H. C. BULL.

BREECH-LOADING FIRE-ARM.

No. 169,413. Patented Nov. 2, 1875.

Fig. 1.

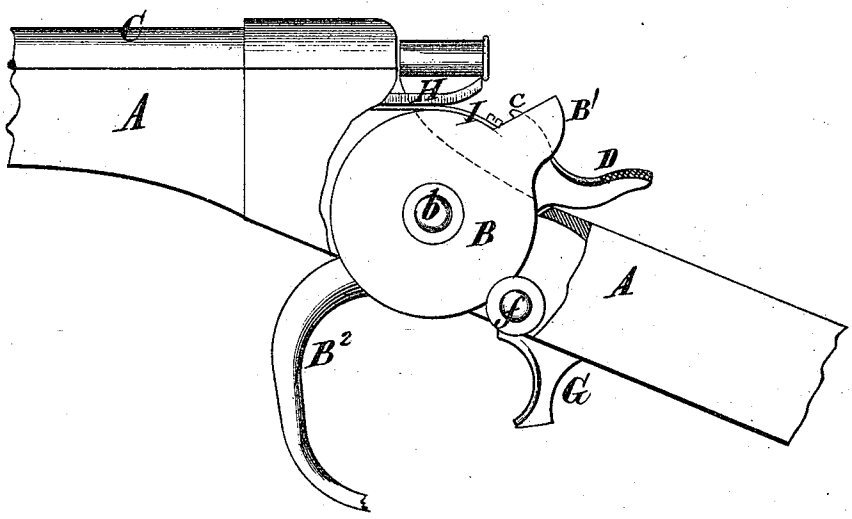
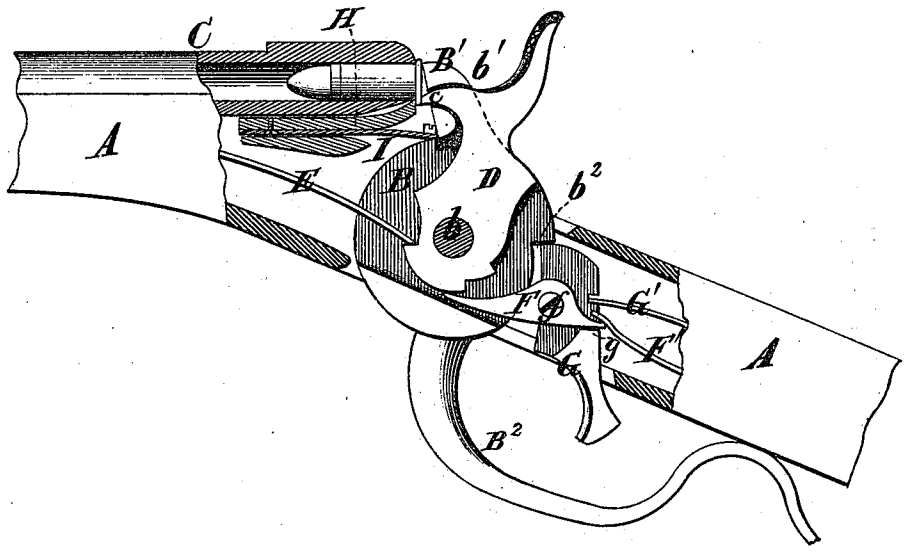


Fig. 2



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY C. BULL, OF NEW YORK, N. Y.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **169,413**, dated November 2, 1875; application filed January 18, 1875.

To all whom it may concern:

Be it known that I, HENRY C. BULL, of New York city, county, and State, have invented a certain Improvement in Breech-Loading Fire-Arms, of which the following is a specification:

The object of my invention is to so construct the lock of breech-loading fire-arms that the loading and firing of the same can be accomplished by the fewest possible movements.

My improvement consists of certain novel combinations, with the breech-block, of the hammer, sear, and trigger, which will be hereinafter fully explained and specifically pointed out in the claims.

