(No Model.)

J. E. GAGE.

BREECH LOADING FIRE ARM.

No. 296,325. Patented Apr. 8, 1884.

Fig. 1.

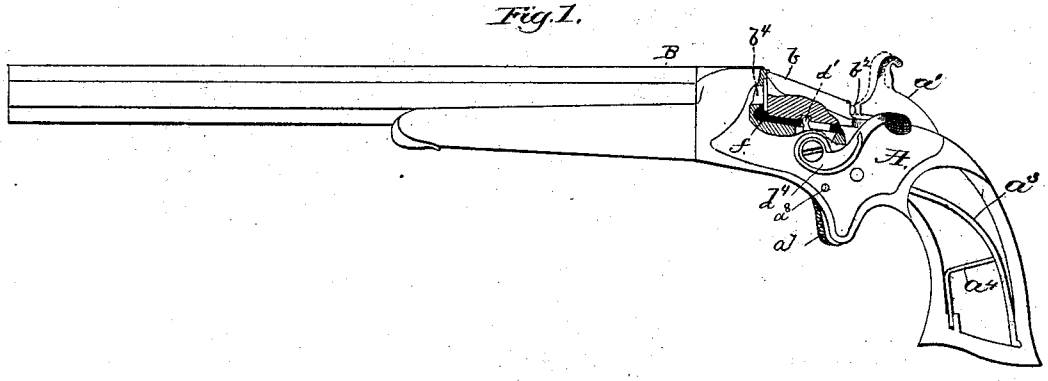


Fig. 2.

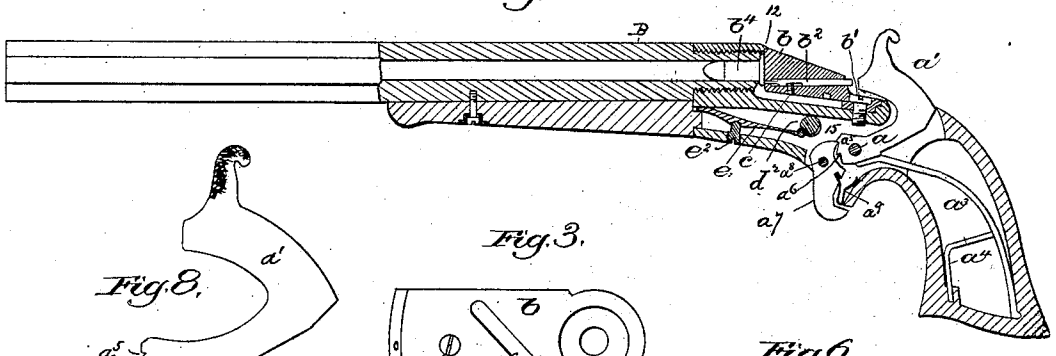


Fig. 8.

Fig. 3.

Fig. 6.

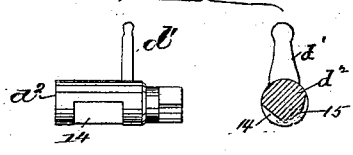


Fig. 4.

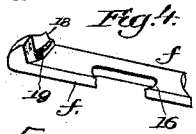


Fig. 5.

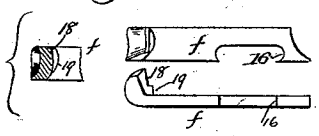
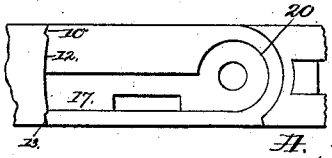


Fig 7.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES E. GAGE, OF CONCORD, NEW HAMPSHIRE.

BREECH-LOADING FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 296,325, dated April 8, 1884.

Application filed January 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. GAGE, of Concord, county of Merrimac, State of New Hampshire, have invented an Improvement in Fire-Arms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The gun herein shown is of that class wherein the breech-piece is adapted to be swung horizontally away from the breech of the gun to introduce a cartridge. In this my invention the breech-piece is shown as pivoted directly at its end, and at the rear end of the firing-pin, so that the end of the firing-pin is always directly in front of the end of the hammer, and the hammer co-operating therewith is so curved as to extend over the pivot of the breech-piece, and the lower end of the hammer, near its pivotal point, which will preferably be a little in front of the center of the pivot of the breech-piece, is so shaped that the spring acting upon it will cause the hammer to rebound slightly after striking the firing-pin, so that the hammer rests at a little distance from the end of the firing-pin, so that the breech-piece may be readily turned. The breech-piece at its under side is provided with a diagonal slot, into which is entered a finger of a tumbler provided with a thumb-lever by which to turn it and the finger to open and close the breech-piece. The finger referred to, between the tumbler and breech-piece, enters a slot in the extractor, and strikes and moves the extractor backward as the breech-piece is being swung open. This tumbler has two faces, to be acted upon by a spring, which holds the tumbler and its attached finger and thumb-lever in their different positions, one of the said faces being irregular in shape, so as to enable the spring acting upon it, when the extractor is in its most outward position, to move the tumbler and its finger slightly forward, to thereby remove the said finger from the shoulder of the extractor to permit the latter to have a limited movement when the cartridge is being inserted, so that the cartridge may be inserted sufficiently far into the chamber of the barrel, and not interfere with the proper closing of the breech-piece, which has a rounded end.

Figure 1 is a side elevation of a gun or firing-piece embodying my invention, the breech-piece being partially broken out to show the finger for moving it. Fig. 2 is a partial longitudinal section of Fig. 1. Fig. 3 is an under-side view of the breech-piece. Fig. 4 is a perspective view of the extractor. Fig. 5 shows separate top and side views, and a section of the extractor; Fig. 6, a separate front view and cross-section of the tumbler which carries the finger that operates the breech-piece. Fig. 7 is a detail looking down upon the frame at the rear of the barrel. Fig. 8 is a side view of the hammer by itself.

