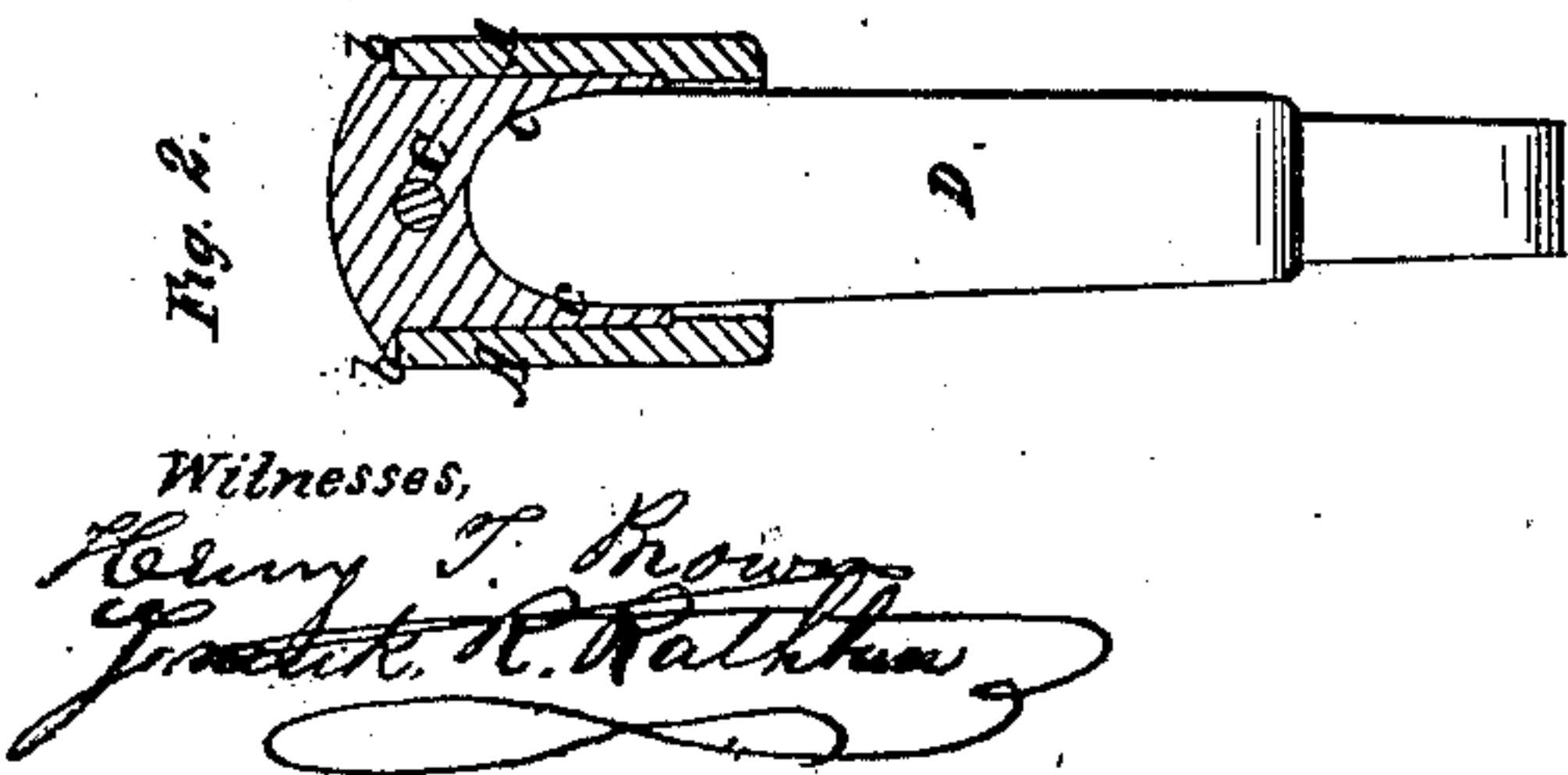
