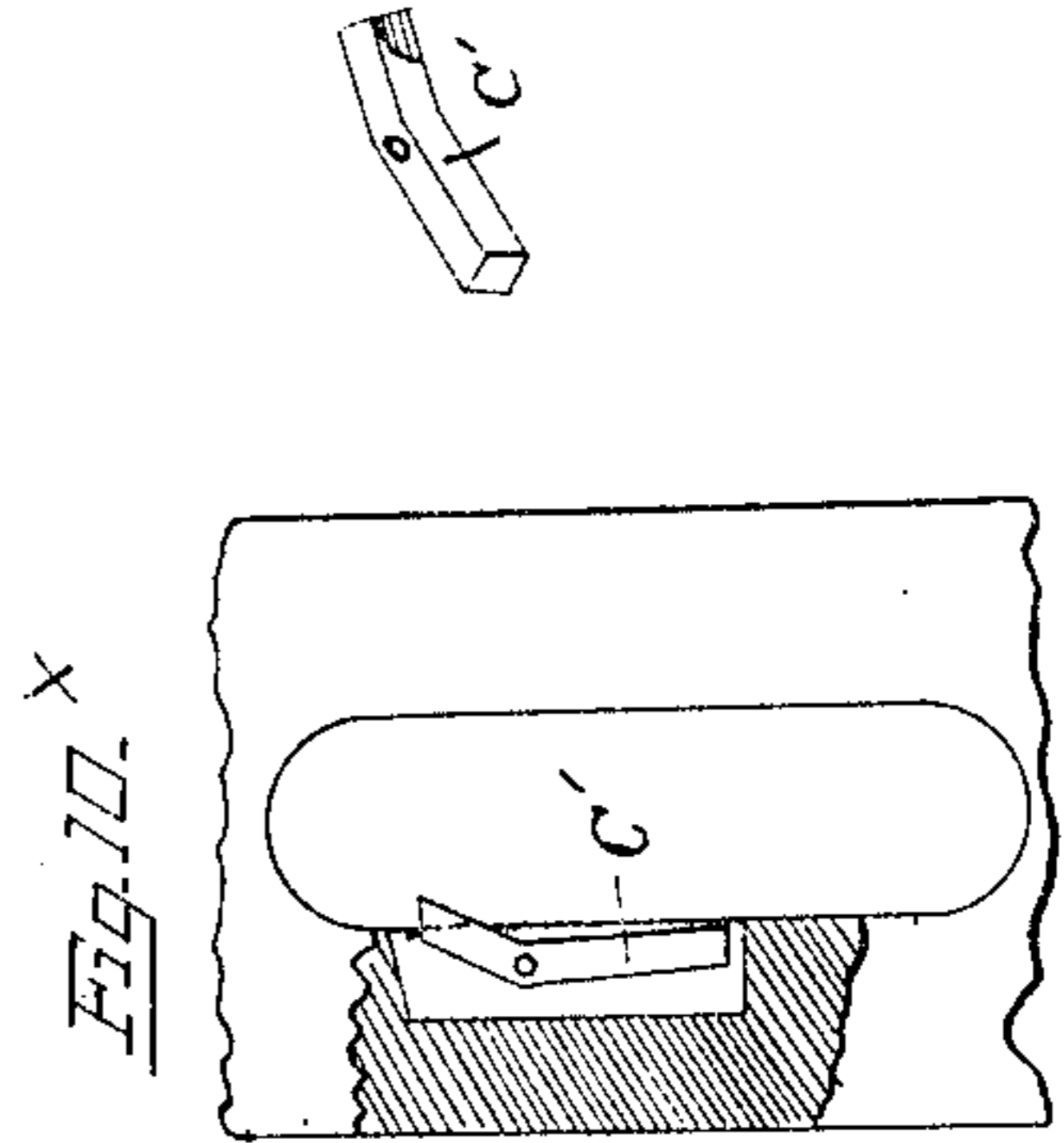
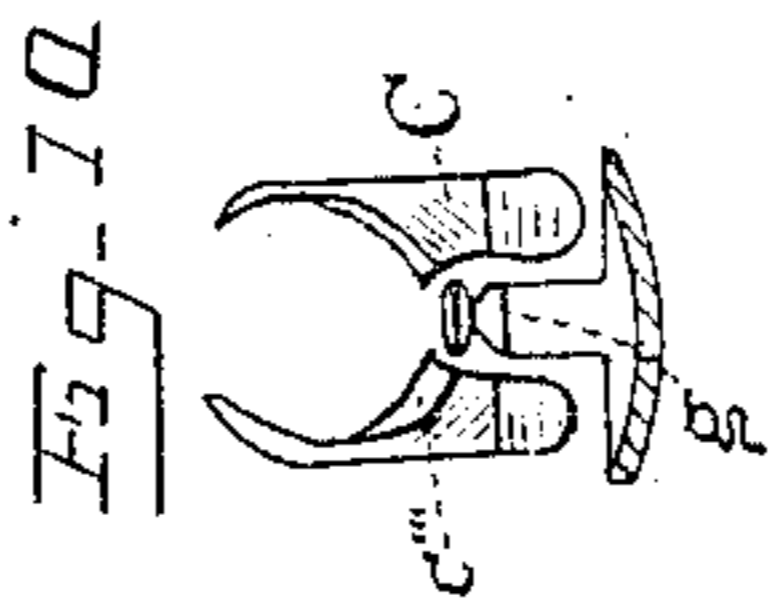
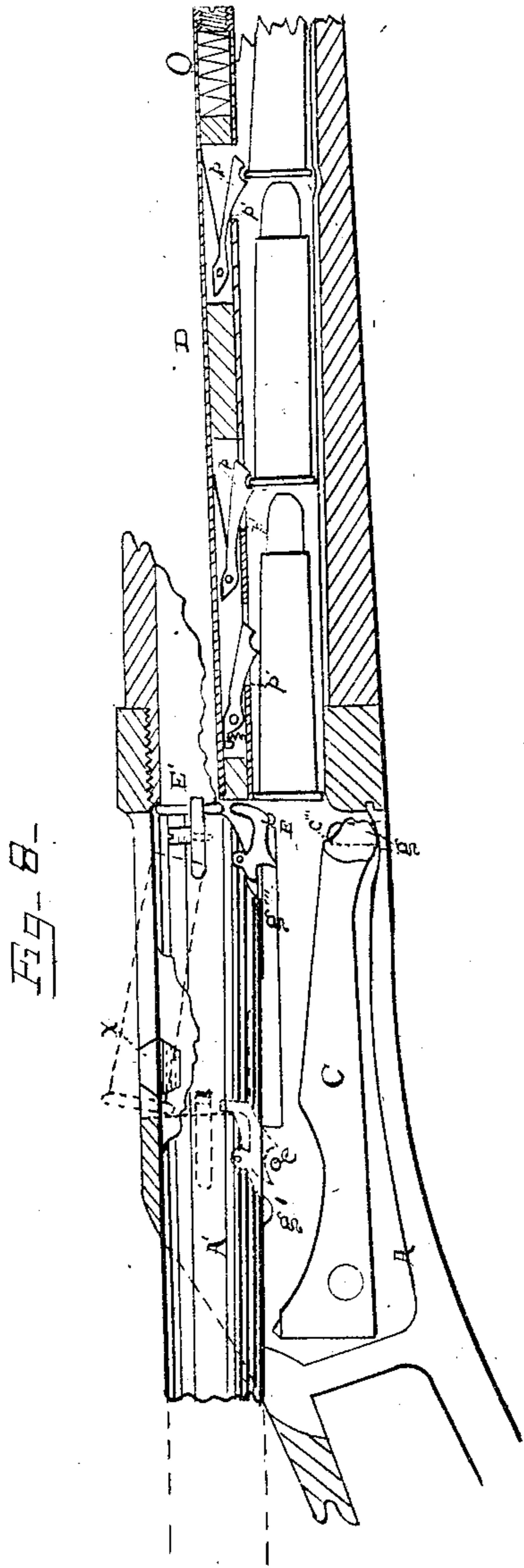
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# UNITED STATES PATENT OFFICE.

