(No Model.)

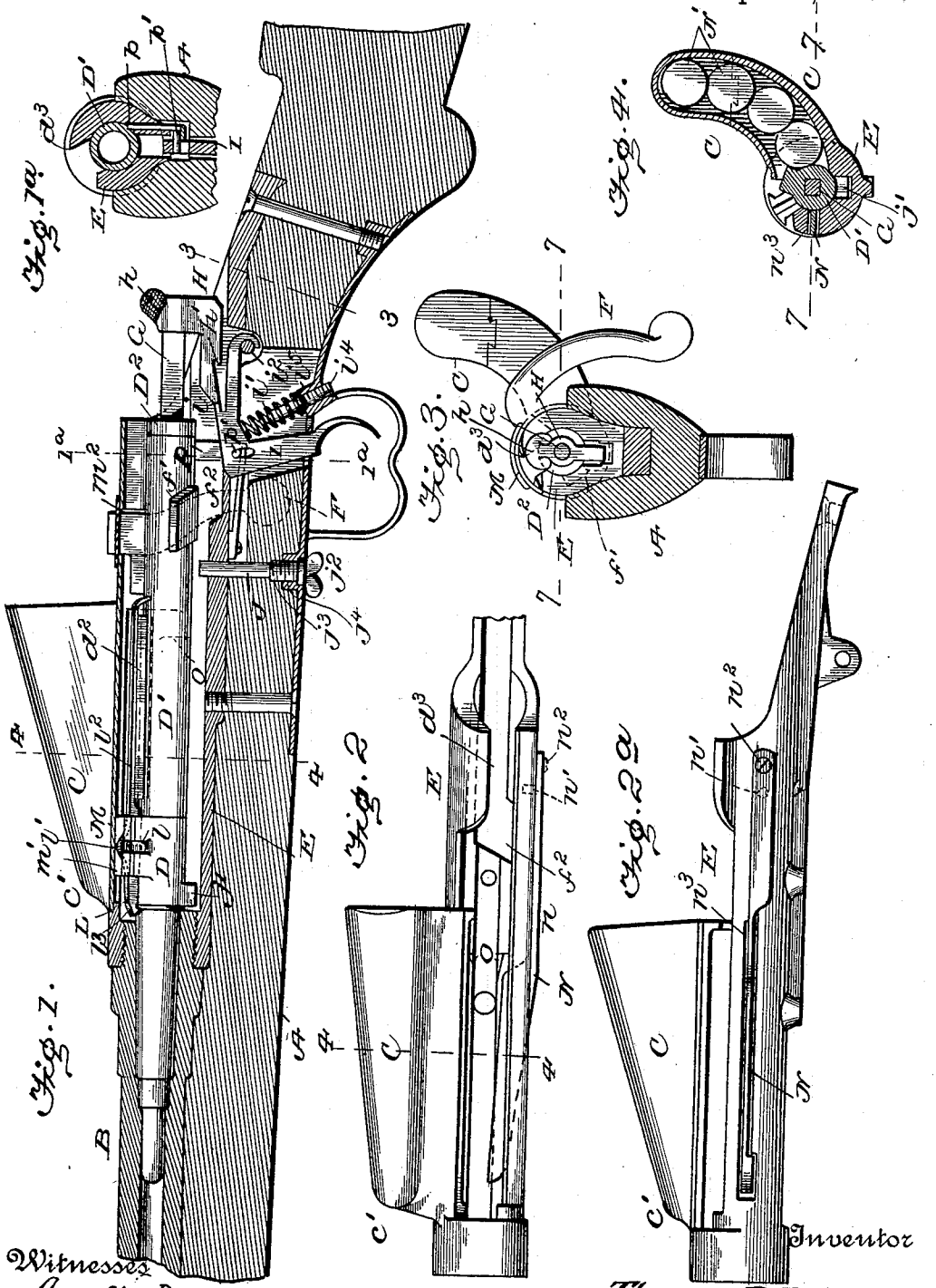
2 Sheets—Sheet 1.

T. R. R. ASHTON.

MAGAZINE BOLT GUN.

No. 589,684.

Patented Sept. 7, 1897.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

T. R. R. ASHTON.

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Fig. 7.

