E. R. QUIMBY.

MAGAZINE FIRE-ARMS.

No. 195,690. Patented Sept. 25, 1877.

Fig. 1.

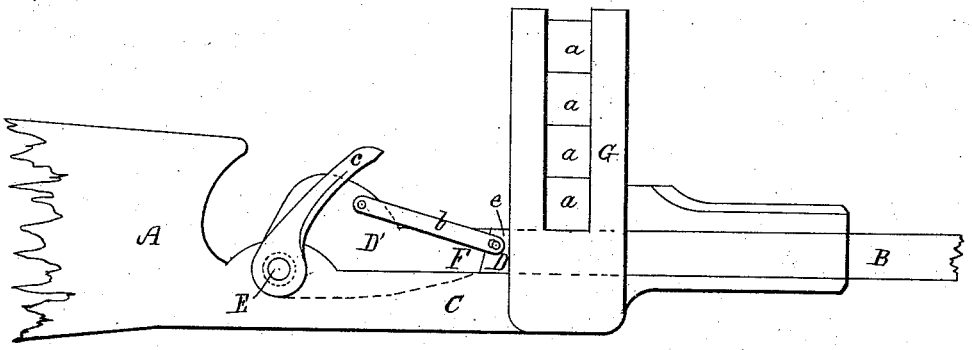


Fig. 2.

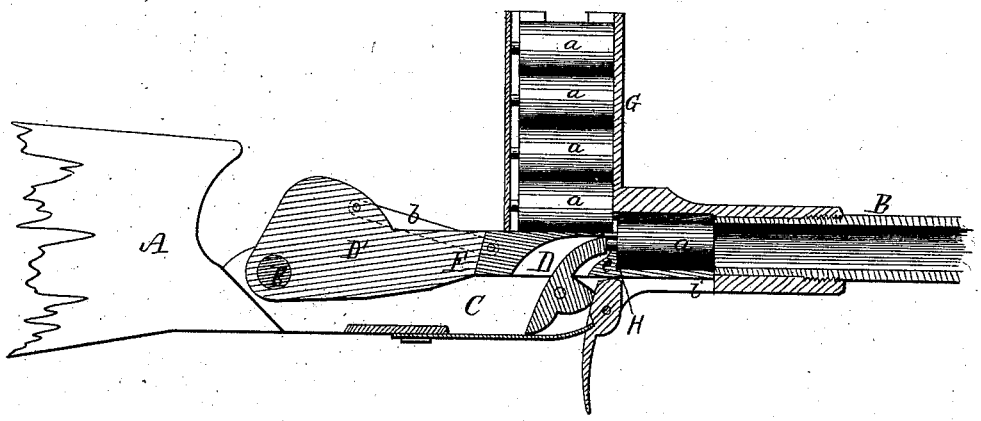


Fig. 3.

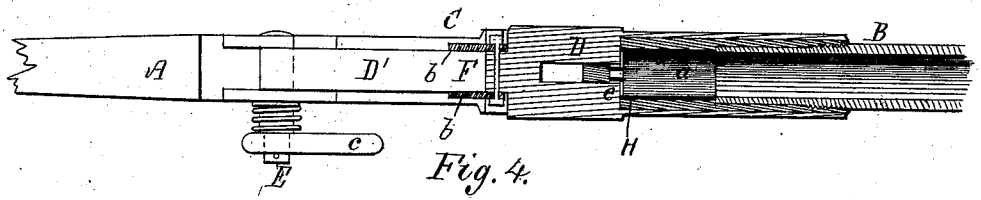
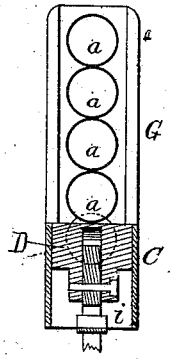


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

ENOCH R. QUIMBY, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **195,690**, dated September 25, 1877; application filed March 21, 1877.

To all whom it may concern:

Be it known that I, ENOCH R. QUIMBY, of Lynn, Essex county, Massachusetts, have invented new and useful Improvements in Repeating Breech-Loading Fire-Arms, of which the following is a specification:

This invention is applicable to small arms or light military field-guns; and consists in the general construction and arrangement of the various parts, as hereinafter described.

