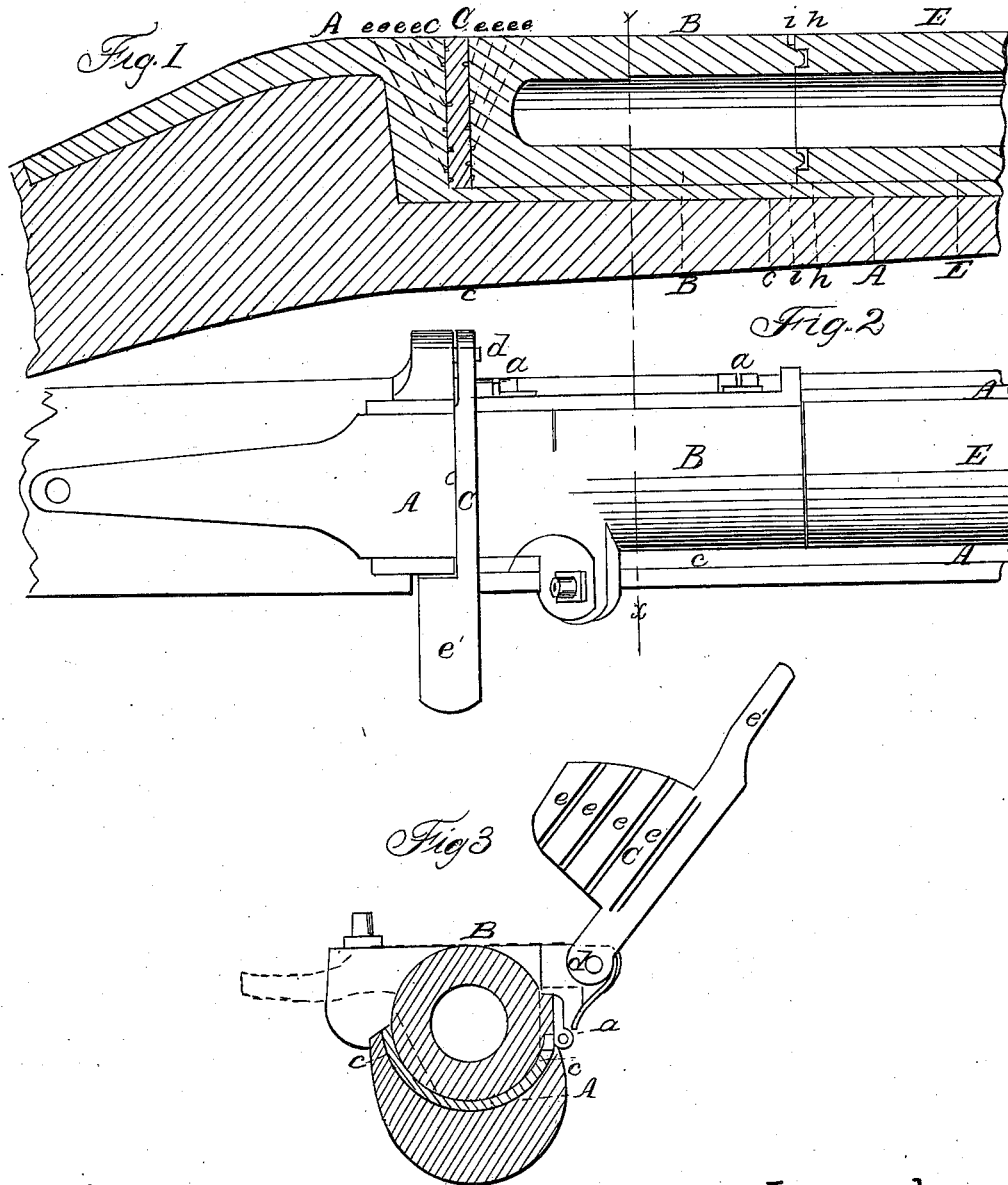


I. M. MILBANK.
Breech-Loading Fire-Arm.

No. 46,125.

Patented Jan. 31, 1865.



Witnesses
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IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 46,125, dated January 31, 1865.

