(No Model.)

2 Sheets—Sheet 1.

W. M. COOPER & E. J. CASHMORE.

MAGAZINE FIRE ARM.

No. 398,130. Patented Feb. 19, 1889.

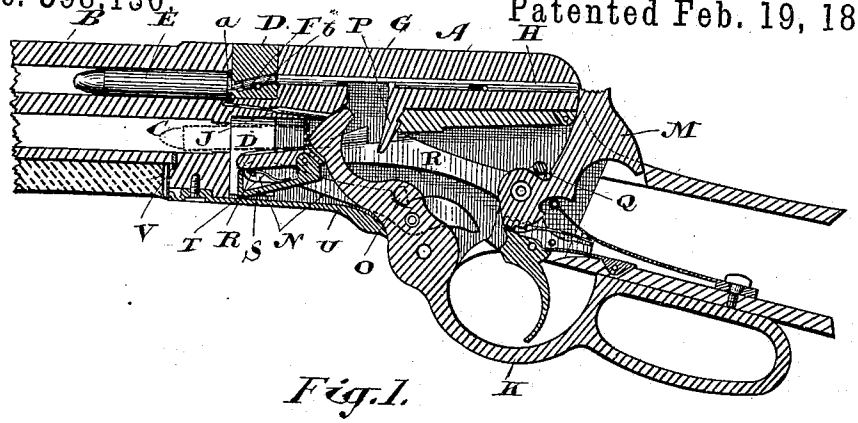


Fig. 1.

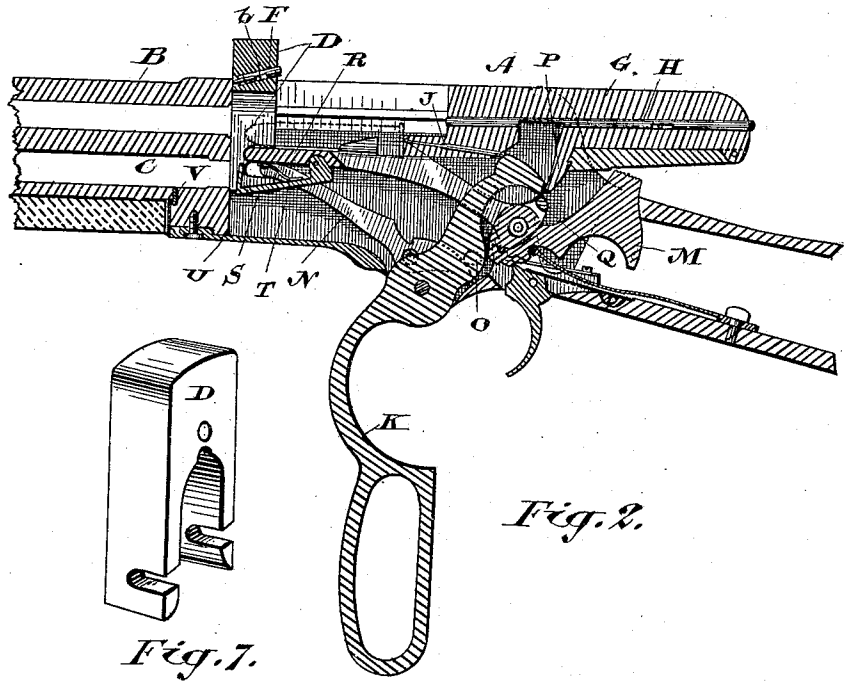


Fig. 2.

Fig. 7.