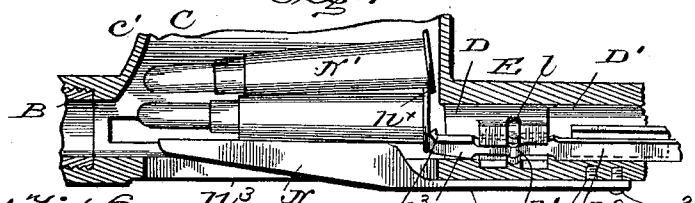


Fig. 6.

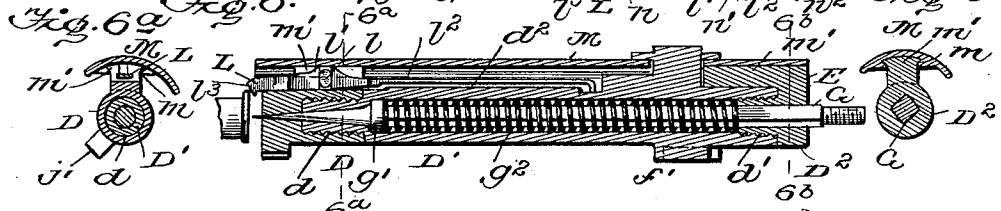


Fig. 6ª

Fig. 6ᵇ

Fig. 8.

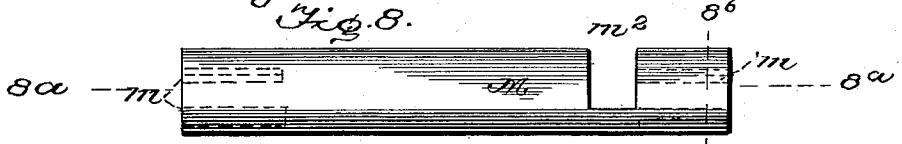


Fig. 8ª

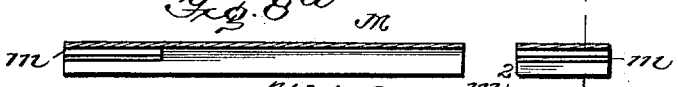


Fig. 8ᵇ



Fig. 5.

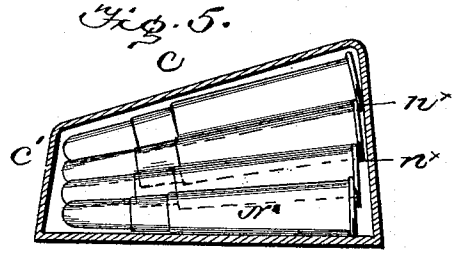
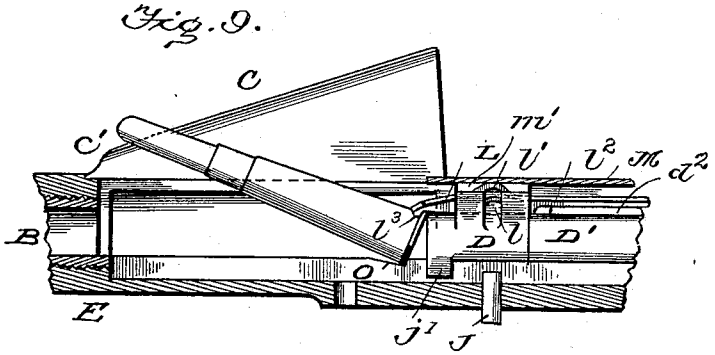


Fig. 9.



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UNITED STATES PATENT OFFICE.

THOMAS ROBERT RANEY ASHTON, OF NORTH DENILIQUIN, NEW SOUTH WALES.

MAGAZINE BOLT-GUN.

SPECIFICATION forming part of Letters Patent No. 589,684, dated September 7, 1897.

Application filed December 5, 1896. Serial No. 614,628. (No model.)

To all whom it may concern:

Be it known that I, THOMAS ROBERT RANEY ASHTON, mechanical engineer, a subject of the Queen of Great Britain, residing at North Deniliquin, in the British Colony of New South Wales, have invented certain Improvements in Magazine-Rifles, of which the following is a specification.

