G. F. EVANS.

Magazine Fire-Arm.

No. 207,350. Patented Aug. 27, 1878.

Fig. 1.

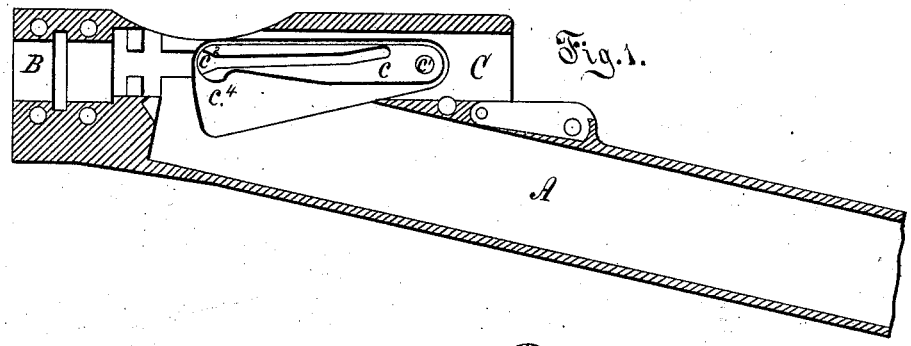


Fig. 2.

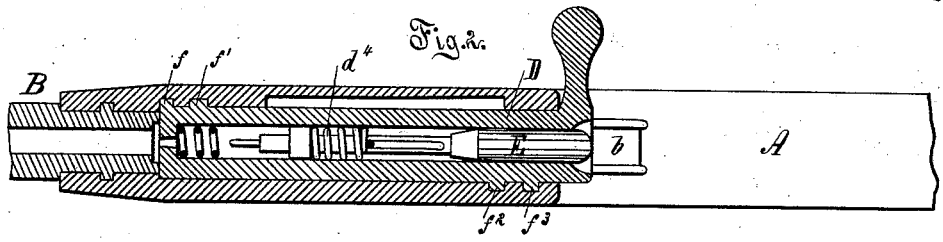


Fig. 3.

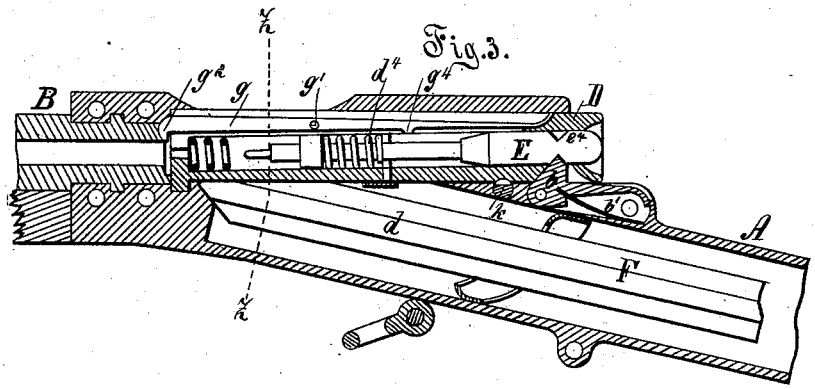


Fig. 4.

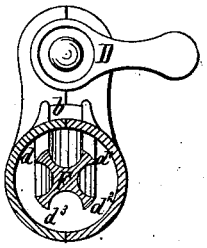


Fig. 5.

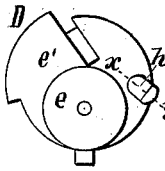


Fig. 6.

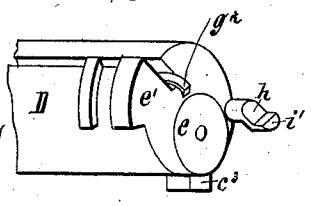


Fig. 7.

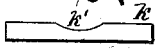


Fig. 8.

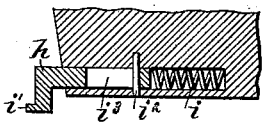
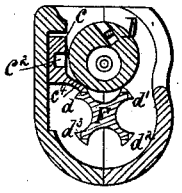


Fig. 9.



Witnesses:

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Inventor:

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By A. P. Huck

his Atty.

UNITED STATES PATENT OFFICE.

GEORGE F. EVANS, OF POLAND, MAINE.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **207,350**, dated August 27, 1878; application filed May 13, 1878.

To all whom it may concern:

Be it known that I, GEORGE F. EVANS, of Poland, county of Androscoggin, State of Maine, am the inventor of Improvements in Magazine-Guns, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical central section of a portion of the gun-stock and the rear end or breech of the barrel. Fig. 2 is a horizontal section of the same, showing the breech-bolt and firing-pin. Fig. 3 is a vertical sectional view, similar, so far as the stock and barrel-breech are concerned, to Fig. 1, showing the working parts of the gun contained in the stock. Fig. 4 is a view of the rear end of the breech-bolt and a cross-section of the magazine. Fig. 5 is an enlarged view of the face of the forward end of the breech-bolt. Fig. 6 is a perspective view of the forward end of the breech-bolt. Fig. 7 is a side view of a notched bolt, the office of which is explained hereinafter. Fig. 8 is a section of a detached piece of the breech-bolt cut on line *x y*, Fig. 5, showing the device for ejecting the cartridge; and Fig. 9 is a cross-section cut through on line *z z*, Fig. 3.