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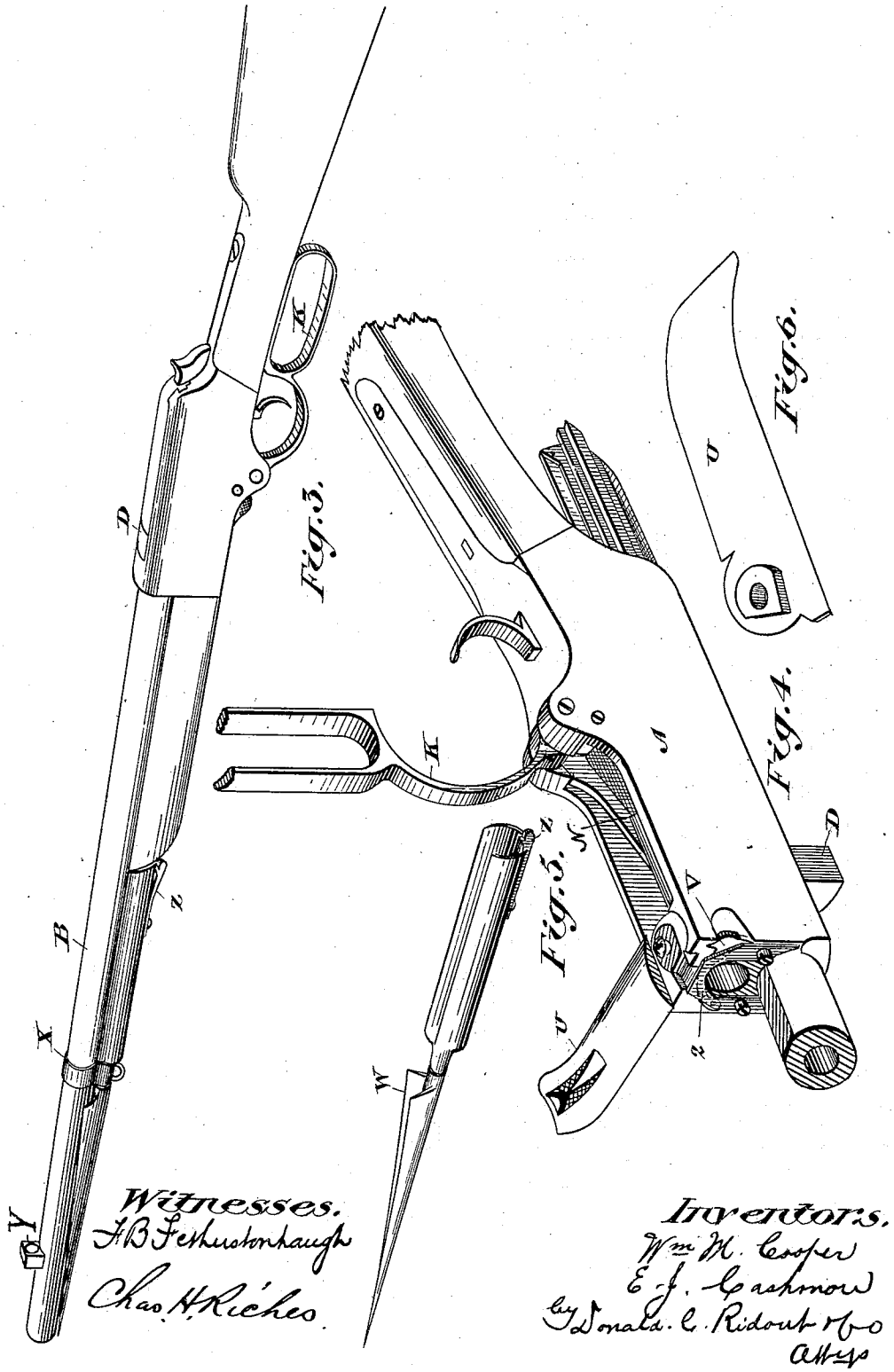
N. PETERS. Photo-Lithographer, Washington, D. C.

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UNITED STATES PATENT OFFICE.

WILLIAM M. COOPER AND EDWIN JAMES CASHMORE, OF TORONTO, ONTARIO, CANADA; SAID CASHMORE ASSIGNOR TO SAID COOPER.

MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 398,130, dated February 19, 1889.

Application filed July 7, 1888. Serial No. 279,260. (No model.) Patented in England July 17, 1888, No. 10,384; in Canada August 1, 1888, No. 29,615; in Belgium August 31, 1888, No. 82,854; in Italy September 20, 1888, XXII, 23,856, XLVII, 120, and in France September 25, 1888, No. 192,053.

To all whom it may concern:

Be it known that we, WILLIAM M. COOPER, merchant, and EDWIN JAMES CASHMORE, gunsmith, both of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have jointly invented a certain new and useful Improvement in Repeating-Rifles, (for which we have obtained a patent in Canada, No. 29,615, dated August 1, 1888; in Great Britain, No. 10,384, dated July 17, 1888; in France, No. 192,053, dated September 25, 1888; in Italy, No. 23,856, vol. 22, No. 120, vol. 47, September 20, 1888, and in Belgium, No. 82,854, dated August 31, 1888, and have also applied for Letters Patent in Germany, No. 34,972, bearing date of the 30th July, 1888, and in Austria by application bearing date the 28th of July, 1888,) of which the following is a specification.

The object of the invention is to design a repeating-rifle in which the action is protected from the recoil caused by the explosion of the cartridge, and also to so simplify and otherwise arrange the parts of the action that the magazine may be easily filled, readily thrown out of connection with the action of the repeater, and operated in all its movements in the simplest manner possible, substantially as hereinafter more particularly explained.

