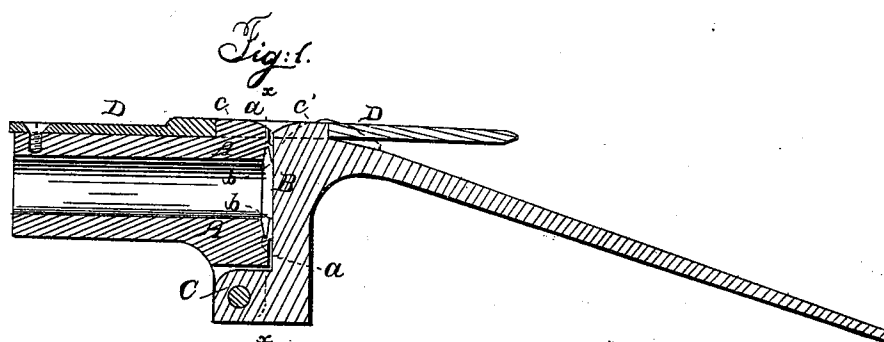
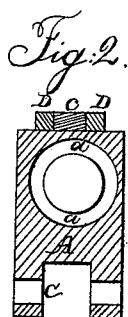


G. SMITH.  
Breech-Loading Fire-Arm.

No. 15,496.

Patented Aug. 5, 1856



# UNITED STATES PATENT OFFICE.

GILBERT SMITH, OF BUTTERMILK FALLS, NEW YORK.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 15,496, dated August 5, 1856.

*To all whom it may concern:*

Be it known that I, GILBERT SMITH, of Buttermilk Falls, in the county of Orange 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 section of the breech and part of the barrel of a gun exhibiting my invention. Fig. 2 is transverse section of the same in the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

This invention is applicable to fire-arms having the sliding breech, to those having the hinged breech, or to almost any that have the breech movable separately from the chamber and are loaded at the rear of the chamber.

It consists in forming a groove around the chamber, near the extreme rear thereof, to produce a lip from the solid metal of the rear of the chamber, of sufficient thinness and flexibility to be driven back against the breech by the force of the explosion of the charge, and thereby to prevent any escape of gas and consequent loss of the force of the explosion.

To enable others skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

The drawings illustrate the application of the invention to a piece with a hinged breech.

A is the chamber of the piece, formed of the same piece of metal with the barrel. B is the breech, having a flat face to fit to a corresponding face around the rear of the chamber. C is the hinge by which the barrel is connected with the breech, the breech being supposed to

be connected rigidly with the stock. D is a spring-catch which fits over lugs *e e'* on the barrel and breech to lock the barrel firmly to the breech at the time of the explosion, but which admits of the ready opening of the chamber to insert the charge.

*a* is the groove, and *b* the flexible lip. The groove may be of a width of about one-sixteenth of an inch, and of a depth about one-eighth or three-sixteenths of an inch, and so near to the extreme rear of the chamber that the lip *b* may have such a degree of flexibility as to be driven back by the expansive force of the gas that is generated by the explosion of the charge and enters the groove *a* into close contact with the breech, so as to form a perfectly tight connection between the chamber and breech.

The flexible lip formed around the rear of the chamber in the manner above described possesses the advantage over the loose ring, which has been applied in various ways for the same purpose, of being more simple in its construction, and it is free from all liability to become inoperative by reason of the collection around it of condensed gas or imperfectly-consumed particles of the powder.

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

Producing a flexible lip, *b*, from the solid metal of the rear of the chamber, to operate as and for the purpose set forth, by forming a groove, *a*, around the chamber at a short distance from the extreme rear thereof, substantially as herein described.

GILBERT SMITH.

Witnesses:

WM. AVERY,  
BENJ. F. RILEY.