(No Model.)

2 Sheets—Sheet 1

W. MASON.

BREECH LOADING FIREARM.

No. 513,808. Patented Jan. 30, 1894.

Fig. 1

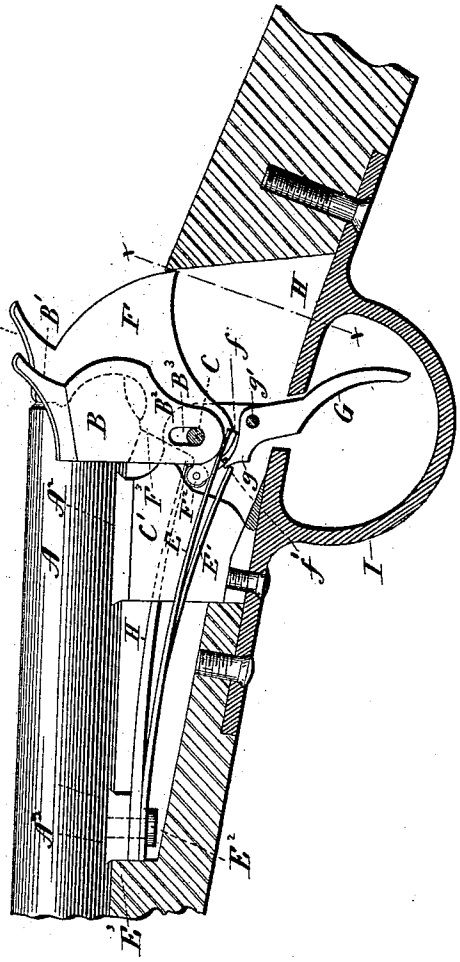


Fig. 2

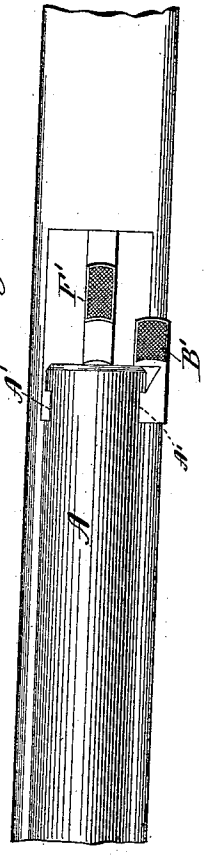
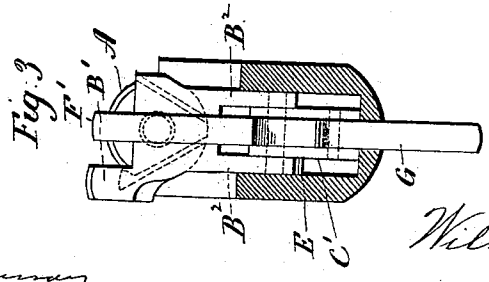


Fig. 3



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(No Model.) 2 Sheets—Sheet 2.

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BREECH LOADING FIREARM.

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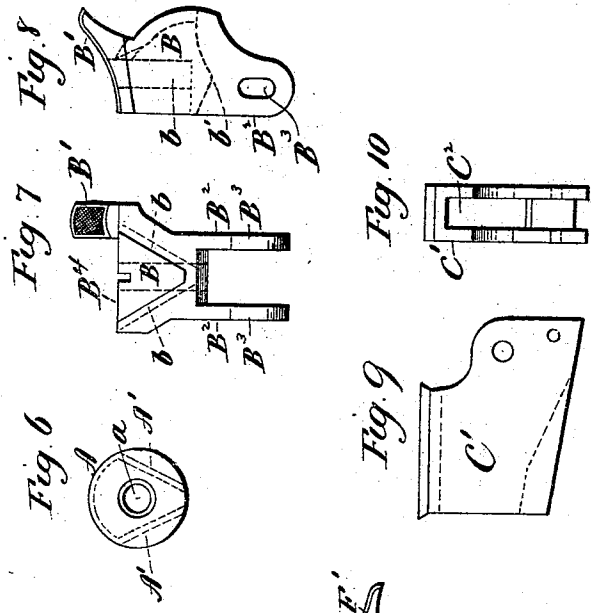

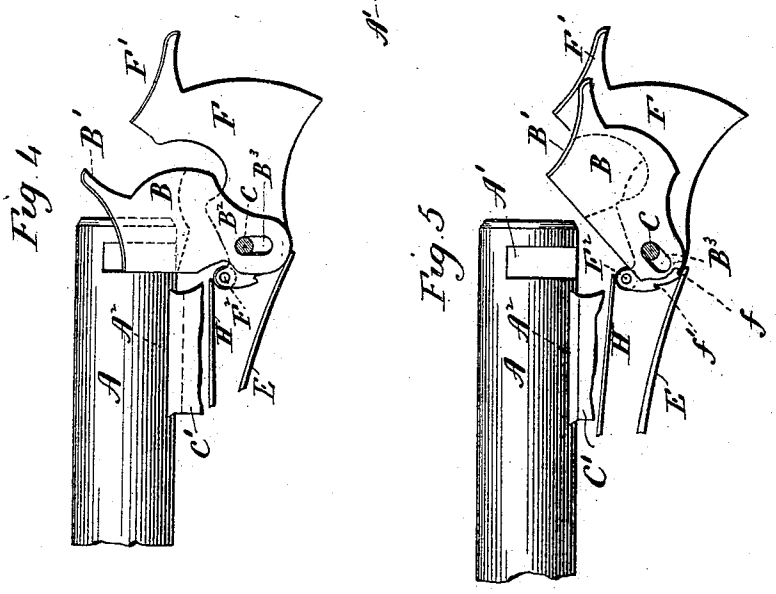

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UNITED STATES PATENT OFFICE.