This invention relates to a magazine-rifle, and is in the nature of an improvement on the rifle shown and described in my United States application for Letters Patent filed May 8, 1896, and serially numbered 590,720; and its main object is to still further simplify and improve magazine-rifles and more especially adapt them for military service.

From the description and drawings hereinafter referred to it will be seen that the various parts of the breech action are much simplified and the number of parts reduced as compared with the rifle described in my former specification.

In order that my invention may be easily understood, I will describe it by reference to the accompanying drawings, wherein—

Figure 1 is a central longitudinal section of a magazine-rifle constructed according to my invention. Fig. 2 is a plan, and Fig. 2^a a side elevation, of the receiver of said rifle removed from the stock and barrel, while Fig. 1^a is a vertical transverse section on line 1^a, Fig. 1. Fig. 3 is a vertical transverse section on line 3 3, Fig. 1, showing the rear end of the receiver in elevation. Fig. 4 is a vertical transverse section on line 4 4, Figs. 1 and 2. Fig. 5 is a central longitudinal section of the magazine, showing the cartridges in position, while Fig. 6 is a central longitudinal section through the bolt of the rifle; and Figs. 6^a and 6^b are vertical transverse sections on the lines 6^a and 6^b, respectively, in Fig. 6, illustrating the manner of mounting the sand or dust cover upon the bolt. Fig. 7 is a horizontal section through the receiver and lower end of the magazine on line 7 7, Figs. 3 and 4. Figs. 8, 8^a, and 8^b are various views of the sand or dust cover; and Fig. 9 is a sectional view of part of the breech-block, illustrating the ejecting contrivance.

The same letters of reference indicate the same parts in all the figures.

As a matter of convenience I will describe the rifle as a whole, subsequently limiting the claims at the end of this specification to the improvements constituting the present invention.

A represents the stock, B the barrel, C the magazine, (for containing four cartridges,) and D D′ D^2 the bolt, which is adapted to be slid to and fro within the receiver E by means of the locking-lever F, which latter is made integral with the main or central part D′ of said bolt, while G represents the usual firing-pin and H a cocking-head on the rear end of said firing-pin, said cocking-head being engaged by the trigger I when said pin is in either its cocked or half-cocked position.

The bolt D D′ D^2 is constructed, as clearly illustrated in Fig. 6, by screwing the forward end of the central portion D′ into the front portion D, as indicated at *d*, and by screwing the rear portion D^2 into the central portion D′, as indicated at *d′*. This leaves the central portion free to be rotated sufficiently to lock the bolt in its firing position and dispenses with the comparatively large sleeve, upon which, according to my former invention, the locking-lever and lug were mounted, thereby enabling the size of the receiver E to be reduced, thus materially improving the appearance of the rifle and decreasing its weight without impairing either its strength or efficiency.

An upwardly-projecting feather or lug d^2 is formed in the forward end of the central part D′ of the bolt in such a position and at such an angle that when the bolt is withdrawn said feather will fit within a slot or groove d^3 in the upper part of the rear end of the receiver E and so prevent the weight of the lever F turning said bolt round when withdrawn.

J represents a vertically-arranged set-screw or retaining-pin, which normally projects up into the receiver and prevents the bolt D D′ D^2 from being entirely withdrawn therefrom by engaging with a small lug *j′* on the under side of the forward end of said bolt. The lower end of this set-screw or retaining-pin is formed with a butterfly-head j^2, and it is made slightly larger near said lower end and is screw-threaded, as illustrated at j^3, to correspond with a

similarly-threaded boss j^4 on the forward extension of the trigger-guard.

By merely unscrewing the retaining-pin its upper end can be drawn down out of the path of the lug j' when it is required to entirely withdraw the bolt D D' D² from the receiver.

L represents the extractor, which is mounted upon the forward end of the bolt D D' D² and is adapted to engage with the rim of the cartridge when the bolt is pushed home, so that when the bolt is withdrawn it will extract said cartridge. It is made in one piece with lugs l projecting from each side thereof at about one-third the distance from its forward end, and it has a curved projection l', upon which the sand or dust cover M bears, so as to retain it in its proper working position.

The rear end of the extractor forms a long flat spring l^2, the extremity of which is turned down and bears upon the central part D' of the bolt, thus always tending to hold the hook l^3 on its forward end down in its operative position.

