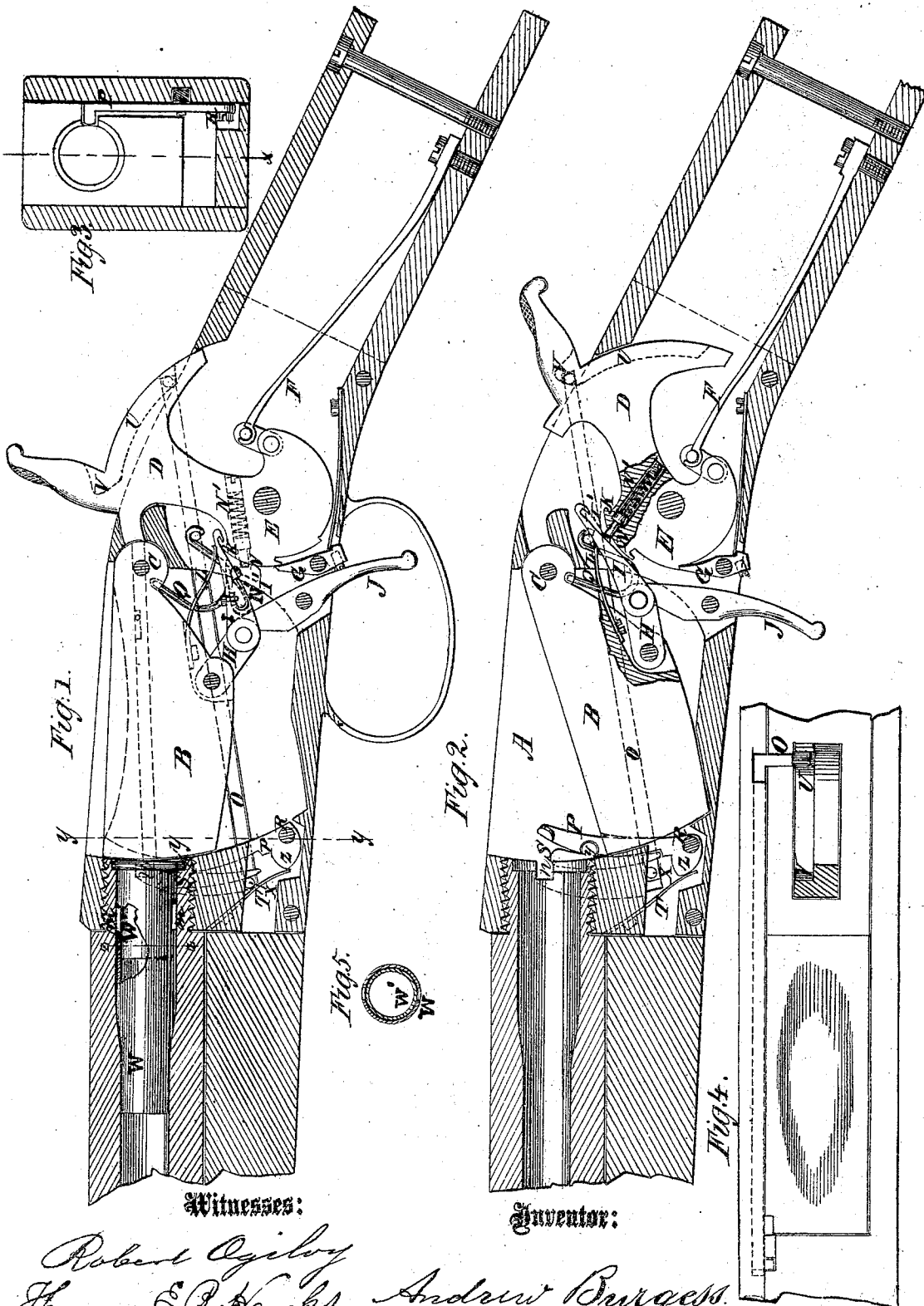


A. BURGESS.

Improvement in Breech-Loading Fire-Arms.

No. 127,737. Patented June 11, 1872.



Witnesses:

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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 127,737, dated June 11, 1872.

To all whom it may concern:

Be it known that I, ANDREW BURGESS, of Owego, in the county of Tioga and State of New York, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to that class of fire-arms that are to be loaded at the breech; and consists in the mode of operating the breech-block and the extractor, and in the general arrangement and combination of parts hereinafter described.

