[32.]

Horace Updegraff,

Breech-loading Fire-arms.

119,098. Patented Sep. 19, 1871.

Fig. 1.

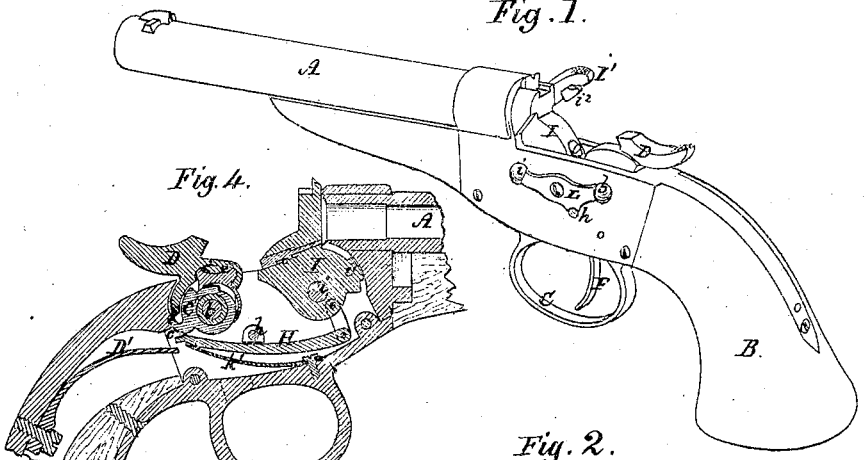

Fig. 4.

Fig. 2.

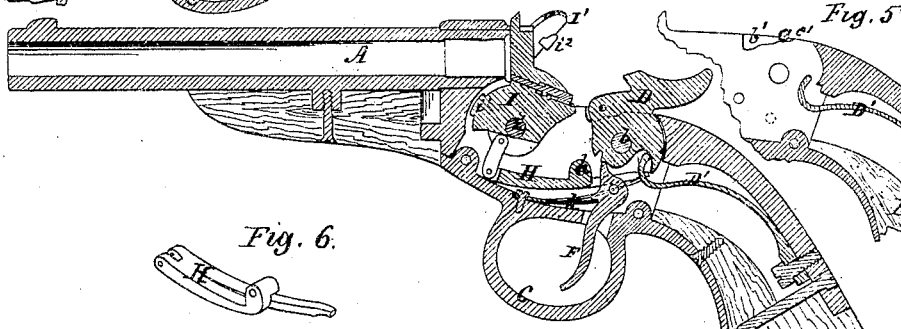

Fig. 5

Fig. 6.

Fig. 3.

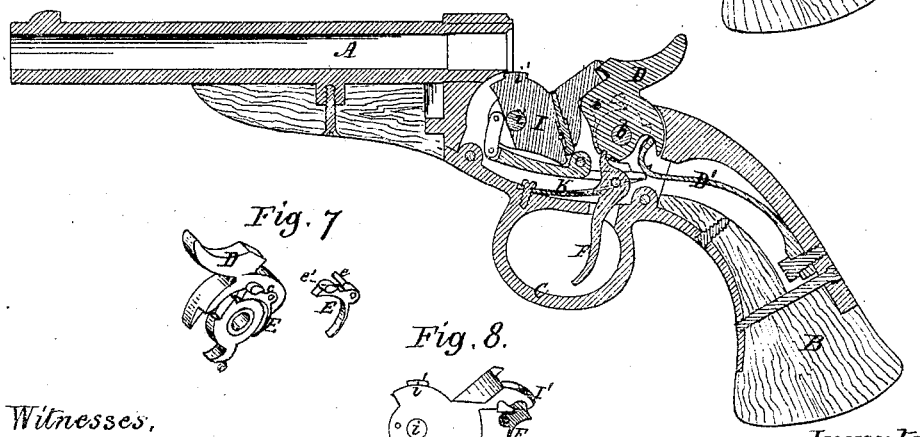

Fig. 7

Fig. 8.

Witnesses,

H H Doubleday

Inventor.

Horace Updegraff

By his Attorneys

Lawbom & King

UNITED STATES PATENT OFFICE.

HORACE UPDEGRAFF, OF FORT LARAMIE, WYOMING TERRITORY.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 119,098, dated September 19, 1871.

To all whom it may concern:

Be it known that I, HORACE UPDEGRAFF, of Fort Laramie, Laramie county, Wyoming Territory, have invented a new and useful Improvement in Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of my pistol with the hammer at full cock. Fig. 2 is a longitudinal section in same position. Fig. 3 is a longitudinal section at half cock. Fig. 4 is a longitudinal section at full cock, this view being taken from the opposite side of the pistol from Fig. 2. Figs. 5, 6, 7, 8 are detached views.

The invention relates to that class of breech-loading fire-arms in which a cartridge-ejector is employed; and consists in a new construction and arrangement of the devices employed for ejecting the cartridge, as will be fully understood from the following description.