N denotes a spring-stop and guide-piece, which projects into the side of the receiver E opposite to the magazine and which allows only one cartridge at a time to fall out of said magazine, and also acts as a guide while said cartridge is being moved into the barrel by the bolt. It is made in one piece, and its spring portion n is secured to the side of the receiver by a pin or stud n', projecting into a hole in the side of said receiver, combined with a small binding-screw n^2, also fitting into said receiver, the stock of the gun being arranged to cover said screw and pin. The forward portion of this spring-stop or guide-piece projects through a slot n^3 in the side of the receiver and normally assumes the position indicated in Fig. 2, so as to allow the first or lowermost cartridge in the magazine to drop into such a position in the receiver when the bolt is withdrawn that when the bolt is forced forward the bullet end of the cartridge will be directed into the barrel B, and said spring is of sufficient strength to prevent more than one cartridge falling into the receiver at once, though it is not of such a strength as to interfere with the forward movement of the cartridge and bolt, the former of which it serves to guide into the breech end of the barrel.

The magazine C is, as before, made integral with the receiver E and is curved upwardly and outwardly from the right of said receiver, so as to be well out of the line of sight. Its upper portion may, if preferred, be made separate from the lower part and may be secured to said lower part or base by dovetailing or in any convenient manner—as, for instance, by screws—or, if preferred, it may be dovetailed as just mentioned and in addition have a small set-screw passed through a lug on the rear end of the upper part of said magazine into a corresponding lug on the lower part.

The mouth or opening of the magazine C extends along its full length and opens into the interior of the receiver immediately behind the breech end of the barrel.

In order to load the rifle, it is merely necessary to draw back the bolt D and to hold the rifle on one side, so that the magazine C is inclined downwardly, when the cartridges can simply be dropped one by one into its mouth, when they will automatically arrange themselves in position therein, as shown in Fig. 5.

The forward end c' of the magazine is inclined upwardly and rearwardly, so that the cartridges N' will, when dropped into it, assume the position indicated in Fig. 5—that is, with the rim n^* of each cartridge behind the rim of the one below it. After filling the magazine a cartridge may be placed in the barrel and the rifle turned into its normal position, when the bolt D D' D² (which must have previously been pulled back to its rearmost position in order to insert said cartridges) is forced forward, pushing the cartridge in the receiver into the barrel B, ready for firing, as shown in Fig. 1. The central portion D' of the bolt, in addition to carrying the locking-lever F, has a lug f', projecting downwardly from it and adapted to project into an inclined recess f^2 in the side and lower part of the receiver E when said locking-lever is turned down into its locking position, as indicated in Fig. 3.

The sand or dust cover M is secured to the end pieces D D² of the bolt, as indicated in Figs. 1, 3, 6, 6^a, and 6^b, by sliding undercut or dovetailed grooves m on its under side into engagement with dovetail projections m' on said end pieces D D² until an opening m^2 in the side of said cover comes opposite the locking-lever F, after which said lever is turned up into its normal position and thus enters said opening and thereby locks the cover endwise and securely fastens it without having to resort to the use of screws or similar devices.

A shoulder g' is formed on the forward end of the firing-pin G, and behind said shoulder is the spiral mainspring g, which extends back to and bears against the rear end D² of the bolt and always tends to force the firing-pin into its forward position.

The cocking-head H on the end of the firing-pin is milled, as illustrated at h, to allow the firing-pin to be moved slowly forward by hand if the trigger I be pulled down and to allow said trigger to engage in a notch h', cut for the purpose in the under side of said cocking-head, so as to hold the firing-pin in its half-cocked position. When in its full-cocked position, said trigger I engages with the forward end of the cocking-head, as indicated in Fig. 1. For this purpose the trigger I is formed with a small shoulder i and is normally held in its raised position by the spiral trigger-spring i', while the trigger itself is made in one piece in the form of a bell-crank lever and is fulcrumed upon a fixed pin i^2, passing through the under side of the receiver, the

rear end of said trigger being hook-shaped, as indicated at i^3, so that it can readily be placed in engagement with said pin i^2, as clearly illustrated in Fig. 1. The spring i' is preferably coiled around an upwardly-projecting inclined pin i^4, which is preferably screw-threaded below a shoulder i^5, upon which said spring bears, said screw-threaded portion being screwed into the base of the finger-guard in such a way that it can be adjusted by rotating it in the required direction in order to regulate the tension on the trigger-spring and therefore the pull required to release the firing-pin.

