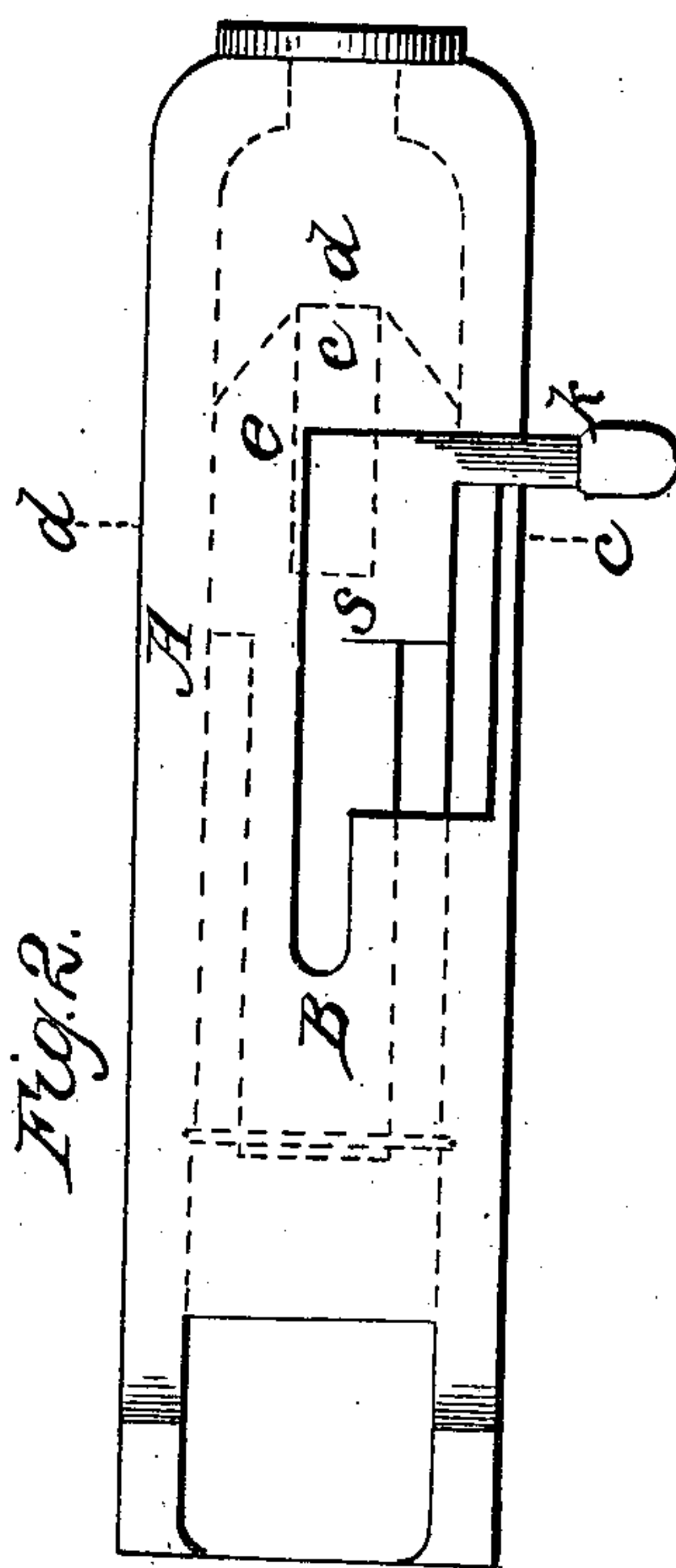
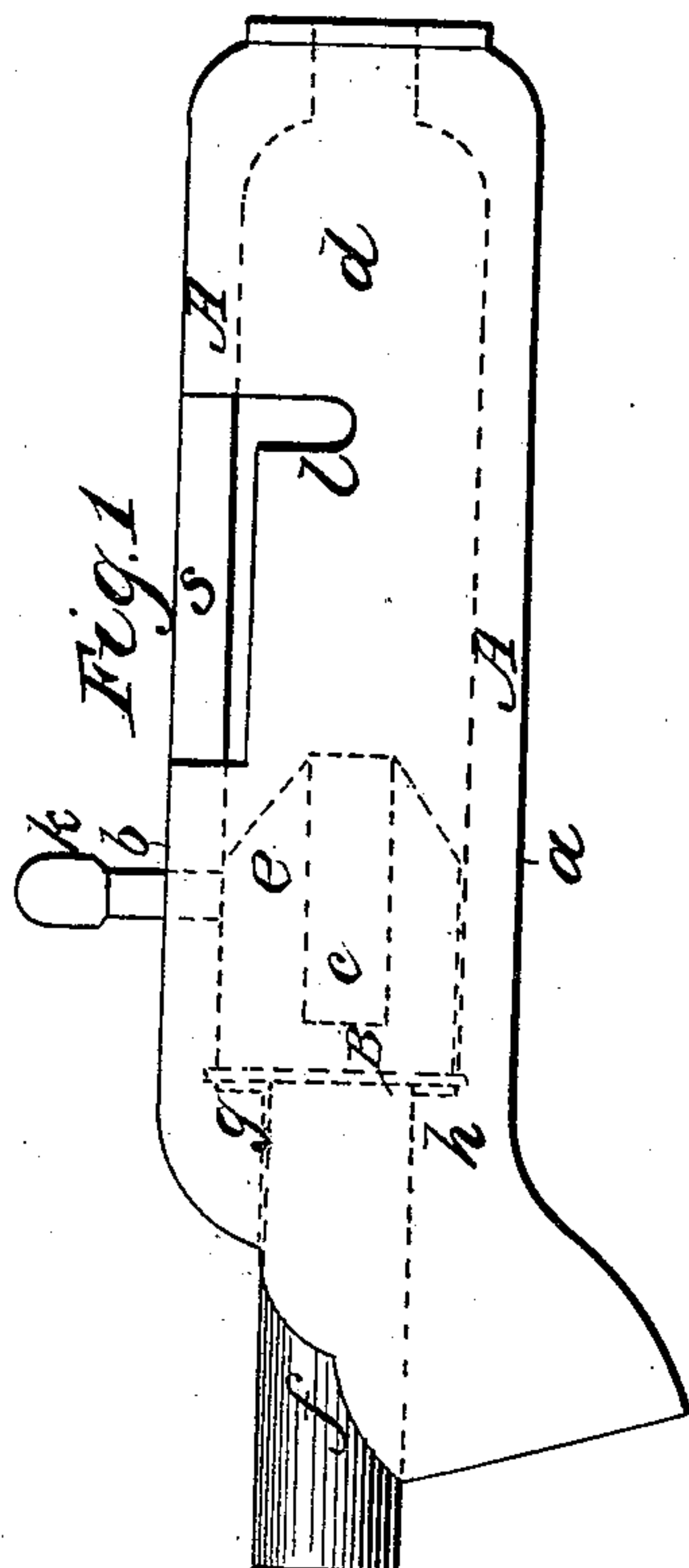
