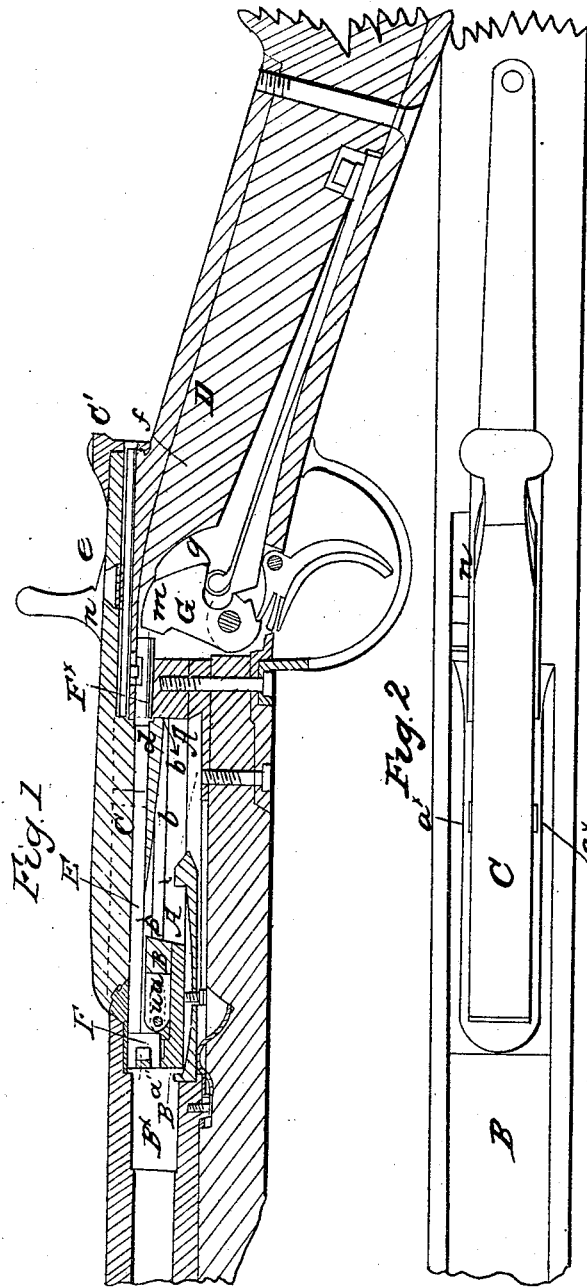


J. W. COCHRAN.  
Breech Loading Fire Arm.

No. 85,645.

Patented Jan'y 5, 1869.



Witnesses  
J. W. Cochrane  
A. Sellers

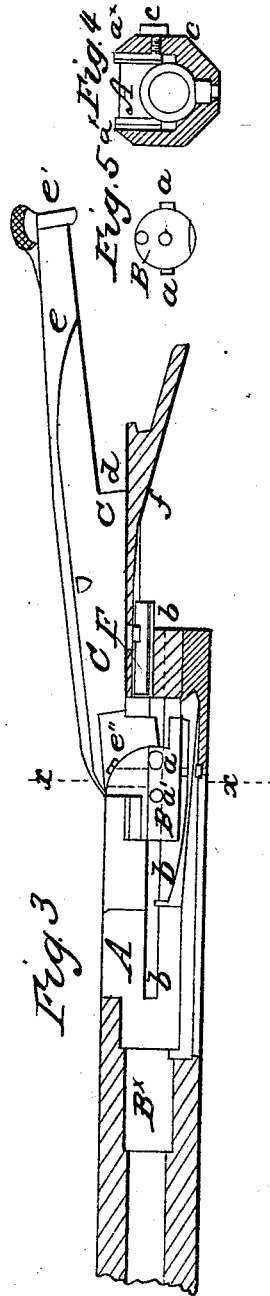
Inventor  
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J. WEBSTER COCHRAN, OF NEW YORK, N. Y.

Letters Patent No. 85,645, dated January 5, 1869.

## 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, J. WEBSTER COCHRAN, of the city, county, and State of New York, 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 vertical longitudinal section of a breech-loading fire-arm made according to my invention.

Figure 2 is a plan view of the same.

Figure 3 is a vertical longitudinal section of the principal portions of the same, showing the position of the parts when the breech is opened for the insertion of the cartridge.

Figure 4 is a transverse section of the same, taken in the line *xx* of fig. 3.

Figure 5 is an end view of the breech-piece of the arm.

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

This invention consists in the combination of a sliding pin or bolt with the breech-receiver, with a brace for locking the breech-piece in position for firing, and with the hammer, and a suitable firing-pin, or its equivalent, passing through the brace and into or through the breech-piece, in such manner that the said pin or bolt serves the double purpose of transmitting the blow of the hammer to the firing-pin, to ignite the charge, and of locking the brace, and consequently the breech-piece, firmly in position, thereby preventing any accidental displacement of the same.

The invention further consists in a novel means, whereby provision is made for the ready detachment or removal, when required, of the breech-piece from the breech-receiver.