WILLIAM MASON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

BREECH-LOADING FIREARM.

SPECIFICATION forming part of Letters Patent No. 513,808, dated January 30, 1894.

Application filed May 4, 1893. Serial No. 472,945. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MASON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Breech-Loading Firearms, (Case A;) and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view partly in elevation and partly in longitudinal section of a breech-loading fire-arm constructed in accordance with my invention; Fig. 2, a similar plan view; Fig. 3, a view of the arm in transverse section on the line *x*—*x* of Fig. 1 and looking forward; Fig. 4, a detail view showing the hammer after it has been cocked and the breech-block after it has been depressed preparatory to swinging it into its open position; Fig. 5, a similar view showing the breech-block after it has been swung into its open position; Fig. 6, a detached view of the gun-barrel in rear elevation; Fig. 7, a detached view in inside elevation of the breech-block; Fig. 8, a view thereof in side elevation; Fig. 9, a view in side elevation of the receiver; Fig. 10, an end view thereof.

My invention relates to an improvement in fire-arms of the single-shot, breech-loading rifle type, the object being to produce at a comparatively low cost for manufacture, a simple, reliable, safe and effective arm, having few parts, not liable to derangement, and convenient in use.

With these ends in view, my invention consists in the combination, in a breech-loading fire-arm, with a barrel having its butt-end grooved, of a vertically movable, pivotal breech-block, having its inner face recessed, and constructed to take into the grooves in the barrel when in its close position, a hammer hung on the same center as the breech-block, and located in the rear thereof, and a trigger.

My invention further consists in a gun having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention, I construct the sides of the butt-end of the barrel A, with two corresponding transverse grooves A′ A′, which converge downward, and terminate under its bore *a* of the barrel, as clearly seen by Fig. 6 of the drawings. The butt end of the barrel is thus provided, as it might be said, with a coupling-head, having a V-shaped neck, with its larger end upward. The breech-block B, which is furnished at one side of its upper end with a finger-piece B′, is constructed at its lower end with two legs B^2 B^2, separated from each other, and each having a vertically elongated slot B^3 B^3, by means of which it is hung on a horizontal pivot C, mounted in the rear end of a receiver, which is straddled, so to speak, by the said legs of the breech-block. The said receiver is adapted at its upper end to fit into a long mortise A^2, undercut at its ends, and formed transversely in the under face of the barrel A, just forward of the grooves A′ A′ therein. The inner face of the upper end of the breech-block is constructed with a recess B^4, adapted to receive the coupling head formed at the butt end of the barrel with which the breech-block is interlocked by providing it with two flanges *b b* inclined toward each other in correspondence with the inclination of the grooves A′ A′, and outlining a V-shaped opening, the larger end of which is upward. When the breech-block is in its closed position, the said flanges *b b* take into the said grooves, whereby the breech-block closes the bore of the barrel, and resists direct rearward pressure, the breech-block being in part sustained in this position by means of a main spring E, engaging with its lower end, and formed in the same piece with a trigger-spring E′, the said springs merging together at their forward ends, and being secured by a screw-stud E^2 to a block E^3, set into a transverse mortise A^3, formed in the under face of the gun barrel.

The hammer F, of the gun is constructed with a finger-piece F′, and adapted at its inner edge to fit into a vertical slot B^5, formed in the center of the outer face of the breech-block, the said hammer being pivotally suspended on the horizontal pivot C, which also carries the breech-block, as before mentioned. The lower end of the said hammer enters the vertical chamber C^2, formed in the receiver

C′, and is constructed with a cock-notch *f*, and a half-cock notch *f′*, which receive the sear *g* formed upon the inner end of the trigger G, which is suspended on a pivot *g′*, mounted in the receiver below and to the rear of the pivot C, aforesaid. The said sear is engaged by the trigger-spring E′ before mentioned, whereby it is thrown into the cock notches of the hammer. The lower end of the hammer is provided at a point forward of the pivot C, with an anti-friction roll F^2, which is engaged by the hammer spring H, the same being secured in place by the screw-stud E^2 and block E^3 before referred to. The inner edge of the hammer is constructed at a point below its center with a locking lug F^3, which engages when the hammer is down, and the breech-block is in its closed position, with a locking lug *b′*, formed on the breech-block between the two legs thereof, as clearly shown in Figs. 1, 4 and 8 of the drawings. The co-action of these lugs, when the hammer is down and the breech-block closed, effects the locking of the breech-block in its closed position, from which it cannot be moved until the hammer has been drawn back into its cocked adjustment.