Figure 1 is a sectional view of the action, showing the parts set in the position they will appear at the moment that the hammer has struck the firing-needle. Fig. 2 is a view of the same parts, showing them in the position in which they will appear when the discharged cartridge has been thrown out of the barrel. Fig. 3 is a perspective outside view of our improved repeating-rifle. Fig. 4 is an enlarged detail of the body of the rifle, showing the case open to permit the magazine to be filled with cartridges. Fig. 5 is a detail of the bayonet used in connection with our rifle. Fig. 6 is a detail of the swivel-cover to close the cartridge-opening made in the bottom of the case. Fig. 7 is a perspective detail of the recoil-block.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the body of the rifle, forming the case for the firing and repeating actions.

B is the rifle-barrel, and C the magazine, which is preferably made solid with the barrel B, and is shaped and hardened so as to resist any saber cut.

D is what we term the "recoil-block," fitted into a grooved recess made in the body or case A. When the action is set in the position shown in Fig. 1, the solid portion of the block is immediately behind the end of the barrel B, and the head *a* of the cartridge E butts against it, as indicated. A small hole is made through the solid portion of the block D, sufficiently large to admit the firing-needle F, which is held in position by a small pin, *b*, which passes through a longitudinal slot made in the said needle F, as indicated. The sliding bolt G, which is fitted into suitable guides formed in the body or case A, butts against the recoil-block D when the action is in the position indicated in Fig. 1, and a plunger, H, is fitted in a hole made in the said sliding bolt G. This plunger H is held in the same manner as the needle F, and communicates the blow of the hammer M to the end of the needle F.

J is an extractor fitted into a hole made in the projecting portion of the sliding bolt G. When the action is closed, as shown in Fig. 1, the end of the trigger-guard lever K forces the hooked end of the said extractor J behind the head *a* of the cartridge E. The trigger-guard lever K is used for the purpose of adjusting the sliding bolt G and other parts in the mechanism of the action, as hereinafter more particularly explained. The lever N is pivoted in the body or case A in proximity to the pivoted trigger-guard lever K. One end of this lever N projects into a slot made in the recoil-block D. Its other end is curved, as indicated, and extends beyond the pivot-point of the lever N. A lug, O, is formed on the trigger-guard lever K and projects over the top of the lever N. When the trigger-guard lever K is thrown open in the position in which it is indicated in Fig. 2, the lug O presses down the curved end of the lever N, causing

the other end of the said lever to rise up and lift with it the recoil-block D. When the inner end of the trigger-guard lever K comes in contact with the horn P, formed upon and projecting below the sliding bolt G, the said sliding bolt G is pushed back into the position in which it is indicated in Fig. 2. During its movement the sliding bolt G forces the extractor J to pull out the cartridge E, and, as the movement of the trigger-guard lever K is rapid, the empty cartridge is instantly thrown out of the case. The hammer M is also pushed back by the movement of the sliding bolt G. The slant on the bottom of the sliding bolt G being gradual, the hammer is pushed back gently and firmly. By the time that the sliding bolt G is thrown back and the cartridge E thrown out by the extractor, as described, the end of the trigger-guard lever K comes in contact with the tail Q, formed on the end of the pivoted cartridge-carrier R, causing the said carrier to tilt on its pivot and raising its end, carrying the cartridge from the position in which it is shown in Fig. 1 to the position in which it is shown in Fig. 2, thereby raising the cartridge taken from the magazine to a point immediately opposite to the open end of the barrel B.

It will be noticed on reference to Fig. 1 that the cartridge pushed from the magazine C butts against the end of the lever K, and that when this lever is moved back to operate the mechanism, as hereinbefore described, the spring in the magazine forces the cartridge right onto the carrier R. When this carrier R is moved up, as shown in Fig. 2, the cartridge-stop S comes in front of the mouth of the magazine, thus preventing the cartridge escaping from it until the carrier is once more brought into the position in which it is shown in Fig. 1. The cartridge-stop S is pivoted on the carrier R, and has a spring, T, which holds it in the position in which it is indicated.

In order to load the magazine, we throw back the trigger-guard lever K into the position shown in Fig. 2, and then throw open the pivoted cover U, as shown in Fig. 4. The cartridges may then be easily inserted into the magazine C by simply pressing upon the pivoted cartridge-stop S, which, after the cartridge is inserted, immediately springs back into position.