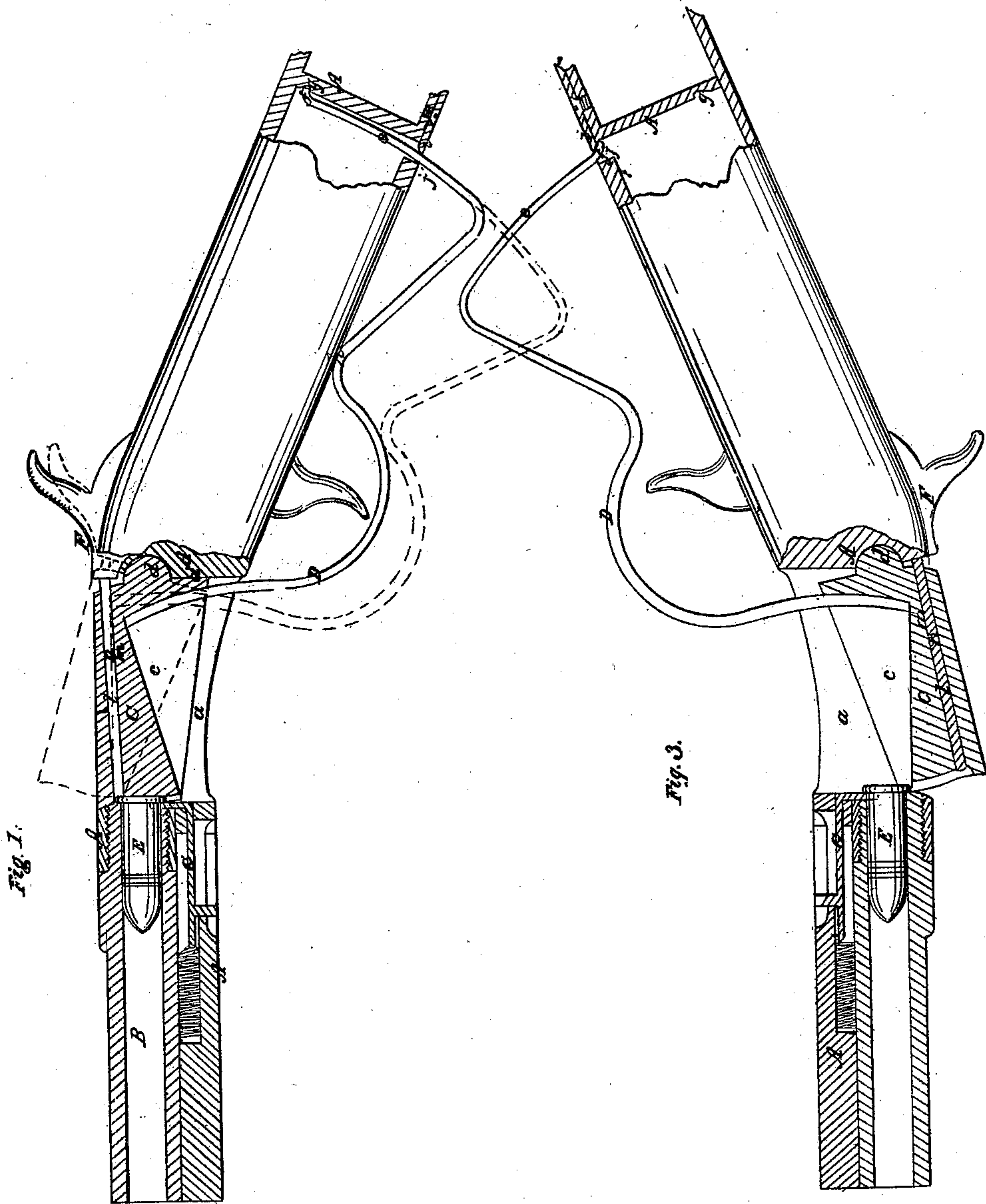