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

The breech-receiver *A* provided behind the barrel *B*\*, has placed therein the longitudinally-movable breech-piece *B*, the forward end of which is of the cylindrical form indicated in fig. 5, in order that when brought forward to close the breech, it may fit snugly within the recessed rear end of the bore of the barrel.

The breech-piece is steadied and prevented from turning on its longitudinal axis by studs *a*, provided at the sides thereof, and fitting into grooves *b*, formed longitudinally in the sides of the breech-receiver.

In order to permit the breech-piece, when required, to be removed from the breech-receiver, vertical grooves *a*\* are formed within the same, near the rear ends of the longitudinal grooves *b*, and communicating with the latter in such manner that the studs *a*, being brought below such vertical grooves, may pass up through the same, thus allowing the breech-piece to be lifted from the receiver.

In order to prevent such lifting of the breech-piece from accidental causes, a screw, *c*, is screwed through

one side of the breech-receiver, with its inner end extending inward through one of the vertical grooves just mentioned, so that the adjacent stud *a* cannot pass upward until the screw *c* is turned outward sufficiently to clear the groove.

That part of the breech-piece back of the cylindrical portion just described, is formed on the arc of a circle concentric with the transverse pivot *a'* which connects the breech-piece with a brace, *C*, the forward end of which is fitted to the semicircular surface of the breech-piece, and having formed therein a small recess, *c'*, into which projects a spur, *e'*, provided upon the breech-piece, and the object of which is to limit the upward or lifting-movement, hereinafter explained, of the brace in opening the breech, and which, at a suitable distance from the joint thus formed, is furnished with the recoil-shoulder *d*.

The recoil-shoulder *d* is shaped on the arc of a circle, concentric with the pivot *a'*, and the recoil-bearing *b'*, at the rear end of the breech-receiver, is formed on a corresponding arc, to the end that when the breech is closed, the explosion of the charge in firing may not tend to throw the brace upward from its place, the pivot *a'* being situated at or below the axis of the bore of the barrel.

The rearmost portion of the brace extending back, constitutes a tongue, *e*, which, when the brace is brought downward in closing the breech, rests upon the strap *f*, at the upper side of the stock *D*, and may be held down by a suitable spring-catch, *e'*.

In order to load the arm, the spring-catch *e'* is first operated to disengage the tongue *e*, whereupon the latter is raised until the recoil-shoulder *d* is brought clear of the recoil-bearing *b*, and the brace is then pulled back, and withdraws the breech-piece from the breech or rear end of the barrel, to such distance as to permit a cartridge to be dropped or inserted in the breech-receiver in front of the breech-piece, which being done, the brace is pushed forward to bring the breech-piece to its first position, the breech-piece forcing the cartridge into its place in the barrel during such forward movement.

The brace is then forced downward to bring its recoil-shoulder *d* in front of the recoil-bearing *b'*, and in this position serves to effectually support the breech-piece against the force exerted thereon by the explosion of the charge.

The firing-pin *E* is arranged longitudinally within the brace *C*, with its forward end extended into a recess, *a''*, provided in the breech-piece, of such shape as to permit any change which may occur in the position of the forward end, just mentioned, of the firing-pin, the same recess also receiving the bifurcated striker *F*, situated in front of and in contact with the firing-pin, which actuates the same to strike the base of the cartridge, to ignite the priming of the same.

The rearmost end of the bore in the brace which receives the firing-pin, is enlarged as shown at *b''*; and formed in the rear end of the breech-receiver, and in

line with the firing-pin, when the brace is down in its place, is a bolt or pin, F\*, placed in a suitable receptacle provided in the part just mentioned of the breech-receiver.

The hammer of the arm is shown at G, and is placed in a suitable cavity, *g*, formed in the stock, and has its striking-face *m* situated behind the bolt F, with its thumb-piece *n* arranged at one side, and extending upward, as indicated in figs. 1 and 2, in proper position to be easily operated in cocking the hammer.

The breech-piece and brace being in position to close the breech, as hereinbefore explained, the forward movement of the hammer drives forward the bolt F\*, which not only transmits the force of the blow to the firing-pin, to ignite or explode the charge, but which, by the entrance of its forward end into the enlarged portion *b*" of the bore which receives the firing-pin, effectually locks the brace down in its place, and thus provides against any accidental displacement of the breech-piece or brace, which might otherwise occur.

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

1. The combination of the breech-piece B, the brace C, hinged thereto, the firing-pin E, passing through the brace and entering the breech-piece, the sliding pin or bolt F\*, passing through the recoil-shoulder, and the hammer, substantially in the manner described, to operate as herein set forth.

2. The arrangement of the screw *c*, with reference to the longitudinal grooves *b*, and vertical grooves *a*\* of the breech-receiver, and the studs *a* of the breech-piece, whereby provision is made for the detachment of the breech-piece, without incurring the liability of accidental displacement, substantially as herein set forth.

J. W. COCHRAN.

Witnesses:

J. W. COOMBS,  
A. LE CLERC.