W. W. WETMORE.

Magazine Fire-Arm.

No. 219,886. Patented Sept. 23, 1879.

Fig. 1.

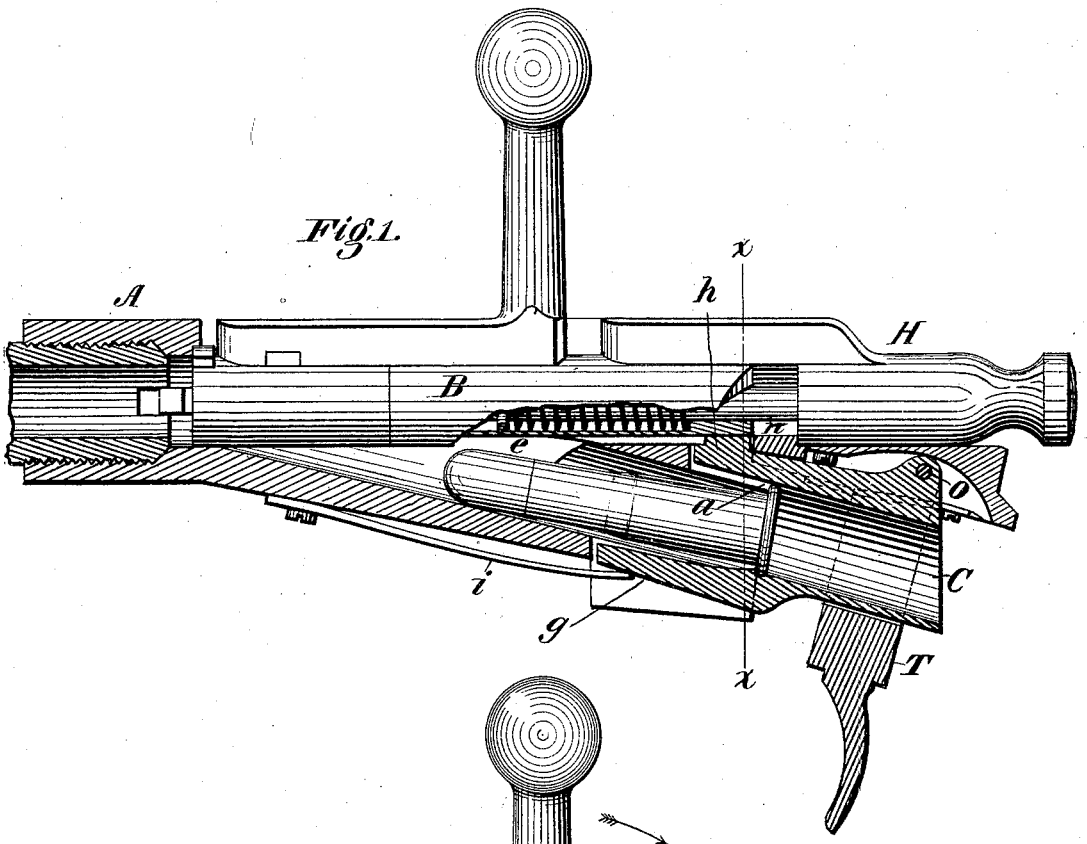


Fig. 3.

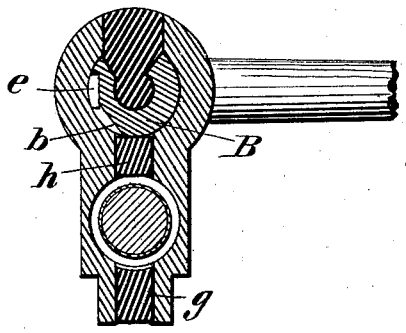


Fig. 2.

