

Breech-Loading Fire-Arm.

Patented Oct. 14, 1862.



UNITED STATES PATENT OFFICE.

WILLIAM TERRY, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 36,681, dated October 14, 1862.

To all whom it may concern:

Be it known that I, WILLIAM TERRY, of Birmingham, in the county of Warwick, in that part of the United Kingdom of Great Britain and Ireland called England, gun-maker, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon—that is to say:

My invention consists in certain improved mechanical arrangements or contrivances for effecting the loading of breech-loading fire-arms in a more simple and efficient manner than heretofore. The means by which these improvements may be effected are as follows: I adapt to the rear end of the barrel of a breech-loading fire-arm a sliding piston, the rod whereof passes through a peculiar-shaped hole or breech formed in a piece of metal fixed to or formed upon the rear end of the barrel. The outer end of the piston-rod has two lugs or projections fixed to or formed thereon opposite to each other, for locking the piston in the breech of the fire-arm after the cartridge has been pushed up, the locking operation being assisted by beveling the outer ends of the aforesaid lugs in opposite directions, so that when the said lugs have been pushed through the hole in the breech, by giving a slight turn of the piston-rod the beveled ends of the aforesaid lugs, coming into contact with the inner surface of the piece of metal situated at the rear end of the breech, will push the conical-shaped piston into a corresponding shaped seat in the barrel. There is a greased wad or packing inserted in the breech for lubricating and cleansing that part of the barrel in which the piston works. A strong spring-lever catch is hinged upon the outer end of the piston-rod, and serves the twofold purpose of a handle by which to advance and retire the piston, and as a catch which takes into a hole formed in the side of the barrel, the use of said catch being to assist in preventing the piston from being forced out by the percussive force of the powder. In connection with this catch is a spring fixed upon the barrel, which spring, when the aforesaid catch is locked in the barrel, is forced thereby close against the barrel,

which allows the cock to be pulled quite back to "full-cock;" but supposing, from any accident or otherwise, the piston should not be properly locked, and the catch not inserted in the hole in the barrel, the aforesaid spring projecting from the barrel would present an obstacle to the pulling back of the cock to full-cock, and thus prevent the discharge of the contents of the fire-arm, and consequently avoid the possibility of accident.

In order to explain my said invention as completely as possible, I now proceed to describe the best means I am acquainted with for carrying the same into practical effect, reference being had to the illustrative drawings hereunto annexed, like letters and figures marked thereon having reference to similar parts.

In the drawings, Figure 1 is a side elevation of a complete fire-arm or musket constructed according to my said invention. Fig. 2 is a longitudinal and vertical section through the line A B at Fig. 1 of the barrel of the said fire-arm, showing the mode of arranging and actuating the mechanism employed for inserting the cartridge into the barrel and securely holding the same during the discharge thereof. Figs. 3 and 9 are similar sections to that last mentioned, showing the aforesaid mechanism in different positions. Fig. 4 is an outside view of the barrel of the musket. Figs. 5, 6, 7, 8 are detached portions hereinafter particularly described and referred to.

A A represent the stock of the fire-arm, B the barrel, and C C an ordinary percussion-lock; D, the breech. The construction of this part of the fire-arm and the mechanism connected therewith form the principal part of my said improvements in fire-arms.

E is a sliding piston the rod *e* whereof is securely fixed into a piece of metal, G, to which is also hinged at *f* a lever, H H', employed for the purpose hereinafter mentioned.

I is a piece of metal passing over the piston-rod *e*, and connected to the breech end of the barrel by a screw, K, formed in the end of said barrel and around the piece I. The piston E at Figs. 5 and 6 is formed slightly taper and solid, and is securely connected to the piston-rod *e* by a pin at *l*, and the diameter or caliber of the bore of the barrel at the breech end thereof is somewhat larger than

the other part of the barrel, and is made conical to receive the taper part of the piston, which should fit, as far as practicable, airtight therein.

It will be seen upon referring to Fig. 8 that the piston-rod *e* has two lugs or projections, 2 3, formed thereon, which take into slots or openings 4 4, formed opposite to each other in the piece I, as at Figs. 5 and 7. An opening, 5, is formed in the piece I, as at Fig. 7, to enable the parts 2 3 to be inserted into said piece. It will also be seen upon referring to Figs. 7 and 8 that one side of each of the slots 4 4, as also the lugs 2 3, is formed inclining or sloping in opposite directions, so that when the lugs 2 3 are moved in said slots the piston E shall be forcibly pressed into its seat and held there.

In order to effect the partial turning round of the lugs 2 3, as lastly above stated, the feather 6 in the rod *e* is free of the groove 7 in the piece I, in which said feather slides, for drawing back the piston to allow the cartridge to be introduced into the breech through the opening M, formed in the side thereof, as at Fig. 9, said opening being nearly entirely closed by the outer end of the lever H, which fits therein, as at Figs. 1 and 3. There is a tempered steel spring, colored red at Figs. 2 and 3, attached to the piece G, and employed for securely keeping the lever H H' in the opening M during the discharge of the contents of the fire-arm. The upper and under side of the part H' of the lever H are sufficiently beveled inward to enable this part of the said lever to be readily gripped by the finger and thumb, for withdrawing the lever and pulling back the piston when it is desired to introduce a fresh cartridge at each discharge of the fire-arm.

N is a slot or opening formed in the breech for the escape of dirt, &c.; and O is a recess, containing cotton saturated with oil or other lubricating substance, so that at each discharge of the fire-arm the piston-rod is both lubricated and cleansed in a simple and efficient manner.

As regards the construction of the piston E, I would here remark that in order to pro-

vide means for compensating for the wear of the piston, I propose, if necessary, to construct the piston in two parts, as exhibited at Fig. 6. The part E is screwed onto the piston-rod *e*, and the part E' fits onto the end of the piston, which is formed square.

P is a screw taking into a corresponding screwed hole in the end of the piston-rod *e*. The head of this screw keeps the part E' of the piston upon the said piston-rod. By this arrangement it will appear evident that by drawing back the screw P and screwing the part E against the part E', the piston may thus be lengthened or renewed, so as to compensate for any wear thereof without having to substitute an entirely new piston.

Having now fully described and set forth the nature and object of my said invention of improvements in breech-loading fire-arms, together with the best means I am acquainted with for carrying the same into practical effect, I would remark, in conclusion, that I do not claim the parts marked A, B, and C on the annexed drawings, as they only represent the stock-barrel and lock of an ordinary musket; but

What I do claim as new and my invention, and desire to secure by Letters Patent, is—

The mechanical construction and arrangement of the various parts marked D, E, *e*, E', G, *f*, H, H', I, K, M, N, O, and P, hereinbefore particularly described, set forth, and represented by the illustrative sheet of drawings hereunto annexed, together with the mode of operating with the same, for the purpose of introducing the cartridge into the barrel of the fire-arm, and for presenting a substantial and efficient abutment for the powder to act against for discharging the contents of the barrel from the mouth of the fire-arm, as above stated.

In witness whereof I, the said WILLIAM TERRY, have hereunto set my hand this 6th day of May, in the year of our Lord 1859.

WILLIAM TERRY.

Witnesses:

EDWARD S. HAYCOCK,
WILLIAM TERRY, Jr.