ANDREW BURGESS, OF OWEGO, NEW YORK.

## MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 289,972, dated December 11, 1887.

Application filed July 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANDREW BURGESS, a citizen of the United States, residing at Owego, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Guns, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan section of the gun with top of frame, bolt, and locking-block removed, showing the operating-slide S and other parts in a closed or locked position. Fig. 2 is the same unlocked and started to open. Fig. 3 is a side view of the same. Fig. 4 is a plan view with part of frame cut away to show a modification, in which the locking-shoulder is solid and the lug for operating the locking-block projects through a slot in the opposite side of the frame. Fig. 5 shows the side of a bolt-gun and position of reciprocating slide when the breech is open. Fig. 6 shows the same having the breech closed, and with the addition of gearing to change the movement. Fig. 7 is a side view, showing the relation of bolt and carrier. Fig. 8 shows a vertical longitudinal elevation of a gun provided with various improvements. Fig. 9 is the same in an open position; and Fig. 10 shows the front of the carrier of Figs. 7, 8, and 9, with the stud to modify its operation. Fig. 1<sup>x</sup> is a section of Fig. 1 on line *x x*. Fig. 3<sup>x</sup> is a section of Fig. 3 on line *z z*, to show dovetail groove *s''*. Fig. 9<sup>x</sup> is a plan of part of Fig. 9, to show the groove through which the cartridge-flange may rise. Fig. 10<sup>x</sup> is a detail showing the lever *c'* in plan and in perspective.

Similar letters of reference indicate corresponding parts.

A is the frame; A', the bolt; B, the locking-block; B', the lug on said block; S, the operating-slide; R R, the studs or friction-rollers of said slide; S', the hand-piece for operating the slide S.

The frame A, Figs. 1, 2, 3, and 4, is provided with a longitudinally-reciprocating bolt, A', which is locked and moved by the laterally-swiveling block B. The block B is furnished with lug B', which projects at an angle from the bolt. I arrange a sliding bar, S, to engage lug B' through a slot or mortise in said bar. The engaging shoulders of bar S may be simply rounded; but I prefer to provide them

with the friction roller or rollers R, Figs. 1, 2, and 4. The sliding bar S is confined to a reciprocating motion in the frame by a dovetail groove or housing, as *s''*. When the bar S is forced rearward by the hand-piece S', or otherwise, its forward shoulder, as in Fig. 1, engages the forward portion of the inclined lug B' of block B, thereby pressing said block into the hollow of the bolt and freeing it from its locking-shoulder B'' in the frame, as seen in Fig. 2. This allows the bolt to be freely moved back by the continued movement of the bar S, to open the breech, and the breech may be closed by the return movement of the bar S, and when it reaches the position shown in Fig. 2 the outward pressure of the rear shoulder of said bar turns the block laterally, to lock it before the locking-shoulder B''.

It will be seen that I change the line or angle on both sides of the lug B', so that pressure of the bearings of the slide S will be at or nearly at a right angle with the movement of the bolt when it is unlocked, and thereby avoid the friction of a more lateral pressure.

The slot or mortise may be made in the lug B', and a single stud or friction-roller to work therein be carried by the sliding bar S.

In Figs. 1, 2, and 3 the lug B' moves backward in a slot through the locking-shoulder of the frame; but in Fig. 4 I arrange the operating-lug on the side of the frame opposite the loading-opening, so that said slot may not weaken the frame on the locking side.

