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(No Model.)

W. M. FARROW.

BREECH LOADING FIRE ARM.

No. 306,391. Patented Oct. 14, 1884.

Fig. 1.

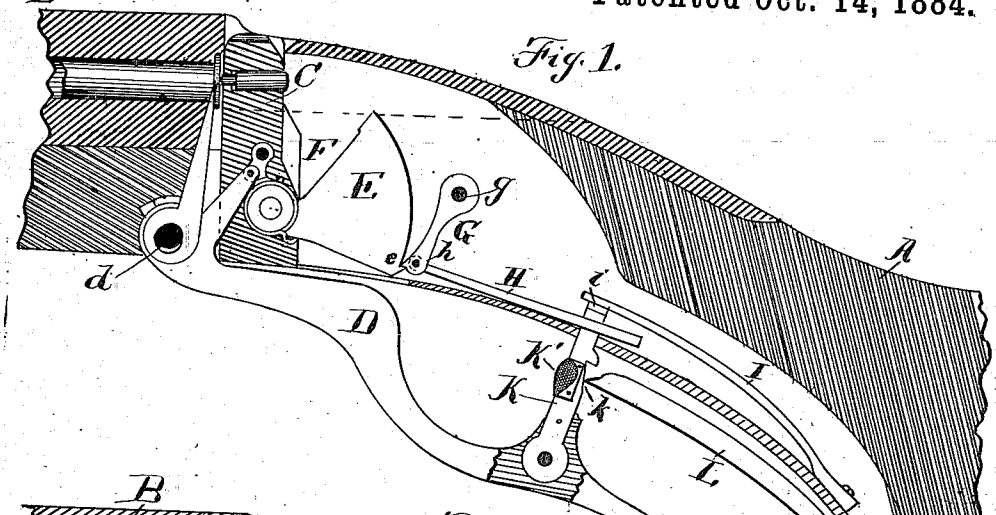


Fig. 2.

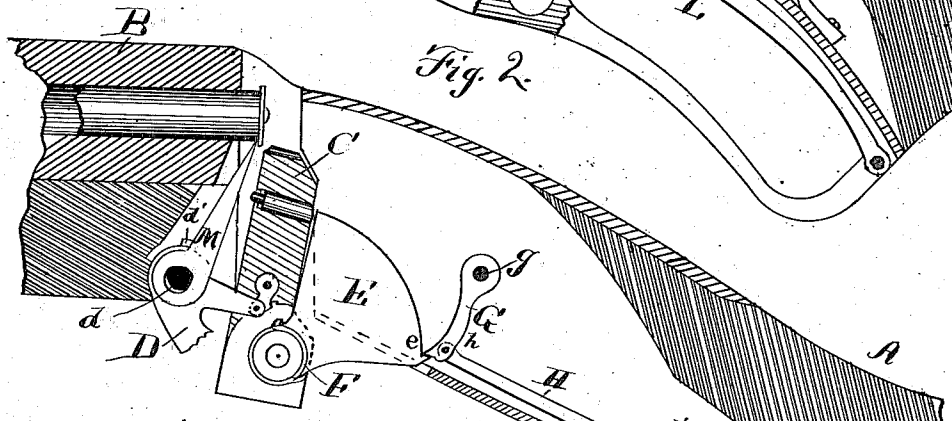


Fig. 3.

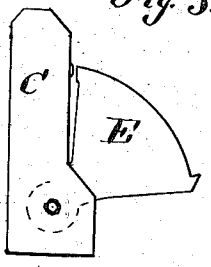


Fig. 5.

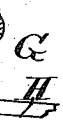


Fig. 4.

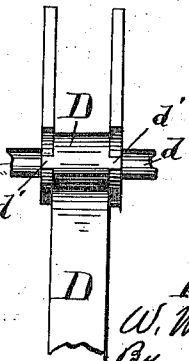
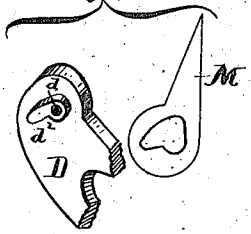


Fig. 6.



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UNITED STATES PATENT OFFICE.

W. MILTON FARROW, OF SPRINGFIELD, MASSACHUSETTS.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 306,391, dated October 14, 1884.

Application filed May 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, W. MILTON FARROW, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to breech-loading fire-arms of the class in which the breech-block reciprocates vertically, or nearly so, in a mortise in the receiver.

The invention consists in certain improvements in the lock and trigger mechanism, and the connection of the same with the breech-block and its operating mechanism; also, in certain improvements in the cartridge-shell-extracting device and its connection with the breech-operating mechanism.

In the drawings, which form part of this specification, Figure 1 is a longitudinal section of the breech mechanism of an arm made according to this invention, the breech being closed. Fig. 2 is a similar section, parts being broken away, of same arm with breech open. Figs. 3, 4, and 5 are details. Fig. 6 is a modification.

A indicates the stock, and B the barrel. These parts are substantially the same as in the well-known Ballard rifle.

C is the breech-block, which is opened and closed by means of lever D and a link-connection, as is usual.

