C. B. HOLDEN.

Breech-Loading Fire-Arm.

No. 42,139. Patented Mar. 29, 1864.

Fig. 1.

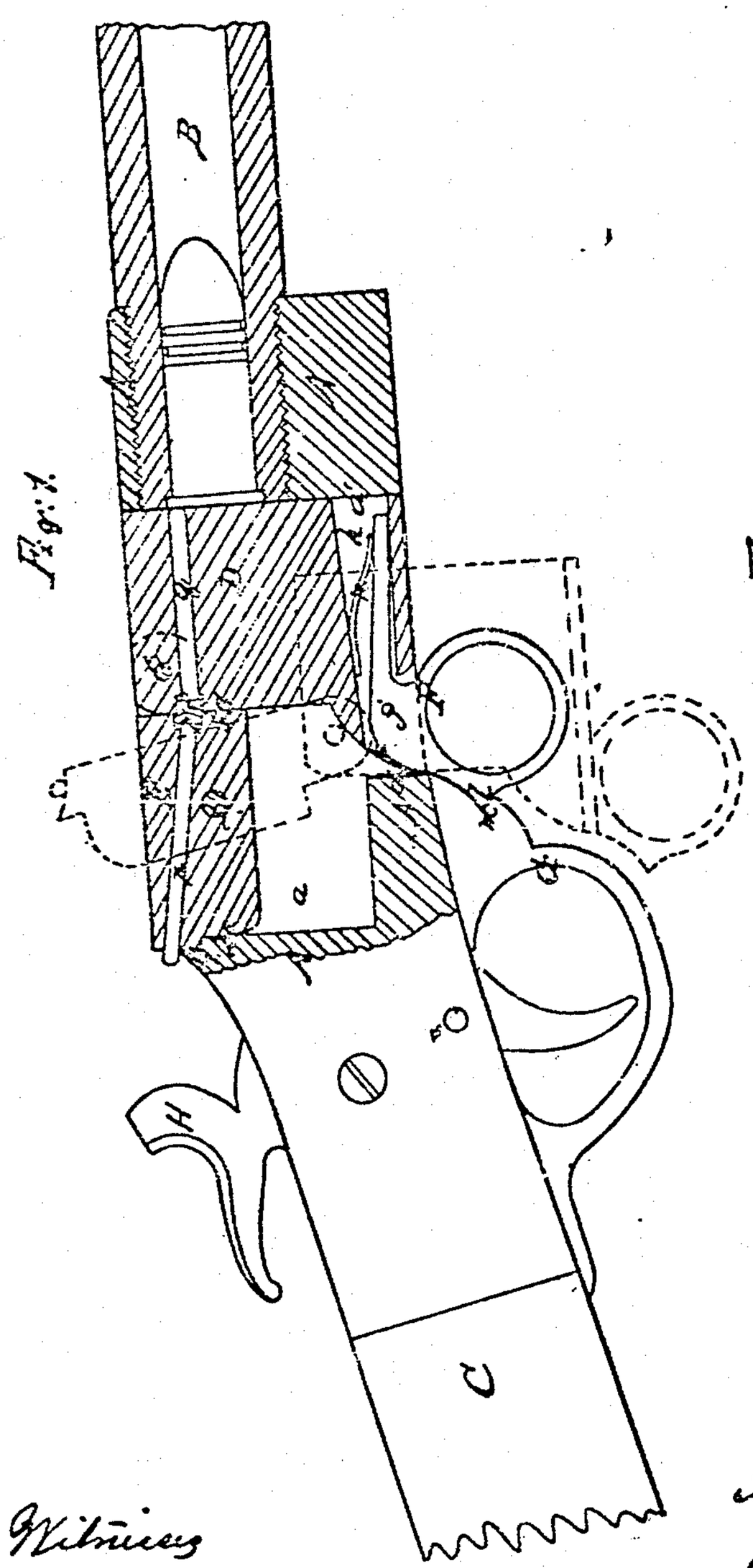
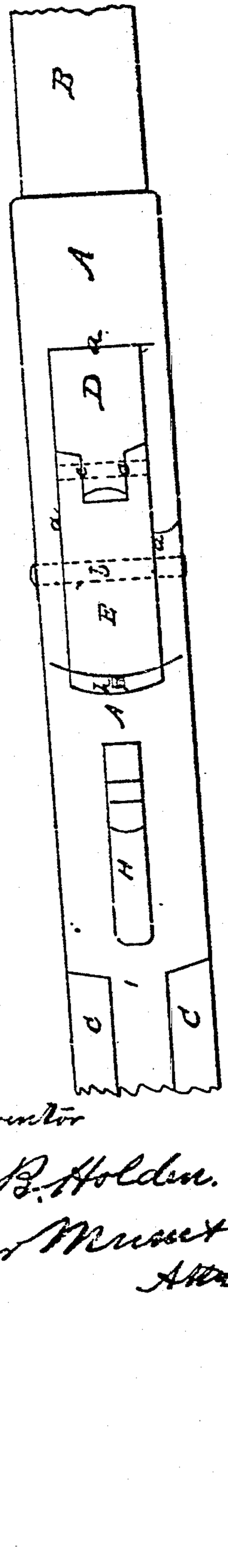


Fig. 2.



Witnesses

J. W. Coombs

G. W. Reed.

Inventor

C. B. Holden.

per Munn & Co

Attys.

