

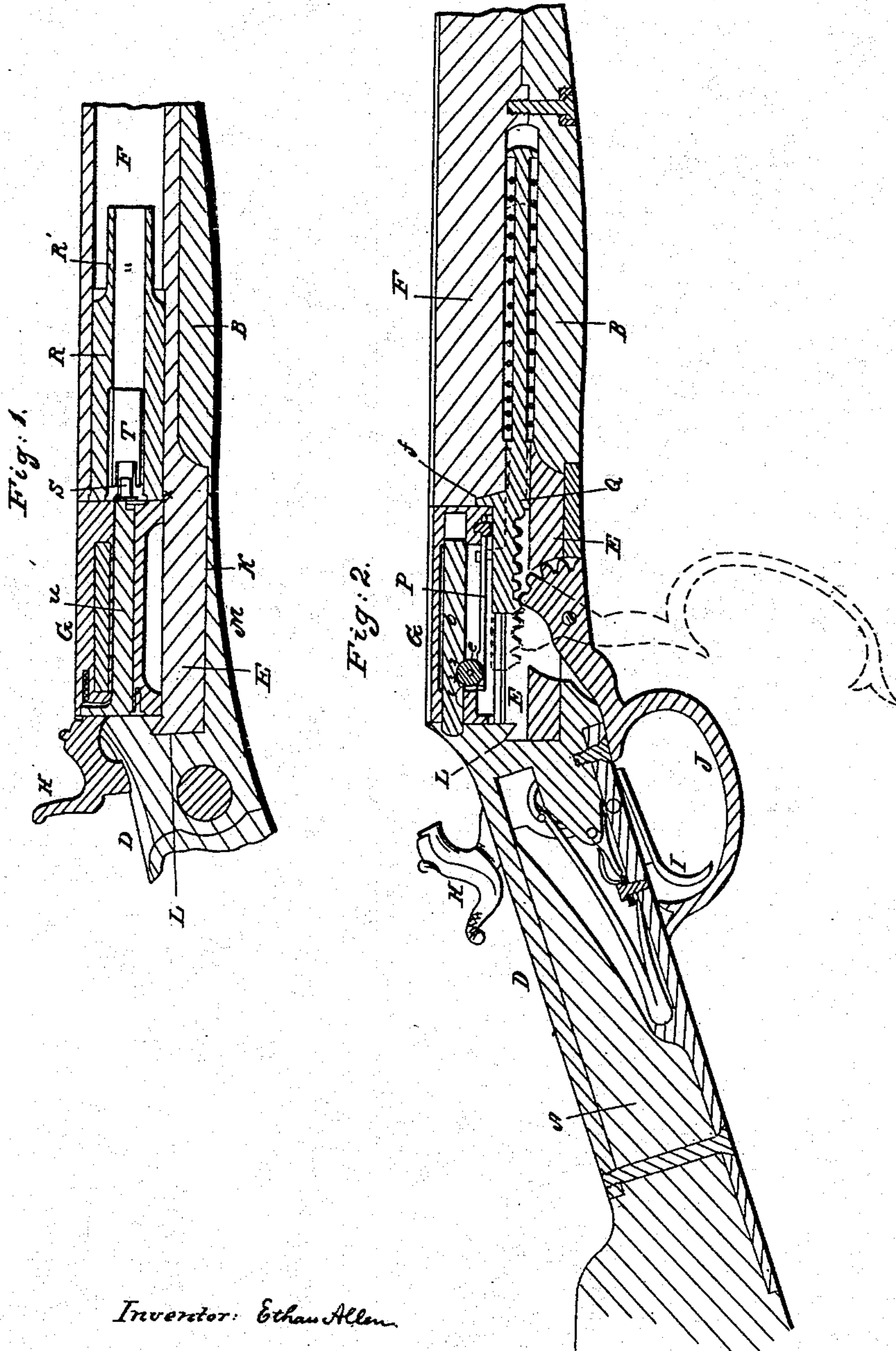
E. ALLEN.

2 Sheets—Sheet 1.

Breech Loading Fire Arm.

No. 84,929.

Patented Dec. 15, 1868.



Inventor: Ethan Allen.

