G.H.FERRISS.

[33.]

Device for Loading Cartridges.

No. 118,849. Patented Sep. 12, 1871.

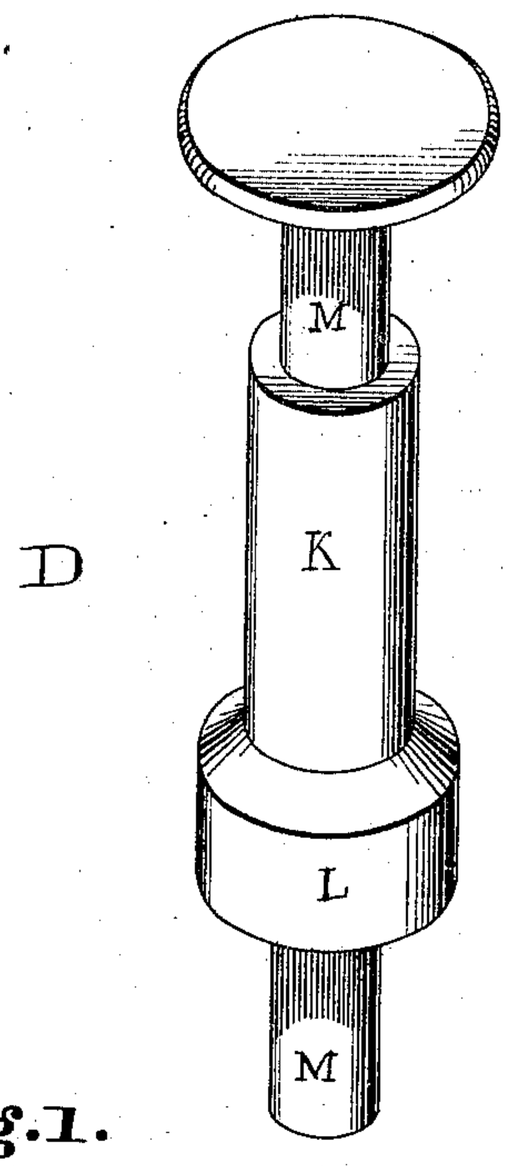


Fig. 1.

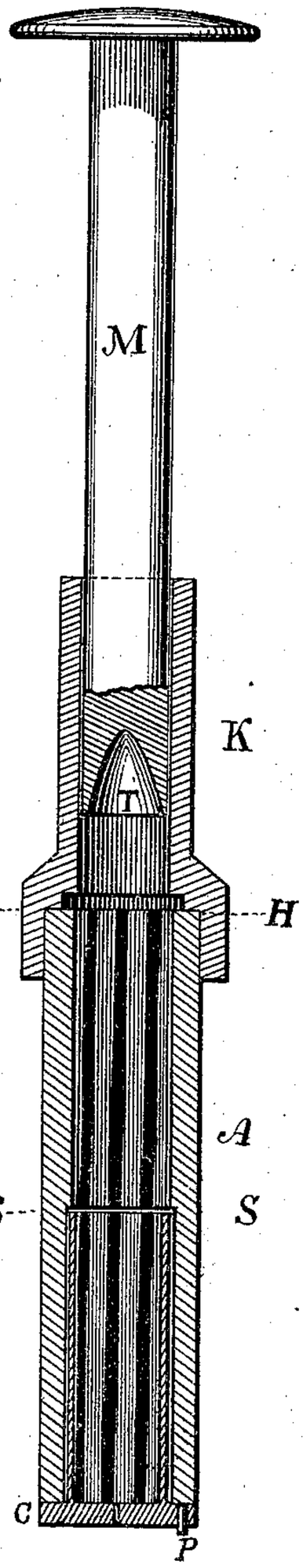
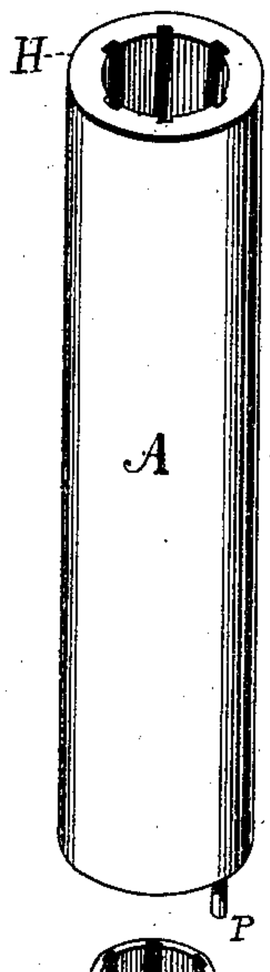
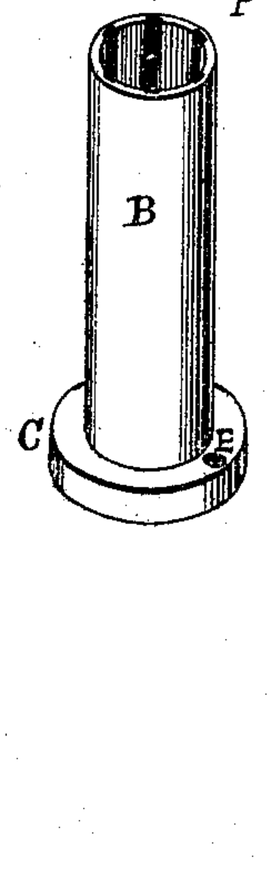


