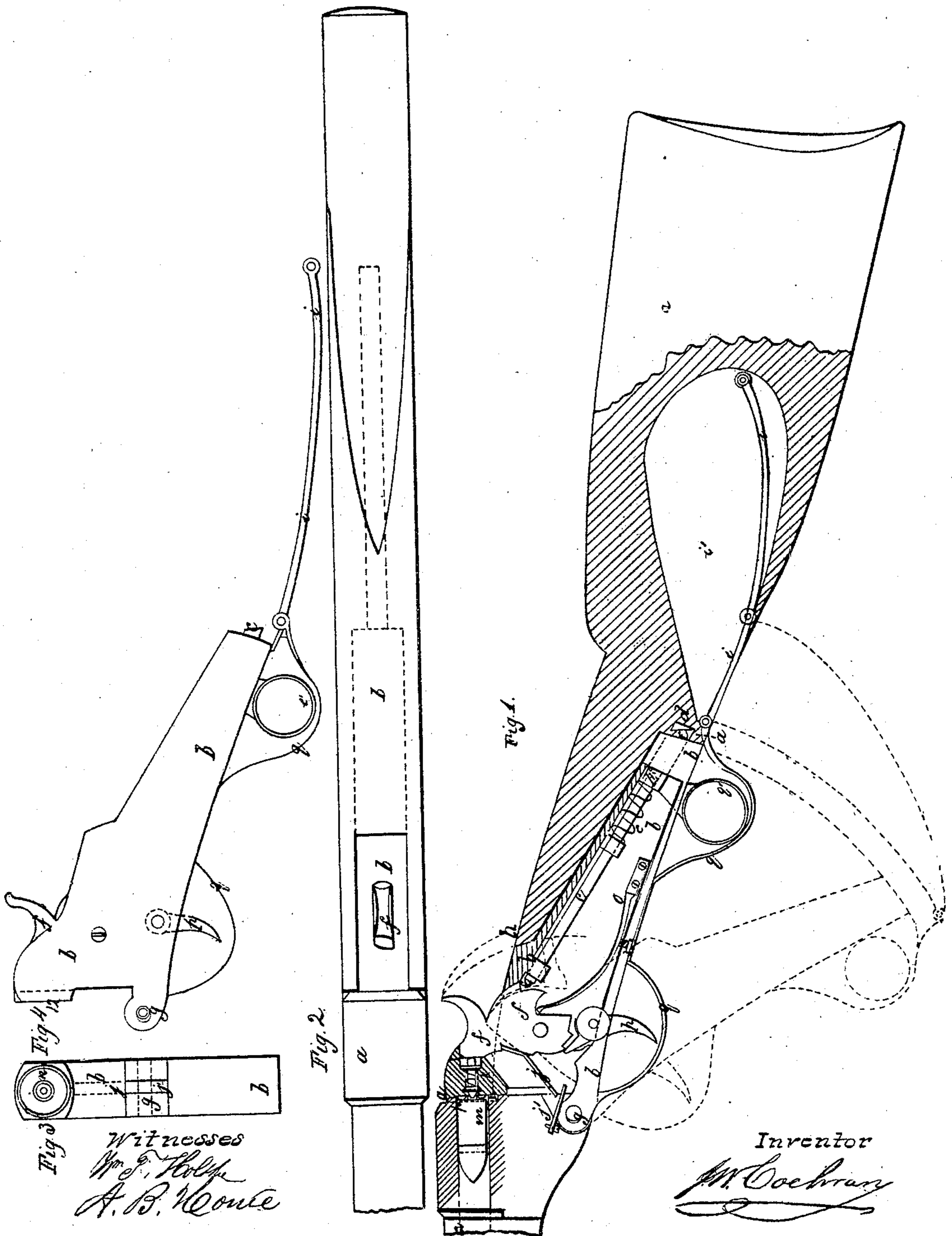


J. W. COCHRAN.  
Breech-loading Fire-arm.

No. 39,120.

Patented July 7, 1863.



# UNITED STATES PATENT OFFICE

JOHN WEBSTER COCHRAN, OF NEW YORK, N. Y.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 39,120, dated July 7, 1863.

