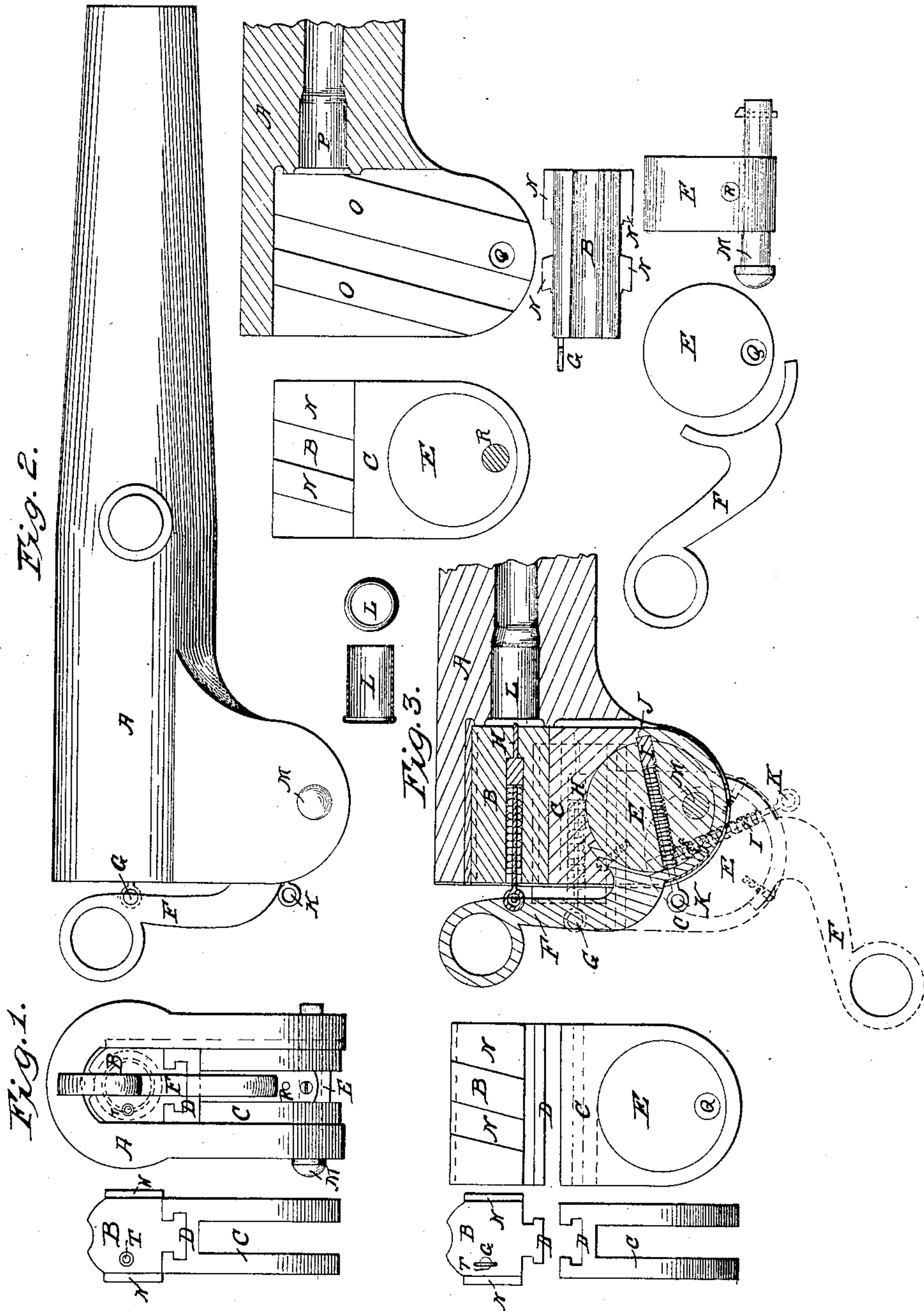


C. MORRILL.  
BREECH LOADING ORDNANCE.

No. 35,619.

Patented June 17, 1862.



Witnesses:  
L. J. Gordon  
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Inventor  
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# UNITED STATES PATENT OFFICE.

CHARLES MORRILL, OF NEW YORK, N. Y.

## IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 35,619, dated June 17, 1862.

*To all whom it may concern :*

Be it known that I, CHARLES MORRILL, of the city and county and State of New York, have invented new and useful Improvements in Breech-Loading Cannon; and I hereby declare that the following is a full, clear, and exact description of my said improvements, reference being had to the accompanying drawings, making a part of this specification, and the letters of reference marked thereon, in which the same letter represents the same thing in each figure.

Figure 1 is an end view of the breech. Fig. 2 is a side view of the cannon. Fig. 3 is a vertical section of the breech.

Letter A represents the shell of the gun; B, the locking or breech pin; C, the sliding box, attached by the sliding joint D to the breech-pin B; E, the eccentric, moving C and B by the lever F; G, the handle of the discharging-hammer H; I, the locking-pin to keep the eccentric in position when the breech is closed; J, the ratchet in which I catches; K, the handle of the spring-stop or locking-pin I; L, the cartridge-case; M, the pin on which the eccentric works; N N, the inclined flanges on the sides of the breech-pin B; O O, the grooves the inclined flanges slide in; P, the chamber; Q, the aperture in which the pin M is placed; R, the aperture in which the stop I works; T T, the aperture in which the spring-hammer H is placed.

The operation is as follows: Draw out the stop by its handle K, which holds the eccentric; lower the breech-pin B by lever F; place the cartridge in the chamber P; elevate the lever F, whereby the eccentric E lifts the breech-pin B up and forward and presses the cartridge home; when the locking-pin or stop I springs into the ratchet J and holds the whole in position, draw back the hammer H by its handle G; let go, and its spring returns it against the cased cartridge and discharges the gun.

The distinguishing features of my invention are, the simplicity of the working parts,

the celerity of loading and firing, and the impossibility of inconvenience from heating.

In former breech-loading cannon the chief difficulty has been in the expansion, so that the breech parts could not be worked, and sometimes their operation has been entirely stopped. In my cannon the greater the expansion the easier the breech-pin B will work and the various sliding parts. It will always rise until the chamber is closed tight.

Another great difficulty in breech-loading cannon is the fouling of the works by gas. In my cannon this tight closing of the chamber and the use of a metallic-case cartridge entirely precludes leakage of gas. Provision, however, is made for leakage, in case of an imperfect cartridge, through the free spaces left between the top of the breech-pin and the breech of the gun and behind and beneath the sliding box.

All the inconveniences which arise from priming and ordinary touch-hole arrangements by the escape of gas and smoke and the enlargement of the orifice are prevented by discharging the piece by the spring-hammer. The smoke and gas pass out through the muzzle, and on shipboard the comfort and advantages are obvious.

The gun can, when wished, be instantly disabled by removing the eccentric-pin M, in lieu of spiking, and much more effectually.

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

1. The combination of the eccentric E, the sliding box C, and the breech-pin B, or their equivalents, operating substantially as and for the purposes described.

2. The arrangement of the inclined flanges N N and the corresponding grooves O O, substantially as and for the purposes described.

CHAS. MORRILL.

Witnesses:

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