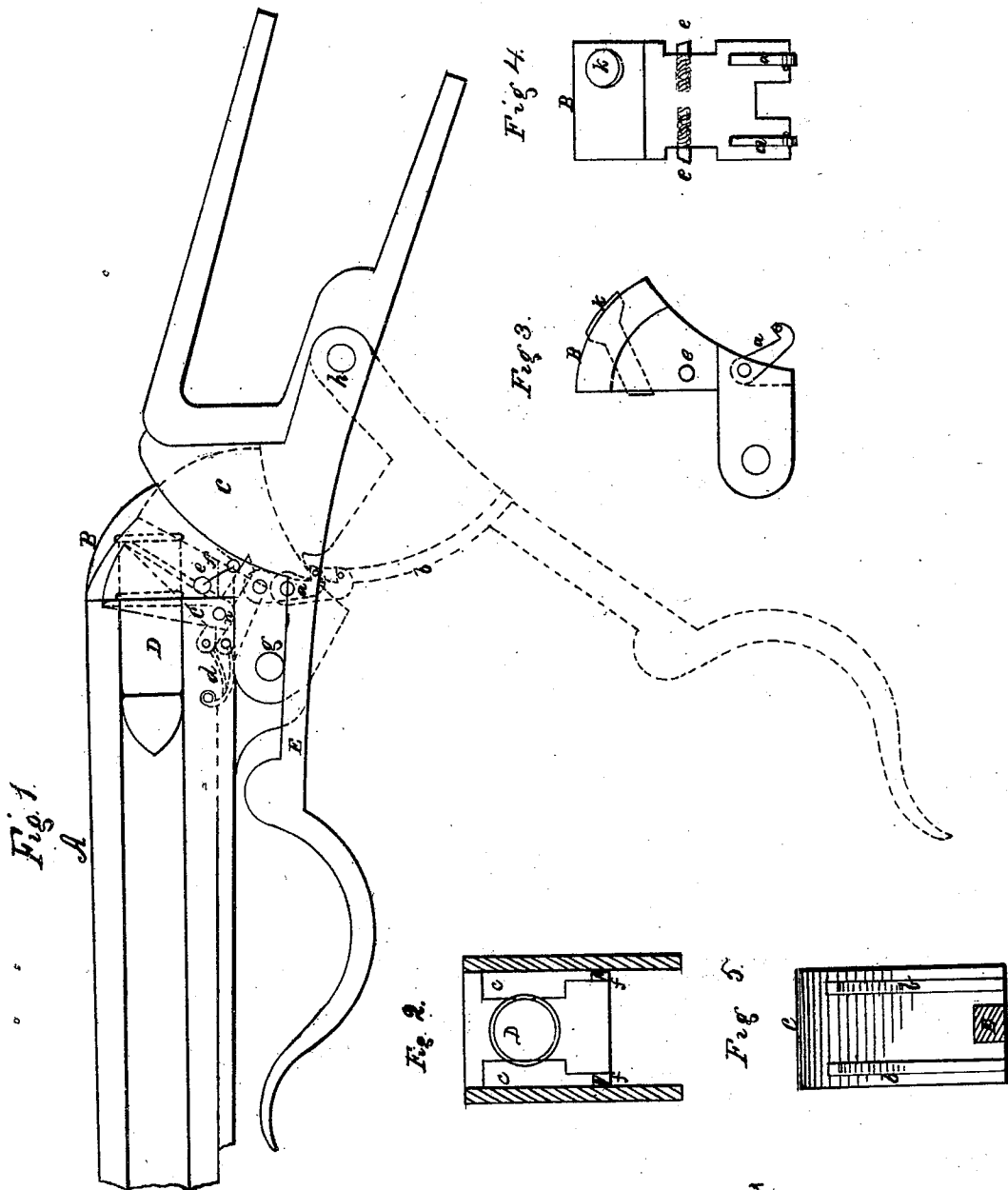


T. LEE.

Breech-Loading Fire-Arm.

Patented Nov. 19, 1861.

No. { 27 41. }
 { 33,745. }



Witnesses:
Richard Hewitt.
A. Barlow.

Inventor:
Thomas Lee.

