W. W. WETMORE & T. G. BENNETT.

MAGAZINE FIRE ARMS.

No. 190,264. Patented May 1, 1877.

Fig. 1.

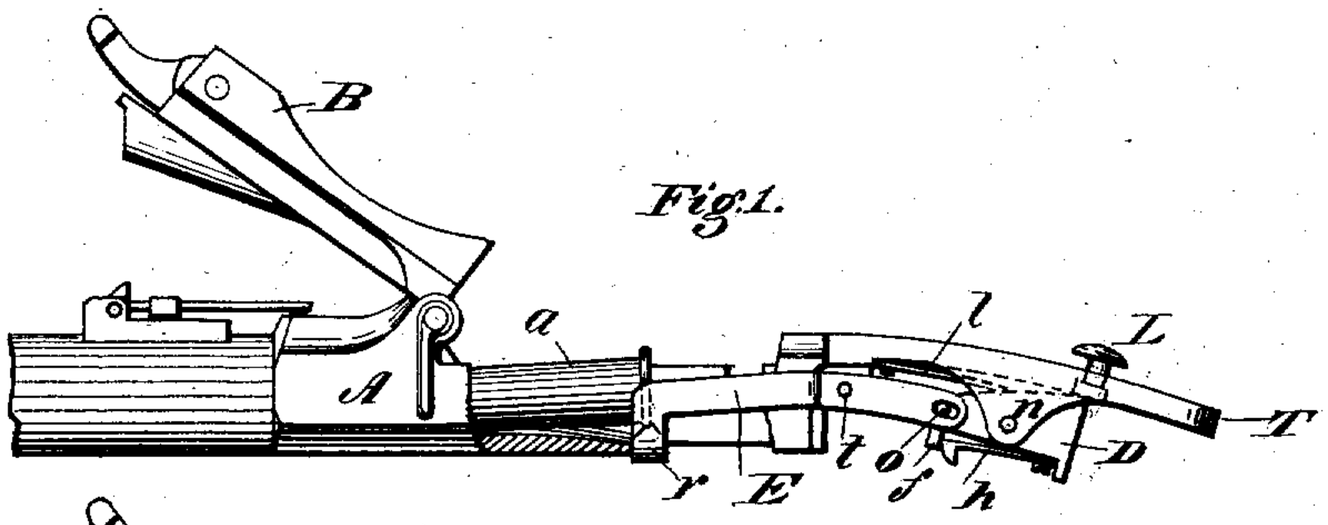


Fig. 2.

