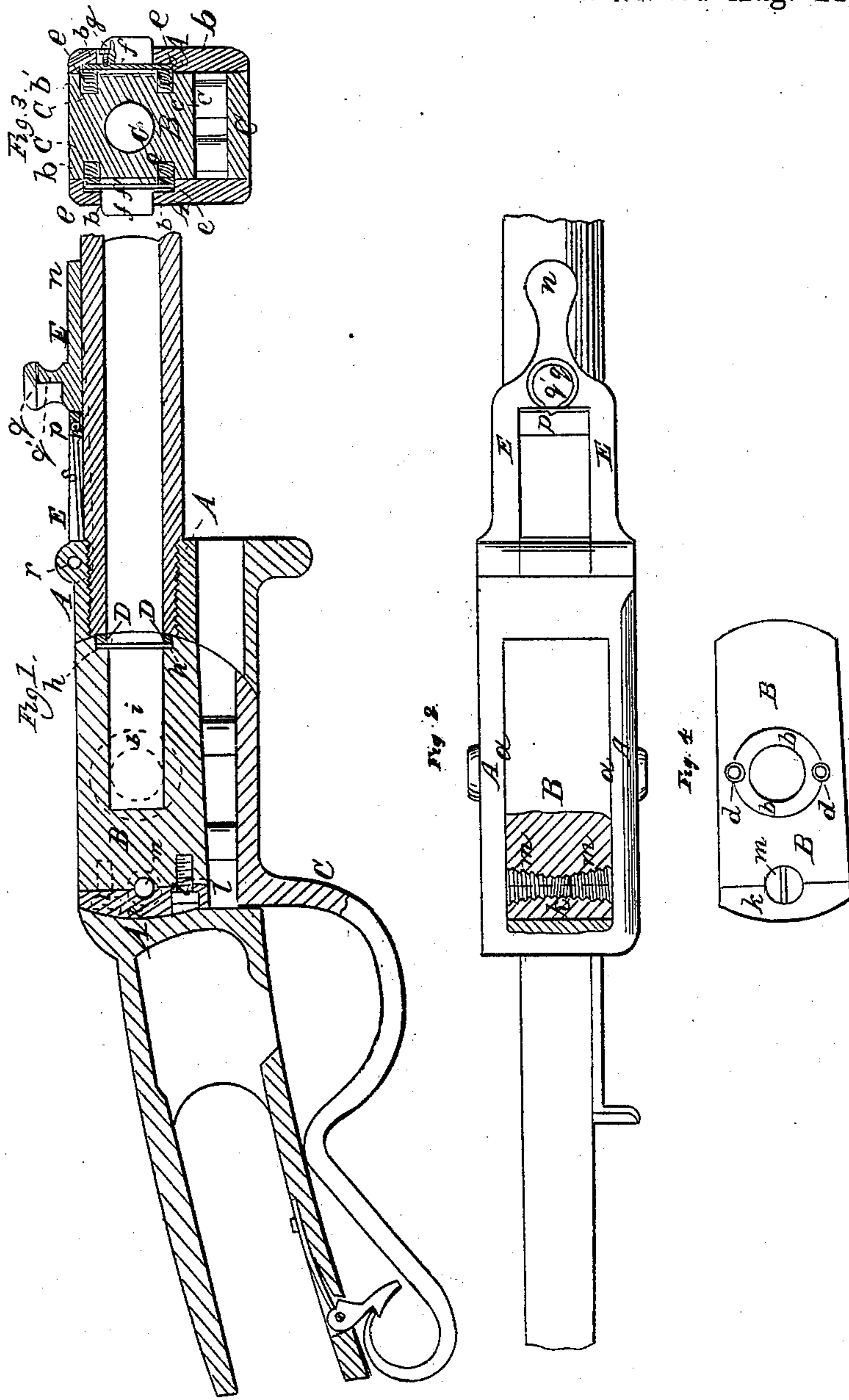


J. S. ADAMS.
Breech-Loading Fire-Arm.

No. 39,455.

Patented Aug. 11, 1863



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN S. ADAMS, OF TAUNTON, MASSACHUSETTS.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 39,455, dated August 11, 1863.

To all whom it may concern:

Be it known that I, JOHN S. ADAMS, of Taunton, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of the frame, the movable chambered breech, and part of the barrel of a fire-arm with my improvements. Fig. 2 is a plan of the same, partly in section. Fig. 3 is a transverse vertical section of the same. Fig. 4 is a side view of the movable chambered breech.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a certain mode of pivoting a movable breech or cartridge-block within the frame of a fire-arm, whereby facility is afforded for taking it out for cleaning or for any other purpose.

It also consists in certain means of tightening up the movable breech or cartridge-block between the barrel and the back of the frame, for taking up the wear of the joints; and it further consists in so constructing the sight and applying the same, in combination with a movable chambered breech, as to make it serve as a rammer for ramming the cartridge or ball into the chamber.