The drawings accompanying this specification represent, in Figure 1, a side elevation, in Fig. 2 a longitudinal and vertical section, in Fig. 3 a horizontal elevation, and in Fig. 4 a vertical cross-section, of a fire-arm, or a portion thereof, containing my improvements.

In the above-named drawings, A represents the stock, and B the barrel, of a magazine or repeating fire-arm, while the intermediate frame C constitutes the receiver of the movable breech-block, which is shown at D, as well as the locking-cam of such block, the latter being shown at D′ as pivoted at its rear end to the rear portion of said receiver by a horizontal pin or bolt, E, in such manner that its forward part F is susceptible of rocking motions in the arc of a circle of which the pivot E is the center. At the rear of and above the barrel, and in advance of the breech-block D, I erect upon the frame or receiver C a chute or receptacle, G, which serves as a magazine for the loaded cartridges, a number of which are shown at *a a*, &c., in the drawings as disposed horizontally within the chute or guide G, and parallel with the bore of the barrel and the breech-block.

The movable breech slides to and fro beneath the receiver, and constitutes a shifting bottom to the latter, while its front portion is cut away or recessed, as shown at H, to receive a cartridge, and present the latter in axial alignment with the bore of the barrel, the locking-cam being connected with the movable breech by connecting-links *b b*, or their equivalents, under such an arrangement that turning the said cam upward upon its pivot results in first raising it from behind the breech and unlocking the latter and then retracting such breech to an extent equal to or slightly greater than the length of a cartridge, in order that a cartridge from the magazine above may fall into the chamber H, and, as the breech is pushed into firing position, be brought in alignment with the bore of the barrel, and presented closely up to the rear end of the latter, or to enter it a short distance, if found desirable.

One end of the pivot is provided with a suitable handle, *c*, by which the locking-cam may be easily operated, and a suitable lock is to be placed in the lower part of the receiver to explode the cap or fulminate of the cartridge.

The operation of the above-described arm is as follows: It being assumed that the magazine G is filled with a number of loaded cartridges, as shown at *d d*, &c., in Figs. 2 and 4 of the drawings, and the breech-block and its locking-cam in firing position, as shown also in said Figs. 2 and 4, the higher portion *e* of the said breech-block constituting, as before stated, the bottom or rear end of the magazine G, the operator forces the handle *c* backward, and thereby first raises the locking-cam and releases the breech-block, and then withdraws the latter a distance equal to or greater than the extreme length of one of the cartridges *d*, which brings the chamber H into coincidence with the chute or magazine G, and the lowermost cartridge drops into such chamber. The breech-block is now, by a reverse movement of the handle *c*, forced forward to its extreme position, and its locking-cam lowered behind it, when the arm is ready to be discharged, it being observed that so long as the cartridge is in the chamber H it retains or holds back those in the magazine above it, and when such cartridge passes beyond those above, the rear and higher portion *e* of the block serves the same purpose, it being understood, as will be apparent by consulting the drawings, that the said portion *e* of the breech-block also constitutes an abutment to resist the force or recoil of the explosion of the cartridge.

It will be observed that the top of the abutment *e* is somewhat lower than the top of the cartridge in the chamber H. This is in order that, as the breech-block is withdrawn after the explosion of such cartridge, the rear end or head of the empty shell shall abut against the front end or bullet of the lowermost car-

tridge in the magazine, and be estopped from sliding backward with the said breech-block.

The cartridge in the chamber H having been exploded, the operator again turns the handle *c* backward, as at first, the result being that the breech-block D is withdrawn to its fullest extent, and the empty shell drops from the receiver through an aperture, *i*, in the bottom of the latter, or into a receptacle placed below the barrel, or otherwise situated to receive it, while the lowermost cartridge in the magazine G drops into the chamber H, as at first.

It will thus be seen that continuous movements of the breech-block result in continuous dropping and advances of a cartridge, the expulsion of the empty shell after explosion, and the supply of a freshly-loaded one to take the place of the latter.

In the present instance the combination of parts which constitute my invention is embodied in the form of a small arm; but its most important adaptation is to light field-guns, and in this case a gang of ten or more will be combined together, and mounted upon one carriage in such manner that all may be discharged at once, if desirable.

I claim—

The general combination and arrangement of parts, substantially as herein shown and described, consisting of the receiver C, magazine G, sliding breech-block D, and backing abutment D′, essentially as and for purposes stated.

ENOCH R. QUIMBY.

Witnesses:

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