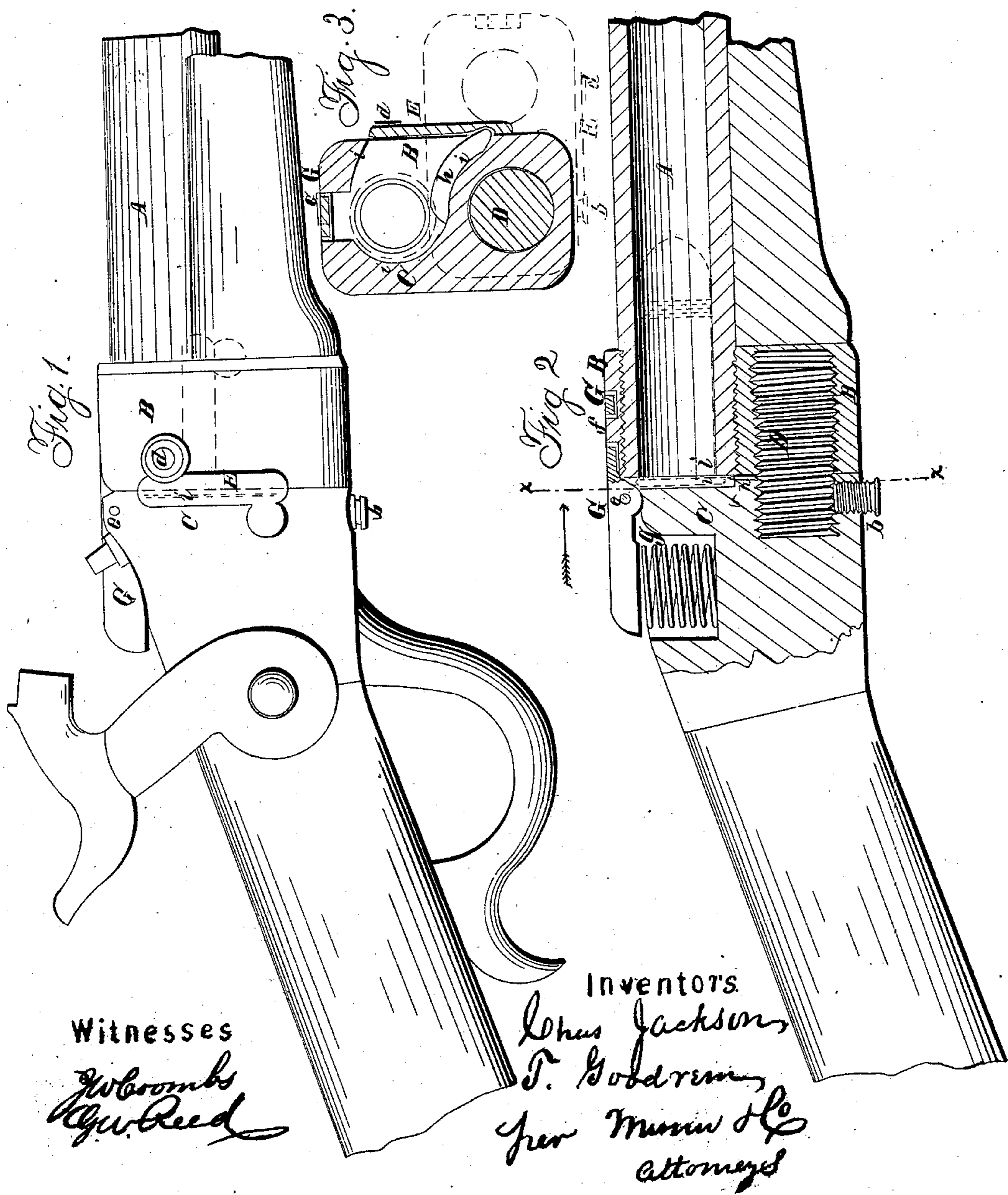


JACKSON & GOODREM.
Breech-Loading Fire-Arm.

No. 37,937.

Patented Mar. 17, 1863.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 37,937, dated March 17, 1863.

To all whom it may concern:

Be it known that we, CHARLES JACKSON and THOMAS GOODREM, both of the city of Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the breech and parts of the barrel and stock of a rifle constructed according to our invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a transverse section of the same in the plane of the face of the breech indicated by the line *x x* in Fig. 2, the view being taken in the direction of the arrow shown near the said line.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in the employment, in combination with the hereinafter-described screw attachment of the barrel and breech, of a peculiarly-applied stop, which serves not only to stop the barrel opposite to the breech in the closing movement, but to stop the barrel in its opening movement, and thereby prevent such movement from being continued further than is necessary, and which is so applied as to be capable of being conveniently moved out of the way when necessary to permit the unscrewing of the barrel from the breech to such an extent as to detach it.

It further consists in a peculiar device, applied in combination with the said screw attachment of the barrel and breech, for the purpose of partly withdrawing the discharged cartridge-cases from the barrel by the act of opening the breech.

To enable others skilled in the art to make and use our invention, we will proceed to describe it.

