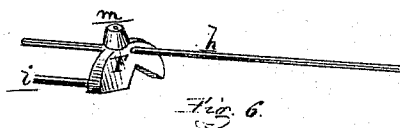
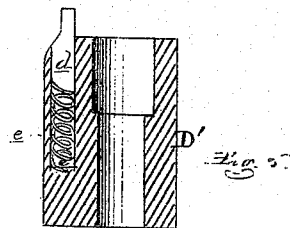
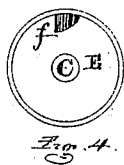
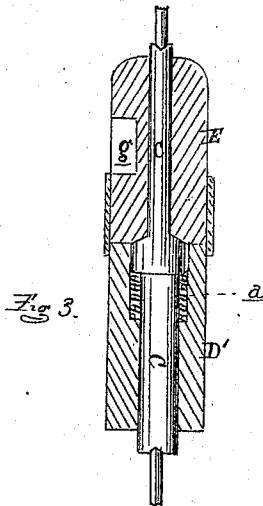
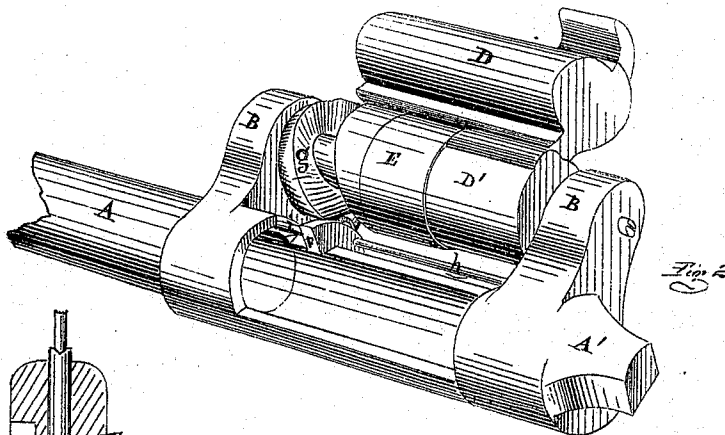
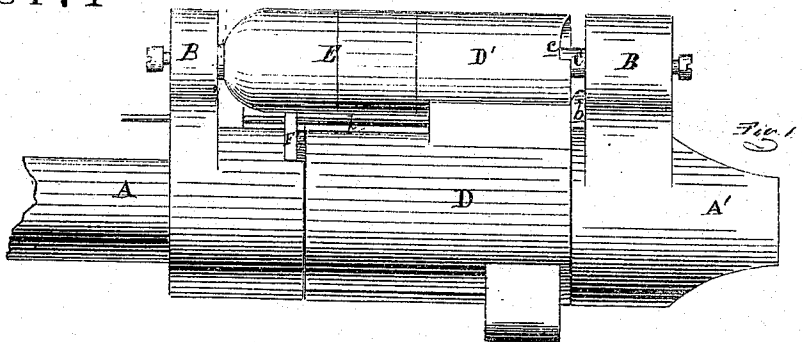


118171

J. B. WAYNE
BREECH LOADING GUN

PATENTED AUG 15 1871



ATTEST

Frederick Eberts.
Proprietor H. Church.

INVENTOR

J. B. Wayne
per attorney
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

JOSEPH B. WAYNE, OF BIRMINGHAM, ENGLAND.

IMPROVEMENT IN BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. 118,171, dated August 15, 1871.

To all whom it may concern:

Be it known that I, JOSEPH B. WAYNE, of Birmingham, in the county of Warwick, England, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a plan of the working parts of my gun, showing the breech-block closed. Fig. 2 is a perspective view, showing the breech-block open. Fig. 3 is a horizontal section through the trunnion of the breech-block and the rotating cam which forms a prolongation thereof. Fig. 4 is an elevation of the end of the rotating cam next the breech-block trunnion. Fig. 5 is a detached sectional view of the breech-block trunnion. Fig. 6 is a detached perspective view of the retractor.

Like letters indicate corresponding parts in each figure.

