

Breech-Loading Fire-Arm.

Patented Dec. 10, 1861.



UNITED STATES PATENT OFFICE.

WILSON H. SMITH, OF BIRMINGHAM, CONNECTICUT.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **33,907**, dated December 10, 1861.

To all whom it may concern:

Be it known that I, WILSON H. SMITH, of Birmingham, in the county of New Haven and State of Connecticut, 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 longitudinal section of the breech and parts of the stock and barrel of a gun constructed according to my invention; Fig. 2, a top view of the same; Fig. 3, a transverse sectional view taken immediately in front of the breech; and Fig. 4, a front view of the breech-operating lever.

Similar letters of reference indicate corresponding parts in the several figures.

The subject of this invention is a certain combination for simultaneously cocking the hammer and releasing a sliding and swinging breech-piece, all as hereinafter fully explained.

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

A is the breech-holder, of malleable cast-iron or other metal, serving for the reception of the movable breech B and for the attachment of the barrel C in a rigid manner to the stock D. The breech is made with a conical protuberance, *a*, in front to fit a corresponding seat, *b*, formed around the interior of the open rear of the barrel. The cavity *c*, which is formed in the breech-holder A for the reception of the breech, and into which the breech is fitted, is made so much longer than the breech as to have room within it for the breech to slide lengthwise a distance rather greater than the length of the conical protuberance *a*, and the bottom of the said cavity is made of a form for the breech to fit snugly within it, as shown in Fig. 3, when in proper position opposite to the barrel for closing the rear end thereof. The breech is fitted to a cylindrical pin, *d*, which passes longitudinally through it near one side, and which has its ends firmly secured in the back and front ends of the breech-holder A, the said pin being parallel with the bore of the barrel, and the breech-piece being fitted to it in such a manner that it may slide longitudinally upon it when bearing on the bottom of the cavity *c*,

and that it may swing upon it in a direction transverse or lateral to the barrel, in the manner illustrated in Fig. 3 by the representation of the breech in red outline. When the breech is in the last-mentioned position a cartridge can be inserted into the barrel in a forward direction from the open rear end thereof, or can be inserted into the breech itself if the latter is properly chambered for its reception. The breech-piece is provided on its rear end with a tongue, *f*, which enters a slot, *e*, provided in the breech-holder in rear of the cavity *c*, and in the under side of this tongue there is a notch, *g*, for the reception of the upper end of the breech-operating lever E, which also fits to the said slot and which is arranged to work in a vertical plane parallel with the bore to the barrel on a fixed pin, *h*, inserted transversely through the breech-holder, the said lever projecting through the bottom of the stock and having the front portion, *j*, of its upper end formed like a cam to act upon the rear end of the breech to drive it forward in the cavity *c*, and the back portion of its upper end formed with a tooth, *i*, to act upon the back of the notch *g* to draw back the breech in the said cavity. The said lever has also at its upper end a tongue, *k*, to operate on a projection, *l m*, on the inner side of the hammer F, for the purpose of cocking the same, the hammer being arranged on the outside of the lock. The nipple *n* is attached to the breech, which contains the vent.

To open the breech and cock the hammer after firing, the lower end of the lever E is first pushed downward and forward from the position shown in black to that shown in red outline in Fig. 1, and by this movement the hook *i* is made to act upon the back of the notch *g* in the tongue *f* in such manner as to draw back the breech far enough for the protuberance *a* to clear the rear of the barrel and front of the cavity *c* in the breech-holder, and at the same time the horn *k* is made to act upon the face *l* of the projection on the hammer to throw back the latter far enough to be cocked by the sear falling into the proper notch. The breech is then swung aside by hand on the pin *d* to the position shown in red outline in Fig. 3, and the load is inserted in the chamber or barrel. When this has been done, the breech is returned to the position shown in black in Fig. 3, and the lever E is then drawn back to the

position shown in black in Fig. 1, which causes the cam *j* to force forward the breech close up to the barrel and make a perfectly tight joint between the barrel and breech, leaving the hammer cocked and ready for firing when a cap has been applied to the nipple *n*.

I do not claim opening and closing the breech either by a movement parallel with the bore of the barrel or a movement lateral thereto, or by a combination of the said movements; but

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

The combination, with the lever *E*, sliding and swinging breech *B*, and hammer *F*, of the tooth *i*, cam *j*, horn *k*, hooked tongue *f g*, and projecting plate *l m*, all constructed and arranged as specified, and operating in the manner explained to impart a simultaneous movement to the breech and hammer.

WILSON H. SMITH.

Witnesses:

M. M. LIVINGSTON,
JAMES LAIRD.