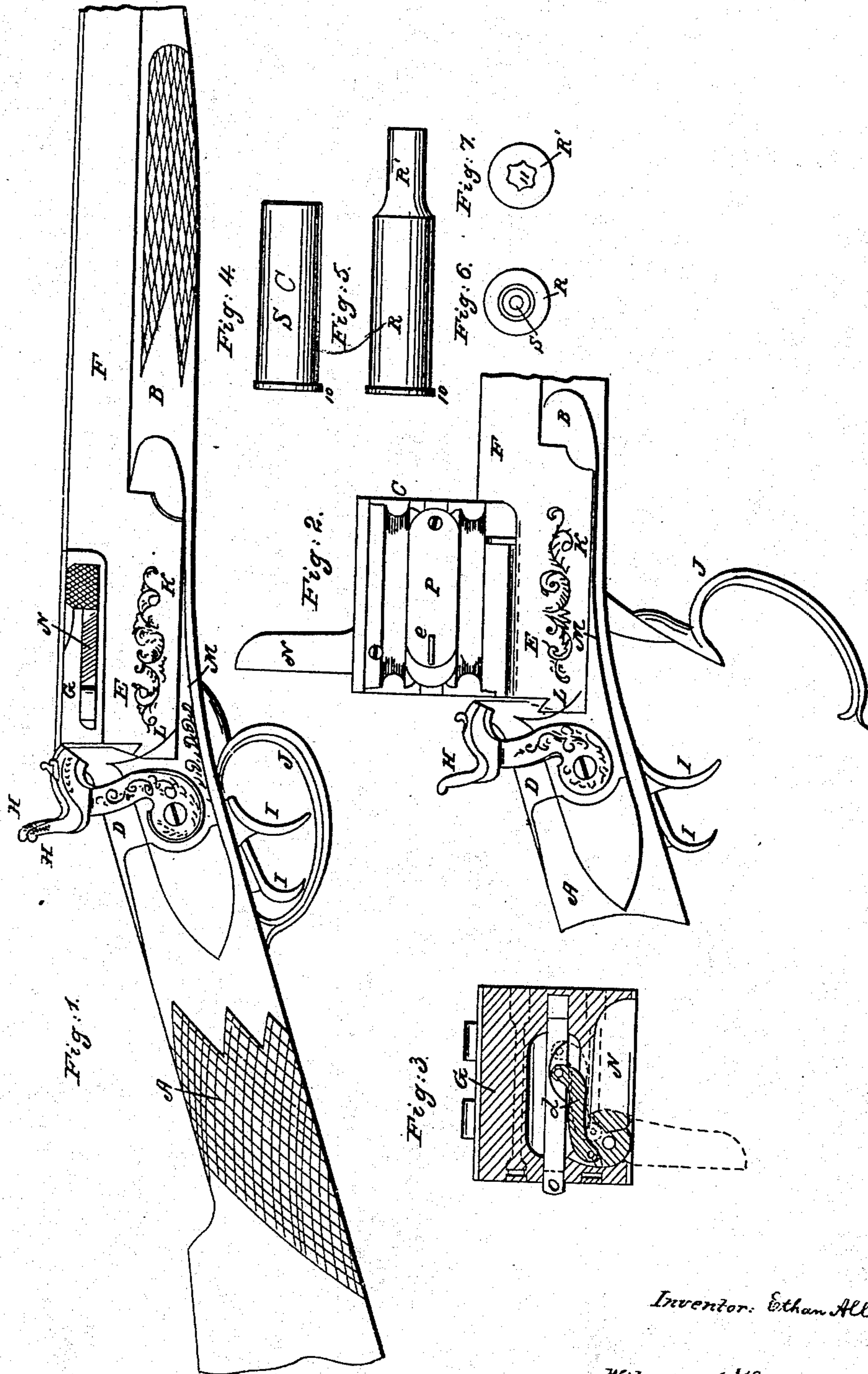
Witnesses: *Thos. B. Dodge.*  
*Geo. H. Miller.*

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# UNITED STATES PATENT OFFICE.

ETHAN ALLEN, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 84,929, dated December 15, 1868.

