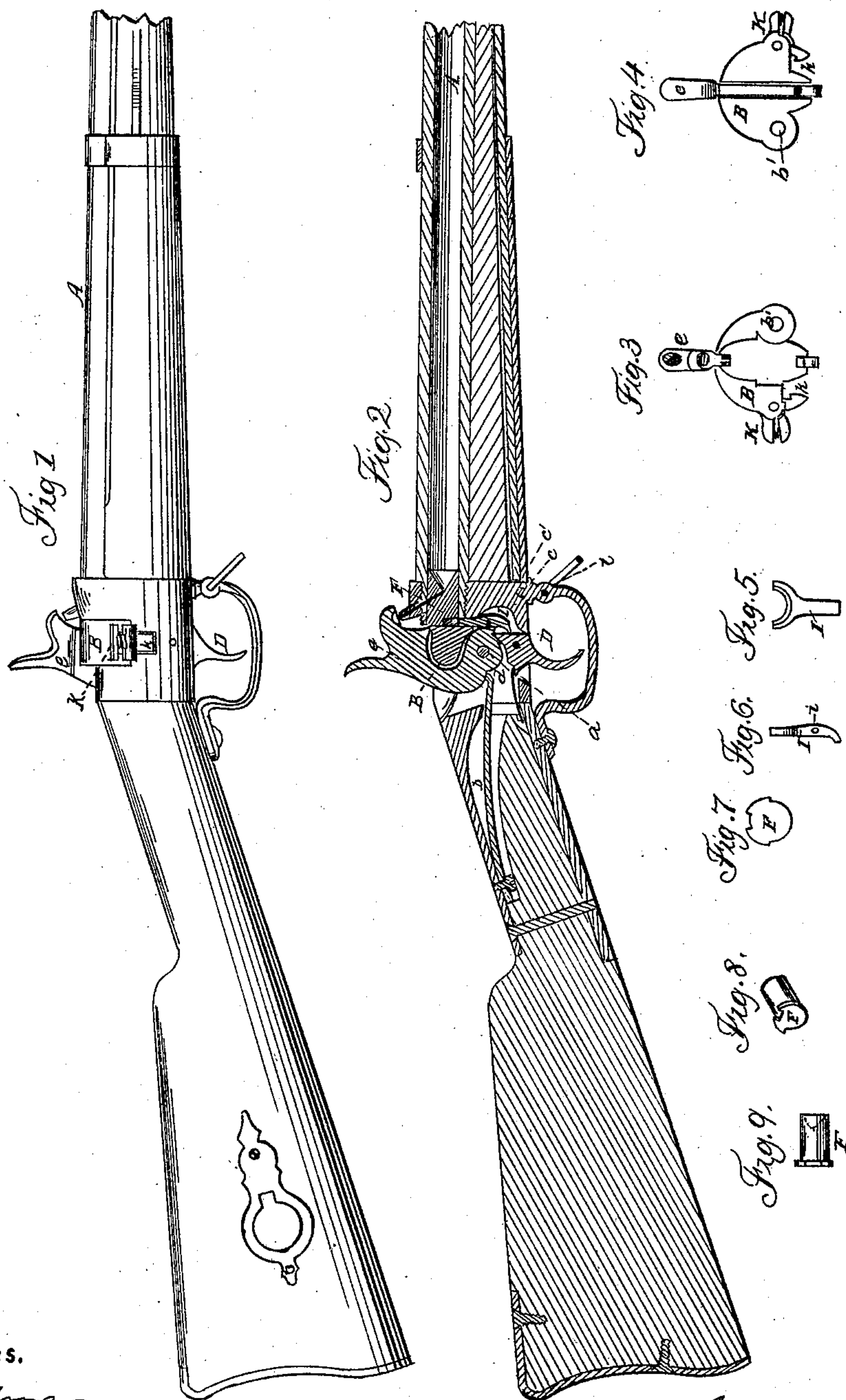


S STRONG.
Breech-Loading Fire-Arm.

No. 38,643

Patented May 19, 1863



Witnesses.

A Moore
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UNITED STATES PATENT OFFICE.

SAMUEL STRONG, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 38,643, dated May 19, 1863.