Fig. 2.





INVENTOR.

George H. Ferriss
per Fisher & Fisher,
his atty's

Attest.

Jas. H. Layman.
C. G. H. Hale.

UNITED STATES PATENT OFFICE.

GEORGE H. FERRISS, OF UTICA, NEW YORK.

IMPROVEMENT IN CARTRIDGE-LOADERS.

Specification forming part of Letters Patent No. 118,849, dated September 12, 1871.

To all whom it may concern:

Be it known that I, GEORGE H. FERRISS, of Utica, in the county of Oneida and State of New York, have invented a certain new and useful Cartridge-Loading Apparatus, of which the following is a specification:

My invention relates to combining a cartridge with a short piece of rifled barrel in such a manner that with the aid of a ball-starter a ball may be rifled and placed in the said cartridge in such a manner as to enable a breech-loading rifle into whose breech said cartridge is placed to shoot with the same accuracy as a muzzle-loading rifle will.

In the accompanying drawing, Figure 1 is a perspective view of the rifled-barrel piece and a ball-starter above it, together forming my loading apparatus; also, showing below the barrel-piece a rifled cartridge of a form appropriate to be loaded with the loading apparatus. In this view, barrel-piece, ball-starter, and cartridge are viewed separately. Fig. 2 is a longitudinal section through the center of the ball-starter, barrel-piece, and cartridge, when combined for loading the cartridge.

