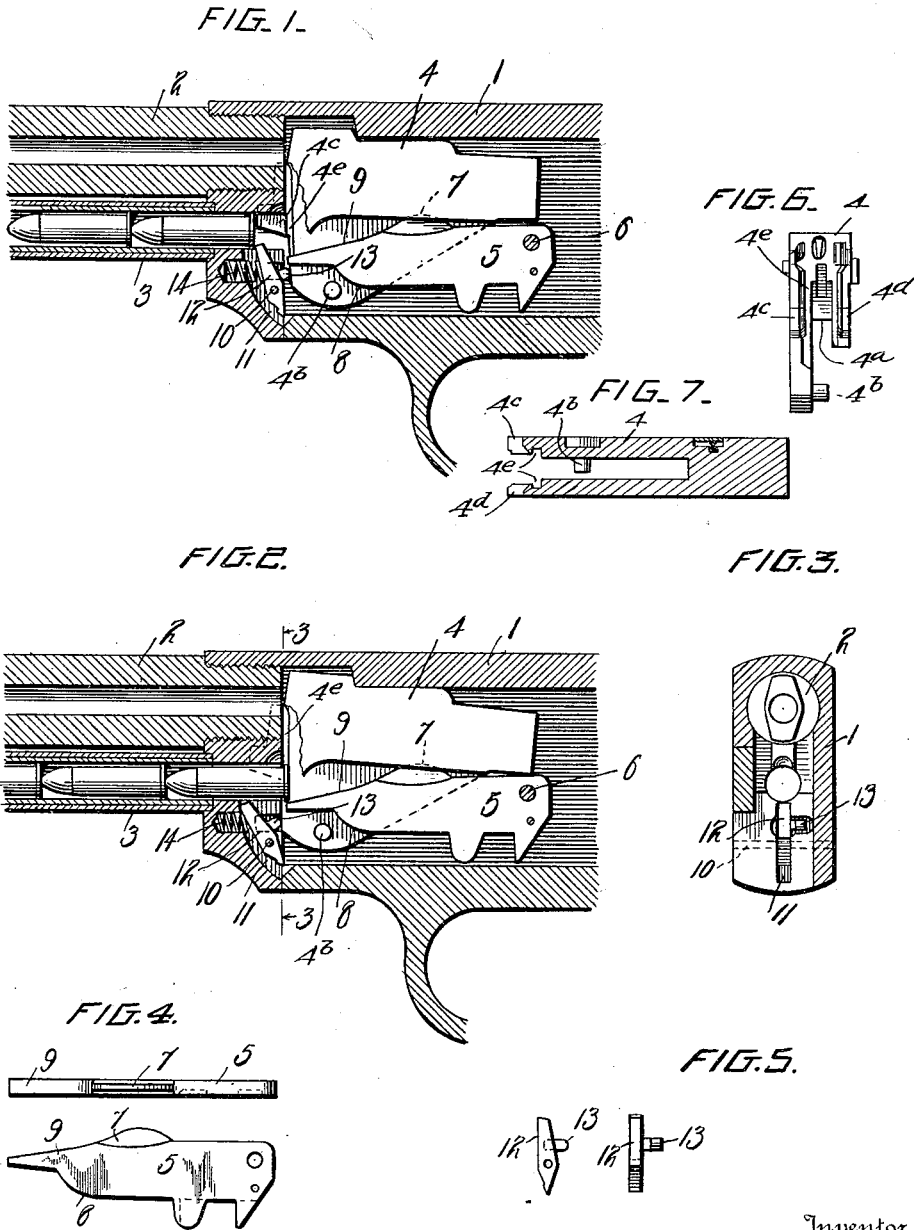


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MAGAZINE RIFLE.
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1,146,568.

Patented July 13, 1915.



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UNITED STATES PATENT OFFICE.

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MAGAZINE-RIFLE.

1,146,568.

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To all whom it may concern:

Be it known that I, GEORGE A. HORNE, citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Magazine-Rifles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in tubular magazine rifles of the type set forth in United States Patent to B. H. Savage No. 1,027,773 of May 28, 1912, and more particularly to improvements in the cartridge cut-off mechanism for the magazine and carrier for the shells.

This improvement has been devised to overcome certain defects in rifles heretofore in use, and to provide a magazine rifle which will operate with the highest degree of efficiency and rapidity.

My invention is embodied in the construction hereinafter described and claimed and illustrated in the accompanying drawings.

In the drawings, Figure 1 is a longitudinal sectional view of a portion of a fire arm embodying my invention, the plane of section being taken through the receiver and barrel, the parts and elements being shown in the position assumed immediately prior to the explosion of the cartridge. Fig. 2 is a similar view showing the mechanism in firing position. Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2. Fig. 4 is a top plan view and side view respectively of the cartridge carrier. Fig. 5 is a side and rear view respectively of the cartridge cut-off. Fig. 6 is a front view of the breech bolt. Fig. 7 is a longitudinal horizontal sectional view of said breech bolt.

Referring more particularly to the drawings, 1 is the receiver, which is connected to the barrel 2 and magazine 3 in any well known manner.

4 is the breech bolt which is mounted for longitudinal movement in the receiver or breech frame and is operated by an action bar (not shown) from the usual slide handle or grip.