*To all whom it may concern:*

Be it known that I, ETHAN ALLEN, of the city and county of Worcester, and Commonwealth 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 a part of this specification, and in which—

Figure 1, Sheet 1, represents a side view of so much of an Allen double-barreled breech-loading fire-arm as is necessary to illustrate my present improvement. Fig. 2, Sheet 1, represents a side view of the arm shown in Fig. 1, with the hinged breech-locking turned up and the guard depressed to withdraw the metallic cartridge shells or cases. Fig. 3, Sheet 1, represents a horizontal section through the hinged breech-piece. Fig. 4, Sheet 1, represents a side view of the metallic cartridge shell or case used to fire shot with. Fig. 5, Sheet 1, represents a side view of the auxiliary and removable rifled barrel used to fire balls with. Fig. 6, Sheet 1, represents a rear view of the rifled barrel when loaded and capped. Fig. 7, Sheet 1, represents a cross-section of the rifled barrel. Fig. 1, Sheet 2, represents a longitudinal central section through one of the barrels with the auxiliary rifled barrel in place, as hereinafter more fully explained; and Fig. 2, Sheet 2, represents a longitudinal central section between the barrels, as hereinafter more fully explained.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part lettered A represents the butt of the arm; B, the stock; D, the breech-iron; E, the downwardly and backwardly projecting piece which forms the connection between the barrels F and the breech-iron D, and G is the hinged locking-piece.

H H are the hammers, and I I the triggers by which the hammers are sprung.

J is the combined trigger-guard and cartridge case or shell extractor.

As several parts of the arm shown in the drawings form the subject-matter of Letters Patents which have heretofore been granted to me, I shall confine my present description more particularly to the particular parts which

constitute my present improvements, the nature of which consists, principally, first, in extending the metal which forms the barrels down and back to form receiving-chambers for the cartridge-cases, both when inserting the cartridges and withdrawing the shells or cases, and also as a strong and secure connection between the barrels and the breech-iron D, as will be hereinafter explained; second, in the combination, with the hinged lifting-lever connected with the hinged breech-locking piece, of a breech-locking device, as will hereinafter be explained; and, third, in the combination, with one or both of the shot-barrels, of an auxiliary rifled barrel, hereinafter to be explained.

It is an important point in a double-barreled breech-loading shotgun to have a strong connection between the barrels and the breech-iron D, and also to have the receiving-chambers, into which the cartridge-shells are first placed, of an even and uniform shape, corresponding with the lower sides of the recess in the ends of the barrels. By my present improvements the above and other advantages are obtained.

To the under sides of the rear ends of the barrels is welded a metal piece, K, before the barrels are finished, and after the welding operation has been properly completed the barrels are bored out and finished from end to end. Then the rear ends of the barrels and the part K are milled or cut off, so as to leave a dovetail projection, L, to fit a corresponding dovetail recess cut in the lower part of the face of the breech-iron D. The projection L is inserted laterally into the recess in the breech-iron D, and as the projection is made a little wedging and the recess of a corresponding shape, a perfect and tight fit is obtained when the parts are put together, as shown in the drawings.

It will be noticed that the lower part of the connection-piece E rests upon the extended arm M of the breech-iron D, whereby, when the piece E is slipped in over or above the arm M and the projection L into the recess in the part D, the barrels will be connected to the breech-iron and butt A in a secure and firm manner, even without further fastenings or connections, except a single screw through arm M. Then, again, when it is desired to remove or disconnect the barrels from the breech



for any purpose, it can be quickly accomplished by simply withdrawing the screw or pin which holds the guard J in place and the screw in arm M.

To form the receiving-chamber for the cartridges, the upper sides of the rear ends of the barrels are cut or milled off, as indicated in the drawings, and the locking breech-piece G hinged to one side of the piece E, so as to be turned down to cover the receiving-chambers, and also to form a rear support for the cartridge shells or cases after they have been moved forward into the barrels F. (See Fig. 1, Sheet 2, of the drawings.) After the piece G has been turned down, as shown in Fig. 1, it is locked by turning the lever N in, as shown in dark lines, Figs. 1 and 3, Sheet 1, of the drawings, since the rear or inner end of lever N is connected to the locking-bolt O by means of the hinged connection *d*, and when lever N is turned in the bolt O is forced out, as shown in dark lines, Fig. 3, Sheet 1, while when the said lever is turned out, as shown in red lines, same figure, the bolt is drawn in as represented in red lines, same figure. A hole is bored or formed in the face of the breech-piece D, into which the bolt O passes, when the hinged piece G is turned down and lever N turned in, as shown in Fig. 1, Sheet 1.

