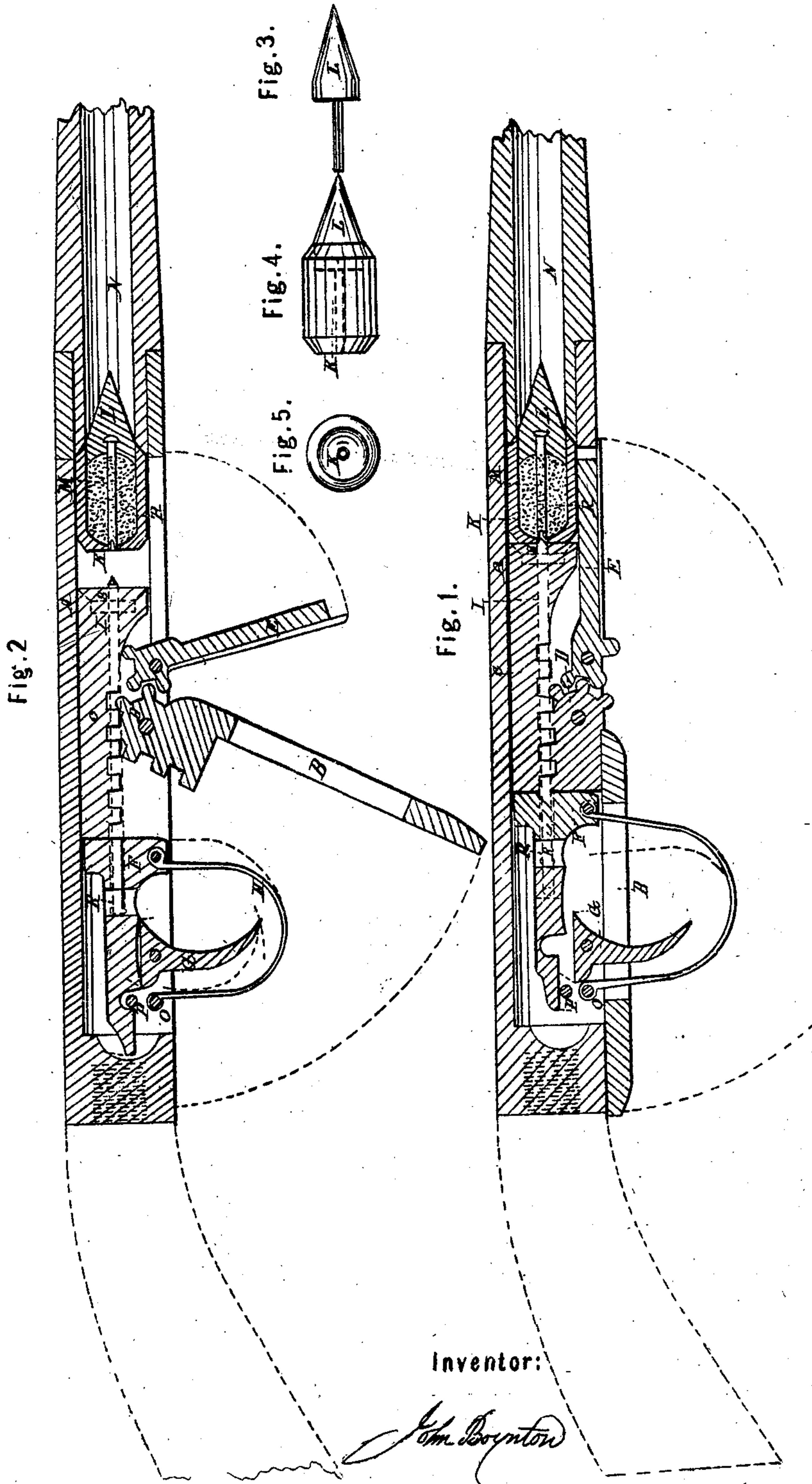


J. BOYNTON.  
Breech-loading Fire-arm.

No. 30,714.

