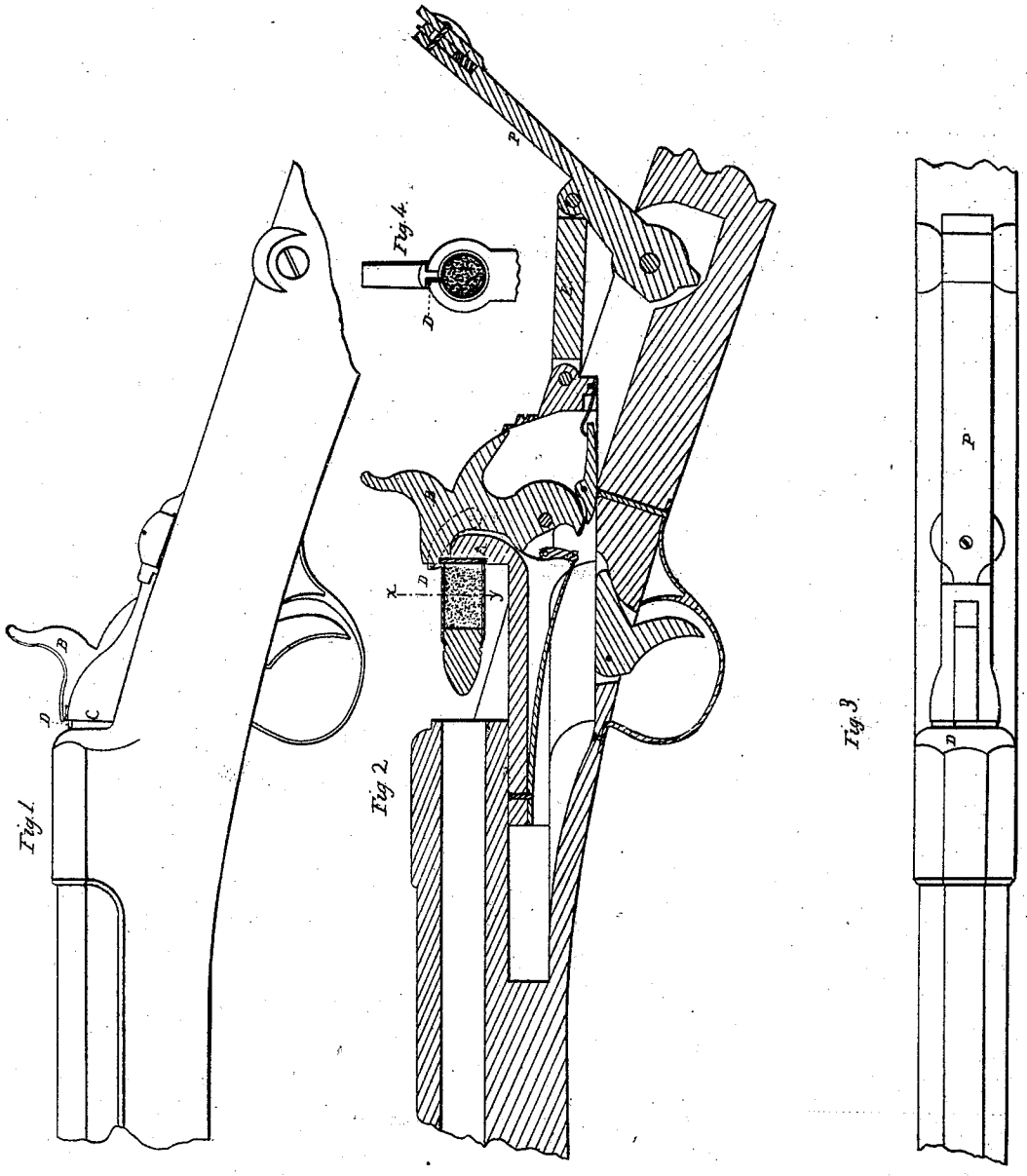
C. C. BRAND.

Breech-loading Fire-arm.

No. 38,280.

Patented April 28, 1863.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BRAND, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **38,280**, dated April 28, 1863.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. BRAND, of Norwich, in the county of New London and the State of Connecticut, have invented certain new and useful Improvements in Breech-Loading Fire-Arms; and I hereby declare that the following, taken in connection with the accompanying drawings, is such a full, clear, and exact description of the same as will enable others skilled in the art to make and use the same.

In said drawings, Figure 1 is a side elevation of a fragment of a breech-loading rifle embodying my improvements. Fig. 2 represents a sectional elevation of the same, the section being made by a vertical plane passing through the axis of the barrel. Fig. 3 is a top view of the same; and Fig. 4 is a section on line *x y*, Fig. 2, looking toward the hammer.