The frame A is and may be of any usual or suitable shape adapted to contain the working parts, whether the same are to be used in pistol or gun form. The frame A has a pivot, a, to receive the hammer a', provided with a face, a^2, (see Fig. 7,) against which bears the inclined end of the spring a^3, stiffened by the fulcrum-piece a^4, each loosely inserted in the frame, the face a^2 and the end of the spring a^3 being so inclined with relation to the pivot a as to cause the hammer to rebound after having been thrown forward into its dotted-line position, Fig. 1, so as to rest normally, as in full lines, Fig. 2—a position of the hammer which permits the breech-piece b to be freely turned about its pivot or center pin b'. The hammer has two notches, a^5 a^6—the former to be engaged at the rebound, as in Fig. 2, and the latter when the hammer is at full-cock, by the trigger a^7, pivoted at a^8, and acted upon by the spring a^9. The hammer is curved at its front side to extend forward over the screw or pivot b' of the breech-piece, which is at right angles to the pivot a, and the rear end of the firing-pin b^2 is always in front of the center of the said screw or pivot. The front end of the firing-pin, when struck by the hammer, is projected sufficiently far through the front curved end of the breech-piece to fire the cartridge b^4. The firing-pin is retained in the breech-piece by a screw, c, which enters a notch at its under side, as shown in Fig. 2. The part of the frame which receives the rear end of the barrel B is curved, as shown in Fig. 7, and has an inclined shoulder, 10, to arrest the breech-piece when it arrives in firing position, and an overhanging lip, 12, to prevent upward movement of the breech-piece. The face of

the shoulder 10 is nearer the center of the screw b' than is the inclined face 13 at the opposite side of the frame, so that the rounded or inclined front end of the breech-piece easily passes the shoulder 13, but is arrested by the shoulder 10. The breech-piece b has an inclined or diagonal slot, d, at its under side, which receives the finger d' of the tumbler d^2, having its bearings in the frame A. The tumbler has two faces, 14 15. The face 14 is substantially flat, and is acted upon by the spring e when the breech-piece is in firing position, as in Fig. 1 and 2. The face 15 is rounded or irregular, as shown in Figs. 2 and 6, so that the spring e or the roll at its end will cause the tumbler to "rebound," as it is called, immediately after the tumbler has been moved by its connected thumb-piece or lever d^4 to draw back the extractor f. (Shown by heavy black line in Fig. 1, and separately in Figs. 4 and 5.) The finger d', as it draws the extractor f backward, rests against the shoulder 16 of the extractor, (see Figs. 4 and 5,) at the rear end of a slot therein. The rebound referred to results from the pressure of the spring e upon the face 15 of the tumbler, and the rebound takes effect immediately after the thumb-piece or lever d^4 is released, thus causing the finger d' to move slightly forward away from the shoulder 16 of the extractor, in order that the extractor placed in the groove 17 of the frame A may be free to be moved forward as the rim of the cartridge b^4, being inserted into the barrel, strikes the rear side of the projection 18 of the extractor. When the breech-piece is turned into firing position, its front end strikes the inclined portion 19 of the extractor and forces it forward into correct position. By moving the thumb-piece or lever d^4 from its full-line position, Fig. 1, downward, the tumbler and finger d' will be turned to throw the breech-piece outward to uncover the rear end of the chamber of the barrel, and also draw back the extractor, and with it the cartridge-shell, the projection 18 of the extractor engaging the rim of the said shell. The finger d' acts as a locking device to hold the breech-piece in firing position, as in Fig. 1. The rear end of the breech-piece, through which the pivot-screw b' is inserted, is made thin and fitted into a chamber, 20, (see Fig. 7,) of the frame, so that the hammer easily works over it. The firing-pin always points directly to the hammer, and the breech-piece being pivoted at its extreme end enables it to be moved or swung aside with the least possible movement of the finger. The spring e has an adjustable fulcrum, e^2. (Shown as a screw.)

I claim—

1. The breech-piece, slotted at its under side, and pivoted at its rear end and reduced in thickness where the screw or pivot passes through it, and the firing-pin, combined with the hammer shaped to extend forward over the pivot of the breech-piece, and with the finger to swing the breech-piece, substantially as described.

2. The pivoted breech-piece, slotted at its lower side, and provided with a firing-pin, the frame, a tumbler provided with two faces, the finger to enter the slot of the breech-piece, and a thumb-piece or lever to turn the tumbler, combined with a spring to hold the tumbler in its different positions, substantially as described.

3. The pivoted breech-piece, provided with a firing-pin, the frame, and the sliding extractor, combined with the tumbler and its attached finger to operate the breech-piece and extractor, substantially as described.

4. The extractor, slotted as shown, and provided with a shoulder, 16, and the frame to guide the said extractor, the tumbler having an irregular face, and the finger and thumb-piece or lever, combined with a spring co-operating with the said tumbler to cause the finger to rebound, as described, and leave the extractor free to be moved forward by the cartridge, as set forth.

5. The breech-piece, pivoted at its rear end and provided with a diagonal slot in its base, combined with a vertically-vibrating finger engaging said slot, and means to move said finger to throw or swing the breech-piece, substantially as described.

6. The frame, combined with the pivoted hammer, and the breech-piece having its pivot at right angles to that of the hammer and in the plane of the same, and a spring bearing against the lower edge of the hammer in the rear of its pivot, whereby a rebound is secured for the hammer after firing, substantially as described.

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

JAMES E. GAGE.

Witnesses:

G. W. GREGORY,

BERNICE J. NOYES.