*To all whom it may concern:*

Be it known that I, JOHN WEBSTER COCHRAN, of the city, county, and State of New York, have invented new and useful Improvements in Breech-Loading Fire-Arms; and I do 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 breech of a hand-rifle with one side partly removed the better to show the recoil block or breech. Fig. 2 is a plan of the gun with the breech closed. Fig. 3 is a front end view of the moving breech; Fig. 4, side elevation of the same, showing guard-arm attached in detail.

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

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

*a a* are the barrel and stock of gun; *b b*, recoil-block or moving breech; *c c*, lock-bolt for securing recoil-block *b* to the breech *a* by being forced and firmly held in the recess *d*, made in the frame of the permanent breech of the gun by spring *e*, and worked in and out by the finger-guard *e'*. This lock-bolt *c c* has another important office to perform—viz., to prevent the lock from being cocked unless the bolt is firmly in the recess *d*, as the upper end of bolt *c* would come in contact with a projection on the back of the cock *f*, which would prevent it being moved sufficiently back to allow the trigger to fall into the notch at full-cock. In case the cock *f* were thrown back at full-cock when the block *b* was not up in place, that would prevent the breech being closed, as the bolt *c* could not move forward on account of the cock holding it back to allow the block being moved up into its proper place until the cock was lowered, thus making it impossible to fire the gun unless the breech is properly closed. It will be observed that the recoil of the discharge takes place above the line of the heel of the block *b* and the turning-hinge *g* at the under side of the barrel. The hinge *g* is not intended to receive any of the direct recoil, but only to prevent the front of the recoil-block from lifting upward, as that is the tendency when the gun is discharged. Consequently the whole recoil must be sustained

by the heel of the block and the shoulder *h* firmly held to a permanent part of the breech. The bolt is only to secure that end of the block in position when being fired. The angle at which the lock-bolt is placed, the greater downward pressure upon it only serves to force it firmer into the recess. I make the hole slightly oblong in the hinge in the front part of the block, for opening the breech, so as to be sure not to have any strain backward on the hinge by the recoil, as that would have the tendency to throw the heel of the block downward and cause greater strain upon the lock-bolt. The guard or guide-arm is attached by a hinge to the back part of the recoil-block *b*, and made to work freely in a recess, *i'*, formed in the stock. The object is, first, to prevent the block being forced too far down or open; second, to guard the block and person from injury in the event of the block being down when at a charge, or used when mounted. The guard-arm and block would appear, when open, as the red dotted lines indicate. The small arm, *j*, attached to the front part of the cock is made to come in contact with another arm or spring, *j'*, when the recoil-block is brought down for opening the breech for loading, the object of which is to push back the hammer to a half-cock, so that in bringing the block into position and in forcing the cartridge home into the chamber of the piece, it will not rest either on the cartridge or on the moving piston *k*, that being kept back by a spiral spring, *l*. The face of the recoil-block is made to fit and correspond with the corrugated end of the metallic cartridge *m*, and also to fit on and over the conical end of the barrel. The inside face *n*, Fig. 3, of the recess in the block for the reception of the end of the cartridge and barrel should be faced or bushed with some soft material—such as vulcanized india-rubber, or its equivalent. Soft copper or other metal may also be used. This thin cushion, when being pressed hard against the end of the barrel, will securely close and shut off any escape of the gas or fire from the discharge, and also any damage to the charge from exposure to the weather through the breech. This arrangement is of special importance to breech-loading ordnance. By these means I am enabled to get a very simple moving breech.

The block, lock, and guard are in one piece (except their own details) and moved by a single hinge, the mainspring *o*, trigger *p*, and hand-guard *q*.

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

1. The safety guard or guide *i*, in connection with the recoil-block *b*, as set forth.
2. The arm *j*, attached to the hammer *f*, for

throwing it back to half-cock by coming in contact with another lever or spring, *j'*, when opening the breech by throwing the recoil-block down, as described.

J. W. COCHRAN.

Witnesses:

WM. F. HOLSKE,  
A. B. HOWE.