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

A is the frame, made with a parallel-sided opening, *a*, for the reception of the movable chambered breech or cartridge-block B, which is pivoted at about the middle of its length to the sides of the frame, and the ends of which, as well as the ends of the opening *a* in the frame, are rounded concentric with the axis of the pivots of the breech B. These pivots consist of two rings, *b b*, which are fitted to annular recesses *b' b'*, formed for their reception in the sides of the breech B, and into circular recesses *e e*, formed for their reception in the frame at the side of the opening *a*, and which, when the breech is in its place, are received partly within the breech and partly within the frame, as shown in Fig. 3. These

rings need not be more than a sixteenth of an inch in depth, measured parallel with their axes, and the annular recesses *b' b'* in the breech B need be but of very little, if any, greater depth. At the back of the recesses *b' b'* there are formed in the breech small deeper recesses for the reception of spiral springs *c c*, which press the rings outward from the breech, but which are prevented from pressing them more than half-way out by means of countersunk screws *d d*, screwed into the breech. The recesses *e e* in the frame are made deep enough to receive the flanges *f' f'* of what I term "false trunnions" *f f*, which are fitted to holes drilled through the sides of the frame. To take out the breech, it is first opened by pulling down the rigidly-attached trigger-guard lever C, as shown in red outline in Fig. 1, far enough to remove its rounded ends from the corresponding rounded ends of the opening *a* of the frame, and then, while the lever C is held by one hand, the protruding ends of the two trunnions *f f* are pressed inward by the thumb and finger of the other hand, and by that means the flanges *f' f'* of the trunnions are caused to press the rings *b b* entirely into the annular recesses *b' b'*, and the breech is then free to be drawn out from the frame. To replace the breech, the rings are pressed into the recesses *b' b'* by the thumb and finger of one hand, while the breech is inserted far enough into the frame to prevent them from slipping out, and the breech is then pushed into its place, and on the arrival of the rings opposite the recesses *b' b'* they are forced thereinto by the springs *c c*. To prevent the false trunnions from dropping into the opening of the frame when the breech is removed, there are screws *g g*, Fig. 3, screwed into the flanges of the trunnions through grooves in the outer portions of the trunnion-bearings in the frame, and these screws also serve to prevent the trunnions from turning.

D is the gas-ring, fitted into a countersunk recess, *h*, formed around the chamber *i*, in front of the breech B. The external periphery of this ring is of cylindrical form, and its interior of corresponding form and of the same caliber as the chamber. Its front or outer face is made to conform to the front of the chamber, and its back is hollowed out, as shown in Fig. 1, to make it present a thin edge at its

junction with the outer periphery. When the discharge of the gun takes place, the gases get behind this ring and drive it forward against the rear end of the barrel, and at the same time they tend to expand the flexible thin edge at the back of the ring against the interior of the recess *h*, and thereby effectually prevent any gas from passing the ring and escaping between the chamber and the barrel.

To provide for the tightening up of the movable breech between the barrel and the rear end of the opening *a* in the frame, where the recoil is received, the breech is made with a separate packing-piece, *k*, of steel or other metal, which is secured to the principal portion *B* by means of screws *ll*, with counter-sunk heads. Half in the principal portion *B* and half in the piece *k* there are drilled two taper holes, one on each side of the breech, and these holes are tapped for the reception of two taper screws, *mm*, which are screwed thereinto. When it is desired to tighten up the breech and take up the wear, the screws *ll* are slightly slackened and the screws *mm* screwed in, and the latter screws, acting as wedges, force apart the pieces *B* and *k* as much as necessary to produce the requisite elongation of the breech.

E is a sight, of the construction commonly known as "guide-sight," but made much heavier, to give it the requisite strength to be used as a rammer, and extended to a greater length, as shown at *n*, to give it the requisite leverage for ramming. This sight is attached to the frame *A* by a pin or hinge-joint, *r*, and fitted with the usual adjustable slide, *p*, and also has rigidly attached to it a cup, *q*, for the reception of the points of the bullets. In loading, the breech is moved by the lever *C* to present the mouth of the chamber above the frame *A*; and when the cartridge or the powder and ball have been inserted the sight *E* is pulled back to bring the cup *q* upon the point of the ball, as shown in red outline in Fig. 1,

and made to ram it into the chamber *i*, which is caused, by a suitable construction of the breech, breech-lever, and frame, to stop in the requisite position for such operation of the sight, in which the pin or hinge *r* constitutes the fulcrum upon which the sight acts as a lever.

The cup *q* has provided in it a hole, *q'*, which, when the sight *E* is laid down upon the barrel, as shown in black outline in Fig. 1, serves for sighting at point-blank or short range. The slide *p* is so arranged as to come in contact with the top of the barrel, and by giving the grooves, provided in the inside of the said sight for the said slide to work in, a slight inclination, as shown in Fig. 1, the movement of the slide along the barrel will produce a very delicate adjustment of the hole *q'*, for a longer or shorter range. To prevent the slide from moving too easily in the grooves *s*, it is fitted with a small piston-like pin, which is pressed into one of the grooves by a spiral spring within the slide.

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

1. The pivoting of the breech within the frame by means of the rings *bb*, or their equivalents, having combined with them the springs *cc* and the false trunnions *ff*, the whole applied and operating substantially herein as set forth.
2. The packing-piece *k*, combined with the movable breech by means of the taper screws *mm*, substantially as and for the purpose herein set forth.
3. So constructing and applying the sight *E* that it constitutes a rammer to operate in combination with a movable chambered breech, substantially as and for the purpose herein specified.

JOHN S. ADAMS.

Witnesses:

LEONARD BURT,
OSCAR O. ADAMS.