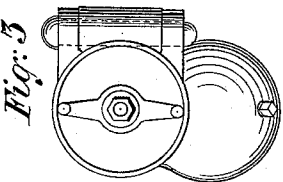
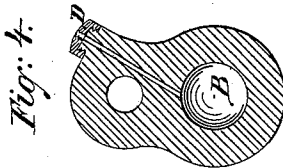
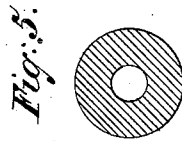
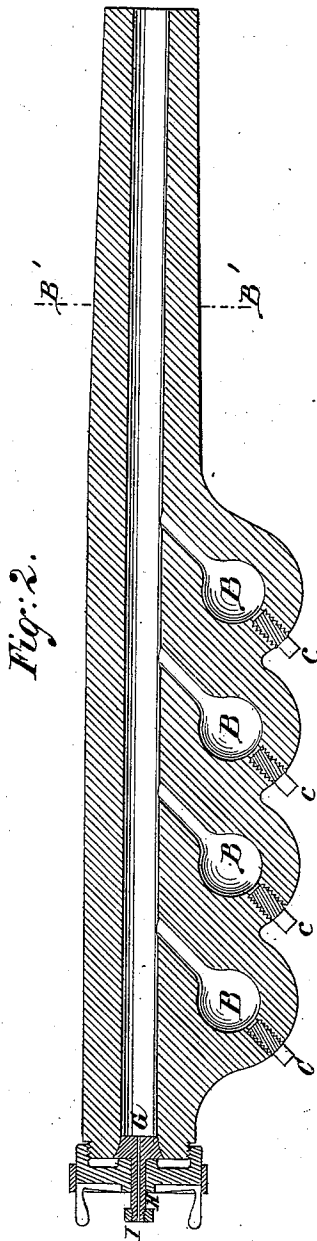
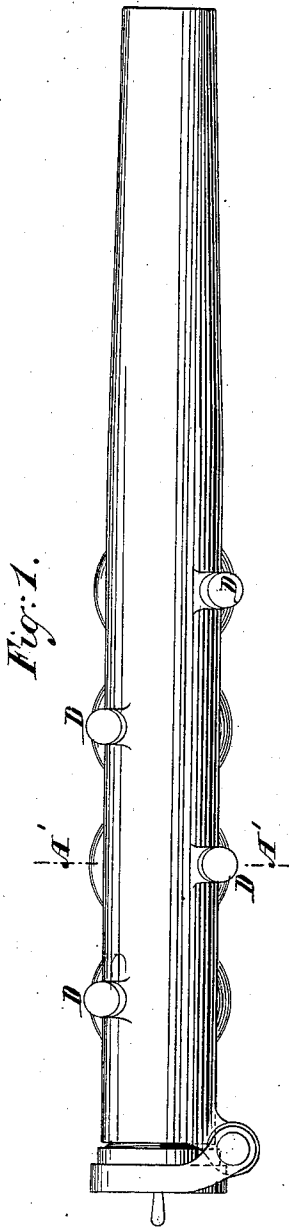


A. S. LYMAN.
Accelerating Gun.

No. 200,740.

Patented Feb. 26, 1878.



Witnesses:
B. G. Noble,
Isaac Trimble

Inventor:
Azul Stearns Lyman

UNITED STATES PATENT OFFICE.

AZEL STORRS LYMAN, OF NEW YORK, N. Y., ASSIGNOR TO ACCELERATING
FIRE ARMS COMPANY, OF SAME PLACE.

IMPROVEMENT IN ACCELERATING-GUNS.

Specification forming part of Letters Patent No. **200,740**, dated February 26, 1878; application filed
February 18, 1878.

To all whom it may concern:

Be it known that I, AZEL STORRS LYMAN, of the city, county, and State of New York, have invented certain new and useful Improvements in Accelerating Fire-Arms; and I do hereby declare the following to be such a full, clear, and exact description of the same as will enable any one skilled in the arts to which my invention appertains to make and use the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a top view of a cannon with my improvement applied thereto. Fig. 2 is a vertical longitudinal section through said cannon. Fig. 3 is a breech elevation thereof; and Fig. 4 is a transverse section on the line A' A', and Fig. 5 on the line B' B'.

Letters Patent of the United States were heretofore granted to me, dated the 3d day of February, 1857, for improvements in accelerating fire-arms, said Letters Patent being issued, through assignment from me, to the Accelerating Fire Arms Company, of New York, and which patent was extended for seven years from February 3, 1871, by the Commissioner of Patents on my application.

The leading principle embodied or reduced to practice in the gun or arm for which the said patent was granted, as aforesaid, consists in accumulating power behind the projectile by the successive explosion of supplemental charges of powder after the explosion of the initial charge. The method of applying this principle in the arm or gun patented, as aforesaid, is fully described in that patent, to the specifications of which reference is here made for a more detailed description.

To avoid objections which have arisen, I have invented a new method of applying the principle above described. This method consists of an enlargement made on the outer surface or periphery of the gun, and in forming the pockets or chambers for the supplemental charges all in this enlargement. I prefer to make this enlargement on the under side of the gun, and to make all the chambers or pockets on the same vertical plane at an acute an-

gle with the bore of the gun, as shown by B B B in Fig. 2 of the drawing. The chambers may, however, be made on different planes, and set more or less zigzag, and at right angles with the bore; but I prefer to make them at an acute angle, as shown in the drawing. The chambers, too, instead of being parallel, and less in diameter than the bore of the gun, as shown in the patent above referred to, I now make more or less globular at the bottom, by which I obtain the capacity necessary to hold a comparatively large charge of powder, while at the same time I keep the opening to the chamber less in diameter than the bore of the gun.

Each of the supplemental pockets or chambers is fitted with a screw breech-pin, as shown by C C C C in Fig. 2 of the drawing, and a priming or charging hole, as shown by D D D D, for the purpose of charging the pockets. By means of these screw breech-pins and the above-mentioned charging-holes the pockets or chambers are readily charged or cleaned, and the charge may be removed in case of need without firing the gun.

I propose to make my improved gun of cast or wrought iron, steel, or other metal, either in one piece or built up, as may be advisable, and in any approved way known for the manufacture of ordnance.

Having now described my improvement in accelerating-guns, I claim as new herein and desire to secure by Letters Patent—

1. The enlarged breech of the gun containing a series of chambers opening into the bore through apertures smaller than the chambers, substantially as described.

2. The accelerating-charge chambers having a breech-closing plug, and a priming or charging aperture above, substantially as described.

3. A gun having an accelerating-charge chamber spherical, or nearly so, in form, said chamber communicating with the bore through an aperture smaller than the diameter of the chamber.

4. A gun having an accelerating-charge chamber spherical, or nearly so, in form, said

chamber communicating with the bore through an aperture inclined forward, substantially as shown and described.

5. The accelerating-gun herein described, having a series of charge-chambers in an enlargement of the gun, each chamber communicating with the bore through an aperture smaller than the chamber, and having a charg-

ing-orifice and a breech-closing plug, all constructed and arranged substantially as described.

AZEL STORRS LYMAN.

Witnesses:

B. G. NOBLE,
ISAAC TRIMBLE.