In Figs. 5 and 6 I show the sliding side bar, S, arranged to engage the handle of the bolt of an ordinary bolt-gun, and operate to open and close the breech by the direct reciprocating motion of said bar and its hand-piece S'. The rearward part of bar S is widened and curved to fit the rounded form of the frame A, and provided with a diagonal slot, *s s'*. This slot incloses the base of the bolt-handle H, (on which I prefer to arrange a friction-roller, R,) as seen in Fig. 6, with the bolt closed and locked. A backward movement of the slide S presses upward by its diagonal abutment at *s* against the handle or projection R on the bolt, to force it up and turn said bolt so far as to unlock it, when it will attain the position relatively to the slide S shown in Fig. 5, and be free to move back to open the breech, and then, moving the slide S forward, will carry

the bolt to its closed position, and the spiral abutment  $s'$ , pressing to the right and downward, rotates the bolt to lock it.

As some prefer a reverse motion to the above, so that the hand operating the slide  $S S'$  shall be pressing rearward when the gun is in firing position, I arrange the fixed gear-wheel  $W$ , Fig. 6, to engage cogs on the slide-bar  $S$ , and a corresponding cogged bar to engage the opposite side of the gear-wheel. This last bar is attached to the inside of the hand-piece  $S'$ , so that the forward movement of said hand-piece, by engaging the bottom of the gear-wheel, forces its top, and thereby the cogged slide  $S$ , backward, to open the breech; and a reverse motion of the hand-piece closes the breech in a similar manner.

Fig. 7 is a side view, showing the cartridge under the front of the bolt on the carrier in the position it takes on being loaded into the magazine, the depression  $c$  in the carrier allowing the head of the cartridge to fall out of engagement with the notch  $n$  of the bolt, to pass forward into the magazine, or to enter under said notch when the bolt is closed. When the bolt starts to open, (the cartridge following rearward by impulse of the magazine-spring,) the cartridge-flange is confined between the notch  $n$  and the top of carrier until the flange reaches the rearward depression,  $c'$ , of carrier, which allows the said flange to drop to disengage from the notch of the bolt and remain stationary while the bolt passes rearward from over the cartridge, when it may be raised by the carrier in the ordinary way.

In Figs. 8, 9, and 10 I show a notch,  $c''$ , or recess, shaped to receive the head of a cartridge as it comes from the magazine in top or front face of the carrier, and a stud,  $g$ , to bridge said notch and allow the cartridge to pass over it onto the carrier when the breech is fully closed and the carrier is down, as in Figs. 7 and 8; but when the carrier is slightly raised, as in Fig. 10, or as shown in dotted lines in Fig. 7, the rear wall of the notch  $c''$  obstructs the passage of the cartridge-flange, and so cuts off the feeding from the magazine. The carrier can be partly raised, as shown in Figs. 7 and 10, by means similar to that claimed in my Patent No. 235,204, or by spring  $g''$ , or a projection, as  $g'$ , Figs. 8 and 9, on the bolt.

A rod,  $D$ , is arranged in a tube. This tube is fixed in the angle by the sides of and partly between the barrel and magazine. The rod  $D$  has spring-pawls  $p$ , which enter the magazine through slots to grasp the cartridges when the breech is closed, as in Fig. 8, but when open, as in Fig. 9, the spring  $O$  pushes back the rod  $D$ , and drives the lower inclined part of the pawls against and up the shoulders  $p'$  in the magazine, thus retiring the said pawls from engagement with cartridges, as in Fig. 9; but when the breech-bolt moves to close, its face engages the rear end of rod  $D$ , and, forcing it forward, compresses the spring  $O$ , and allows the pawls to enter the magazine. The bolt  $A'$  has an extractor,  $E'$ , on each side, and an eject-

or,  $E$ , is hung in the bolt. The face of ejector projects forward of the face of the bolt, and is caused to strike upward, to expel the shell when the breech is opened, by the pin  $e$ , which projects inside the frame, and a projection of the ejector enters a groove,  $g'''$ , in the frame, to lower it when the breech is closed. The opening in the top of the frame, Figs. 8 and 9, is narrowed at  $x$ , so that the flange of the rising cartridge may thereby be stopped, but is wide enough for the body to pass, as seen in dotted lines in Fig. 8, there being a cut-out to rearward of said narrowing, to allow the flanged head of the cartridge to be ejected through it.