In the drawing, A is the barrel; B, the stock; C, the trigger-guard; D, the hammer; D′, the hammer-spring, these parts being of any usual or desired construction, except that the hammer is chambered upon one side for the reception of a ratcheted ring, C′, which is mounted on a hub left on the hammer within the chamber, and concentric with the pin *b*, upon which the hammer is supported in the stock. Ratcheted ring C′ has a projecting spur, *c*. E is a spring-pawl, circular in form, and placed in the annular space partially surrounding the ratcheted ring C′ in the chamber of the hammer, with both ends resting upon the periphery of said ring, the outer surface of the chamber being notched at c^1 c^2 for its reception, and the body of the hammer being perforated for the inwardly-projecting pivot *e*, about which the pawl vibrates when actuated by certain devices, as will be hereinafter explained. e^1 is a spur, projecting outwardly from the free end of the pawl. The construction and arrangement of the hammer and pawl are plainly shown in Figs. 4 and 7. F is the trigger, actuated in the usual manner by a spring attached to the trigger-guard. The trigger is hung on a pivot which projects from one wall of the chamber in which the operating devices are placed, both trigger and pin occupying but one-half the distance between the two walls, so that it (the trigger) can be removed by slipping it off from the end of the pin, and then drawing it out between the end of the pin and the opposing wall. H is the breech-block lever. It is mounted upon a pivot, *h*, the front end of the lever being the full width of the chamber, while the rear end is but half the width, in order that it may pass by the side of the trigger, which, as has before been stated, occupies one-half of the width. The arrangement of these parts is clearly shown in Figs. 2 and 3; and it will be observed that when lever H is in place the trigger cannot be removed, because it is confined to its proper side of the chamber. I is the breech-block mounted upon pivot *i*, and provided with a reciprocating needle, which is actuated by the hammer for the purpose of firing the cartridge in substantially the manner which is customary in this class of fire-arms. i^1 is a rib, extending across the face of the breech-block, the face of which forms an arc of a circle, having for its center the pin *i*, the arrangement of parts being such that as the breech-block rotates the rib i^1 will pass in close proximity to the rear open end of the barrel, as in Fig. 3. The upper outer side of breech-block I is expanded and formed into a thumb-piece, I′, provided at its inner side with a lip, i^2, for a purpose which will be soon explained. K is a forked-tongue spring, secured to the trigger-guard. One arm, *k*, of spring K engages with and actuates the trigger, while the other arm, *k′*, engages with the under side of breech-block lever H. In fact, so far as their functions are concerned, *k* and *k′* are two independent springs; but I prefer, as a matter of convenience and economy, to make them in one piece. L is a pivot-clasp, overlapping the heads of pivots *b*, *i*, and *h*, for the purpose of securing the pivots in place, it (the clasp) being attached to the stock by means of a screw, *l*, or equivalent device.

The operation of my improved device is as follows: To load, I pull the hammer back to half-cock, and this movement carries the ratcheted ring C′ (by means of spring-pawl E) around with the hammer until the spur *c* engages with the rear end of breech-block lever and forces it suddenly down, depressing in its descent the spring *k′*. The downward movement of the rear end of lever H causes a corresponding upward movement of the forward end, but a very rapid one, this end of the lever being much the longer, thus giving the breech-block a rapid rotation upon

pivot *i*, and forcing rib i^1 against the flange on the cartridge, and ejecting it (the cartridge) readily from the barrel. As the breech-block is thus rotated backward, the lip i^2 on the piece I is forced underneath the spur e^1 on the free end of pawl E, as shown in Fig. 8, the relative position of the other parts being shown in Fig. 3. I then place the cartridge in the barrel, the rear end of which is countersunk, as shown, to admit the flange of the cartridge and press against the rear or under side of the thumb-piece I′ and move the breech-block forward against the barrel. As the breech-block is thus moved forward, the lip i^2 on the thumb-piece lifts up the engaging end of the pawl E before it (the lip) can escape from the spur e^1. As the spring k' has been depressed and rendered more tense as the rear end of lever H has been thrust down by spur *c* on ring C′, and as the ring is left free to turn on the hub by this lifting up of pawl E, the spring immediately lifts up lever H, crowding or rotating the ratcheted ring C′ until spur *c* is thrown against a stop, e^2, formed in the stock, this stop being shown plainly in Fig. 5. The hammer may now be drawn back to full-cock without further actuating the ring. The position of these parts at full cock is clearly shown in Fig. 4. When the hammer moves forward from full cock, so that the bit or nose strikes the firing-needle the ratcheted ring is held stationary by the point of spur *c* striking against stop e^2; therefore the pawl C′ is carried over in front of the forward notch of the ratchet into the position in which it is shown in Fig. 7, so that it is ready to actuate lever H whenever the hammer shall be brought to half-cock, as has been hereinbefore described.

When preferred, the breech-block, after having been thrown back to eject the cartridge, can be replaced without using the thumb-piece, by merely bringing the hammer to full-cock. In this case, of course, the pawl is not tripped by spur i^1, but spur e^1 is carried up the inclined way or track b', cut in one wall of the stock in such position as to be traversed by said spur e^1 when the hammer is moving from half to full-cock, and vice versa. In Fig. 5 the spur e^1 is shown in about the position that it occupies when at full-cock; and as the pawl is lifted by the spur the ring is drawn around backward by the action of spring k' in the same manner that it was when the pawl was tripped by lifting up the thumb-piece, as above described, and the breech-block will, of course, be returned to place at the same moment; but it may be found advisable to restrain the forward movement of the breech-block during the operation, and let it down carefully lest it should prematurely fire the cartridge.

It is apparent that my devices are adapted to various kinds of fire-arms besides pistols; and I do not wish to be restricted to their use in connection with any particular kind of fire-arms.

Having thus described the nature of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the hammer D, ratcheted ring C′, and pawl E with the breech-block I and lever H, substantially as described.

2. The combination of hammer D, ring C′, pawl E, lever H, breech-block I, and spring k', substantially as set forth.

3. In combination with the hammer D, ring C′, and pawl E, provided with spur e^1, the cam or inclined way b' in the stock, operating as set forth.

4. The combination of the hammer D, ring C′, pawl E provided with the spur e^1, and the breech-block I provided with the lip i^2 for tripping the pawl, as set forth.

In testimony whereof I have hereunto set my hand this 12th day of May, A. D. 1871.

HORACE UPDEGRAFF.

Witnesses:

W. G. BULLOCK,

AND. J. HOGG.

(33.)