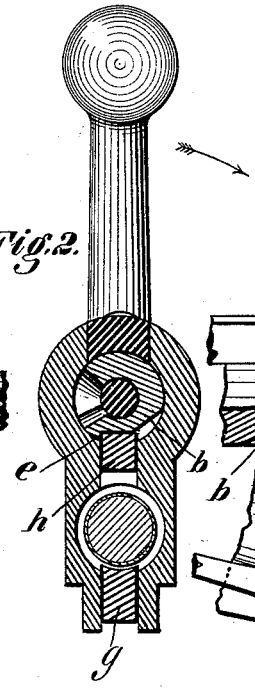
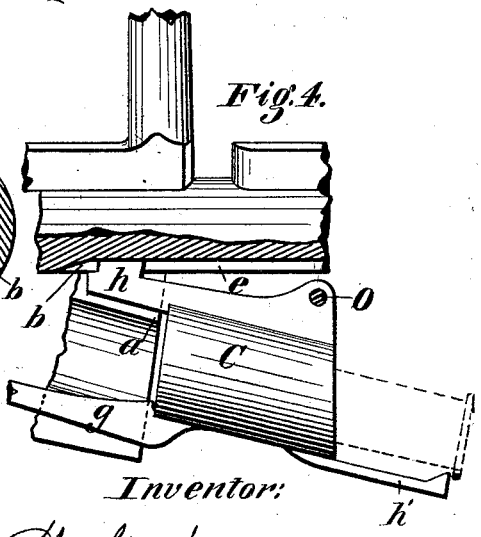


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM W. WETMORE, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **219,886**, dated September 23, 1879; application filed March 7, 1878.

To all whom it may concern:

Be it known that I, WILLIAM W. WETMORE, of New Haven, in the county of New Haven and State of Connecticut, have invented certain Improvements in Magazine Fire-Arms, of which the following is a specification.

This invention relates to that class of magazine-guns in which a reciprocating or longitudinally-sliding bolt is used as the breech-block; and the invention consists in so constructing and arranging the parts which control the escape of the cartridges from the magazine to the chamber as that they shall be operated or controlled entirely by the movements of the breech-bolt, as hereinafter more fully described.

Figure 1 is a longitudinal vertical section of the receiver and breech mechanism of a gun embodying my improvement. Fig. 2 is a transverse vertical section of the same on line *x x* of Fig. 1, showing the breech-bolt unlocked, and Fig. 3 is a similar view, showing the bolt locked. Fig. 4 represents a modification of the same plan or improvement.

The improvement or invention is designed to be applied to a gun in which the cartridges are fed direct from a magazine in the stock forward through the receiver or shoe into the chamber of the barrel without the use of what is usually denominated a "carrier."

Heretofore these guns have been so constructed that the releasing or escape of the cartridges from the magazine has been controlled by the movements of the trigger, of which the gun patented to B. B. Hotchkiss November 14, 1876, No. 184,285, is the principal example.

In constructing a gun on my plan I make the receiver A with an inclined passage in its lower rear portion, through which the cartridges are fed from the magazine, as shown in Fig. 1, and instead of the tubular trigger shown in the Hotchkiss gun before referred to, I extend the trigger T up along one side only, and pivot it as shown at O, Fig. 1, its nose *n* engaging with the hammer H, as shown. I then pivot on the same pin O a short tube, C, which constitutes the front section of the magazine-tube, as shown in Fig. 1, this tube C having at its lower side an arm, *g*, projecting forward, and under the front end of which a spring, *i*, bears, as shown. This tube C also has another arm, *h*, projecting forward from its upper side, as shown, and on this arm *h* there is a projection, which works up through an opening against the under face of the bolt B, this projection being directly in front of the nose *n* of the trigger, where it can be operated upon by the bolt, as hereinafter described.

In the under side of the bolt B there is cut a longitudinal groove, *e*, in which the nose *n* of the trigger and the projection on the arm *h* rest as the bolt is drawn back, this groove *e* stopping short of the front end, and terminating with a vertical shoulder or wall, which, as the bolt is drawn back, strikes against the front of the projection on the arm *h*, thus preventing the bolt from being drawn entirely out.

