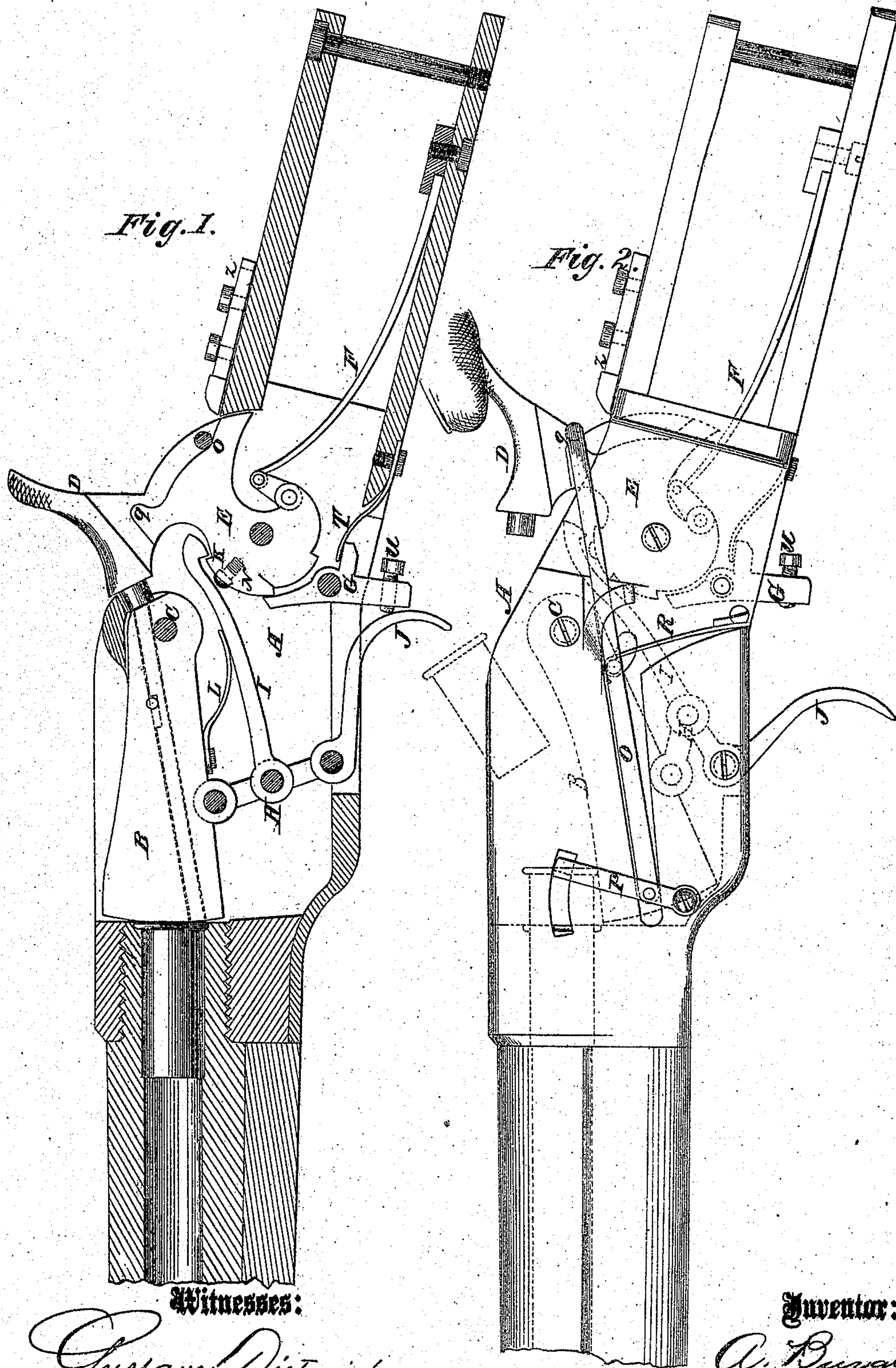


Improvement in Breech-Loading Fire-Arms.

No. 119,218.

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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 119,218, dated September 26, 1871.

To all whom it may concern:

Be it known that I, ANDREW BURGESS, of the city of New York, in the county 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 new and useful improvements in that class of fire-arms that are to be loaded at the breech; and consists in the construction and mode of operating the breech-block and the retractor, and in the arrangement and combination of parts hereinafter more fully set forth and described.

In the accompanying drawing, Figure 1 represents a longitudinal vertical central section, showing the breech-block and mode of operating it. Fig. 2 shows the retractor, and the manner in which it is connected with the hammer and made to operate upon the cartridge-shell.

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. As seen in Fig. 1, the breech-block and its working mechanism is seen as when the trigger has been pulled and the projectile discharged. D is the hammer, the lower portion of which forms the tumbler E. F is the main spring. G is the dog, which is detached from the tumbler by the trigger 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. The toggle-joint is operated by the trigger to straighten the pivot or to bring it into the position seen in Fig. 1. It will be seen that the hook I is engaged with a notch in the tumbler at K. L is a spring which bears down on the hook with a constant pressure. In drawing back the hammer or cocking 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 dotted lines in that figure, for extracting the empty cartridge-shell

and inserting the cartridge. N is a set-screw in the tumbler. In drawing back the hammer the head of the screw comes in contact with the hook and detaches it from the notch K in the tumbler. O is the retractor-rod, one end of which is pivoted to the rod P; the other end of the rod is turned to a right angle and engages with the projection *q* on the back of the tumbler. When the rod slips over this notch *q* it is thrown back by the spring R. This spring R is notched out to receive the entire rod, and it is so curved or made to stand at such an angle that it holds the rod down while throwing it back. Z is the retractor-stop, which slides on the bed back of the hammer, which, being pushed forward under the rear end of the retractor-rod, allows the hammer to be drawn back, carrying the retractor-rod over the projection *q* without working the retractor when it is desired to carry the arm loaded, said stop being prevented from returning by the friction produced by set-screws or a spring attached thereto. The end of the bar P is turned so that its point works in a slot in the barrel and engages with the flange or base of the cartridge-shell, the same as an ordinary retractor. T is a spring, which bears upon the dog G and keeps its end in contact with the tumbler. U is an adjusting-screw, by which the time for disengaging the dog is governed. When the tumbler is released from the dog the hammer, by the pressure of the main spring, is thrown forward and strikes the end of the discharging-pin, seen in dotted lines through the breech-block in Fig. 1, and explodes the cartridge by percussion.

By the operation of the toggle-joint H increased power and decreased motion is insured when the breech-block is closing and the toggle-joint is nearly straight, and increased motion and decreased power when drawn from that position.

With the improvements herein shown and described the mechanism of the breech-loading gun is greatly simplified; the operation of opening the breech and extracting the shell being performed by drawing back the hammer, and the operation of closing the breech and discharging the piece being performed by the one motion of pulling the trigger.

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

1. The toggle-joint in combination with a pivoted breech-block, B, substantially as specified.

2. The combination of the trigger J, hook I, tumbler E of the hammer D, breech-block B, and toggle H, substantially as specified.

3. The trigger J connected with the toggle H, and arranged so that it shall operate the dog G simultaneously with the closing of the breech-block B, and thereby release the hammer and cause the discharge of the piece, substantially as specified.

4. The retractor-rod O, bar P bent at its rear

end, and spring R, in combination with the hammer grooved and provided with the projection q, as shown and described.

5. The retractor-stop Z in combination with the retractor of a breech-loading fire-arm, substantially as described.

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