A carrier 5 is pivotally mounted on the pin 6 to the side of the breech frame and is provided with cam surfaces 7 and 8, which are adapted to be acted upon by the under

slotted surface 4^a and the horizontally projecting stud 4^b of the breech bolt 4 when the same is reciprocated to operate the carrier. The upper surface of the front end of the carrier has an inclined face 9 which inclines rearwardly upwardly a sufficient distance to accommodate or receive, either long or short shells from the magazine without jamming the shell, when the carrier is raised. As will be seen from the drawings, the front end of the breech bolt 4 is vertically slotted to produce lateral parallel extensions 4^c and 4^d providing a passage for the vertically swinging forward end of the cartridge carrier 5. The spaced extensions 4^c and 4^d engage the rearmost cartridge in the magazine, when the breech bolt is moved forward and force the cartridge column forward against the action of the ordinary follower spring of the magazine 3, until the forward end of said breech bolt rises sufficiently to allow the extensions 4^c and 4^d to slip up over the rearmost cartridge in the magazine when said cartridge column is moved farther forward by the cut-off, hereinafter described. The foregoing with the exception of the front end of the carrier 5 is descriptive of the magazine gun set forth in the before mentioned Savage patent.

In addition to changing the shape of the front end of the carrier, I have incorporated in the rifle an improved cartridge cut-off which will now be described.

Pivotally mounted on a pin 10, in a recess 11, in the front portion of the receiver, adjacent the magazine, is a cartridge cut-off stop 12 which is provided with a rearwardly extending lug 13, which normally extends into the open portion of the breech frame. A spring 14 is also mounted in the recess 11 and bears against the upper end of the cartridge stop to force the same rearwardly. The upper end of the cartridge stop projects into the magazine opening and normally engages the back end of the rearmost cartridge to prevent the same from entering the receiver.

The operation of my improved cut-off is as follows: When the breech bolt 4 is brought forward by the action rod (not shown) the extensions 4^c and 4^d of said bolt engage the rearmost cartridge in the magazine and force the column of cartridges forward against the pressure of the usual follower

spring (not shown.) As the bolt moves farther forward the lower portion of its front end engages the lug 13 and as said lug imparts movement to the stop 12, the stop engages the back end of the rearmost cartridge and projects the column forward slightly in advance of the breech bolt. When the cartridge stop has traveled to its extreme forward position it releases the rear cartridge and allows the magazine follower to move the cartridge column and throw the rearmost shell back until its head contacts with the forward face of the bolt, at the lower end of a T-slot 4^e which is provided in the forward end of said breech bolt and has lipped edges forming channels for receiving the head of the cartridge at opposite sides thereof; and when the breech bolt is in its forward elevated and locked position, the lower opening of the vertical T-slot 4^e is adapted to register above the opening in the receiver through which the cartridges are fed rearwardly to the receiver from the magazine. Upon the rearward and descending movement of the breech bolt, the head of the cartridge enters the T-slot rearwardly of the lipped edges thereof, and is thus gripped by the breech bolt for positive withdrawal from the magazine tube. As the breech bolt moves farther rearwardly the cartridge engaged by the bolt is elevated in the T-slot 4^e by means of the inclined face 9 of the carrier 5.

The particular advantage in having the cartridge stop move the cartridges is that the magazine spring follower will move the cartridges with greater force against the end of the breech bolt owing to the increased pressure being placed on the follower spring and the clearance between the forward end of the bolt and the rearmost cartridge, thereby preventing the cartridges from binding and sticking in the magazine.

It will be understood that as the bolt moves rearwardly to elevate the cartridge, said bolt will disengage the lug 13 and the spring 14 will force the stop 12 into position to stop the next cartridge of the column. It will also be obvious from the foregoing that my novel magazine rifle is reliable and accurate in operation and at the same time my improved cartridge cut-off is simple and compact in construction, and is well adapted to withstand the usage to which magazine rifles are ordinarily subjected, and that the cut-off and carrier may be operated successfully with either long or short shells, or both.

The rifle herein illustrated and described constitutes the preferred embodiment of my improved cut-off and carrier, but it is obvi-

ous that in practice such changes or modifications may be made as fairly fall within the scope of my invention as defined in the claims appended. I would also have it understood that the term "rifle" as herein employed is intended to embrace a gun, pistol or any other fire arm in which my improvements may be used to advantage.

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

1. A magazine rifle comprising a barrel, a magazine, a breech frame fixed to the barrel and magazine, a breech bolt and cartridge carrier in the frame, and a cartridge cut-off mounted in the breech frame adjacent the magazine, said bolt being adapted to force the cartridge column slightly forward until said bolt engages said cut-off, and said cut-off being adapted to project the cartridge column farther forward to the limit of its forward movement, when said cut-off will pass the rearmost cartridge and allow the column to move rearwardly.

2. A magazine rifle comprising a barrel, a magazine, a breech frame fixed to the barrel and magazine, a breech bolt and cartridge carrier movable in the frame, and a cartridge cut-off mounted in said breech frame and having an extension which projects into the path of the breech block, said bolt being adapted to force the cartridge column forward until said bolt engages said cut-off extension when said cut-off will project said cartridge column farther forward to the limit of its forward movement, when said cut-off will pass the rearmost cartridge and allow the column to move rearwardly.

3. A magazine rifle comprising a barrel, a magazine, a breech frame fixed to the barrel and magazine, a breech bolt and cartridge carrier movable in the frame, a cartridge cut-off mounted in said breech frame adjacent said magazine, an extension provided upon the rear side of said cut-off and normally projecting into the path of the breech bolt, and a spring for forcing said cut-off rearwardly, said bolt being adapted to force the cartridge column slightly forward until said bolt engages said cut-off extension, and said cut-off being adapted to project the cartridge column farther forward to the limit of its forward movement, when said cut-off will pass the rearmost cartridge and allow the column to move rearwardly.

In testimony whereof I affix my signature, in the presence of two witnesses.

GEORGE A. HORNE.

Witnesses:

HOWARD D. LYMAN,
J. K. WILLIAMS.