In order to make the bolt B operate the detent or tube C, I cut away the bolt on the right-hand side of the groove *e* on an incline, *b*, as shown in Fig. 2, so that as the handle is turned down to lock the bolt, as represented in Fig. 3, this incline *b* operates upon the projection of the arm *h*, thus depressing the front end of tube C, and bringing it even with the shoulder *a* at its front end, which depresses the rear end of the cartridge, and thereby releasing its flange from the shoulder *a*, against which it had caught, and which held it from being forced forward until thus released.

It will be seen that the cartridge is held up by the lower arm, *g*, in such a manner that its flange cannot pass the shoulder *a* until it is lowered and released by the forcing down of the arms *h* and *g*, the spring *i*, bearing against the under arm, *g*, serving to always hold the arms up, except when forced down by the incline or eccentric *b* on the bolt B.

From this construction it follows that when the bolt is closed and locked a cartridge is released from the magazine and allowed to pass forward into the receiver, where it is held by the bolt until the latter is withdrawn, when it is forced forward by the pressure of the cartridges behind it, and passes forward into the chamber of the barrel, or so far forward that as the bolt is shoved forward it will carry the cartridge along in front of the bolt, and thus force it into the chamber.

Instead of operating the detent or tube C by

the turning of the bolt, as above described, it may be done by the sliding of the bolt equally as well. If, for instance, the incline *b* be made at the front end of the groove *e*, as shown in Fig. 4, then it will be apparent that the detent will be operated by the sliding of the bolt, and that the cartridge will be released at the instant that the bolt B has reached its limit of backward movement. In that case, however, it will be necessary to apply a second stop in rear of the first, to operate upon and hold back the cartridges in rear of the one released, as otherwise they would all be forced out at once. As shown in Fig. 4, this rear or second stop may consist of a rearwardly-projecting arm, *h'*, working, like the front arm, through a slot in the lower wall of the magazine, and which, as the front arm, *h*, is depressed to release the front cartridge, will rise in front of the flange of the next one and hold it until the front arm is permitted to rise by shoving the bolt forward to close the breech.

By locating the incline *b* at the rear end of the groove *e*, instead of at the front, as last above described, the detent may be operated by the sliding of the bolt forward, in which case the rear or second stop will not be needed, the front stop, *a*, being sufficient, as in this case, the same as in that first described, the cartridge that is released can only move forward a short distance under the closed bolt, and when the latter is drawn back the detent will be released at the commencement of its backward movement, thus leaving the stop *a* in condition to arrest the second cartridge as it arrives at that point. The only difference in results between these three plans is that in the first and third the cartridge will pass into the receiver under the bolt as the breech is closed, while in the second case it would not enter the receiver under the bolt until the breech had been opened and the bolt retracted. It is a mere matter of choice as to which plan shall be adopted.

While I have described the detent as having a tubular body, C, it is obvious that such a construction is not at all essential to my invention, but has merely been used as a simple means of illustrating my invention and its principle of operation.

It is obvious that the detent may be made of any form or style desired, the only requisite being that it shall serve to hold the cartridge and be operated by the movement of the bolt to release the same; and that it is immaterial whether the detent be operated by the turning or sliding motion of the bolt, or whether it be done when the bolt is closed or opened or at any intermediate point between the closing and opening.

A gun constructed on this plan is exceedingly simple, easy to operate, and not liable to get out of order, and by this method of operating the detent by the bolt the trigger is left free to perform only its usual or normal function of firing the arm.

Having thus described my invention and its principle of operation, and having shown several different methods of carrying out or operating the same, what I claim is—

In a magazine-gun having its magazine arranged to conduct the cartridges direct to the chamber of the barrel without the aid of a carrier, the combination of a detent for holding and releasing the cartridges at proper intervals and a breech bolt or block so constructed and arranged that the detent shall be operated by the movement of the breech-bolt, substantially as described.

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