With the view of enabling the rifleman to reserve the cartridges in the magazine and use the rifle as a single-shot breech-loader, we provide a pivoted cut-off, V, which may be readily adjusted so as to fit behind the end cartridge and prevent it and the other cartridges from entering onto the carrier B. The rifle may thus be used as an ordinary single-shot breech-loader, and should it be desirable to bring the magazine into action it is merely necessary to adjust the cut-off so as to be clear of the head of the cartridge.

On reference to Figs. 3 and 5, a bayonet specially adapted for our improved rifle is illustrated. This bayonet W has a half-round shank designed to fit over the magazine C, which, when the bayonet is to be used, must be made solid with the rifle-barrel B. A clip, X, connects the neck of the bayonet W to the rifle-barrel B. When this clip is slipped up to come in contact with the sight Y, the bayonet projects beyond the end of the rifle in the proper position for use, and the end of the shank of the bayonet is even with the end of the magazine C, permitting the spring-catch Z to spring over the end of the magazine C, and thus hold the bayonet in the desired position.

It will be noticed, on reference to Figs. 4 and 6, that an angular hub is formed around the pivot of the cover U. A spring-plate, 2, secured to the body or case A, acts against the angular hub on the cover U in such a manner that when it is closed the spring-plate 2 acts against one side of the angle, so as to hold the cover closed, and when it is opened it is held open by the spring-plate 2 acting on the other side of the angle.

What we claim as our invention is—

1. In a rifle having a magazine beneath the barrel, a recoil-block cut away to form vertical legs, and an opening between said legs for the passage of the cartridge from the magazine to the carrier when the block is in its normal position and from the carrier to the barrel when the block is elevated, as set forth.

2. The combination, with the barrel of a repeating-rifle, of a bifurcated recoil-block located between the end of the barrel and the case containing the action of the repeater, and a pivoted carrier having its forward end within the vertical slot in the breech-block and guided by the vertical portions of said block, substantially as described.

3. A vertically-adjustable recoil-block fitted into the case immediately behind the inner end of the barrel of the rifle, in combination with an inclined firing-needle inserted into the recoil-block, and a plunger disconnected from the block, movable at right angles to the movement of the recoil-block, and arranged to convey the blow of the hammer to the cap of the cartridge, substantially as and for the purpose specified.

4. A cartridge-magazine made parallel with and forming an integral part of a rifle-barrel, in combination with a half-round bayonet having a shank formed to fit onto the magazine, and a clip arranged to connect the neck of the bayonet with the barrel of the rifle, substantially as and for the purpose specified.

5. The combination, with the barrel and the sliding bolt G, of the extractor endwise movable through a portion of said bolt, and the trigger-guard lever engaging said bolt and extractor to move the same forward, substantially as described.

6. The combination, with the sliding bolt G, formed with horn P, of the extractor J, endwise movable in the forward portion of said bolt, and the pivoted trigger-guard lever K,

having its inner end arranged to engage said horn to throw the bolt in one direction and to engage and throw the extractor and bolt in the opposite direction, substantially as described.

7. The combination, with the trigger-guard lever formed with the lug O, of the recoil-block D, forward of the pivot of said lever, and the lever N, pivoted forward of the trigger-guard lever and at the rear of and engaging said block, with its short arm arranged in the path of and designed to be operated by said lug to raise the block, substantially as described.

8. The combination, with the barrel, the recoil-block, and the pivoted carrier beneath said block, of the lever N, engaging and acting on said block to raise the same, and the pivoted trigger-guard lever having bearings which engage first with the lever N to throw up the block and then with the carrier, substantially as described.

9. The pivoted carrier R, having a tail, Q, formed on it, in combination with the recoil-block D, the pivoted lever N, and the pivoted trigger-guard lever K, having bearings at different distances from its pivot, one engaging said lever N and the other said tail, both of said levers being pivoted forward of the pivot of the carrier, substantially as and for the purpose specified.

10. The combination, with the rifle body or case having an opening in its bottom in front of the trigger-guard lever, of a cover, U, pivoted to said body on a vertical pivot and arranged to swing horizontally and completely close such opening, substantially as described.

11. The combination, with the rifle body or case provided with a magazine having an opening in its bottom in front of the trigger-guard lever, of a cover, U, for closing said opening, formed with a vertical angular hub, and a spring-plate, 2, on the body acting on said hub, substantially as and for the purpose specified.

Toronto, June 18, 1888.

WILLIAM M. COOPER.
EDWIN JAMES CASHMORE.

In presence of—
DONALD C. RIDOUT,
CHARLES C. BALDWIN.