A is a barrel-piece, having a bore usually rifled. This barrel-piece forms no part of any fire-arm, but is made separate from and independent of any fire-arm in every respect. The twist of the rifling in this barrel is the same as in the breech-loading rifle, into the breech of which the cartridge loaded by this barrel-piece is to be placed. The diameter of this barrel-piece is the same as the bore of said breech-loading rifle. At the muzzle the bore of said breech-loading rifle is made like the bore of a muzzle-loading rifle—that is to say, the bore is enlarged about one-hundredth of an inch from the breech to within about three inches of the muzzle; there the bore is contracted about one-hundredth of an inch, and continues thus contracted up to the muzzle itself. Now, the barrel-piece A has an enlarged bore of the same diameter as the enlarged bore of said breech-loading rifle from the point S to within a short distance of its top end H, from which point to the top H the bore is narrowed about one-hundredth of an inch, making the diameter here the same as that of the said breech-loading rifle at the muzzle. The purpose and objects of this contraction will be explained hereafter. The rear or lower portion of this barrel-piece from the point S to the rear end is reamed out the thickness of the sides of a cartridge, and thus enlarged enough to permit a cartridge, B, having the same bore as this barrel-piece, to be inserted into said barrel-piece as far as the shoulder S. In the rear end of this barrel is a pin, P, fitting into a hole, E, in the bottom of the rim C of the cartridge. B is a rifled cartridge. The bore of this cartridge is of the same diameter as the bore of the barrel-piece is at and above the point S. This cartridge is rifled, and its twist is the same as that of the rifled barrel-piece, and therefore of the same twist as the breech-loading rifle into which it is to be inserted. The rear end of this cartridge is provided with a rim, C, which enables the cartridge to be readily withdrawn from the barrel-piece after loading, or from the breech of the rifle after fire. Through this rim C a hole, E, is made, of a proper size to fit the aforedescribed pin P, and is made at such a point on the rim that, when fitted over the pin P, the twist of the cartridge will exactly match the twist in the barrel-piece. By this means the person loading the cartridge can always make the twist of cartridge and barrel-piece match by fitting the pin P over the hole E. D is a ball-starter, of which L is the cup which fits over the end H of the barrel-piece. K is the main stem, bored through its center, through which passes a rod, M. That end of rod M nearest cup L is hollowed out to fit the style of ball with which the cartridge is to be loaded. On the other end of rod M is a broad flat disk or knob, to give a purchase for the hand in driving down the rod M. T is a ball, of cone point, with a raised band of metal extending around the flat portion of its periphery. Upon this band the ribs to fit the grooves of a rifle can be formed.

I propose, if desirable, to use a cartridge or shell made plain—that is, without rifling—in connection with the rifled barrel-piece.

The mode in which my machine operates is as follows: In the cartridge B is placed a desired weight of powder. The cartridge is then inserted in the rear end of the barrel-piece A and pushed forward until the front edge of said cartridge rests against the shoulder S of the barrel-piece and the hole E in the cartridge-rim is fitted over the pin P. When a patch is used with the ball the patch is placed over the mouth of the end H of barrel-piece A and the ball placed upon the patch. By the aid of the ball-starter the ball and patch are driven down through the grooves

of the barrel-piece A and into cartridge B. These grooves form upon the patch and ball ribs corresponding to said grooves. During the first half-inch of its passage down the barrel-piece the ball is as much compressed as if it were passed through the muzzle of the breech-loading rifle, made as afore described. After the first half-inch of its passage the ball and patch enter the enlarged portion of the bore and slide easily into the cartridge. In case it is desired to load the cartridge with a ball without the interposition of a patch, a ball with a raised band of the form shown in Fig. 2, or of any desired shape, may be used. The loading of the cartridge with such ball is done in the manner just described, the patch being dispensed with. The grooves of the barrel-piece form ribs upon the raised band of the ball. The cartridge is now ready to be placed in a breech-loading rifle formed as described, and to be fired.

Your petitioner has discovered that the cause of breech-loading rifles not shooting accurately is the great amount of resistance met with in forcing the ball into the grooves of the breech.

The advantages of my loading apparatus are, first, the ball having been compressed smaller than the long enlarged portion of the bore of the rifle, when the cartridge is fired it will start easily from the cartridge, and will not receive much resistance from the sides of the barrel until it reaches the upper and short contracted portion of the barrel, already described. During its passage through this contracted bore the ball fits very tightly into the grooves of the barrel and some resistance is made to its expulsion from the gun. By this contraction of the bore the ball, being forced deeply into the grooves of the gun, is with certainty given its requisite number of revolutions, and is also held at a time when the powder, having had full opportunity to burn its full explosive force, is collected. The ball is then expelled with great force and velocity. Where a patch is used, as the ball passes easily from the cartridge and through the enlarged portion of the rifle the patch is not torn, and thereby the ball is prevented from leading the rifle.

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

1. The rifled-barrel piece A, in combination with a rifled cartridge or shell, substantially as herein described, and for the purposes set forth.

2. In combination with the rifled-barrel piece A, a cartridge or shell made plain—that is, without rifling—substantially as described, and for the purposes set forth.

GEORGE H. FERRISS.

Witnesses:
C. W. SHAPLEY,
A. S. CHUBBUCK.