My present invention relates to that class of fire-arms in which metallic cartridges are used; and it consists, first, in a new method of seizing and holding the cartridge for the purpose of withdrawing the same from the barrel; and, second, in a new arrangement of the breech-pin and its appurtenances, whereby a better proportioned stock is obtained.

The fire-arm to which these my improvements are applied embodies some of the features patented to me on the 29th day of July, 1862. It is provided with a sliding breech-pin, A, sliding in a recess in the stock, and moving together with the lock, while the stock remains permanently connected with the barrel. The breech-pin is hollow, and contains within its cavity the various parts constituting a lock, the hammer B, however, being allowed to project through a slot in the top of the breech-pin, and to rest on the breech-block in a recess provided in the top thereof. In this recess, upon one side of the hammer, there is pivoted a hook, D, whose function it is to take hold of the flange of the butt of the cartridge. For this purpose the hook is made of thin sheet metal, and with its front edge fitting in a recess in the barrel and curved in the fashion of a cam. It is pivoted to one side in the slot by means of a friction-joint, so that the hook remains in any position it may be given. This hook or jaw is located within the slot of the breech-pin, and protrudes at the front thereof, so as to lap over the uppermost portion of the flange of the cartridge. The front of the breech-pin is recessed the depth of the thickness of the flange of the cartridge, and forms the seat thereof. At the side of the hook the hammer is recessed, or so constructed as not to come in side contact with the hook, but to form a shoulder which, when the hammer is let down on the breech-block, bears on the hook and causes it to grasp the flange of the cartridge.

The operation of this device is as follows: To load the arm, the breech is opened by raising the lever P, which, by means of an intermediate link, L, is connected with the breech-pin, as shown in the annexed drawings. The breech-pin being thus withdrawn, the cartridge is inserted into the barrel, leaving the flange thereof on the outside at the butt of the barrel. The breech is now closed by depressing the lever P, and the butt of the cartridge will be snugly housed in the recess therefor provided. The hammer, during these operations, is supposed to be at half-cock, and the hook raised above the line of the cartridge. When the gun or pistol is to be fired, it is first brought to a full-cock and released by the action of the trigger. The hammer thus suddenly let down on the cartridge-flange not only explodes the percussion-powder it contains, but carries in its descent the hook with it, and causes it to lock in with the flange of the cartridge, and to keep so locked by the pressure exerted upon it by the shoulder of the trigger, as well as by virtue of the friction-pivot by which it is attached to the breech-block, and whereby its position is unalterably maintained until removed therefrom. If the breech be closed without having the hammer and hook raised, then the hook will be carried over the flange of the cartridge by its own cam-shaped nose, and will be depressed when past the flange by the spring actuating the hammer. From this it will be readily understood that if the breech be opened while the hammer is down, and whether the cartridge shall have been fired or not, it will withdraw the cartridge and hold it within the recessed breech-block in line with the barrel. From the above, it will also be understood that after the hook is once depressed onto the cartridge it will remain in position without the aid of the hammer. The cartridge will therefore remain connected with the breech-block in any position thereof relatively to the barrel, although

the hammer at the same time be cocked. The cartridge or its case may be removed by hand and another placed in its stead on the breech-pin, or preferably inserted in the barrel. The breech-pin is guided in its movement to and from the butt of the barrel by a guide-bolt fast to or made in one piece with the breech-pin, and sliding in a recess provided in the stock under the barrel. The guide-bolt shown in the accompanying drawings is square in its cross-section and hollow, a cavity being formed underneath, within which cavity is arranged the mainspring, its one end being riveted or otherwise secured to the forward end of the bolt, while its other end is connected by link with the tumbler. By this arrangement of reversed spring, the breech-pin may be constructed more compactly than this could be done if the spring were located, as usually, in rear of the hammer, and allows of the use of (for this class of fire-arms) comparatively short stocks.

Having thus fully described my invention and the manner in which the same is or may be carried into effect, I shall state my claims as follows:

1. In breech-loading fire-arms in which a breech-pin is used sliding in a recess in the stock and moving, together with the lock, to and from the barrel, the breech-block, recessed in front to receive the flanged end of the cartridge, in combination with a hammer and hook, the latter being pivoted by friction-joint in the breech-block and actuated by the hammer, substantially in the manner and for the purposes hereinbefore set forth.

2. In breech-loading fire-arms in which a sliding breech-pin, together with the lock, is moved to and from the barrel by a lever and an intermediate link, as described, guiding the said breech-pin by means of a hollow guide-bolt, made in one piece with or permanently attached to the said breech-pin, in combination with the arrangement of the mainspring within the cavity of the bolt, substantially in the manner and for the purpose hereinbefore set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

C. C. BRAND.

Witnesses:
A. POLLOK,
WM. H. HARRISON.