A lever,  $C'$ , is hung in the frame, Fig. 9, and its forward short arm is beveled, so that when the carrier rises the side of its beveled ear strikes the bevel on said short arm of the lever  $C'$ , to rock said lever on its pivot, and projects its long rear arm into the frame, and thereby holds the rising cartridge upon the carrier.

I prefer to hang the lever  $C'$  vertically in the frame, when a projection at the bottom of the carrier will strike its lower beveled arm, to operate said lever and close in its top arm to hold the cartridge in the manner just described.

The extractors may be made with elongated points which are beveled from below, so as to stop the flange of rising cartridge in a similar manner to the narrowing  $x$ .

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

1. In a breech-loading gun, the combination of a longitudinally-reciprocating breech-bolt, a longitudinally-reciprocating handle placed forward of the frame, and connecting mechanism, substantially as described, whereby the reciprocation of the handle will operate the bolt.

2. In a breech-loading gun, the combination of a longitudinally-reciprocating breech-bolt, a longitudinally-reciprocating sleeve, forming a handle, arranged forward of the frame under the barrel, so as to move in a line parallel therewith, and a strap or bar connecting said sleeve to the bolt, so that the bolt may be operated thereby.

3. In a breech-loading gun, the combination of a reciprocating breech-bolt, a locking-block pivoted thereto, a reciprocating handle placed forward of the frame, so as to move in line with the barrel, and connecting mechanism, substantially as described, from the handle to the locking-block, whereby the block and bolt are moved by the movement of the handle.

4. In a breech-loading gun, the combination of a reciprocating bolt, a locking-block pivoted thereto, a reciprocating handle placed forward of the frame, so as to move in line with the barrel, a bar connecting said handle with the locking-block, and inclined bearings, substantially as described, between the locking-block and bar.

5. In a gun, the gear-wheel  $W$ , fixed forward and outside of working mechanism of the gun,

the cogged sliding bar S to operate said mechanism, in combination with the hand-slide S' under the barrel and forward of the frame, when said slide is furnished with the cogged bearing S'', to engage the gear-wheel and reverse the movement of the parts, substantially as and for the purpose set forth.

6. In the frame of a magazine-gun, a bolt provided on its under side with the notch or teeth *n*, to engage the cartridge-flange, with a carrier having a top bearing substantially parallel with the movement of the bolt, and a depression, *c*, in said bearing, to permit the engagement and disengagement of the cartridge-flanges, all in combination, substantially as set forth.

7. A carrier provided in its face with the notch *e''*, of suitable form to receive the head of a cartridge as it comes from the magazine, which is arranged, as described, to stop the cartridge, and an inclined face below said notch, in combination with a frame having the fixed bridge *g*, and means, substantially as described, to partly raise said carrier.

8. The rod D, provided with the pawls or notches *p p*, in combination with the magazine and spring O, when said rod is moved backward to retire said pawls from the magazine by said spring, and pushed forward into the magazine by the closing movement of the breech mechanism, substantially as described.

9. A bolt provided with opposite side extractors, the engaging hooks or teeth of which project toward each other to engage the cartridge-flange between them, in combination with a frame having a groove extending upward from the rear of the extractor-teeth, to permit the cartridge-flange to rise upward through the top of the frame, and a narrowing portion just forward of the extractor-teeth, to stop a rising cartridge-flange, substantially as specified.

10. In the frame of a magazine-gun, a bolt provided with side extractors and with an ejector which strikes the flange of the cartridge upward from between said extractors, in combination with a fixed point in the frame to operate said ejector, substantially as described.

11. In combination with the frame of a magazine-gun, a lever (as C') pivoted therein, and a moving carrier, the parts being arranged substantially as described, so that the carrier, in rising, will engage one end of the lever and swing the other end over the line of movement of the cartridge, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW BURGESS.

Witnesses:

C. F. PUMPELLY,  
AUSTIN F. TIFFANY.