In the annexed drawings, Figure 1 is a side elevation of the lock and adjacent parts of the stock and barrel of my improved fire-arm, showing it at full cock, and with an extracted shell of an exploded cartridge. Fig. 2 is a vertical longitudinal section of the parts shown in Fig. 1, the breech being illustrated as locked and the hammer down.

The same letters of reference are used in both figures in the designation of identical parts.

The mechanism of the lock is arranged in a suitable cavity in the stock A, as usual. The breech-block is composed of recessed disk B, the breech proper B^1, and the guard B^2, all constituting a single piece of metal, pivoted upon the pin *b*, and capable of being operated to open and close the rear end of the barrel C by the guard. Within the recess of the disk B of the breech-block the hammer D is pivoted upon pin *b*, and an aperture, *b'*, is formed in the breech B^1, to allow the point *c* of the hammer to strike through it upon the cap of the cartridge. The hammer is actuated by the mainspring E, and can be cocked either independently or by opening the breech-block. In either case it is held at half or full cock by the sear F, which is pivoted upon pin *f* and under the influence of sear-spring F'. The short rearwardly-projecting arm of the sear F extends over a shoulder, *g*, of the trigger G, which is also pivoted on pin *f* and is under the control of the spring G'. The concealed upper portion of the trigger is situated directly behind the disk B of the breech-block, and is concaved to snugly fit against the edge of the latter. A notch, b^2, is formed in the rear edge of the disk B, into which the upper end of trigger G is thrown by the recoil of its spring when the breech is closed against the barrel. The trigger thus serves to hold the breech locked in the manner clearly shown in Fig. 2. In assuming this position the shoulder *g'* of the trigger is brought nearly into contact with the rear arm of the sear, so that a slight pull on the trigger will operate the sear, releasing the hammer. The locking-arm of the trigger does not touch the bottom of the notch in the disk B, so that the trigger can be duly pulled after its said arm has entered the notch. The shell-extractor is a bar, H, sliding in ways under the barrel C, its hooked or turned-up end, which takes hold behind the rim of the cartridge, entering a recess formed in the end of the barrel. It is drawn out and retracted by a spring, I, fastened to it with one end, and with its other end to the upper edge of disk B. The extractor is borne up against the barrel by the force of the spring, but it has a little vertical play allowed it, sufficient to permit its turned-up end in retracting to pass under and behind the rim of the cartridge. The swing of the breech-block at the point of attachment of spring I is sufficient to cause the extractor to entirely draw the shell of the exploded cartridge out of the barrel. In opening or turning back the breech-block, its disk B turns in contact with the concaved locking-arm of the trigger, and the latter cannot be pulled to release the hammer until the breech-block has been thrown forward again to close the barrel. The opening motion of the breech-block cocks the hammer, but its closing motion has no effect on the latter, which remains cocked until released by the trigger.

The manipulation of the gun is as follows: The gun is grasped with the right hand by placing the thumb over the stock, the forefinger in front of the trigger, the second finger behind it, (both within the guard,) and the remaining two fingers under the guard. Now let the gun be at the shoulder, just fired. To reload it, it is brought down to the hip, and during this change of position the second finger will push the trigger forward, to draw its locking-arm from out of the notch in disk B, and the third and fourth fingers will at the same time pull the guard down, whereby the

breech-block is turned back, opening the barrel, extracting the shell of the exploded cartridge, and cocking the hammer. A new cartridge having been inserted, the guard is pulled up, bringing the breech up against the cartridge, while the hammer remains cocked. The gun is now ready for delivering another shot.

It will be seen that the position of the fingers of the right hand necessary for a proper and rapid manipulation of the lock is a natural one, and that the movements are few and simple.

The distinguishing characteristic of my invention consists of the two-fold function of the trigger—that is to say, of the office it performs in connection with the breech-block in addition to its ordinary operation in connection with the sear; and to this adaptation and use of the trigger the simplicity of the manipulation of the lock is principally due.

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

The combination of the breech-block, notched as at b^2, hammer D, sear F, and trigger G g, all connected and operating substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY C. BULL.

Witnesses:

T. B. MOSHER,

D. P. HOLLOWAY.