In the normal condition of the arm, the breech-block is interlocked with the coupling-head formed at the rear end of the gun-barrel, and sustained in the said position by the coaction of the locking-lug of the hammer with its locking-lug, and by its spring E.

To open the breech-block for the purpose of loading the gun, or for any other purpose, the hammer is first engaged by its finger-piece and drawn back into its cocked position, whereby its locking lug F^3, will be withdrawn from under the locking lug *b′* of the breech-block. The breech-block is then pressed directly downward against the force of the spring E, through the distance represented by the length of the vertically elongated slots B^3 B^3 formed in its legs. This downward movement of the block suffices to clear the inclined flanges *b b* formed on the inner face of its upper end, from the correspondingly inclined grooves A′ A′ formed in the butt end of the gun-barrel, from which the breech-block is thus freed. The breech-block may now be swung back on its pivot into its open position, as seen by Fig. 5 of the drawings, in which it sufficiently clears the butt-end of the gun barrel to permit the cartridge to be introduced into the same. It is held in its open position by its spring, which presses upward on its inner end, which at this time extends considerably forward of its pivot C, as shown by Fig. 5 of the drawings.

To close the breech-block, it is swung inward into the position shown by Fig. 4 of the drawings, in which its flanges *b b* stand directly under the grooves A′ A′ in the gun barrel. Downward pressure on the breech-block now being removed, its spring at once operates to lift it through the distance represented by the elongated slots in its legs, whereby it is interlocked with the gun-barrel. Now by pulling the trigger G, the hammer is released, and springs forward to explode the cartridge. In the closed position of the hammer, it operates as before set forth, to sustain the breech-block in its elevated closed position.

Otherwise than as described, the gun may be of any approved construction, having a stock H, constructed with a chamber H′ to receive the parts described, and furnished with a guard I.

It is apparent that in carrying out my invention, some of the details herein shown and described may be departed from, and I would therefore have it understood that I do not limit myself to the exact construction herein set forth and illustrated, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

I am aware that a vertically movable breech-block and hammer mounted on the same center, are old, and I do not therefore claim that construction broadly.

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

1. In a breech-loading fire-arm, the combination with a barrel having grooves formed in the sides of its butt-end, of a vertically movable, pivotal breech-block, having its inner face recessed, and constructed to take into the grooves in the barrel when in its closed position, and furnished at its upper end with a finger-piece by means of which it is operated in being opened, a hammer hung on the same center as the breech-block, and located in the rear thereof, and a trigger, substantially as described.

2. In a breech-loading fire-arm, the combination with a barrel having its butt-end constructed with two grooves inclining toward each other at their lower ends, of a vertically movable pivotal breech-block, having the inner face of its upper end recessed to receive the butt-end of the barrel, and constructed with two flanges inclined in correspondence with the grooves formed in the barrel, and taking into the same to interlock the breech-piece therewith, a hammer hung on the same center with the breech-block, and a trigger, substantially as described.

3. In a breech-loading fire-arm, the combination with a barrel having grooves formed in the sides of its butt end, of a vertically movable pivotal breech-block adapted to take into the said grooves, and furnished at one side of its upper end with a finger-piece by means of which it is operated, a hammer hung on the same center with the said breech block, and a trigger, substantially as described.

4. In a breech-loading fire-arm, the combination with a barrel having its butt end grooved, of a vertically movable pivotal breech-block adapted to interlock with the butt end of the barrel, and having its lower end constructed with two legs separated from

each other, each having a vertically elongated slot, a pivot passing through the said slots, and forming the center on which the breech-block swings, a hammer also hung on the said pivot, and a trigger, substantially as described.

5. In a breech-loading fire-arm, the combination with a barrel having its butt-end grooved, of a vertically movable pivotal breech-block constructed to be interlocked with the grooved butt-end of the barrel, and having a locking lug formed upon its under face, a hammer pivoted on the same center with the breech-block, entering a recess formed in the outer face thereof, and having a locking-lug which co-operates with the locking-lug of the breech-block to support the same in its elevated closed position, and a trigger, substantially as described.

6. In a breech-loading fire-arm, the combination with a barrel having its butt end grooved, of a pivotal vertically movable breech-block constructed to be interlocked with the said grooved end of the barrel, a receiver mounted in the lower face of the barrel just forward of the grooves formed in the butt end thereof, a pivot carried by the said receiver, and forming the center on which the breech-block swings, a hammer hung on the same pivot in rear of the said breech-block, and a trigger, substantially as described.

7. In a breech-loading fire-arm, the combination with a barrel having its butt-end grooved, of a chambered receiver secured to the lower face of the barrel just forward of the grooves formed therein, a pivot mounted in the said receiver, a vertically movable pivotal breech-block constructed to be interlocked with the grooved end of the barrel, and with two legs straddling the said receiver, and having vertically elongated slots which receive the said pivot, a hammer hung on the said pivot, located in rear of the breech-block, and extending into the chamber of the receiver, and a trigger engaging with notches formed in the lower end of the hammer, and pivoted to the said receiver, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM MASON.

Witnesses:
FRED C. EARLE,
GEO. D. SEYMOUR.