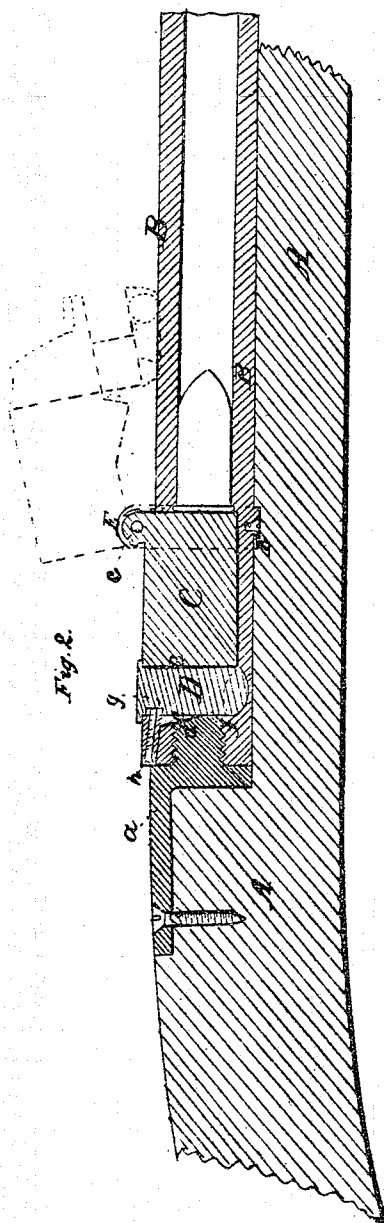
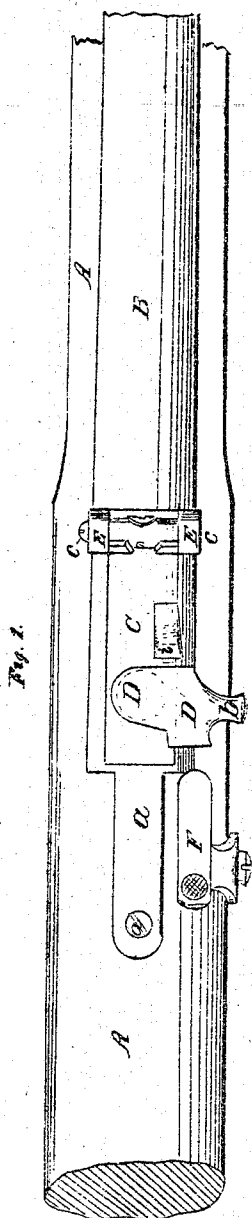


No. 61,082.

PATENTED JAN. 8, 1867.

I. M. MILBANK.  
BREECH LOADING FIREARM.



Witnesses:  
Henry J. Brown  
George W. Reed

J. M. Melbank

# United States Patent Office.

ISAAC M. MILBANK, OF GREENFIELD HILL, CONNECTICUT.

*Letters Patent No. 61,082, dated January 8, 1867.*

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### 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 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, making a portion of this specification, in which—

Figure 1 is a plan or top view of a fire-arm, constructed according to my invention.

Figure 2 is a vertical longitudinal section of the same.

Figure 3 is a detached view of a portion of the same.

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

This invention is designed, more especially, for the conversion of ordinary muzzle-loading muskets into breech-loaders, and it consists in a movable locking bolt, placed perpendicularly in the rearmost end of the breech-block, and operating in such relation with the rear end or recoil bearing of the breech-receiver, as to securely lock the breech-block against the recoil of the charge in firing. The invention further consists in a novel construction of the head or upper end of the aforesaid locking bolt, whereby the blow of the hammer may be very conveniently transmitted to the firing-pin without necessitating any material change in the hammer, as usually constructed for muzzle-loading arms; and, furthermore, the invention consists in a novel means of giving a spiral or twisting motion to the locking bolt in withdrawing the same to unlock the breech-block, whereby the operation of ~~unlocking the breech~~ is greatly facilitated.

To enable others to understand the construction and operation of my invention, I will proceed to describe it, with reference to the drawings.

