



# UNITED STATES PATENT OFFICE.

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## MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 249,406, dated November 8, 1881.

Application filed July 30, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, C. WM. SCHARF, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Magazine Fire-Arms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a sectional side view; Fig. 2, a detached view.

This invention relates to an improvement in that class of magazine fire-arms in which the breech-piece is arranged to move longitudinally back and forth toward and from the rear open end of the barrel, caused so to move by means of a cam-like lever hung directly to the breech-piece, and which extends down through the receiver to form the trigger-guard below, the object of the invention being, principally, to withdraw the firing-pin in the rear movement of the breech-piece, and so that when the breech-piece is returned the firing-pin will not be brought in forcible contact with the primer until struck by the hammer; also, to provide the breech-piece with an ejector which will forcibly eject the exploded shell after it has been withdrawn from the chamber of the barrel, or the cartridge if it be not exploded; and the invention consists in the construction and combination of parts, as hereinafter described, and particularly recited in the claims.

A represents the receiver, to the forward end of which the barrel B is attached; C, the breech-piece, arranged to move in suitable guides by means of a lever, D, hung to the breech-piece upon a pivot, *a*, the said lever extending backward, so as to take a bearing at the rear end of the opening in the receiver to resist recoil, thence extending downward through the receiver to form the trigger-guard E. The under or forward side of the lever within the receiver is curved, as shown, so that in turning down the lever that point connected with the breech-piece at the pivot *a* moves backward in a line substantially the axial line of the barrel, and so as to draw with it the breech-piece in a well-known manner, known as the "Burgess arm."

F is the carrier, hung upon a pivot, *b*, the forward end in its normal condition standing in line with the opening G from the magazine, so as at the proper time to receive a cartridge therefrom, to be transferred to a position in line with the barrel. The spring *d* bears against a projection, *e*, below the pivot of the carrier, the spring provided with notches, into which the projection *e* will fall as it approaches its up or down position, so as to be held in either of its two positions until power is applied, as hereinafter described, to turn the carrier from one position to the other. The breech-piece is drawn back by turning the lever from the position seen in Fig. 1 to the position seen in broken lines same figure. As it approaches the last part of its rear movement, a stud *f*, on the side of the lever D, near the pivot *a*, strikes an arm, *h*, extending upward from the carrier in the rear of the pivot, which depresses that end of the receiver and raises the forward end into line with the barrel, so as to present the cartridges received from the magazine forward of the breech-piece. The carrier will remain in this position until the breech-piece is moved so far forward as to have entered the cartridge into its chamber, and as the breech-piece approaches the barrel, and the locking part of the lever comes into its horizontal position, a stud, *i*, on the side of the lever strikes the arm *h* of the carrier on the rear side and turns the carrier back to its place of rest below the breech-piece. The spring *d* and the notches at its bearing-points hold the carrier in either of its two positions.

*m* is the firing-pin proper; but to communicate the force of the hammer to that pin an intermediate pin, *n*, is arranged through the supporting part of the lever, and which is but a continuation of the firing-pin, extended so far to the rear in the lever D that the nose of the hammer H will strike the rear end when thrown down, and thereby throw it forward against the firing-pin proper, *m*, to communicate the blow of the hammer to the primer. In Fig. 2 the firing-pin and its withdrawing mechanism is shown in horizontal section.

*r* is a bell-crank lever, hung in a horizontal position in the breech-piece on a pivot, *s*, one arm in connection with the firing-pin, the other

extending through the side of the breech-piece into a cavity, *t*, in the side of the receiver. This cavity extends to the rear only sufficiently far to permit the firing-pin to be thrown forward, as seen in Fig. 2; but so soon as the breech-piece commences its rear movement the arm of the lever extending outside of the breech-piece strikes the rear end of the recess *t*, which turns that arm inward and the other arm rearward, giving to the firing-pin the retreating movement to the same extent as seen in broken lines, Fig. 2.

The ejector consists of a bolt, *u*, arranged in a recess in the breech-piece beneath the firing-pin for longitudinal movement, with a spring, *w*, at the rear, the tendency of which is to force the said bolt forward, but which may be compressed, so that when the breech-piece is closed the ejector *u* will strike the head of the cartridge and be forced rearward against its spring flush with the face of the breech-piece.

Below the bolt *u* is a lever hung to a pivot, *u'*, one arm of which, *u<sup>2</sup>*, extends rearward, the other arm, *u<sup>3</sup>*, forward, terminating in a beveled-nosed hook to engage with a corresponding notch, *u<sup>4</sup>*, on the ejector when the ejector is pressed back, as seen in Fig. 1. A spring, *u<sup>5</sup>*, in rear of the pivot operates upon the arm *u<sup>2</sup>* to cause the engagement of the arm *u<sup>3</sup>* with the hook-like latch and hold the bolt in its drawn-back position until the breech-piece approaches its extreme rear movement; then a shoulder, *u<sup>6</sup>*, on the lever *d*, up comes against the under side of the arm *u<sup>2</sup>*, forcing that arm upward and the hooked end *u<sup>3</sup>* downward to release the bolt, as seen in broken lines, Fig. 1. This engagement of the shoulder *u<sup>6</sup>* with the ejector-lever occurs after the shell or cartridge, as the case may be, has been withdrawn from the barrel by the extractor-hook *x*, and when the ejector is so released its spring *w* reacts, forcing the ejector *u* hard and with a quick movement forward, which turns the mouth of the shell upward and gives to the shell a force which will eject it from the receiver.

I do not wish to be understood as broadly

claiming operating the carrier in a magazine-arm by means of the lever, or a longitudinally-movable breech-piece having a firing-pin retracted by the rear movement of the breech-piece. Neither do I wish to be understood as broadly claiming a spring-ejector.

I am aware that cam-like devices have been arranged in a breech-piece to act in connection with the firing-pin to withdraw the pin as the breech-piece commences its rear movement, and therefore do not broadly claim such devices.

I am also aware of the patent of Tiesing and Kennedy, No. 218,462, which shows a spring-catch arranged to engage and release the ejector, and claim nothing shown in said patent; but

What I do claim is—

1. In a fire-arm having a longitudinally-movable breech-piece, the combination, with said breech-piece, of the firing-pin *m* and the bell-crank lever *r*, pivoted in said breech-piece, one arm engaged with the firing-pin, the other extended outward and working in a recess, *t*, in the side of the receiver, so that the arm in said recess *t* will strike the rear end of said recess as the breech-piece moves rearward and cause the said lever to turn and withdraw the firing-pin, substantially as and for the purpose described.

2. In a fire-arm having a longitudinally-movable breech-piece, the combination, with said breech-piece, of the spring-ejector bolt *u*, the lever hung upon a pivot below said bolt, the forward arm hook-shaped to engage said bolt and hold it in its rear or set position, the rear arm extending rearward, and a shoulder against which the rear arm of the lever will strike as the breech-piece approaches its extreme rear movement, and thereby release the ejector, substantially as described.

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Witnesses:

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LILLIAN D. ROGERS.