Upon the underside of the locking-piece G is fastened a spring, P, the rear end of which is provided with a friction-roll, *e*, which is pressed by spring P into the curved recess 2 in the under side of bolt O when arm N is folded in, and into the curved recess 1 when arm N is turned out. It will be observed that the force of spring P causes roll *e* to force the bolt in either direction, as the case may be, after the bolt has been moved by means of lever N sufficiently to move the point 3 past the center of the roll. (See Fig. 2, Sheet 2, of the drawings.) Bolt O is fitted to slide back and forth in holes bored in front and rear of the piece G. The front end of the latter, when down, drops below and in rear of the projection *f* of the shell-extractor Q, thereby holding that and the guard J, which gears into the rack on the extractor, securely in place, as shown in dark lines, Fig. 2, Sheet 2.

The auxiliary and removable rifled barrel R is made tapering and smaller at its front end, R', so that it can be inserted into the rear ends of the barrels from the receiving-chambers in the chambered part E as freely and conveniently as the shot shell or case S. The rear or large part of the barrel R and its flange 10 are made of the same size as the shot-case S and its flange 10, so that the auxiliary barrel can be used in either barrel of the gun. The powder and ball used for loading the auxiliary barrel R are contained in a metallic shell or case, T, which is to be provided with a cap, *s*, to be exploded to discharge the ball by means of the same plunger, U, which is employed to explode the primer in the metal case or shell S used for firing shot. It will therefore be seen that balls can be fired from either barrel of my double-

barreled shotgun at the pleasure of the sportsman, provided one auxiliary barrel R and a supply of loaded ball-cartridge shells T are carried. The auxiliary barrel R has a flange, 10, the same as the case or shot-shell S, whereby it is withdrawn by the projection *f* on the extractor Q in the same manner as the shot-case S, its flange 10 fitting the recess *x* in the rear ends of the barrels, the same as the flange 10 of the shot-case. The projection *f* of the extractor Q is arranged to work between the rear ends of the barrels, whereby one projection, *f*, withdraws the shells or auxiliary barrels, as the case may be, from both barrels at the same time. The grooves or rifles 11 in the front part of the bore of the auxiliary barrel R may be made with any desired twist.

From the foregoing description it will be seen that I have produced an arm which combines the advantages, within a certain range, of both a shotgun and a rifle, while the mode of combining the barrels with the breech-iron, to which the wooden butt of the arm is secured, is such as to render the connection of the parts strong and durable.

By combining the locking breech-piece G, cartridge shell or case extractor Q, and trigger-guard J in the manner shown and described, the trigger-guard is made to perform the additional function of a lever to operate the extractor, while the hinged breech-piece G, when down, serves to hold the guard J securely in the position shown in dark lines, Fig. 1, Sheet 1, and Fig. 2, Sheet 2, without any additional fastening to hold the hinged guard, which was not the case in my previously-patented breech-loading rifle, in which a hinged trigger-guard is shown.

Having described my improved double-barreled breech-loading fire-arm, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination of the downwardly and backwardly projecting barrel extension and connection part E, made in one piece, as described, with the barrel or barrels and metal breech-piece D, as and for the purposes set forth.

2. The combination, with the metal breech-piece D and forwardly-projecting arm M, of the barrel extension or connection part E and dovetail projection L, inserted laterally into a correspondingly-shaped recess in the breech-piece, substantially as and for the purposes set forth.

3. The combination, with the hinged lifting and locking lever N, of a breech-locking device separate from said lever, but so combined therewith as to be operated thereby, for the purposes set forth.

4. The combination, with the hinged breech-piece G and hinged lever N, of the locking-bolt O and connection *d*, substantially as and for the purposes set forth.

5. The combination, with the locking-bolt O, of the spring P and friction-roll *e*, substantially as and for the purposes set forth.



6. The combination, with the hinged breech-piece G and locking-bolt O, of a holding-spring, P, substantially as and for the purposes set forth.

7. The combination of a yielding roll, e, with the rear concaved or recessed end of the locking-bolt O, substantially as and for the purposes set forth.

8. An auxiliary flanged rifle-barrel, R, applied to the main barrel of the gun, so as to be operated or withdrawn by the cartridge-extractor, substantially as for the purposes set forth.

9. The auxiliary rifled barrel R, when made

with the tapering or contracted end R', substantially as shown and described, and for the purposes set forth.

10. The combination and relative arrangement of the combined hinged extractor, lever, and trigger-guard J and hinged breech-piece G with the cartridge shell or case extractor Q, substantially as and for the purposes set forth.

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Witnesses:

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GEO. H. MILLER.