J. W. COCHRAN.
Breech-loading Fire-arm.

No. 47,088.

Patented April 4, 1865.



Witnesses,
Henry T. Brown
James H. Rathbone

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 47,088, dated April 4, 1865.

To all whom it may concern:

Be it known that I, JOHN W. COCHRAN, of the city, county, and State of New York, 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 longitudinal vertical section of the breech parts of a fire-arm with my improvement. Fig. 2 is a transverse section through the breech. Fig. 3 is a central longitudinal vertical section showing the arm inverted, to illustrate the method of loading.

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

This invention consists in a novel construction of and mode of applying and operating the movable breech-block of a breech-loading fire-arm to provide for the use of flanged or metallic cartridges, whereby great strength, simplicity, and compactness of form are obtained.

It also consists in a novel construction of a trigger-guard lever for operating the breech, whereby provision is made for the locking of the breech in a closed condition and for preventing it from rising too high when brought to a position for loading, and an opening between the rear end of the said lever and stock when the breech is open is avoided.

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 metal frame which secures the barrel B to the stock. This frame has provided in it a vertical longitudinal parallel-sided mortise, *a*, for the reception of the breech-block C. This breech-block is made to fit snugly into the mortise *a*, and with shoulders *b* along each side to rest upon the top of the frame A at the sides of the mortise *a*, as shown in Fig. 2, when the breech is closed. The said block is not chambered, as the chamber of the arm is in the barrel; but it has a cavity, *c*, in its under side, the nature and object of which will be presently described. It has provided on its rear end a transverse cylindrical-shaped projection, *d*, which fits into and works in a corresponding bearing in the back of the mortise *a*, to permit the necessary movement for loading. This projection does away with the

necessity for a pin passing through the breech-block and frame. To the rear portion of the breech-block there is attached the lever D, which serves as a handle for operating the breech, and also as a trigger-guard. The rear portion, *e*, of the said lever is curved in an arc form, nearly concentric with the axis of the cylindrical projection *d*, and passes through a slot, *j*, in the lower part of the frame *a* so far that it will not be withdrawn therefrom by the movement of the lever, which is necessary to bring the breech-block to the position for loading. (Represented in Fig. 3, and in red outline in Fig. 1.) The said portion *e* of the lever has a projection, *f*, at its extremity, which enters into a notch, *g*, in the frame A, when the lever is brought up into contact with the stock at *h*, as it is when the breech-block is in the position for firing. (Represented in Fig. 1 in black outline.) The projection *f* and notch *g* are so rounded that when the lever is pulled downward from the last-mentioned position with any degree of force the said projection will slip out of the said notch and allow the lever to move to the before-mentioned position, (represented in red outline,) where it is stopped by the said projection coming in contact with a stop-piece, *i*, which partly covers the slot *j*, the lower part of the breech-block being then within the mortise *a*, and no opening being produced between the said block and the upper portion of the frame. The stop-piece *i* is secured to the bottom of the frame A.

The cavity *c* is of such inclined form that it leaves the front end of the breech-block solid, to form a perfect bearing for the head of the cartridge E, but becomes deeper toward its rear to such an extent that when the fire-arm is brought to the position for loading (shown in Fig. 3, and in red outline in Fig. 1) the said cavity is parallel with the bore of the barrel, and serves as a receptacle for the cartridge when the gun is inverted, as shown in Fig. 3, and serves as a guide to conduct the cartridge straight into the chamber of the barrel and a means of steadying the discharged shells while they are being drawn out from the chamber by the hooked extractor G. By providing this cavity in the under side of the breech-block, the amount of movement of the said block necessary to permit the loading is very much reduced. This cavity does not injuriously weaken the breech-block, as the back

part is made solid and the said block is left solid on each side of it, and when the breech-block is brought down to the position shown in black outline in Fig. 1 the solid metal of the back part of the said block below the cylindrical projection *d* comes to a form, bearing against the back part of the mortise *a*.

The hammer *E* is made to ignite the fulminate priming in the flanged head of the cartridge by striking upon a pin, *l*, which passes through a hole bored longitudinally through the breech-block. The movement of this pin is limited by means of a pin, *m*, inserted transversely through the breech-block and through a notch, *n*, in the said pin, or by some equivalent means. This pin is also made to serve as a means of throwing back the hammer to the position of half-cock by the act of bringing the breech-block to the position (shown in Fig. 3, and in red outline in Fig. 1) for reloading after firing, its rear end then coming into contact with the nose of the hammer and pressing it back.

The construction and arrangement of the breech-block as described, by providing for loading at the under side of the fire-arm, obviates the necessity for so great a movement of the said block as would be required for the insertion of the cartridge into the barrel from above the frame with a breech-block operating with a similar movement, while it admits of the parts being made very strong; and a breech-block operating in this way enables a fire-arm to be made very strong, while of simple construction and with few parts. The construction of the rear end of the lever *D* as described, by avoiding any opening between the said end and the stock, obviates the principal

objection to such a lever—viz., its liability to be caught in such a manner as to produce the accidental opening of the breech or to snatch the fire-arm out of the hands.

I do not claim, broadly, a breech-block which is brought to a position for loading by an upward movement on a center at its rear, as I am aware such a breech-block has been made with a chamber in it for the reception of the cartridge; but

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

1. So constructing and applying a breech-block having a movement such as is herein described as to provide for the insertion of the cartridge into the barrel from the under side of the stock of a fire-arm, substantially as herein specified.

2. Providing a cavity, *c*, substantially as herein described, in the under side of such a breech-block for the reception of the cartridge when the gun is in the inverted position shown in Fig. 3, whereby the movement of the said block which is necessary for the insertion of the cartridge into the chamber of the barrel is greatly reduced, and the discharged cartridge-shells are steadied while being withdrawn from the barrel.

3. The construction and arrangement of the rear end of the breech-operating lever *e*, substantially as herein described, whereby an opening between the said end of the breech-block and the stock is avoided.

J. W. COCHRAN.

Witnesses:

HENRY T. BROWN,
FRANK. R. RATHBUN.