E is the hammer, which is carried by the breech-block C, being pivoted in said block, and operated by a coiled main spring or springs, F, wound about the pivotal pin. The hammer E has a notch, *e*, on its comb, with which the sear G engages when the block is drawn down far enough for said notch to pass the end of the sear. Sear G is pivoted at *g*, and has an arm, H, pivoted to itself at *h*. The sear, being pivoted nearly over the notch or projection on the comb of the hammer, receives the pressure of the mainspring in nearly a direct line, and needs to rock but slightly on its pivot to be free from engagement with the hammer. The weight of arm H tends to throw the sear forward; or it may be pressed forward by a spiral spring wound round its pivotal pin. Sear-arm H has a mortise at *h'*, into which a projection, *i*, on the sear-spring I extends when the sear-spring is not lifted out of engagement therewith by the trigger, as hereinafter explained. The trigger K is pivoted in lever D, and its upper end extends through the bottom frame and through the mortise in arm H when the breech is fully closed. This passage of the end of the trigger through the sear-arm lifts the projection *i* on the sear-spring out of the mortise in the arm. The arm and sear are then under control of the trigger, and not of the spring I. The trigger K is also provided with an adjustable finger-piece at K', which, being moved nearer or farther from the pivotal pin of the trigger by reason of its different leverage, lessens or increases the amount of power necessary to release the sear. By this adjustment of the finger-piece the marksman is enabled to use the arm with either the "military" or "sporting" pull, or to adjust the pull necessary to fire the piece, as may be desired. This could not be done with certainty by merely changing the position of the finger on the trigger. The trigger is locked in forward position by bar or spring L, which is pivoted in lever D, until such bar or spring is lifted, so that its free end no longer engages with the incline *k* on the trigger K. The extractor M may be borne on the pivot-pin *d* of the lever D, and have eccentric engagement with said pivot-pin, which pin will be rocked by the movement of lever D; or it may be borne on an eccentric projection, d^2, of the lever, encircling the pivot-pin *d*. (See Fig. 6.) The lever D may have a shoulder, *d'*, which projects in front of the extractor, and when the lever D is thrown down comes against the front of said extractor M and rocks it backward. The movement of the lever to open the breech by reason of the cam engagement of the lever with the extractor tends to lift said extractor, which is wedge-shaped, and force the wedge portion up behind the cartridge-flange, thus starting the shell with a powerful wedge action. As soon as the breech-block is down far enough for the shell to pass over it the projection *d'* or d^2 comes against the bearing-surface of the extractor and rocks it back. When lever D is thrown down to open the breech, the trigger K moves with it, and the projection *i* follows the trigger until spring I rests on arm H, the projection *i* then being in the mortise in said arm. As the hammer carried by the

breech-block passes the end of sear G, the sear is forced back and catches in front of the notch, as usual in gun-locks. Then, when lever D is closed, the breech-block is raised; but as the comb of the hammer is held from rising by the sear the hammer turns on its pivot, and the hammer is cocked against the pressure of the mainspring. The trigger, when the lever is closed, enters the mortise in arm H and lifts the spring I out of engagement. The trigger is, however, held forward by bar L until the moment of firing, when the pressure of the fingers in grasping the small of the stock will lift the bar L, thus leaving the trigger free to be pulled, and the arm may be fired without overcoming any spring, the very slight friction caused by rocking the sear on its pivot and disengaging it from the hammer being the only resistance to be overcome.

It is apparent that two extractors may be used, one on each side of the cartridge-shell.

I claim—

1. A reciprocating breech-block, a hammer pivoted in and carried by the same, a sear pivoted in the frame so as to engage a projection on the hammer, and a trigger pivoted in the lever so as to engage the sear when the lever is closed, all in combination, substantially as shown and described.

2. The combination, with the hammer and sear, of a trigger pivoted in the guard-lever so as to be in engagement with the sear only when the lever is closed, and a safety-stop in the guard-lever bearing against the trigger to hold it forward until said stop is lifted, substantially as set forth.

3. The combination, with the hammer and pivoted sear, of mortised arm pivoted to the sear, a spring bearing on said arm and having a projection which enters the mortise when free to do so, and a trigger carried by the guard-lever, which enters said mortise and forces out the projection on the spring when the lever is closed, substantially as set forth.

4. The combination, with the breech-block and its pivoted operating-lever, of a wedge-shaped extractor hung on the pivot of the operating-lever, and actuating mechanism for said extractor, substantially as described, so that the first movement of the extractor shall have a wedge-like action on the shell, and the further movement swing the extractor back, substantially as described.

5. The combination, with the operating-lever having an eccentric pivot, of the wedge-shaped extractor eccentrically hung on said projection, and a shoulder or projection on the lever to engage the front of the extractor and swing it backward as the lever completes its downward movement, substantially as set forth.

6. The combination, with the trigger of a fire-arm, of a finger-piece longitudinally adjustable thereon, whereby the leverage of the trigger and consequent pull necessary to fire the arm may be increased or diminished.

In testimony whereof I affix my signature in presence of two witnesses.

W. MILTON FARROW.

Witnesses:
SAMPSON A. REED,
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