

UNITED STATES PATENT OFFICE.

J. DURELL GREENE, OF THE UNITED STATES ARMY.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 34,422, dated February 18, 1862.

To all whom it may concern:

Be it known that I, J. DURELL GREENE, of the United States Army, have invented certain Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan; Figs. 2 and 3, longitudinal sections with the plunger in different positions; Fig. 4, a longitudinal section of another gun, to be referred to hereinafter.

My present invention relates to certain improvements on the breech-loading gun for which Letters Patent of the United States were granted me on the 17th of November, 1857; and it consists in attaching the hand-lever by which the sliding and revolving breech-plug is operated to the plunger which slides in the said breech-plug, so that the parts may be more conveniently manipulated.

That others skilled in the art may understand and use my invention, I will proceed to describe the manner in which I have carried out the same.

Fig. 4 of the drawings represents a longitudinal section of the gun described in the Letters Patent above referred to. In this it will be seen that the rod D, which carries at its front end the breech-plug E, and which slides in the plunger C, is much longer than the plunger, so that when the latter is pushed forward into the position which it is intended to occupy when the gun is to be discharged, the rear end of the rod D and its button F project back beyond the end of the plunger C, where the button F is in the way, and is liable to be caught in the clothes of the person using the gun, or to have the rod bent or broken by accident.

In Figs. 1, 2, and 3 is represented my improved gun. In this, as in the former case, I use a cartridge of a peculiar construction, in which the ball is placed to the rear of the powder, and a wad of felt or other suitable material at the rear of the ball, it being intended that after a discharge the ball which has been left in the gun, and which, together with the wad behind it, has been used to pack the joint at the rear end of the barrel, shall be pushed forward into the barrel before another cartridge is introduced. To the rear of the bore *a* the barrel H has formed in it a cham-

ber, *b*, in which slides a plunger or breech-plug, I, the front end, *c*, of which is conical, to fit a corresponding enlargement at the end of the bore *a*. This plunger has attached to it on opposite sides ears *d*, which enter corresponding recesses, *e*, made in the sides of the chamber *b*, so that when the plunger is pushed forward, as in Fig. 1, it may be allowed to turn on its axis. The rear face of each of these ears *d* is inclined, (like a portion of a screw-thread,) by which, as the plunger is turned, it is also forced forward to press the cone *c* into the bore *a*. There are also two recesses, *i*, at the rear end of the chamber *b*, so that when the plunger is drawn fully back, as in Fig. 3, it may again be revolved a quarter-turn, to bring the ears opposite two openings made in the end of the barrel, by which the plunger is withdrawn from the chamber or is introduced into it. A cap, J, on the end of the plunger abuts against the end *f* of the barrel when the plunger is pushed in. A rod or piston, K, slides freely in the plunger I and has attached to its rear end a hand-lever, L, which passes through and moves in a slot, *g*, in the plunger. A spring, *h*, is attached to the front side of this hand-lever and bears against the rear end, *f*, of the barrel when the plunger and rod are revolved into the position shown in Fig. 1, preventing any frivolous motion of the parts. A spring, *k*, attached to the under side of the plate *l* and operated by a button, *m*, carries a stop, *n*, which projects up through the barrel and is used to lock the plunger I in position. When the plunger is drawn back, Fig. 3, this stop *n* enters a notch, *o*, and requires to be depressed by pressing on the button *m* before the plunger can be revolved to withdraw it from the chamber *b*. A hole is also made in one side of the plunger near its rear end, so that when it is pushed up and revolved, as in Fig. 1, the stop *n* will enter the hole and lock the plunger in place. An opening, M, is made in the top of the barrel through which to introduce the cartridge, and from it is continued out to the rear end of the barrel a slot, *r*, in which the hand-lever L slides. The cap J also has a slot for the reception of this lever.