To all whom it may concern:

Be it known that I, ISAAC M. MILBANK, of Greenfield Hill, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement 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 vertical section of the breech and parts of the frame, stock, and barrel of a fire-arm constructed according to my invention. Fig. 2 is a top view of the same. Fig. 3 is a transverse section in the plane indicated by the line *xx* of Figs. 1 and 2.

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

This invention consists, first, in a novel mode of applying a wedge in combination with a breech-piece which opens and closes with a swinging movement transverse to the bore of the barrel, for the purpose of forcing forward the said breech-piece toward the barrel to make it form a gas-tight joint therewith after it has been closed.

It also consists in a novel mode of applying a packing of india-rubber or other elastic material in combination with the barrel and movable breech-piece of a breech-loading fire-arm for the purpose of making a gas-tight joint when the breech-piece is closed.

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 of the fire-arm, made with a cavity, *cc*, of suitable form for the reception of the breech-piece B, which is hinged to the sides of the said frame at *aa*, that it may open with an upward and outward swinging movement from the barrel. This breech-piece is permitted to have a slight movement upon its hinges in a direction parallel with the bore of the fire-arm.

C is the wedge for forcing the breech-piece up toward the barrel E, fitted, as shown in Fig. 1, to a taper space, which is left for its reception between the rear end of the breech-piece and the rear end of the cavity *cc*. This wedge is attached at one side by a hinge or pivot joint, *d*, to one side of the frame, and on

the other side it is furnished with a thumb-piece or handle, *e'*, to which the power of the thumb or hand is applied to move it from the position behind the breech-piece shown in Fig. 1, and in red outline in Fig. 3, to the position shown in black outline in Fig. 3, in which it permits the breech-piece to move back from the barrel far enough to enable it to be opened by the circular movement on its hinges *aa*. The faces of the wedge C and corresponding faces of the breech-piece and cavity *c* have narrow grooves *ee* cut in them for the collection of any dirt that may get between the said faces, the edges of the said grooves scraping the opposite faces clean.

To open the breech for loading, the wedge is first raised to the position shown in Fig. 3 in black outline, and the breech-piece is then allowed to move back far enough to clear the barrel, and is turned on its hinge out of the cavity *c* to a position for loading. This mode of applying the wedge in combination with the movable breech-piece is applicable with especial advantage when the breech-piece and barrel are fitted together, so that a portion of one enters into the other to form a valve-like joint, whether the movable breech-piece be chambered to receive the charge, as shown, or whether the charge be inserted into the barrel in front of a solid movable breech-piece.

The mode of applying the packing of india-rubber, which constitutes the second feature of my invention, is illustrated in Fig. 1. The india-rubber packing *h*, made or arranged in the form of a ring, is inserted tightly within an annular cavity formed in the rear end of the barrel E concentric with the bore, and there is formed upon the front end of the breech-piece an annular projection, *i*, of rounded or other suitable form in its transverse section, which would enter the annular cavity in the barrel if the packing were absent; but which, when the breech-piece is closed and pushed forward, indents itself into the packing and makes a gas-tight joint. Instead of having the packing *h* in the barrel and the projection *i* on the breech-piece, the packing may be in the breech-piece and the projection on the barrel; but I prefer the arrangement first mentioned.

I do not claim, broadly, the forcing up of the movable breech-piece to the barrel by

means of a wedge, nor the use of india-rubber as a packing for the breech-joint of breech-loading fire-arms.

While disclaiming the devices, separately considered, I claim as new—

A breech-loading fire-arm combining the following elements, namely: the wedge C, rotating on a hinged arm transversely to the axis of the barrel, and provided, as well as the faces on which it impinges, with cleaning-grooves e, the front face of the breech-piece having an annular bead projecting forward into a corresponding groove in the rear of the barrel, so that by the withdrawal of the wedge the breech-

piece may be freed to move to the rear sufficiently to enable the bead to clear the sides of the groove as the hinged breech-piece is rotated out of its chamber, and on being returned charged may be driven home with the bead pressing upon the elastic packing of the groove, the whole arrangement thus described working upon or contained within a frame, A, which secures the barrel to the abutment.

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Witnesses:

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