My invention relates to a magazine needle-gun; and consists in the devices and combinations of devices hereinafter described and claimed, whereby the sliding breech-bolt containing the firing pin or needle is made to operate the fluted shaft carrying the cartridges in the magazine; also, those whereby the operation of the said shaft may be prevented while the said bolt is moved, thereby converting at pleasure the arm into a hand breech-loader; also, those whereby the danger of firing the cartridge by the closing of the breech is obviated; also, those whereby the cartridge-shell is withdrawn from the barrel and ejected.

A is the stock, within which is the magazine. B is the barrel. C is a chamber, within which slides the horizontally-sliding breech-bolt D. E is the firing-pin, operated by spring *d*. *b* is the trigger, pivoted on the gun-stock, on the upper side thereof, and pressed into engagement with a notch, c^4, in the firing-pin by spring *b'*, as seen in Fig. 3.

The magazine, including the fluted cylinder and the spiral guide, is similar to that described and claimed in Letters Patent No. 84,685, issued to Warren R. Evans, December 8, 1868.

c is a lever, pivoted at c^1, whereby the fluted cylinder F is rotated. It is provided with a groove, c^2, in which a lug or projection, c^3, on the bolt D works. When the said bolt is drawn back the forward end of said lever is thrown down by the action of the projection c^3 in the groove c^2. The said lever on the forward end has a lip, c^4, which engages the radial ribs d d^1 d^2 d^3 of the fluted cylinder F, so as to rotate the cylinder one quarter-turn at each operation of closing and opening the breech of the gun by sliding the bolt D backward and forward. The axis of the bolt D is not coincident with that of the barrel B, being somewhat above it, and the circular plane portion of the face of the forward end of the bolt D, which covers and closes the breech of the barrel, and which is designated by the letter *e*, Fig. 6, is not in the center of said face, but on one side of same, as shown in said figure. The remaining portion, e^1, of said face is beveled back, as shown. The said bolt is so arranged with reference to the barrel that when the bolt is slid forward in the act of closing the gun the face *e* does not strike the cartridge-head fully, but only on one side of the same. Then, by rotating the said bolt, in the act of locking the same in place, the said face *e* swings around over the breech of the barrel, closing it. By this means the danger of exploding the cartridge by the blt D strikoing against the cartridge in closing the gun is obviated.

f f^1 f^2 f^3 are segmental ribs or lugs on the bolt D, which take into corresponding grooves in the housing, whereby the bolt is locked in position for closing the gun, as seen in Fig. 2.

g is the extractor, being a lever pivoted at g^1 in a longitudinal slot in the bolt D. At the forward end is a hook, g^2, which engages the head of the cartridge, as seen in Fig. 3, to extract the same when the firing-pin E is thrown forward to fire the cartridge. The enlarged rear portion of said pin passes under the projection g^4 on said extractor, and locks the hook g^2 onto the cartridge. *h* is an ejector, the office of which is to throw the exploded shell out of the gun when it has been drawn out of the barrel by the extractor. It is a small shaft

working in a chamber or recess in the breech-block, pressed outward by a spring, *i*, and having an offset or arm, i^1, at its forward end to fit over the flange of the cartridge-head. Its motion is limited by a pin, i^2, working in a slot i^3.

The action of the extractor and ejector is as follows: When the bolt D is pushed forward to close the gun the extractor-hook slides over and engages the cartridge-head, and the ejector *h* is forced back against the spring *i*. Then, when the bolt D is slid back in the act of opening the gun, the cartridge-shell is drawn back with it, the ejector meantime pressing against the cartridge-head at its lower edge, tending to push such lower edge away from the face of the bolt and tip upward the forward end of the cartridge-shell, but which cannot, of course, be so tipped upward so long as the shell is in the barrel. As soon, however, as the shell is drawn clear of the barrel, the ejector flies out and throws the cartridge-shell clear from the gun.

k is a pin, which is inserted in a hole made transversely through the stock just below the chamber C, so that about one-half or one-third of the body of the said pin projects into the said chamber. It has, however, a curved notch, *k'*, on its upper side, so arranged that when the pin is in position to bring this notch central in the chamber the chamber is left clear for the bolt D to slide in it unobstructed by the said pin; but when the pin is shifted so as to bring the cylindrical part of its shaft into the chamber, the bolt D is stopped in its outward movement by a shoulder on the bolt, near its forward end, encountering the pin. The bolt is thus stopped before it reaches the point where the lever *c* is brought into action, thus preventing the rotating of the fluted cylinder F and the delivery of cartridges from the magazine.

By these means the gun may be loaded by hand and discharged as an ordinary hand-loading breech-loader.

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

1. The combination, in a breech-loading gun, of the magazine described, the barrel, and the sliding breech-bolt, the fluted cylinder F being located with its axis below the axis of the barrel, so that the said bolt in sliding forward toward the breech of the barrel passes through the upper groove or flute of the said cylinder, thereby carrying a cartridge from such upper groove or flute into the barrel in the act of loading.

2. In a breech-loading gun, the combination of a longitudinally-sliding breech-bolt, a cartridge-magazine, and a lever, *c*, whereby the fluted cylinder F is rotated, as described.

3. In a breech-loading gun, a longitudinally-sliding breech-bolt containing the firing-pin, the face of its forward end being formed with beveled or incline face e^1 and plane face *e*, eccentric to the axis of the bolt, combined with the barrel, as and for the purpose described.

4. The combination, in a breech-loading magazine-gun, of the breech-bolt D, the cylinder F, the lever *c*, and the shaft or pin *k*, as and for the purpose described.

Witness my hand this 8th day of May, 1878.

GEORGE F. EVANS.

Witnesses:

ANSEL S. DYER,

FRANK A. BOOTHBY.