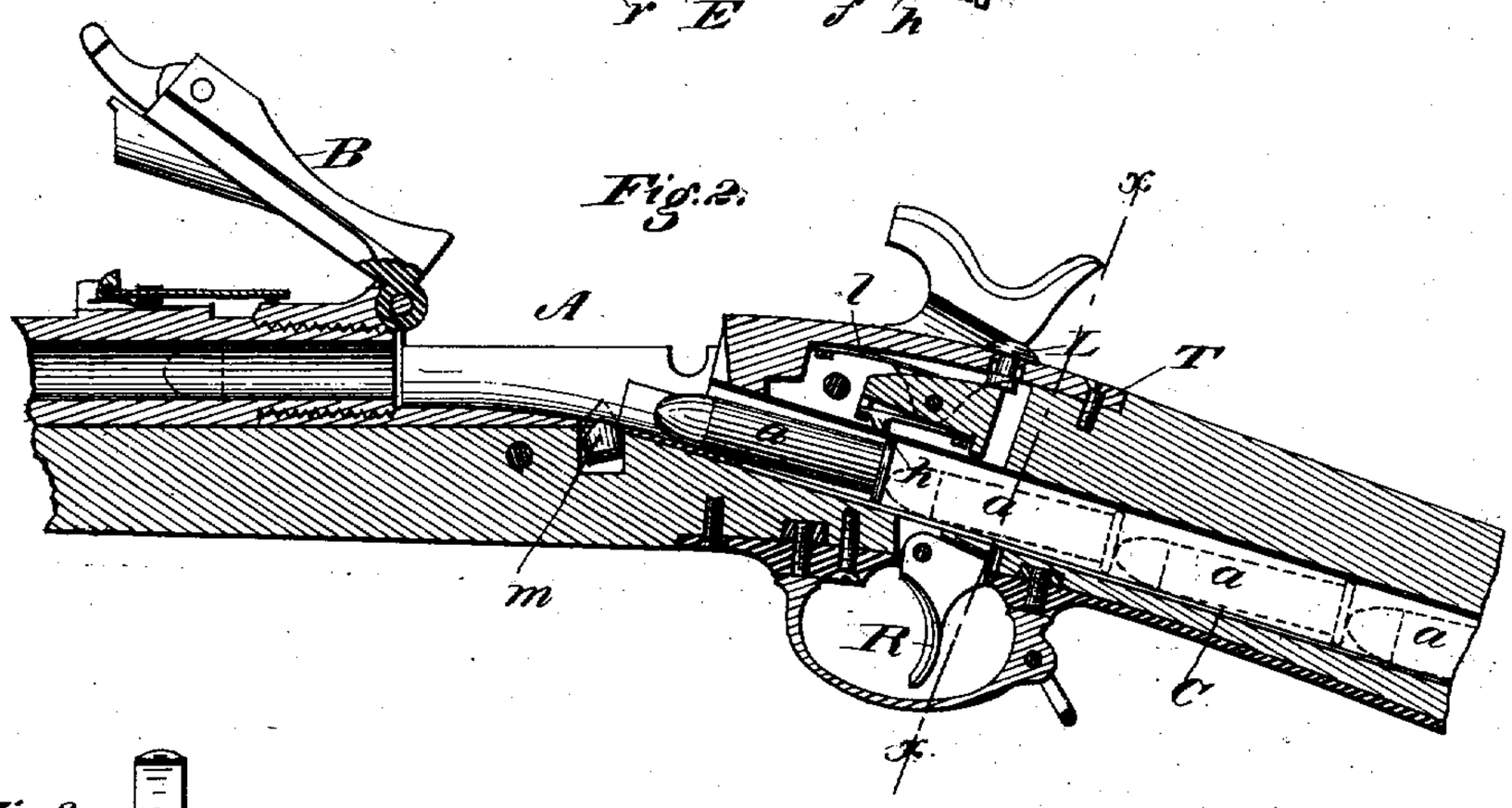


Fig. 3.

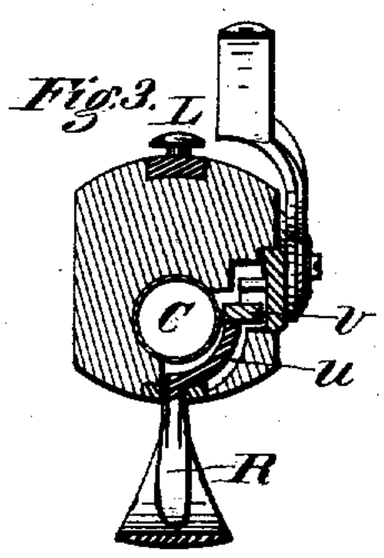


Fig. 4.

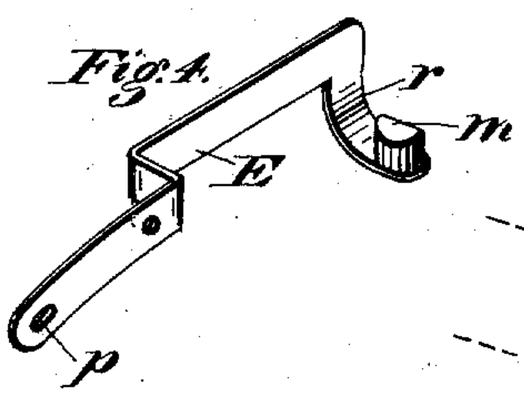
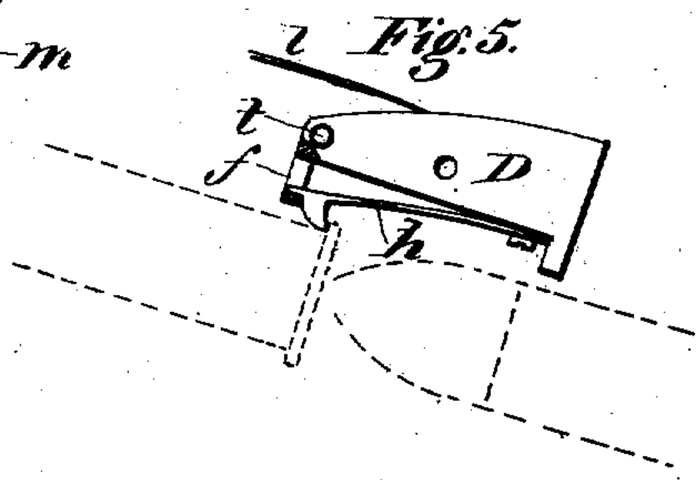


Fig. 5.



