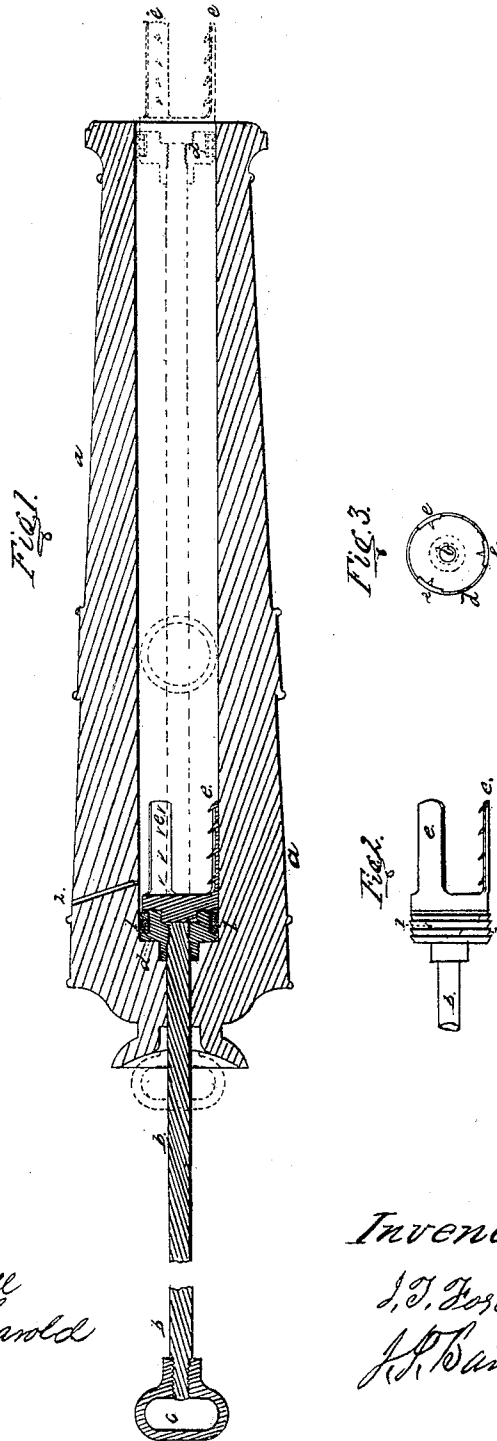


FOSTER & BANTA.  
Muzzle-Loading Ordnance.

No. 16,860.

Patented Mar. 17. 1857.



Witnesses.

Samuel W. Sewell  
Thomas G. Harold

Inventors.

J. T. Foster  
J. B. Banta

# UNITED STATES PATENT OFFICE.

JOHN T. FOSTER AND JACOB J. BANTA, OF JERSEY CITY, N. J., ASSIGNORS  
TO THEMSELVES AND JAMES H. BANTA, OF PIERMONT, N. Y.

## IMPROVED PISTON FOR MUZZLE-LOADING GUNS.

Specification forming part of Letters Patent No. 16,860, dated March 17, 1857.

*To all whom it may concern:*

Be it known that we, JOHN T. FOSTER and JACOB J. BANTA, of Jersey City, in the county of Hudson and State of New Jersey, have invented, made, and applied to use certain new and useful Improvements in Fire-Arms which we denominate a "Piston for Muzzle-Loading Guns;" and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a longitudinal section of our improvements as fitted to a gun. Fig. 2 is a side view, and Fig. 3 is an end view, of the piston and fingers made use of in loading.

Similar marks of reference denote corresponding parts.

In the loading and firing of fire-arms, and particularly cannon, considerable difficulty is experienced and danger incurred in consequence of the gun heating from foul air and particles of fire that remain in the gun, as well as the accumulation of dirt from the explosion. In view of these facts, various devices have been made for loading from the breech; but this method of loading is not applicable to guns already constructed, and involves changes, and is surrounded by obstacles not easily met and overcome, particularly with cannon. A solid piston has also been used, to which the base of the cartridge has been attached by a dovetail, and the whole drawn into the piece by a rod passing through the breech of the cannon.

The nature of our invention consists in the use of conical packing-rings around a piston that is actuated by a rod running through the breech of the gun, so that after the explosion of the cartridge the said piston and its conical packing-rings are forced from the breech to the muzzle, where said rings project beyond the end of the muzzle, to be brushed off or otherwise cleaned from the dirt and soilage which they have scraped off the inside of the gun in being forced from the breech to the muzzle; and on again drawing back the piston to the breech the aforesaid conical packing-rings enter freely, in consequence of their shape, into the muzzle of the gun. We also provide on the aforesaid piston fingers having barbed or lance points on their inner surfaces,

to seize and draw into the gun the ordinary cartridge of flannel or other material.

In the drawings, *a* is the gun or cannon, of any suitable size or desired character, and the same is to be mounted on any carriage in the desired manner.

*b* is a rod or pipe passing freely through a hole bored through the breech on the axial line of the barrel.

*c* is a handle on the outer end of said rod, by which the same is moved, and the length of this rod is such that when forced into the cannon the piston *d* shall reach the muzzle, and the fingers *e*, attached to said piston, project sufficiently to receive the cartridge; and on the inner side of said fingers are barbs or lance points that retain the cartridge while being drawn back into the gun as the piston and fingers are drawn back to the breech by the rod *b*, which brings the cartridge into place ready for firing. The fingers *e* are to be formed on the forward half of the piston-block, or may be attached thereto in separate pieces. The piston *d* is to be packed with the metallic rings shown in the drawings, which rings, being formed conically, act to remove any scale or dirt from the inside of the gun as the piston is forced forward; and the length of the rod *b* should be such that the piston *d* projects from the muzzle sufficiently for the rings to be washed or brushed off every discharge, or as often as necessary, and the conical form of said packing-rings facilitates their insertion in the gun.

*Q* is a touch-hole, and the piece is to be fired by the explosion of a cap or wafer or percussion-pill, or by the ordinary priming, in any convenient manner, and a lock for this purpose may be used when desired, and can be applied either to the cannon itself or to the rod *b*.

The piston *d* setting against the breech, together with the packing surrounding said piston, insures a perfectly-tight joint, so that no fire escapes around the rod *b*.

It will be apparent that the piston *d* and its packing might be used alone for the purpose of expelling foul air and cleaning the gun, the cartridge being inserted and rammed down from the muzzle in the usual manner.

We do not claim a piston actuated by a rod passing through the breech of the gun, as the

same has before been used; but we are not aware that conical packing-rings have ever before been applied to said piston for the purpose of cleaning and scraping off all scale and soilage from the interior of the gun and delivering the same at the muzzle, and also providing for the instantaneous insertion into the barrel of the said packing-rings; and we are not aware that the barbed fingers have ever before been applied to said piston to seize and draw in the ordinary flannel cartridge, as specified.

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

1. The conical packing-rings *l l* on the piston *d*, for the purposes and substantially as specified.

2. The barbed fingers *e*, in combination with the piston *d*, to seize and draw in the ordinary cartridge, substantially as specified.

In witness whereof we have hereunto set our signatures this 30th day of January, 1857.

J. T. FOSTER.

J. J. BANTA.

Witnesses:

LEMUEL W. SERRELL,

THOMAS G. HAROLD.