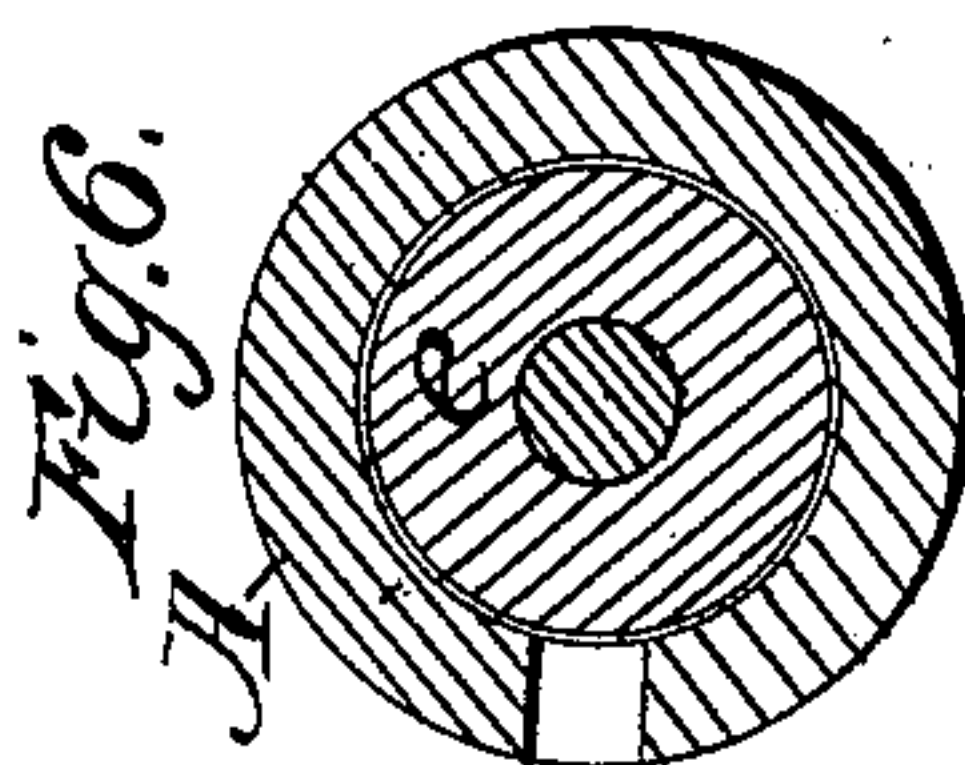