A represents the stock of the arm, and B the barrel thereof, the said barrel having a breech-pin, *a*, screwed into its rearmost end, in the manner common to muzzle-loading fire-arms, and attached to the stock by a screw, *a'*. The rearmost portion of the barrel, in front of the breech-pin *a*, is hollowed out or cut away at its upper side, in order that a breech-receiver may be formed therein, in which the breech-block C is placed, as shown in fig. 2. The forward upper edge or corner of the breech-block C is pivoted to the upper side of the barrel by a transverse pivot, *c*, which is supported by a band, E, which passes around and underneath the barrel in such manner that the said breech-block may be turned upward, around the said pivot *c*, into the position shown in red outline in fig. 2, in order to open or uncloze the breech of the arm when desired. The greater portion of the rearmost end of the breech-receiver is formed on the arc of a circle concentric with the pivot *c*, as shown at *d*, and the rear end of the breech-block C is made of corresponding shape, so as to properly fit the same when the breech is closed. Formed in the rearmost end of the breech-block is a cylindrical slot, *e*, which is situated perpendicular to the upper and lower sides of the breech-block. The lower part of the rearmost end of the breech-receiver is recessed or hollowed out, so that a bearing, *f*, is formed, which is so situated that when the breech is closed the said bearing will form a continuation of the rearmost side of the cylindrical slot *e*, in the breech-block C, this bearing being, of course, perpendicular to the bottom of the breech receiver, as shown in fig. 2. Placed within the slot *e* is a cylindrical locking bolt, D, in one side of which is formed a short spiral groove, into which projects the inner end of a small set-screw or fixed pin, *h*, which is fixed in the rearmost end of the breech-block, as shown in fig. 2. The head or upper end of this locking bolt, D, is extended laterally, as shown at D' in fig. 1, being thus situated between the hammer F and the firing-pin *i* in such manner that when the hammer descends it will strike the rearmost side of the said head, and force the forward side thereof against the rear end of the firing-pin *i*, which works in a suitable slot or receptacle formed in the breech-block with sufficient force to drive the said pin forward to ignite the charge, the bolt turning slightly to allow of this action upon the firing-pin, the innermost end of the set-screw *h* being narrower than the spiral groove *g*, in order to admit of this turning of the locking bolt. The head D' is furnished with a laterally projecting knob or handle, *b*, by which the locking bolt is operated in unlocking the breech, as will be hereinafter explained. In closing the breech, the breech-block C is turned down into the breech-receiver, as shown in fig. 2, and the locking bolt D is pushed downward, until its lower end is fitted in front of the bearing *f*, and, inasmuch as when in this position the lower end of the said locking bolt extends beyond the arc of a circle described by the rear end of the breech-block, and also by the rear end of the breech-receiver, it follows that the said bolt, by bearing against

the bearing *f*, securely locks the breech-block against the recoil of the charge, and prevents it from being thrown upward or out of place thereby. In opening the breech, the locking bolt is forced upward with the hand by means of the knob or handle *b*, and is thus withdrawn from the bearing *f*, such withdrawal being facilitated by the spiral or twisting motion communicated to the said bolt by the set-screw *h* acting in the groove *g*, as hereinbefore explained. The breech-piece being thus unlocked, is turned upward into the position shown in red lines in fig. 2, and the cartridge is inserted into the rear end of the barrel thus unclosed, which being done, the breech-block is brought back to its place and locked therein, as just hereinbefore set forth. The charge may then be fired by the striking of the hammer *F* upon the laterally extending head *D'* of the locking bolt *D*, and the consequent forward movement of the firing-pin *i*. By these means the breech-block is securely locked against the explosion of the charge, and may, at the same time, be very conveniently operated to open the breech when desired; and, furthermore, no essential change in the form or construction of the hammer, as ordinarily used in muzzle-loading fire-arms, is required.

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

The spirally-grooved locking bolt *D*, operating in combination with the fixed screw *h*, and pivoted breech-block *c*, on the rear of the breech-receiver, substantially as and for the purposes set forth.

I. M. MILBANK.

Witnesses:

GEO. W. REED,

L. HOLMES, Jr.