A is the barrel, having screwed onto or otherwise secured to its rear end a plate or piece, B, of steel or other metal, which projects some distance from its under side, and which corresponds in the form of its transverse profile with the form of the front of the breech C, which is permanently attached to the stock. The plate or piece B is drilled and tapped

below and parallel with the bore of the barrel for the reception of the screw D, upon which the opening movement of the barrel is made, and the lower part of the breech is similarly drilled and tapped for the same purpose. The screw D is secured permanently in the stock by means of a set-screw; *b*; but the plate or piece B and the barrel are free to turn on the said screw D. When the barrel and plate or piece B fit close against the breech, the bore is in the proper position opposite to the breech. By turning the barrel on the screw to expose the open rear of the bore in a position suitable for loading, the barrel is caused to move forward on the screw, and by turning it back again after loading, it is brought back again along the screw and close up to the breech. This screw D enables us to combine tightness at the breech with an easy opening and closing movement better than can be done in fire-arms in which the barrel turns on a simple pin arranged in the position of the screw D, besides which the screw, being large and having a deep thread, constitutes the best possible means of sustaining the breech against recoil.

E is the stop for stopping the barrel in its closing movement when the bore is in its proper position opposite to the face of the breech for firing, and also preventing the barrel and breech from being screwed up too tightly and becoming jammed together, so as to make it difficult to open them for reloading. This stop E consists of a small plate pivoted at *d* to the right side of the barrel or plate or piece B, and arranged to lap over the rear edge thereof and come against the side of the breech. The said stop E extends downward, so that it is made to serve as a stop to the opening movement of the barrel by its lower end coming in contact (as shown in dotted outline in Fig. 3) with the head of the set-screw *b*, which is left projecting from the bottom of the breech for the purpose. By turning the said stop forward on the pivot *d*, as shown in red outline in Fig. 1, so as to prevent it from lapping over the rear edge of the plate or piece B, or barrel, and from catching against the set-screw *b* in turning, the barrel is permitted to be turned completely round, and so as to be screwed entirely off from the screw D to detach it from the breech.

G is a spring locking-catch attached to the

top of the breech, for the purpose of locking the top of the breech and top of the barrel together and aiding the screw D in sustaining the recoil. This catch consists of a lever pivoted at *e* to the upper part of the breech or stock, having its front part made to fit a cavity provided for its reception in the top of the piece B, and having in the said part a hole for the reception of a pin or tenon, *f*, formed on the said piece B. The rear portion of this lever is so formed and situated that it may be pressed down by the thumb of the right hand while the stock is grasped in that hand in such manner that the trigger is within reach of the forefinger and the hammer within reach of the thumb, and a spring is applied under that portion of the said lever to raise it up and keep the front end down to make it lock the barrel. Before the barrel can be turned to open it for loading, it must be unlocked by depressing the rear end of the lever G. In closing the barrel again, after loading, the front part of the said lever slides over the rounded side of the piece B and drops over the pin *f* into the cavity provided in the top of the said piece B.

We propose to use in connection with our improvements a metallic cartridge having a flange around the rear of its case, and in order to make room for this flange between the barrel and breech, and to provide for the opening and closing of the rear end of the barrel with a cartridge or shell in the chamber, a cavity, *i i*, whose form is shown in Fig. 3, is provided in the front of the breech, the said cavity being of a depth equal to the full thickness of the flange, and being open at one side. The lower part of the said cavity is overlapped by the thin beveled edge of a plate, *h*, of steel or other metal, which is let into and firmly secured to the face of the breech, and said plate having its edge of the form of an arc concentric with the screw D, and of such radius that it will work in contact with the case of a cartridge placed in the chamber of the barrel, inside of the flange of such cartridge.

The object of this plate is to withdraw the discharged cartridge-cases from the chamber, which operation it effects by two distinct actions—viz., that of turning the case on its axis within the bore and that of drawing it back—the first-named action assisting the second one very materially. The turning of the case on its axis is effected by the friction of the plate against it as the barrel is turned about the axis of the screw D, and the drawing back of the case from the chamber is effected by the longitudinal movement of the barrel and stock relatively to each other, produced by the turning of the barrel on the thread of the screw. In turning the barrel far enough to open its rear end for loading—viz., about a quarter of a revolution—the cartridge-case, of course, cannot be drawn out very far; but by having the case made slightly taper the distance which it is drawn out is sufficient to loosen it, so that it can be easily drawn entirely out by the thumb and finger.

These improvements combine to make a breech-loading gun possessing all the essential requisites of a very simple construction.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The stop E, arranged on a pivot, *d*, in such manner, in combination with the barrel and breech and with a screw, *b*, or its equivalent, as to serve as a stop in both the opening and closing movements of the barrel, but so as to permit, when desired, the unscrewing of the barrel far enough to detach it from the breech, substantially as herein specified.

2. The plate *h*, attached firmly to the breech, and applied, in combination with the screw D, to produce both a rotary and longitudinal motion of the cartridge-cases for the purpose of withdrawing them from the barrel, substantially as herein specified.

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Witnesses:

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