Patented Nov. 27, 1860.



Witnesses:

*W. Yme*  
*Wm. D. Dunsen*

Inventor:

*J. M. Boynton*



# UNITED STATES PATENT OFFICE.

JOHN BOYNTON, OF EAST HARTFORD, CONNECTICUT.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 30,714, dated November 27, 1860.

### *To all whom it may concern:*

Be it known that I, JOHN BOYNTON, of the town of East Hartford, county of Hartford, and State of Connecticut, have invented new and useful Improvements in the Mode of Constructing Breech-Loading Fire-Arms; and I do hereby declare that the following is a correct description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the peculiar method of forming the breech part and attachments to a rifle or other fire-arm.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, Figure 1 is a longitudinal section of the breech part of the rifle, showing the discharging arrangements as they appear when loaded and before being cocked. Fig. 2 is also a longitudinal section, as before, showing the appearance of the lever, &c., in the act of cocking. Fig. 3 is a view of the ball and stem; Fig. 4, a view of the detached breech and ball when charged for operation; Fig. 5, a transverse section of the breech.

The general construction of my rifle-barrel and the stock are in the customary manner. My improvements are as follows, viz: At the breech end of the barrel A, in the part where the stock commences, I make a recess to contain the lock and the series of movements required for operating and discharging.

The lever B is constructed with a toothed rack and pinion, D, at the inner end, working on a center-pin, and matching into the teeth of the traveling ratchet C, to operate and actuate the same. This ratchet C forms the front or forward hammer and drives in the breech K and charge. The pinion D also works in the teeth of the lever or cover E, which is to cover up the space or opening formed to pass in the detached breech and charge K. When the breech and charge are forced into their place, the lever B must be again pressed down, and it will then bring back the ratchet against the hammer F, which, being attached to the mainspring H, recoils till the notch in the back part passes over and onto the pin P, and thus forms the cocking arrangement.

The mainspring H is composed of a curved spring, attached at the back end to the fixed pin D, and at front end to the pin in the lower part of the hammer F, and forms the trigger-guard, as well as spring.

The detonating-pin I passes longitudinally through the center of the ratchet-hammer C and into the center of the hammer F, to a hole, R, formed vertically in the same. It is the back part of this hole that strikes against the end of the detonating-pin I and drives it forward against the priming, to cause the explosion of the charge. The trigger G is of simple construction, vibrating on a center-pin, and when pulled lifts up the hammer F from the pin P. The detonating-pin I is pointed at the forward end, to penetrate the priming placed in or on the end of the stem M of the ball L, or some other similar device. In the end of the forward hammer, C, I form a recess to receive a packing, S. This packing is to ease the blow of the hammer against the end of the breech K when pressing in the same, and also assists in the prevention of the escape of the gas when discharged.

The detached and adjustable breech K, I make of good, tough steel, in the form as described in the drawings, hollowed out to receive the charge of powder R and the ball L, with a touch-hole in the rear end for the priming. This breech K is about three-fourths of an inch in diameter, and fits in the bore of the barrel at the end of the lock-recess, with a beveled and tight joint, and is pressed home tight by the force of the hammer C, actuated by the lever B.

The ball L, I make with a wedge-shaped forward part and concave at the back end, to fit into the detached and adjustable breech K. In the center of the same I insert or cast in a pin or stem, M, with a head on it to prevent its drawing out. This stem M extends to the touch-hole at the end of the detached breech, and is hollowed out at the end to receive the priming for the detonating-pin I to strike against. The utility of this stem M is to balance the ball in its flight, and to cause the point of the ball to be always in advance, thereby causing an increase of speed, power, and distance, (upon the principle of an arrow.)

The combined arrangement of all the parts described forms a complete and substantial breech-loading rifle, simple in construction and perfect in operation.

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

The rack C, pinion D, and mainspring H, in

combination, actuated by the lever B in the manner as herein described.

JOHN BOYNTON.

Witnesses:

WM. VINE,

T. A. STORRS.