The spring and arrangement of the trigger, as above described, are effective, although they are very simple.

It will be noticed on reference to Fig. 6 that the cartridge is moved forward into its firing position by the end of the extractor. This keeps said cartridge a short distance in front of the firing-pin until it has been forced into its firing position and the bolt locked and thereby jammed tightly against the rear end of said cartridge, the effect of which will be to cause the extractor-hook to engage with the rim of the cartridge, as shown in Fig. 1. By this means it is impossible to explode the cartridge until the bolt has been locked.

To insure the ejection of the cartridge when the bolt is withdrawn, a notch O is formed in the inner side of the receiver a little more than a cartridge-length from the breech end of the barrel, as indicated in Fig. 9, so that the side of the cartridge-rim opposite to that engaged by the extractor will contact therewith in traveling backward, and thus insure the ejection of the cartridge, as indicated in said Fig. 9.

In order to prevent the possibility of the bolt being accidentally unlocked before the piece is fired, a small vertically-sliding spring-actuated catch P may be arranged to slide through the bottom of the receiver and to engage with a recess p in said bolt when the latter is in its forward position and before the trigger is pulled, so as to lock said bolt against rotation. This catch P is connected with the front end of the trigger I by means of a pin-and-slot connection p' in such a manner that when the trigger is pulled said catch will at the same time be withdrawn, although said trigger will subsequently be free to engage with the cocking-head in the ordinary manner, when required.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a magazine-rifle, the combination with the receiver having an interior inclined recess f^2, of a bolt consisting of three parts D, D′ and D^2, the central part D′ being externally threaded at one end and internally threaded at the other, and the end pieces D, D^2, being respectively screwed on and in said threaded ends, and a locking-lever and lug formed integrally with said central piece D′, the lug being arranged to engage the recess f^2, substantially as described and for the purpose specified.

2. In a magazine-rifle, a bolt made in three parts, the two end parts being rotatably mounted on the central part, a locking-lever and lug carried by said central part, an upwardly-projecting longitudinal feather d^2 formed on the forward portion of said central part, in combination with a receiver provided with a longitudinal slot in its rear upper portion arranged to receive said feather or lug, whereby the central portion of the bolt may be turned independently of the end pieces but is prevented from turning when in its retracted position, substantially as described.

3. In a rifle, a trigger made in the form of a bell-crank lever one arm of which extends horizontally rearward and terminates in an open hook or loop, a fixed pin detachably engaged by said hook or loop, a shoulder formed on the upper side of said horizontal arm and arranged to engage the cocking-head, a spring arranged beneath the horizontal arm of the trigger for maintaining the said shoulder in engagement with the cocking-head, and means for adjusting the tension of the spring, substantially as described.

4. In a rifle the combination with a sliding bolt, of an extractor provided with lateral lugs projecting from its opposite sides and journaled in bearings formed on the forward end of the bolt, the rear portion of said extractor terminating in a flat spring having a downwardly-turned end resting on the bolt, a curved projection formed on the extractor between said lugs, and a sand or dust cover detachably fixed on the bolt and resting at its forward end on said projection, substantially as described.

5. In a rifle, the combination with a receiver and a sliding bolt arranged therein, and provided with dovetailed projections on its ends, of a sand or dust cover provided on its under side with dovetailed grooves adapted to engage said projections and hold said cover on the bolt, and provided on one side near its rear end with a slot m^2, and a locking-lever carried by the bolt and arranged to engage said slot in the cover and lock the latter against longitudinal movement on the bolt, substantially as described.

6. In a rifle, the combination with the rotatable sliding bolt provided with a recess in its periphery and the trigger, of a vertically-movable bolt-catch loosely connected with the trigger, and a spring for normally holding said bolt-catch in engagement with the recess in said bolt to lock the latter against rotation until the cartridge has been exploded, substantially as described.

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