Witnesses:

Donn P. Twitchell

Will H. Dodge.

Inventor:

W. W. Wetmore &

T. G. Bennett

by Dodgeton.

Attys.

UNITED STATES PATENT OFFICE

WILLIAM W. WETMORE AND THOMAS G. BENNETT, OF NEW HAVEN, CONN.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **190,264**, dated May 1, 1877; applicaiion filed February 24, 1877.

To all whom it may concern:

Be it known that we, WM. W. WETMORE and THOMAS G. BENNETT, of New Haven, in the county of New Haven, and State of Connecticut, have invented certain Improvements in Altering Breech-Loaders into Magazine-Guns, of which the following is a specification:

Our invention consists in a plan of converting or altering breech-loading guns into repeating or magazine guns, the plan shown being more especially designed to apply to the gun made for the United States Government, though it may be applied to other guns of the same general character, and which plan is also applicable to the manufacture of new repeating-guns, as well as to the alteration of those already made.

Figure 1 is a side elevation, partly in section, of the breech portion of a Government or Springfield gun, with our improvements applied thereto. Fig. 2 is a longitudinal vertical section of the same on a larger scale. Fig. 3 is a cross-section on the line *x x* of Fig. 2, and Figs. 4 and 5 are views of portions detached.

In the drawings, A represents the receiver or breech-frame, and B the breech-block of the arm manufactured for use by the United States Government, and generally known as the Springfield rifled musket.

This arm, as ordinarily constructed, is a single breech-loader—that is, it is so made that a fresh cartridge has to be supplied at each discharge. To convert it into a repeating or magazine gun, a hole is bored longitudinally through the stock from the butt to the chamber in the receiver, and a tube, C, inserted, as shown in Fig. 2, this tube being provided with a follower and a spiral spring, to shove the cartridge forward, as is usual in magazines for repeating fire-arms.

In the gun, as ordinarily constructed, the trigger R projects vertically upward in the center of the stock, the arm *v* of the sear of the lock projecting laterally inward far enough for the trigger to strike it, in order to operate the lock; but to make room for the magazine-tube C, which occupies a central position in the stock, as shown in Fig. 3, the arm *v* of the sear is cut off, and the upper part *u* of the trigger is curved, as represented in Fig. 3, by which it is thrown to one side, out of the way of the tube C, and brought into a position to come under the shortened arm *v* of the sear, when it will operate the lock the same as before being thus altered.

As shown in Fig. 3, the tube C extends through a hole made for it through the rear end of the receiver, its lower portion extending a short distance into the cavity of the receiver, which is recessed on its sides, so as to receive the end of the tube in such a manner as to make a smooth flush joint, to enable the cartridges to pass without being obstructed.

As a means of retaining the cartridges in the magazine, and releasing them at will, we provide a short lever, D, which has a loop or stirrup, *f*, at its front end, as shown in Fig. 5. To the under side of this lever is secured a spring-hook, *h*, the front projecting end or nose of which is inserted within the loop *f*, as shown in Fig. 5, by which means the spring or hook *h* is limited in its downward motion. This lever D is pivoted to a shoulder or projection on the under face of the tang T, as shown in Figs. 1 and 2, with the point of the hook *h* projecting through a slot in the tube C, so that it will engage with the flange of the cartridge as it comes under it, as shown in Fig. 5, thereby holding the cartridge from moving forward until released by the operator. In order to operate this lever D to release a cartridge, a small bolt or thumb-piece, L, is fitted in a hole made in the tang T, directly over the rear end of the lever, as shown in Figs. 1 and 2, so that by pressing on this thumb-piece L the lever D is made to turn on its pivot *n*, thereby elevating its front end, and with it the hook *h*, which thus releases the cartridge that is held by the hook, which is instantly pressed forward into the receiver by the magazine-spring. A spring, *l*, arranged to press on the upper face of the lever D, as shown in Figs. 1 and 2, causes the front end of the latter, with the hook *h*, to descend again as soon as the pressure is removed from the thumb-piece L, so that the hook arrests the next cartridge as it moves forward to the position shown in Fig. 1, and thus by simply pressing on the thumb-piece L, each of the

cartridges in the magazine can be successively fed forward from the magazine into the chamber of the barrel, the impulse given to them by the magazine-spring being sufficient to throw them forward far enough to cause them to enter the chamber of the barrel; or, in case they should not thus enter, they can be readily shoved in by the thumb.

