

## Breech-Loading Ordnance.

Patented Dec. 28, 1869.



Fig. 1

Witnesses  
A Bernshin  
John A. Silence

Inventor:  
Edw. J. Boy



# United States Patent Office.

ELISHA H. TOBEY, OF CHICAGO, ILLINOIS.

Letters Patent No. 98,316, dated December 28, 1869.

## IMPROVEMENT IN BREECH-LOADING ORDNANCE.

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, ELISHA H. TOBEY, of Chicago, in the county of Cook, and State of Illinois, have invented a new and improved Breech-Loading Cannon; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains, to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of my improved breech-loading cannon, and

Figure 2, a longitudinal section of the same, in the line *x x*, fig. 1.

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

My invention has for its object to improve the construction of breech-loading cannon, whereby they can be loaded and discharged with greater facility and accuracy than is now the case.

My invention consists, first, in the combination of a swinging breech with the gun, in such a manner that the weight thereof shall tend to form a gas-tight joint when the gun is ready for firing.

It consists, secondly, in the combination of suitable weights with the breech-piece and the arms which connect the same to the trunnions, whereby said breech-piece is balanced upon the trunnions, to facilitate its operation.

In the accompanying drawings—

A is the main portion of the gun, provided with trunnions, B, in the usual manner.

C is the breech-piece, which is formed by cutting off the breech of the gun in the arc of a circle, having its radius below the major axis of the gun; or the line of separation may extend diagonally across the breech. It should, however, have such direction that the breech, in closing, shall form a tight joint.

The breech-piece is formed of the size of an ordinary gun-breech, for the purpose of giving sufficient weight to effectually close the breech against the possibility of the escape of gas, should the same pass to the rear of the piston when the gun is discharged.

If desired, the main portion of the gun and the breech-piece may be cast separately.

D are arms, attached, at one end, rigidly to the breech-piece, and hung upon the trunnions B, in such a manner as to permit the breech-piece to be swung up into the position shown in fig. 2.

In order to facilitate the throwing up of the breech-piece, it may be balanced upon the trunnions D, by

means of weights E, attached to or formed upon the free ends of the arms D. This arrangement, however, is not absolutely essential to the successful working of the gun.

F is a piston, formed upon the inner end of a screw, G, extending longitudinally through the breech-piece, and provided upon its outer end with a head, H, and handles I.

The inner end of the breech-piece is recessed, to receive the piston F, which recess corresponds to that formed in the rear end of the main portion A, of the gun.

The operation is as follows:

When it is desired to charge the gun, the piston is withdrawn, (by operating the screw G,) within the recess in the breech-piece, and the latter thrown up, as shown in fig. 1.

The charge is then inserted in the end of the main portion A, the breech-piece thrown down, and the screw G operated to force the piston within the recess formed in said portion. In this position, the part A and breech-piece are firmly locked together, while the piston acts as a recoil-block.

It is necessary that the piston should fit snugly within the recess formed in the part A, to prevent the escape rearward of the gases generated by the explosion of the charge.

My improved cannon is easily operated, is strong and durable, and embraces no complicated machinery, which is liable to be disarranged by the discharge of the gun, or other causes incident to the use of heavy ordnance.

Having thus described my invention,

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

1. The combination of the arms D, piston or recoil-block F, and operating-screw G, with the main portion of the gun A, and the breech-piece C, when the radius of the latter is below the major axis of the gun A, substantially as herein described, for the purpose specified.

2. The weights E, in combination with the breech-piece C and arms D, substantially as described, for the purpose specified.

The above specification signed by me, this 4th day of September, 1869.

ELISHA H. TOBEY.

Witnesses:

A. BERNSTEIN,  
JOHN A. SILENCE.