F. CLARK.

BREECH LOADING FIREARM.

No. 45,701. Patented Jan. 3, 1865.

Fig. 1.

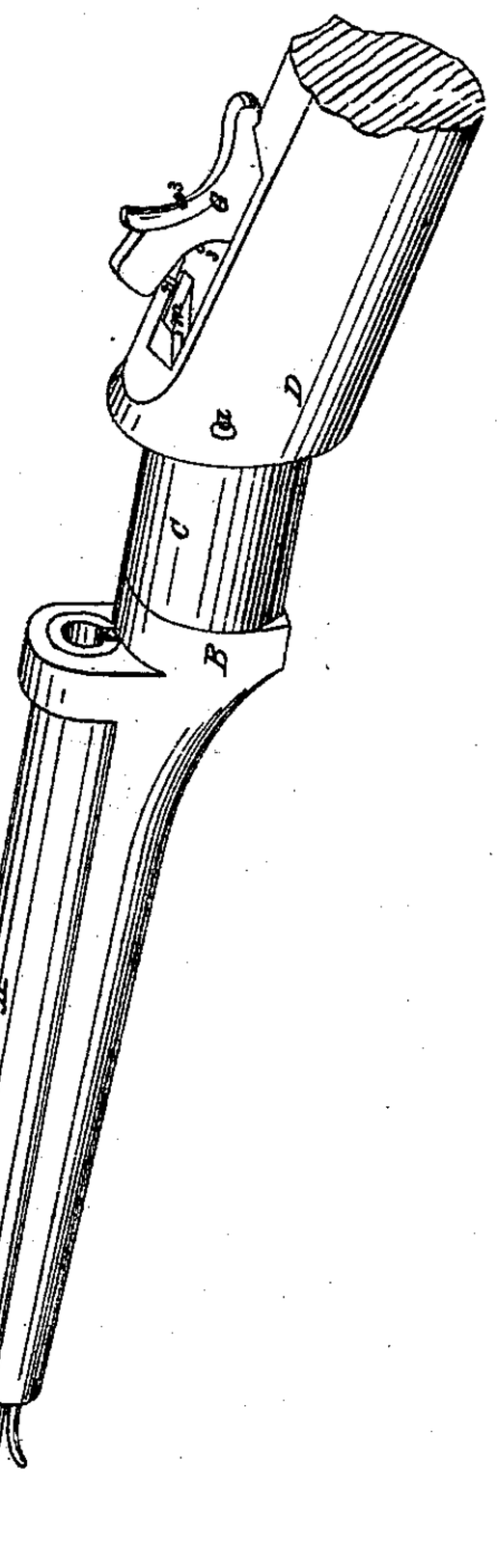


Fig. 3.

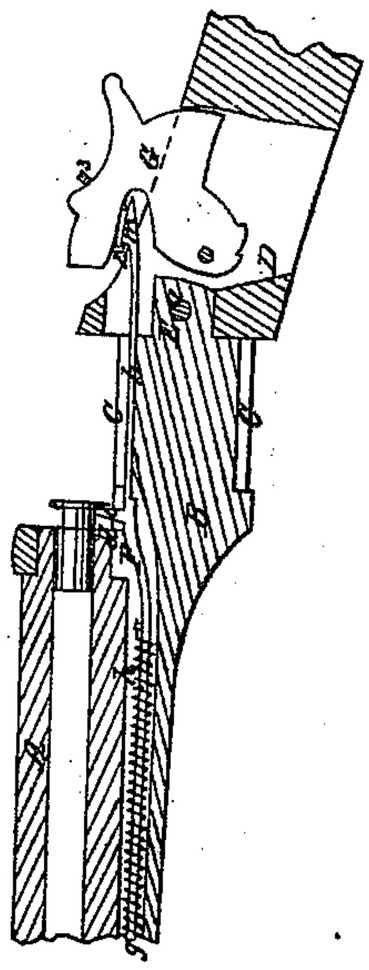
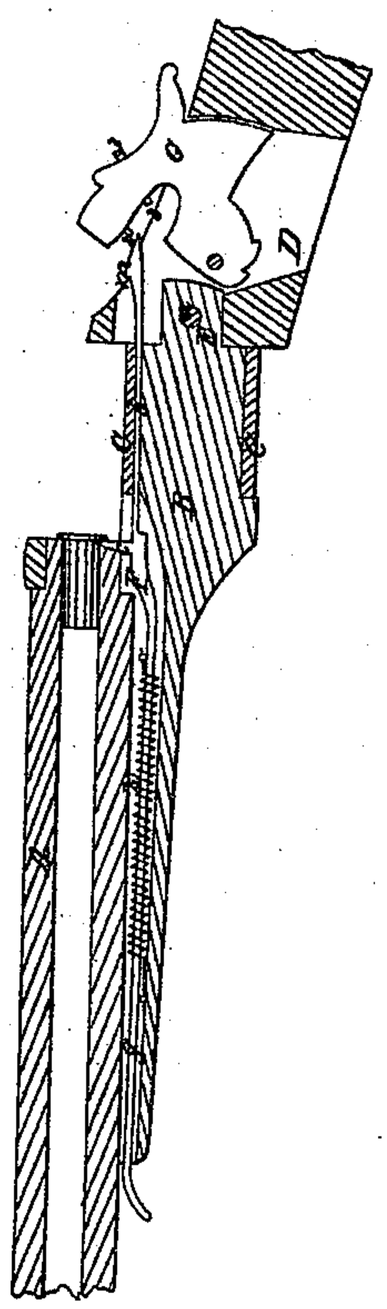


Fig. 2.