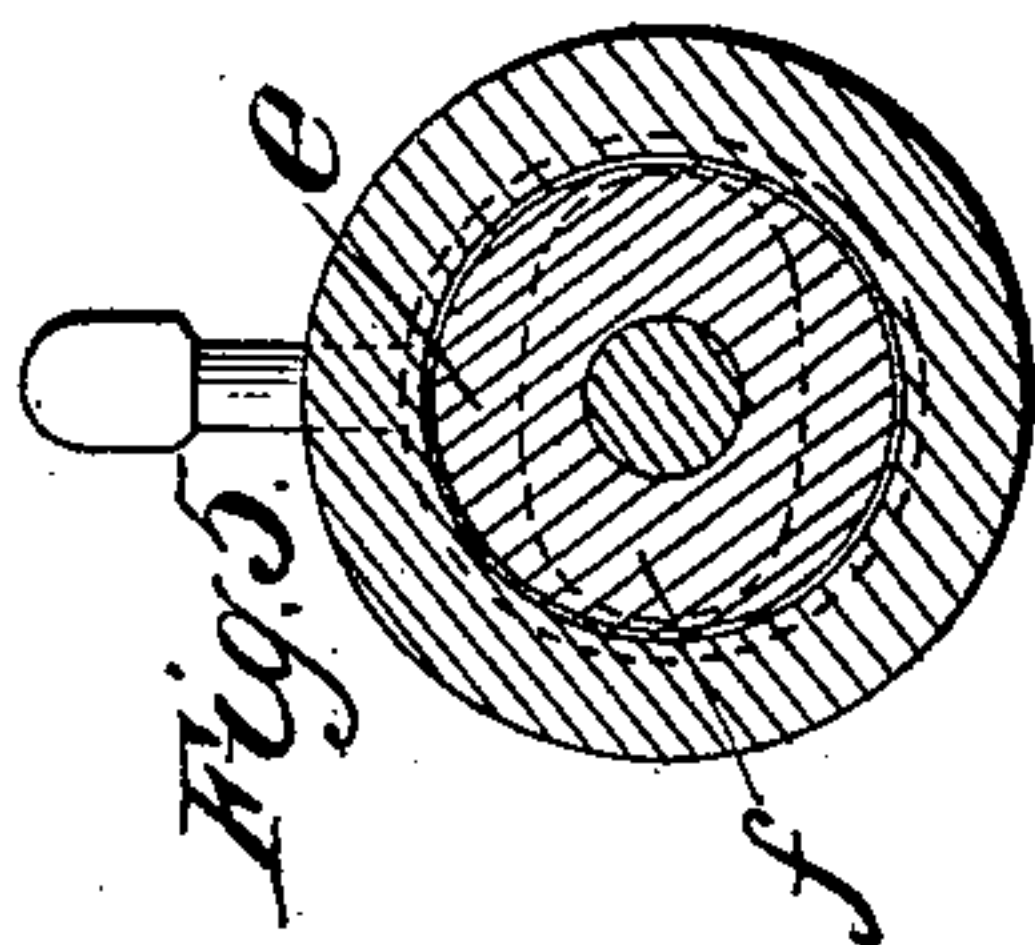
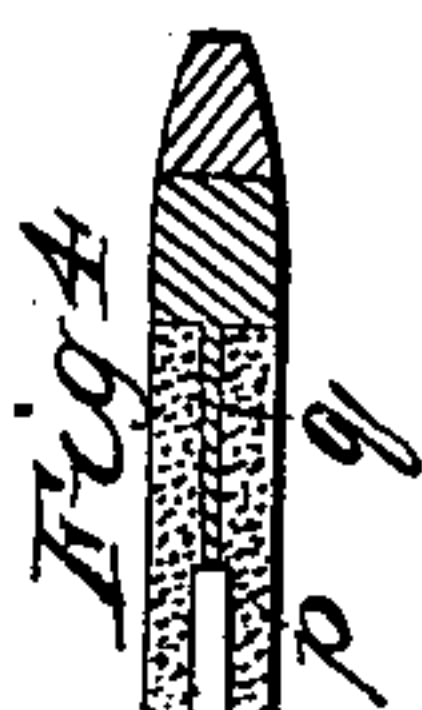