UNITED STATES PATENT OFFICE.

CYRUS B. HOLDEN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND S. H. BOWKER, OF SAME PLACE.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **42,139**, dated March 29, 1864.

To all whom it may concern:

Be it known that I, CYRUS B. HOLDEN, of the city of Worcester, in the county of Worcester and State of Massachusetts, 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 vertical longitudinal section of the breech part of a fire-arm constructed according to my invention. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists, principally, in a certain novel mode of applying the movable breech-piece of a breech-loading fire-arm, whereby simplicity of construction, convenience for loading, and a firm support for the breech-piece in firing are obtained.

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 arm, which connects the barrel B with the stock C, and which contains the movable breech-piece D, and what may be termed a "brace-lever," E, which serves the two purposes of attaching the movable breech-piece to the fire-arm and of supporting it, so that it cannot recoil while the arm is being fired. The frame A is mortised vertically and longitudinally in rear of the barrel, as shown at *a a'*, for the reception of the movable breech-piece D and brace-lever E, the mortise having parallel sides, being open at the top for its whole length, and its front part being open at the bottom, as shown at *a'* in Fig. 1, for a length equal to the length of the breech-piece. The breech-piece and brace-lever are fitted to work easily between the sides of the mortise. The breech-piece occupies the front portion and the brace-lever the rear portion of the mortise. The brace-lever works on a fulcrum-pin, *b*, which is inserted transversely through the said lever at about the middle of its length and through the frame. The breech-piece is attached at its rear to the front end of the brace-lever by a hinge, *c*, or its equivalent, and this is its only connection with the fire-arm, except the locking-catch F, which holds it in position for firing, as will be presently described. The lengths of the breech-piece and brace-lever are such, and they are so formed, that when the breech-piece is close up in position to close the rear end of the barrel, as shown in Fig. 1, at which time the lever is in line with or parallel with the line of bore of the barrel, the rear end of the said lever abuts against the solid metal of the frame at the rear of the mortise, as shown at *d e* in Fig. 1, and that the front end of the said lever abuts square against the rear of the breech-piece, as shown at *f g* in the same figure. The brace-lever is also made with a projection, *h*, which comes down on the top of the frame, as shown at *i* in Fig. 1, when the breech-piece arrives in position for firing, and so prevents it from moving up higher than is necessary and becoming jammed against the rear end of the barrel or front of the mortise *a a'*.

The locking-catch F, hereinbefore mentioned, consists of a small lever which is pivoted by its fulcrum-pin *j* to the lower part of the breech-piece, as shown in Fig. 1. Part of this lever is straight and received within a mortise, *k*, in the breech-piece, and part is in the form of a ring of a suitable size to receive one of the fingers of the person using it. The latter portion projects below the bottom of the breech, and has on its rear a tooth, *l*, which enters a notch, *m*, provided in front of the stationary trigger-guard G, or in a projection formed on the bottom of the frame A. The portion of the lever within the mortise *k* in the breech-piece has a spring, *n*, applied above it to press it down for the purpose of holding back the tooth *l* in the notch *m*, and so locking the breech-piece in a closed condition.

The operation of loading is as follows: The piece being held in the left hand at a point in front of the breech-piece, and so balanced, the forefinger of the right hand is placed in the ring of the locking-catch and pressed forward in such manner as to draw the tooth *l* out of the notch *m*, and then depressed to pull down the breech-piece and brace-lever to the position shown in red outline in Fig. 1—viz., as low as the length of the brace-lever permits. The right hand is then removed to take a cartridge, which is to be placed in the mortise *a a'*, in front of the brace-lever and upon the top of the breech-piece, and pushed forward by

the thumb into the barrel. The breech-piece is next pressed upward into the mortise *a a'* as far as permitted by the projection *h*, and the tooth *l* slips into the notch *m*, in position for firing. When in this position, the breech-piece is so well sustained by the short and stout brace-lever E that it cannot give way unless the frame A breaks, and this can be made as strong as may be required.

This improvement is more especially designed for the use of what are termed "fixed-ammunition cartridges;" but it may be used for other kinds of cartridges. The hammer H and lock are arranged in rear of the breech-piece and brace-lever, and to provide for the ignition of the fulminate priming by the blow of the hammer two pins, *p q*, are used, one sliding through a hole bored through the brace-lever and the other through a hole bored through the breech-piece. These pins, which are arranged opposite each other, have heads *p' q'* at their contiguous ends, and are inserted into their places before the breech-piece and brace-lever are connected, and when the connection is made the said pins are both prevented from slipping out. The counter-sunk cavities provided for their heads in the breech-piece and brace-lever are, however, deep enough to permit them to move a short distance longitudinally. The hammer strikes upon the pin *p* and drives it forward against the pin *q*, driving the latter forward against the portion of the cartridge which contains the priming, or against any primer that may be used. When the breech-piece is brought to the position to open the rear end of the barrel for loading, the ends of the pins separate, so that they do not interfere with the operation of opening the barrel.

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

1. The breech-piece D and brace-lever E, combined with each other and with the frame of the arm, substantially as herein specified.

2. The two pins *p q*, one applied to slide in the brace-lever E and the other to slide through the breech-piece D, and the two combined to operate substantially as herein described.

CYRUS B. HOLDEN.

Witnesses:

H. C. RICE,

J. HENRY HILL.