It is obvious that this detent or hook *h* may be operated in other ways than by the lever and thumb-piece, as, for instance, by a slide working against the under inclined side of the spring, thereby raising it to release the cartridge, it being attached to a rigid instead of a movable portion; and, also, that it may be arranged to be operated automatically by the movement of the hammer or the breech-piece, if desired; and, hence, this spring-hook, with its stop, may be used with other styles of magazine-guns as well as in this.

In this class of guns in which the shell of the cartridge when drawn from the chamber after being fired is brought into the chamber or cavity of the receiver, it is necessary, in order to throw the shell out of the receiver, to have a projection or stud with its front face inclined, located in the bottom of the receiver-chamber, so that as the shell is thrown out of the barrel by the ejector it will come in contact with the inclined face of this stud, by which it is thrown upward, and thus made to pass out of the receiver. As it is obvious that such a projection or stud, if left fixed in the bottom of the receiver-chamber, would be in the way of the cartridges as the latter come forward from the magazine, we remove said stud or projection, and instead thereof provide a vibrating stud in its place. This stud *m* is shown in Fig. 4 attached to a curved arm, *r*, of a lever, E, this lever being so shaped as to reach from the front end of the lever D, to which it is connected by a slot, *p*, and pin *o*, as shown in Fig. 1, forward far enough to bring the stud *m* into the required position in the receiver A, as represented in Fig. 2, there being a hole made through the bottom of the receiver for the stud *m* to project through. This lever E is pivoted as shown at *t*, Fig. 1, to the receiver, with its front end extending alongside of the same in a suitable recess cut for it in the stock, its curved arm *r* passing around under the receiver to its center, thereby bringing the stud *m* to the proper position to permit it to vibrate vertically through the hole in the bottom of the receiver. By this arrangement it will be seen that when the stud L is pressed down so as to release a cartridge, the stud *m* is, by the same movement, drawn down out of the way of the cartridge, thus leaving a free and unobstructed pessage from the magazine forward to the chamber of the gun; but that as soon as the thumb is removed from the thumb-piece L, the stud *m* is thrown up into position in the receiver-chamber, where it serves to throw the shell upward as it is ejected from the chamber of the barrel, the same as the fixed stud does in the single breech-loader.

To load the magazine the cartridges are shoved in from the front, the spring-hook *h* having its front face beveled, as shown, so that as the cartridge comes in contact with it the spring is forced upward, allowing the cartridges to pass, and preventing them from being forced out by engaging with their flange, as shown in Fig. 5. It is obvious, however, that, if preferred, the magazine may be arranged to be supplied from its rear end the same as in the Spencer gun; but we prefer the plan of loading it from the front, as it saves pieces, and simplifies the construction or alteration.

By the plan above described it will be seen that the Springfield or any similar arm, can be readily altered or converted from a single breech-loader into a repeating or magazine arm at a very small expense, without at all impairing its efficiency as a single loader, the same barrel, stock, breech mechanism, and lock being used, with only the slight alterations above named.

It is obvious that this plan of alteration is applicable to any style of breech-loading gun in which the breech-piece is so arranged that when opened it will move out of the way of the cartridges coming forward from the magazine, and that it is therefore applicable to some if not all styles of bolt-guns, as well as others.

Having thus described our invention, what we claim is—

1. In combination with the magazine C, arranged as described, the lever D, with the spring-hook *h*, and thumb-piece L, constructed to operate substantially as and for the purpose set forth.

2. The lever E, provided with the stud *m*, and arranged to operate in connection with the lever D, substantially as described, whereby said stud is depressed as the cartridge moves forward from the magazine and is returned to position to throw out the empty shell as the latter is ejected from the chamber of the gun.

3. In combination with a magazine, C, the spring-hook *h*, with its stop or stirrup *f*, arranged to operate substantially as described.

4. In combination with the receiver A, having the magazine-opening through its rear end, a detent for holding and releasing the cartridges of the magazine, said detent being arranged to be operated substantially as described.

W. W. WETMORE.
T. G. BENNETT.

Witnesses:
DANIEL H. VEADER,
PHILIP G. SANFORD.