L. A. MERRIAM.

Breech Loader.

No. 87,058.

Patented Feb. 16, 1869.



Witnesses.

Adolf Under.
Barrill

Inventor.

Lincoln A. Merriam.



LINCOLN A. MERRIAM, OF NEW YORK, N. Y.

Letters Patent No. 87,058, dated February 16, 1869.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, LINCOLN A. MERRIAM, of the city, county, and State of New York, have invented a new and useful Improvement in Fire-Arms; and do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure I represents a side view, and

Figure II, a top view of the breech of the gun.

Figure III is a view of the cartridge, with part of the shell removed, to show the interior.

Figure IV is a longitudinal section of Fig. III.

Figure V is a transverse section of Figs. I and II, in the line *a-b*.

Figure VI is a transverse section of Figs. I and II, in the line *c-d*.

Figure VII is a section of the barrel, showing the form of rifling.

The letters of reference indicate the same parts in the different figures.

My invention relates to certain devices, hereinafter described, by means of which the sliding portion, or breech-piece of a breech-loading fire-arm, is secured against the reaction of the explosion.

A is part of the stock or casing, in which the sliding breech B is contained.

B contains the chamber *c*, formed for the reception of the cartridge. In the present instance the space *d* is formed to contain the annular enlarged part of the cartridge, described in my patent dated January 19, 1869.

The forward portion, *e*, of the sliding breech B, is cylindrical, but the rear portion, *f*, is elliptical, or of any equivalent section, and contains the firing-pin, operated by a lock of any convenient form.

The casing A is cylindrical in the forward portion of the cavity, and admits of the free longitudinal and rotary motion of the part *e*, but its rear portion is made to conform to the part *f*, leaving shoulders at *g* and *n*. In the present instance, the longest diameter of the opening is horizontal, in relation to the usual position of the arm when in the act of being discharged, as shown in Fig. V.

The arm K is attached to the sliding breech, for the purpose of moving it backward and forward, and traverses in the slot S, which is wide enough to admit the cartridge in loading.

A washer, *w*, may be used, fitting upon the elliptical part *f*, and circular at its periphery, to revolve in its slot in the casing.

When the arm is loaded for use, the breech-piece B is moved forward to its place by means of the arm K, its length being so adjusted as just to clear the elliptic cavity, and rest in contact with the shoulders *e* and *n*, then revolved about one-fourth of a circle, the arm K resting in a notch, *l*, and the rear bearing against the shoulders, thus securing a strong and solid support to resist the reaction of the explosion, much more reliable than the usual expedient of using the arm K, and the notch into which it fits, for that purpose, the arm, if not made of an inconvenient size and strength, being very liable to break or bend under the concussion of the discharge, as well as from extraneous causes.

The barrel consists of a circular bore, with internal projecting threads, or feathers, arranged spirally, the bearing-faces of which are radial, and the backs inclined to such an angle with the faces as is most conducive to strength, in accordance with the rules of mechanical construction.

The cylindrical form of the barrel being maintained, and the rotary motion being derived from spiral feathers, described, there will be less tendency to wedging in the bore than in those forms of rifling in which broad eccentric grooves are used.

The cartridge consists of the usual metallic shell, carrying a projection, *p*, fixed in the base, and extending to about midway of the charge, and bearing the fulminate in its forward end.

The projectile has an elongation, or tail, *q*, which meets the projection *p*, and forms, with the shot, an effective anvil.

By means of these appliances, the powder is exploded at or near the centre of its volume, insuring its rapid and complete combustion.

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

The combination of the elliptic end *f* of the breech-piece with the shoulders *g* and *n*, when arranged, in relation to the breech-piece and its casing, in the manner and for the purpose set forth.

LINCOLN A. MERRIAM.

Witnesses:

EDM. F. BROWN,

J. E. M. BOWEN.