The nature of this invention relates to certain improvements in the construction of breech-loading fire-arms; and it consists in the novel and peculiar construction of the breech-block and a rotating cam which forms an extension of the breech-block trunnion, the said trunnion and cam having an axial movement on a shaft centered between brackets laterally projecting from the right side of the gun-barrel, the trunnion having, in addition, a longitudinal movement upon its shaft to compel the rotation of the cam in opening the breech-chamber. In the periphery of the cam is a spiral groove, with which engages a lateral stud on a retractor, the trunnion having a cam in its base and a latch-bolt on its face, which causes it to engage with the cam in such a manner that in opening the breech-block the retractor is drawn back from the bore, while it is free to move forward on the insertion of a cartridge in the breech-chamber and barrel, the whole being more particularly designed as an improvement upon the well-known Snyder gun.

In the drawing, A represents a section of the rear end of a gun-barrel, a section the length of the cartridge used being cut out just in advance of the breech-pin A', and comprising the superior half of that part of the barrel. At the right side of the barrel and breech-pin are two laterally-projecting brackets, B, between which is centered

the shaft C. On this shaft is sleeved the trunnion D' of the breech-block D, as shown, the breech-block swinging over and into the barrel to close its chamber. The barrel is counterbored or chambered as usual to receive the cartridge, which is preferably a metallic shell containing the powder, a fulminate, and the bullet, and is exploded by a percussion bolt passing through the cylindrical part of the breech-block. E is a cylinder, also sleeved upon the shaft C in advance of the trunnion, the front end of which is received in a recess at its base or rear end. Between a shoulder near the base of the bore of the trunnion and a collar on the shaft C is interposed a spiral spring, *a*, which presses the breech-block to the rear. *b* is a rounded boss or projection on the front face of the rearmost bracket. The base of the trunnion is cut away, as shown at *c*, forming a cam-recess in connection with the projection *b*. As the breech-block is thrown back to open the chamber this recess comes abreast the projection *b*, when the spring *a* throws the trunnion longitudinally backward on its shaft. In closing, the trunnion receives a forward movement on its shaft. *d* is a latch-bolt, longitudinally recessed in the periphery of the trunnion, projecting from the front end thereof, and provided with a spring, *e*, spirally coiled about it within the recess to throw it forward. In the rear end of the rotating cam is a latch-socket, *f*, with which engages the latch-bolt *d*, in the rotation, of the trunnion to open the breech until the trunnion slides backward on its shaft. *g* is a spiral groove cut in the periphery of the rotary cam, with which engages a friction-stud, *m*, laterally projecting from a retractor-segment, F, recessed in the bore and chamber of the barrel. The projecting portion of the retractor is secured to a guide-rod, *h*, which slides in recesses in the brackets. It is also provided with a guide-pin, *i*, which slides in a socket drilled in the rear part of the barrel.

To load the piece, it being held in the left hand and with the breech-block thrown open, the operator, with his right hand, drops a cartridge into the breech-chamber and pushes it into the barrel, the insertion of the cartridge pushing forward the retractor to its seat, (the cam being free to turn on its shaft to permit the forward movement of the retractor.) The breech-block is now thrown over to close the chamber, when the piece may be

fired. After firing, the breech-block is thrown back, when the latch-bolt engages with and rotates the cam, whose spiral groove in turn withdraws the retractor and the empty shell from the bore, leaving the shell free to drop out if the piece be tilted a little to the left.

Any suitable mechanism may be employed to lock the breech-block shut.

After firing the Snyder gun and throwing open the breech-block the latter must be pulled back to withdraw the cartridge-shell from the bore. In my improvement the extraction of the shell is automatic and coincident with the opening of the breech-block, enabling the operator to load and fire the weapon with great rapidity.

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

1. The spirally-grooved rotary cam E and retractor F, arranged substantially as described, the said cam being operated by the opening of the breech-block D, as and for the purpose set forth.

2. The arrangement of the latch-bolt *d*, spring *e*, latch-socket *f*, the boss *b* on the rearmost bracket B, constructed and operating substantially as and for the purpose set forth.

JOSEPH B. WAYNE.

Witnesses:

H. F. EBERTS,
MYRON H. CHURCH.