

C. W. HOWARD.  
Breech-Loading Fire-Arm.

No. 39,232

Patented July 14, 1863.

Fig. 1.

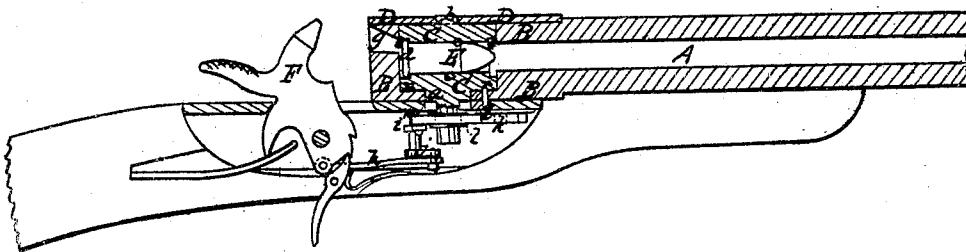


Fig. 2.

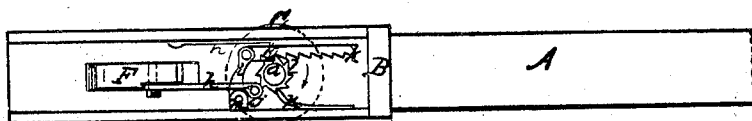
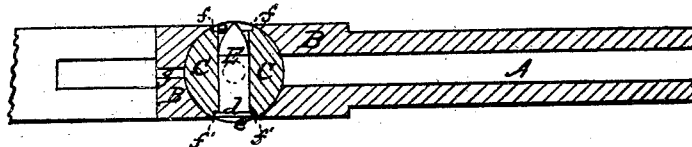


Fig. 3.



Witnesses

Wm. S. Partridge  
Geo. W. Reed

Inventor

C. W. Howard.

# UNITED STATES PATENT OFFICE.

C. W. HOWARD, OF HAMMONTON, NEW JERSEY.

## IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 39,232, dated July 14, 1863.

*To all whom it may concern:*

Be it known that I, C. W. HOWARD, of Hammonton, in the county of Atlantic and State of New Jersey, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical longitudinal section of a fire-arm constructed according to my invention. Fig. 2 is an inverted plan of the movable parts of the same. Fig. 3 is a horizontal section of the barrel and cylinder.

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

This invention consists in the construction of a fire-arm with a vertical cylinder having a single chamber extending directly through it at right angles to its vertical axis, and so arranged within a suitable block in rear of the barrel that by turning it to bring its chambers at right angles to the bore of the barrel it may be loaded at one and the other end of the chamber alternately, and by the act of loading at either end the discharged case or shell of the previously-inserted cartridge may be expelled at the other end.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the barrel, having attached to or formed upon its rear end the block B, which is bored cylindrically at right angles to the barrel in a vertical direction for the reception of the cylinder C, which is made with journals *a b* at bottom and top, the lower journal being received in a bearing in the block itself, and the upper one in a bearing in a cap-plate, D, which is secured on the top of the block to confine the cylinder therein. The cylinder C is bored right through at right angles to its axis, to form the chamber *c* for the reception of the metallic cartridge or fixed ammunition E, and is countersunk at each end, as shown at *e e*, for the reception of the flange *d* of such ammunition containing the fulminate priming, so that the said chamber may be brought in line with the barrel and in communication with the bore thereof, with either end in front, and be in condition for the firing of such am-

munition. The block B is made with openings *f f'*, one in each side opposite the axis, that, *f'*, on the right side being for loading, and that, *f*, on the left for permitting the expulsion of the empty shell of the ammunition which has been previously fired, the loading being effected while the chamber is arranged transversely to the bore of the barrel, as it always is when the arm is at half-cock. In the rear part of the block B there is a narrow slot, *g*, for the entrance of the nose of the hammer F to strike on the flange of the fixed ammunition; but otherwise the said block is made solid in rear of the cylinder to constitute a fixed breech.

The hammer F is constructed, applied, and operated as in other fire-arms, and is combined with the cylinder C by means of a rod, *h*, a lever, *i j*, a ratchet-bar, *k*, and a ratchet-wheel, *l*. The ratchet-wheel *l* is fast on the lower journal, *a*, of the cylinder. The lever *i j* works on a fulcrum-pin, *m*, secured to the frame of the fire-arm, and one arm of the said lever is connected with the ratchet-bar *k*, and the other connected by the rod *h* with the tumbler of the hammer. The ratchet-bar is held in contact with the ratchet-wheel by means of a spring, *n*, and is thereby caused to turn the cylinder to the extent of half a revolution in the direction of the arrow shown in Fig. 2, as it is moved forward by the backward or cocking movement of the hammer; but the said spring permits the teeth of the said bar to slide over those of the said wheel as the said bar moves back while the hammer is falling or moving forward, and the said wheel has applied to it a spring-pawl, *p*, to prevent it from being turned by the friction of the ratchet-bar in the backward movement of the latter.

The ratchet-wheel *l* and ratchet-bar *k* are so constructed, proportioned, and arranged that when the hammer is either down or at full-cock the chamber *c* of the cylinder is directly opposite to and in line with the bore of the barrel, and that the backward movement of the hammer to the position of half-cock produces just one-quarter of a revolution of the cylinder, bringing the chamber at right angles to the bore of the barrel to permit the ammunition to be inserted through the openings *f f'* in the block B. The insertion of the fixed ammunition at the openings *f f'* pushes out

the discharged shell (if there be any in the chamber) through the opening *ff*. The farther drawing back of the hammer to full-cock produces another quarter of a revolution of the cylinder, brings the chamber opposite to and in line with the barrel with the bullet toward the barrel ready for firing.

To prevent the cylinder from being turned too far by the act of cocking, and to lock it in position for firing, there is provided a spring-stop, *g*, the tooth of which slips into one of two suitable arranged notches, *rr*, in the bottom of the cylinder as the latter arrives in the proper position. The point of this stop is rounded, so that it slips out of the notches when the power is applied to the hammer to turn the cylinder.

I do not claim, broadly, the use in a fire-arm of a revolving cylinder having a single

chamber arranged transversely to the axis of the cylinder; but

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

1. The construction of the cylinder *C*, with countersunk recesses at each end of the charge-chamber, as herein shown and described, so that said cylinder, although rotating in one direction, may be loaded with cartridges at either end of the chamber, all as set forth.

2. The combination of the oscillating ratchet-bar *k*, lever *i j*, and rod *h* with the hammer *F*, and the ratchet-wheel *l*, in the manner herein shown and described.

C. W. HOWARD.

Witnesses:

M. S. PARTRIDGE,  
GEO. W. REED.