UNITED STATES PATENT OFFICE.

THOMAS LEE, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 33,745, dated November 19, 1861.

To all whom it may concern:

Be it known that I, THOMAS LEE, of the city of Newark, county of Essex, and State of New Jersey, have invented an Improved Breech-Loading Fire-Arm; 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 of reference marked thereon.

This invention relates to that description of fire-arm where metallic cartridges are used; and it consists, chiefly, in certain peculiar appliances for removing the spent cartridge from the gun, and thereby to give increased facility to the loading.

The particular device here shown for opening and closing the breech is already the subject of a patent, letters for which having been granted to me on the 27th day of April, 1858.

A, Figures 1 and 2, is the barrel of the fire-arm.

D is a metallic cartridge consisting of a thin shell of metal, with an enlarged margin at one end containing fulminating-powder, and a ball inserted at the other end, the intermediate space being occupied with gunpowder. The lock is provided with side straps, between which the parts B C, &c., move, which connect the barrel with the breech of the arm, as will be well understood.

B is the breech-piece. It is held in place by the pin *g*, which is the center of its movement. It opens downward to receive the cartridge, and, returning, closes against the same or against the end of the barrel.

E is a lever on a fulcrum-screw, *h*, carrying the curved blocking-piece C, that, when pressed upward to its place, firmly and securely sustains the breech-piece against the force of the explosion. When a discharge has taken place, it becomes necessary, preparatory to reloading, to remove the shell of the spent cartridge from its chamber. This is effected by the act of opening the breech. The end of the cartridge is seized between arms that carry or throw it out, as follows: *c c*, Figs. 1 and 2, are arms or levers placed each side of the cartridge, and within the end margin before mentioned. At the bottom they are secured by a pivot, *n*, on which they move. At this point there is likewise a foot, the rear of which has connection with the spring *d*, which serves the purpose

of closing them against the barrel. The other end has a projecting toe, *f*, that is acted upon by the pins *e e* of the breech-piece B. (See Figs. 1, 3, and 4.) These carry the toes a certain distance down with the breech in its movement, then pass over or let go, when they instantly return under the action of the spring *d*, as before. The toes *f f* are beveled at their sides, (see Fig. 2,) and the pins that act against them are likewise angled at their points, (see Fig. 4,) so that the pins can freely pass upward by the toes to a position above them when the breech is closed. The pins have likewise springs behind them for this especial object. They thus act upon the toes *f f* by the downward movement only of the breech-piece to a certain point, (before the movement of the lever E is completed,) when the toe escapes and the arm is returned to its place. The breech-piece B has no absolute connection with the lever E. A "lost motion" is allowed between them for the purpose below stated.

a a are two pawls attached to the breech-piece near its lower side. They have at the end a hooked projection that matches into and travels in the channels *b* and *b* of the curved blocking-piece C. (See Figs. 3, 4, and 5.) This passes downward until near the completion of its movement, (the breech remaining stationary,) when, reaching the point where the channels abruptly terminate, the pawls are brought into action, which thus, with a quick and sudden movement, throws open the breech, and by means of the same movement the parts which expel the cartridge are in the like sudden manner brought into action, which results in its being instantly expelled and thrown some distance from its place. Much importance can therefore very properly be attached to this feature for effecting its withdrawal altogether, thus avoiding, in part or wholly, the necessity to remove the same by an act of the hand, which would be the case were a slower motion in conformity with the hand-lever E used by direct connection for the purpose without the intervention of the pawls *a a*, &c.

At *k*, Figs. 3 and 4, is shown a steel pin that receives the blow from the hammer of the lock, and communicates it to the margin of the cartridge, thus exploding it. The pin is free to move endwise a certain distance, but without being permitted to come out altogether or turn

in its place. In this form it furnishes the best medium for firing the cartridge, and likewise permits the use of a smooth-faced hammer.

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

Removing the spent cartridge from its chamber by means of the arms *c c*, pins *e e*, and

pawls *a a*, in combination with appliances, substantially such as herein shown, for opening and closing the breech, all essentially for the purpose and in the manner set forth.

THOMAS LEE.

Witnesses:

RICHARD HEWITT,
N. BARLOW.