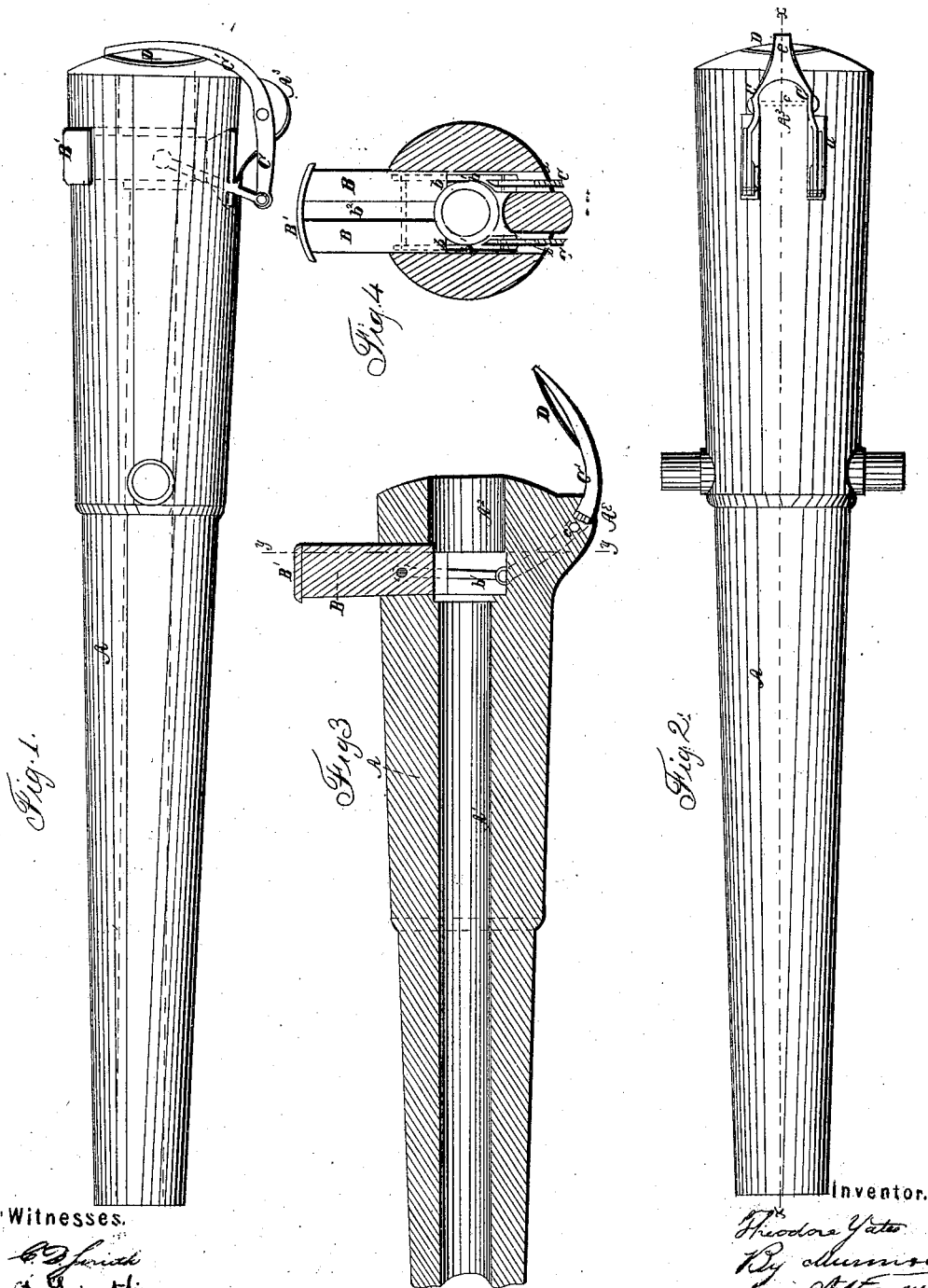


T. YATES.

Breech-Loading Ordnance.

No. 46,417.

Patented Feb 14, 1865.



Witnesses.

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# UNITED STATES PATENT OFFICE.

THEODORE YATES, OF MILWAUKEE, WISCONSIN.

## IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 46,417, dated February 14, 1865.

*To all whom it may concern:*

Be it known that I, THEODORE YATES, of the city and county of Milwaukee, in the State of Wisconsin, have invented a new and useful Improvement in Breech-Loading Ordnance; and I do hereby declare the following to be a full, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of a cannon embodying my invention. Fig. 2 is an under side view thereof. Fig. 3 is a central longitudinal section of the same in the line *x x*, Fig. 2. Fig. 4 is a transverse section through the breech at the line *y y*, Fig. 3.

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

My invention consists in a novel manner of operating a sliding breech-block and closing the rear of a breech-loading cannon, as will be hereinafter fully described.

To enable others skilled in the art to which my invention appertains to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A is the gun, and B a vertically-moving breech-block, which, when in its respective upper and lower positions, permits the cartridge to be inserted into the bore A' through the breech-chamber A<sup>2</sup> and close the rear end of the bore, to receive the explosive force of the charge at this point. On the breech-block is a guide-rib, *b*<sup>2</sup>, moving in a corresponding groove in the opening, in which the block slides. The front end of the chamber A<sup>2</sup> is formed to constitute a firm bearing for the breech-block B when in its lower position, and the lower end of said breech-block may have the figure of an arc of a circle, so as to be flush with the interior surface of the chamber A<sup>2</sup> when elevated, and for the additional purpose of adapting the parts *b b* to enter the openings *a a'* when the breech-piece is lowered, the latter thus having greater firmness imparted to it. The openings *a a'* in the under side of the breech admit of the connection with the breech-block B of a yoke, C C C', through the medium of arms *b' b'*, attached, respectively, to the parts *b b* and jointed to the arms C C of the yoke. The yoke is pivoted to a projection, A<sup>3</sup>, on the under side of the gun A by a pin, *c*, so that it may vi-

brate freely in a vertical plane. The turning of the yoke upon its pivot elevates and lowers the breech-block, and while the arms C C carry said breech-block upward the arm C' recedes from the rear end of the gun and carries with it a cap, D, which closes the opening at the rear of the chamber A<sup>2</sup> when the breech-block is down, so as to effectually exclude dust. After the insertion of the cartridge, the breech-block B may be allowed to assume its lower position by the influence of gravity, and in doing this the arm C' is moved forward and the cap D returned to its position over the opening at the rear end of the chamber A<sup>2</sup>. Thus the yoke C C C', which is formed in one piece, serves to operate the breech-block B and cap D simultaneously. Any suitable attachment (such as cord fastened to the upper end of the arm C') may be employed to facilitate the turning of the yoke and retain the breech-block in its upper position.

It will be seen that by forming the gun with openings *a a'* at each side of the chamber A<sup>2</sup> a portion of the breech-block is allowed to extend below the same in the manner described, and at the same time the intervening part of the bottom of the chamber forms a bridge or connection between said chamber and the bore A', to insure an unobstructed entrance to the cartridge.

To the top of the breech-block B is affixed a shield, B', to bear any desired inscription and close the joint between the block B and the contiguous parts of the gun.

The above-described gun is designed to have no vent, the charge being exploded by fulminate or percussion.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination of the lever C C', cap D, and sliding breech-block B, constructed and operating substantially as and for the purposes herein described.

The above specification of my improvement in breech-loading ordnance signed this 10th day of September, 1864.

THEO. YATES.

Witnesses:

E. B. WOLCOTT,  
ALVAH TROWBRIDGE.