To all whom it may concern:

Be it known that I, SAMUEL STRONG, of Washington city, in the District of Columbia, have invented certain new and useful Improvements in Breech-Loading Fire-Arms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a side view of a musket with my improvement attached; Fig. 2, a vertical central longitudinal section through the same; Fig. 3, a front elevation of the hinged breech-piece; Fig. 4, a rear elevation of the same. Figs. 5 and 6 are views of the lever which releases the cartridge-case; and Figs. 7, 8, and 9 are respectively end, perspective, and side views of the plug used when the arm is changed from a breech to a muzzle loading fire-arm.

Letters Patent of the United States were granted to me on the 16th of December, 1862, and numbered 37,208, for improvements in breech-loading fire-arms, and my present improvements are designed to render breech-loading arms of which my patented arm is a type not only more effective as breech-loaders, but equally so when it becomes expedient to load the same class of arms at the muzzle.

My invention has relation to an improved mode of changing the breech-loader to a muzzle-loader, and to a mode of withdrawing the cartridge by simply a pull on the trigger; and to these ends my invention consists in the employment of a solid plug or removable breech made to fit nicely the bore of the barrel, and having a conical depression at its forward end to receive the base of the common muzzle-loading cartridge, the vent passing from the apex of the depression to the nipple, which is inserted centrally in the top of the solid part of the breech-piece and barrel, and at such an angle to the face of the hammer as to enable the cap to receive a full blow over its top, and thus cause an explosion of the fulminate with absolute certainty, while the base of the plug or removable breech is so constructed as to prevent the escape of any gas around it from the explosion of the charge, and be at the same time readily removed by a pull on the trigger; and my invention further consists in the employment of a lever, one end of which is made to clasp the cartridge-cup, while the other end

is vibrated by the trigger to release the cup after the cartridge has been exploded, or the plug when the arm is to be used as a breech-loader.

In the accompanying drawings, A represents the barrel of the musket with its hinged breech-piece B in place, with the hammer *e* at half-cock.

The lock consists of the hammer *e*, which vibrates upon a pin, *a*, passing transversely through and fastened to the hinged breech-piece B.

b is the mainspring, secured at one end, by a screw or otherwise, to the solid portion of the breech at the grasp, while its opposite end is left free to move within a space left by the hinged breech-piece when open, but rubbing beneath and depressed by a recess in the foot of the hammer when the hinged breech-piece is closed.

The trigger D is secured by a pin to the lower part of the solid portion of the breech at its rear end.

In order to expel the exploded cartridge-case or to withdraw the solid plug from the breech, I pivot a vibrating bifurcated lever, I, upon a fulcrum, *i*, in such manner that its forks embrace the lock end of the plug or case, while its toe or point rests against the face of the trigger. This lever is held in position by a spring, *i'*.

To load the gun, the catch *k* is released by compressing the jaws K, and the hinged breech-piece B turned to one side on its pivot *b'*, so as to be out of the line of the axis of the barrel. The cartridge or plug F is then inserted into the chamber, and the breech-piece swung back into place and locked by the catch. The hammer bears upon the mainspring, which tends to press the head of the hammer upon the cap; but this tendency is counteracted by the nose of the trigger, which enters the notch *c'* on the face of the hammer and holds the piece at half-cock. The piece is cocked and fired in the usual way. After firing, the breech-piece is thrown back, as before, and the plug or case F withdrawn by pulling the trigger, which vibrates the lever I, the forks of which embrace a flange on the cartridge. A new case is then inserted, and the former actions repeated.

The lower end of the hammer is notched to receive the point or top of the trigger, as

shown at *c* and *c'*. It will thus be seen that in this improvement the lock for breech-loading fire-arms has the parts independent of each other and attached to separate portions of the breech, yet they are so combined that when the breech is in place the several parts of the lock work as a unit, and when the breech is not properly in place an accidental explosion of the cartridge cannot be produced by the lock.

A further description of these parts is here unnecessary, as a reference to my said Patent No. 37,208 will fully exhibit the construction and mode of operation of my said breech-loading arm.

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

1. The combination of the solid plug with the hinged breech-piece, the centrally-placed stationary nipple, and a mechanism for removing the plug, substantially in the manner described, for the purpose of converting the breech-loading into a muzzle-loading fire-arm.

2. The lever *I*, pivoted to the solid portion of the breech-piece and vibrated by the trigger when the hinged breech-piece is thrown back to remove the cartridge cup or plug, substantially as described.

In testimony whereof I have hereunto subscribed my name.

SAMUEL STRONG.

Witnesses:

WM. D. BALDWIN,

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