The following is the operation: The parts being in the position shown in Fig. 1, with a bullet left from the last discharged cartridge in the rear end of the bore, (as represented by

dotted lines at *p*,) the button *m* is depressed to unlock the plunger I, which is revolved by the hand-lever L a quarter-turn, bringing the lever opposite the slot *r* in the top of the barrel. The rod K is now pushed forward, as shown in Fig. 2, thrusting the balls and wad *t* farther into the bore *a*. The rod is now drawn back into the position represented in red in the same figure, with the hand-lever L against the cap J, when, by a continuation of this movement, the plunger I is drawn back, as shown in Fig. 3. A cartridge is now introduced through the opening M, and is thrust forward into the bore *a* by pushing forward the plunger I, the pressure being applied to the rear end of the cap J for this movement. Next, the plunger is again revolved by the hand-lever L into the position shown in Fig. 1, when the stop *n* locks it, and the piece is ready to be discharged, the powder of this cartridge lying over the nipple *u*, and its ball and wad against

the breech-plug I, where the wad serves to pack the joint at the time of the discharge of the piece.

By attaching the hand-lever L to the rod K the parts may be more conveniently operated, and a more compact and workmanlike finish can be given to the gun, while the objection of the projecting button F, before spoken of, is avoided.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the sliding and revolving plunger or breech-plug I with the rod K, when the hand-lever L, by which the breech-plug is revolved, is attached to the rod, as set forth.

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Witnesses:

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No 34422.

Patented Feb 18, 1862.

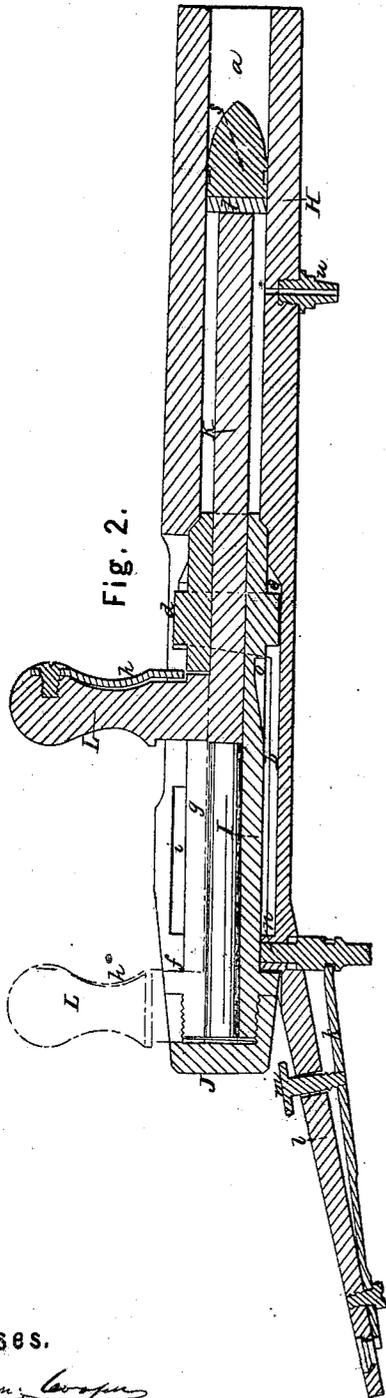


Fig. 2.

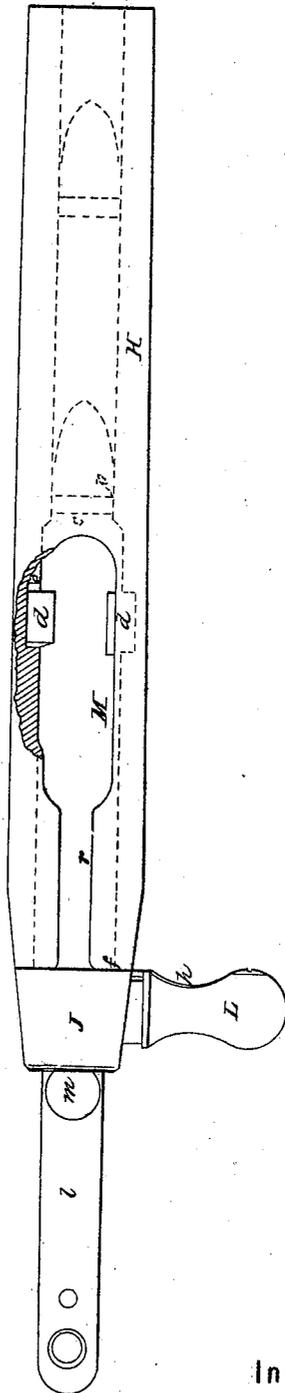


Fig. 1.

Witnesses.

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