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UNITED STATES PATENT OFFICE.

FRANCIS CLARK, OF AUBURN, MASSACHUSETTS.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **45,701**, dated January 3, 1865.

To all whom it may concern:

Be it known that I, FRANCIS CLARK, of Auburn, in the county of Worcester and State 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 construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of said breech-loading fire-arm. Figs. 2 and 3 represent longitudinal vertical sections through the same.

My invention consists in constructing the cartridge-extractor of a breech-loading gun in such a manner that it can be operated either directly by the hammer or by means of a trigger or arm in front of the breech.

It also consists in the peculiar manner by which I secure the breech-piece to the stock of the gun.

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

The barrel A of my breech-loading arm is secured to the breech-piece B by means of screw or in any well-known manner. The breech-block, which opens and closes the breech, and which is not shown on the drawings, is of the construction as shown and described in my Letters Patent dated the 19th day of July, 1864. The said breech-block in this present case is secured to the cylinder C, which is set and turns upon the cylindrical breech-piece B. The latter is secured to the stock D of the fire-arm by means of a pin, E, which enters a suitable cavity within the said stock, and the two are secured together by means of a pin or wedge, *a*, and they thus constitute a very simple and firm connection, by which the arm can be taken apart and put together with great facility.

F represents my cartridge-extractor for withdrawing the metal cartridge-case from the breech of the gun after the charge has been fired. It consists of a rod, *b*, which can slide within a suitable groove in the breech-piece, B, and which is provided with a toe, *c*, which, when at rest, fits in a recess, *d*, of the breech and in front of the cartridge-rim, as represented in Fig. 2. The rod *g* of the cartridge-extractor extends toward the muzzle of the gun, and is connected with the breech-piece B by means of the spiral spring *h*, which has a tendency to pull said rod *g* forward and to keep the parts in the position represented in Fig. 2. The rear end of the cartridge-extractor is provided with a hook-shaped projection, *m*, against which the pin 2 of the hammer G acts when said hammer is cocked.

In Fig. 2 the hammer is shown full-cocked, and in that position the cartridge is in the breech, and the piece is ready to be fired. The charge being fired, the pin 2 on the hammer comes in front of the hook *m*, and in cocking the hammer the rod *b* and the cartridge-extractor are pulled to the rear, as shown at Fig. 3, and the cartridge-case is consequently withdrawn from the breech. The motion of the hammer G and rod *b* continue until the pin 3 of the hammer commences to press upon the hook *m*, when the latter is depressed and released from the pin 2, and when thus released the spring *h* instantaneously causes the rod *g* and the cartridge-extractor to return to the position represented in Fig. 2.

By providing the pin 3 with a screw-thread I am enabled to adjust its position with great accuracy, so as to cause it to press upon the hook *m* when the latter has been withdrawn to a certain extent, and thus the point at which the cartridge-extractor is to be sprung back can be adjusted with the greatest accuracy. The several parts described are so arranged that the hammer will not catch the extractor when let down to half-cock; and I adjust the pin 3 to such a position that the hammer will release the hook *m* before it is full-cocked.

This cartridge-extractor can also be operated by hand and independently of the hammer G by elongating the rod *g*, so as to make it extend beyond the breech-piece B, and when thus constructed it can be pushed to the rear by the pressure of the finger, and it operates in same manner as when actuated by the hammer, as above described.

The cylinder C may be provided with an internal screw-thread to work upon a male screw-thread cut on the cylindrical part of the breech-piece B, whereby the breech-block is moved back as well as laterally when it is opened, the object being to make a close fit at the rear of the cartridge when the breech-block is closed; also to make it open easily.

The hammer can be made with a notch to

catch on and operate the cartridge-extractor instead of using a pin.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

1. The combination of the hammer G, cartridge-extractor *b*, hook *m*, and retaining-spring *h*, substantially in the manner and for the purposes herein described.

2. The combination of the cartridge-extractor, as herein described, with the extended arm *g*, so that it can be operated either from the front by means of said arm or from the rear by means of the hammer, substantially as herein described.

3. The application to the hammer of the regulating-screw 3, in combination with the cartridge-extractor, substantially as and for the purposes described.

FRANCIS CLARK.

Witnesses:
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