In the accompanying drawing, Figure 1 represents a longitudinal section of the fire-arm through the middle or on the line *xx* of Fig. 3, showing the operating mechanism as when the hammer is down and the piece loaded. Fig. 2 is a view through the same sectional line, showing the mechanism of the piece in the position of full-cock and ready to be discharged. Fig. 3 is a vertical cross-section taken on the line *yy*. Fig. 4 is a top view, showing the breech-block and mode of operating the shell-extractor. Fig. 5 is a cross-section of the false cartridge-chamber taken on the line *zz*, Fig. 1, and shows the smaller cartridge-shell within.

Similar letters of reference indicate corresponding parts.

A is the bed-piece, into which the barrel screws, and which receives the breech-block and other mechanism belonging to the gun. B is the breech-block, which is pivoted to the bed at the point C, and is placed in a chamber or mortise in the bed, so that its forward end may be raised and lowered in loading and discharging the piece. D is the hammer, the lower portion of which forms the tumbler E. F is the mainspring. G is the dog, which is detached from the tumbler in the act of firing the piece. H represents a toggle-joint, to the joint-pivot of which is attached the hook I. J is the trigger. It will be seen that the hook I engages (see Fig. 1) with a notch, K, in the tumbler E. L is a spring, which bears down on the hook I with a constant pressure. In drawing back the hammer or working the piece the toggle-joint will be drawn into the position

seen in Fig. 2, which will draw down the breech-block, as seen in the same figure, for extracting the empty cartridge-shell and inserting the cartridge. N is a pin in the tumbler E, which is pressed outward by the spiral spring N'. In drawing back the hammer the point of said spring comes in contact with the hook I at I', and compresses the spiral spring N', but it cannot detach the hook I from the notch K of the tumbler until the hammer is carried beyond a full-cock, when the extractor, having operated the extractor-bar P, working in a side cut of the breech-block, retains the breech-block B in the position seen in Fig. 2; then, as the hammer is released, the tumbler returns to engage with the dog G at full-cock, which allows the hook I to be thrown up and detached from the notch K in the tumbler by the force of the spiral spring N'. In this operation the spiral spring N' counteracts and overpowers the spring L, which bears upon the other side of the hook I, before referred to.

When the cartridge is inserted into the barrel the flange of the cartridge-shell drives the upper point of the extractor-bar P into a slot in the bed-piece and barrel made for its reception. This operation of inserting the cartridge releases the breech-block, (the hook I being retained up and out of the notch K in the tumbler by the spring N,) which is then thrown upward and closed by the U-shaped spring Q, and its complete closing is more fully effected by the act of pulling the trigger, which forces toggle H to a straight line, or nearly so, simultaneously with the back of the trigger, striking the set-screw in the dog G, which detaches the dog from the tumbler, and discharges the piece by the hammer being thrown forward by the pressure of the mainspring F, and striking the discharging-pin, seen in dotted lines in Fig. 1.

Having referred to the extracting mechanism, we will now more minutely describe it. The extractor consists of the vertical bar P, which is pivoted at the point R to the bed-piece, the rod O, seen partly in dotted lines, the lever S, and spring T. The rear end of the rod O is turned to a right angle, as seen in Fig. 4, and works in a recess, U, in the back of the hammer, as seen in dotted lines in Figs. 1 and 2. V is an inclined plane in the recess U, which, as the hammer is drawn back, forces

back the rod O. This movement of the rod operates upon the lever S by means of a pin or projection, seen at X. The fulcrum of the lever S is at y, where the lever and the upright bar P are connected by a hinge-joint. Z is a cam or projection on the lower end of the bar P, near the pivot R. As seen in Fig. 1, the spring T is so pressing upon the projection Z, on a line with the pivot R, that the pressure is without effect. In Fig. 2, the bar P having been drawn back by means of the rod O, the bearing of the spring T is thrown out of line with the pivot R by the rising of the projection Z, which allows the spring to act, and throws the discharged shell clear of the piece. This effect of the spring T is produced after the shell has been started by the operation of the lever S, which, turning on its hinge or fulcrum, is resisted at its upper end by its bearing against the end of the cut in the barrel and bed-piece.

When it is desired to use a smaller charge of powder than is contained in the long car-

tridges, (with enlarged powder-bed,) the false cartridge-bed W is inserted, as seen in Fig. 1, and has, to facilitate its removal, slots *m* and *n*, the latter allowing the extractor to take hold of and withdraw the inner cartridge-shell.

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

1. The spring-pin N, in combination with the hook I and notch K, as and for the purpose set forth.

2. The combination of the lever S, bar P, rod O, and hammer D, arranged, in relation to each other, in the manner and for the purpose set forth.

3. The false cartridge W, when provided with its slots *m* and *n*, for the purpose specified.

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Witnesses:

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