R. MENDOZA.

RIFLE.

APPLICATION FILED AUG. 23, 1918.

1,294,295.

Patented Feb. 11, 1919.

2 SHEETS—SHEET 1.

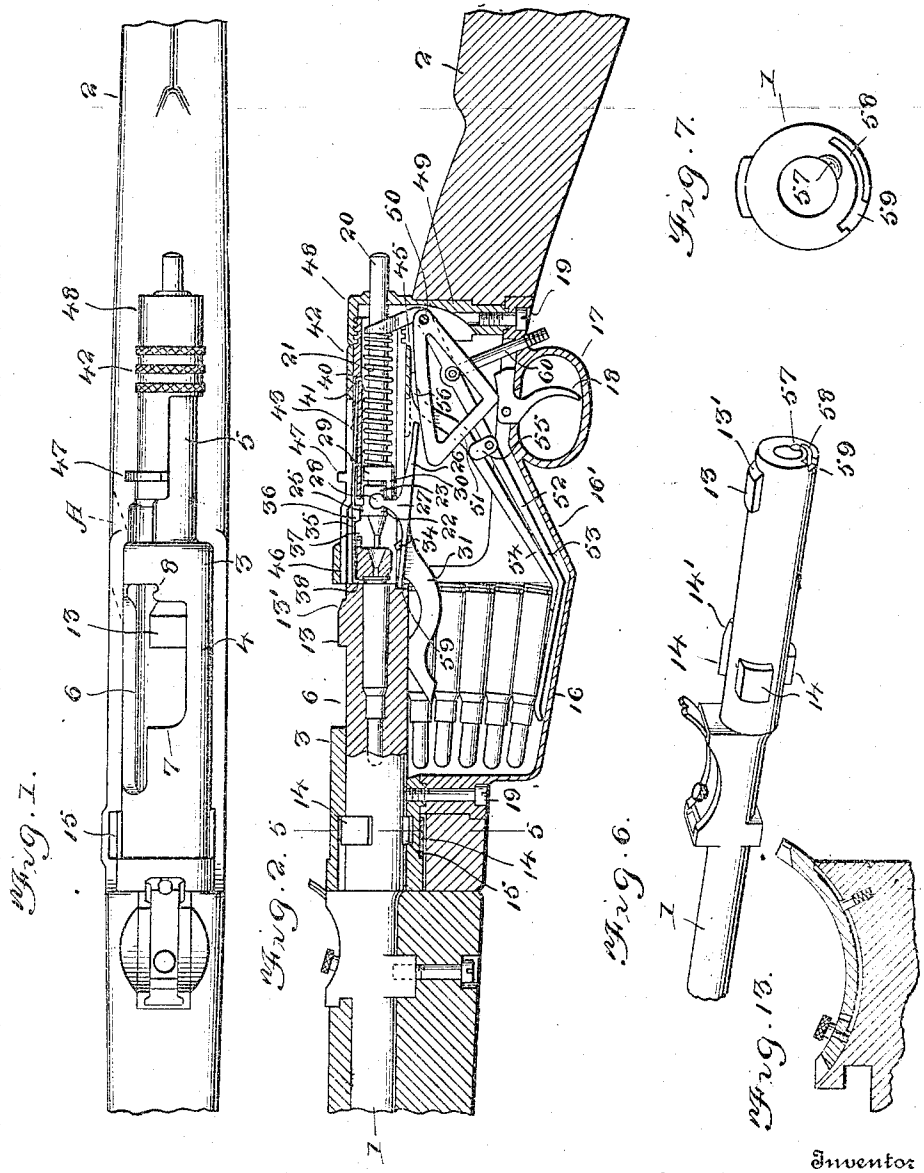

Fig. 1.

Fig. 2.

Fig. 7.

Fig. 6.

Fig. 13.

Witness

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Inventor

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2 SHEETS—SHEET 2.

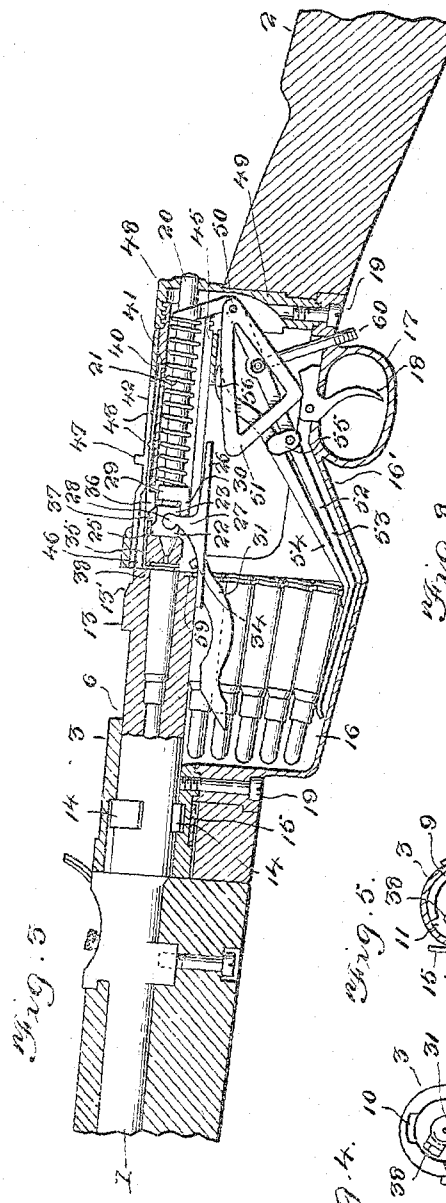

Fig. 5.

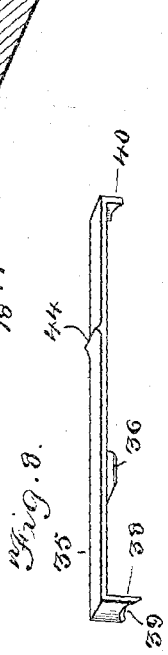

Fig. 8.

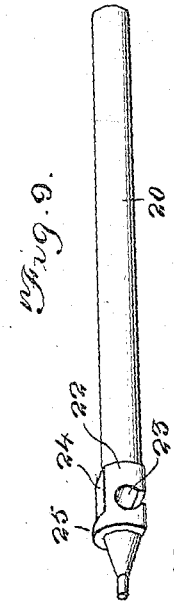

Fig. 9.

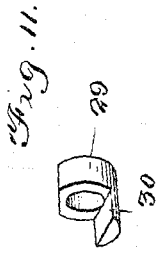

Fig. 11.

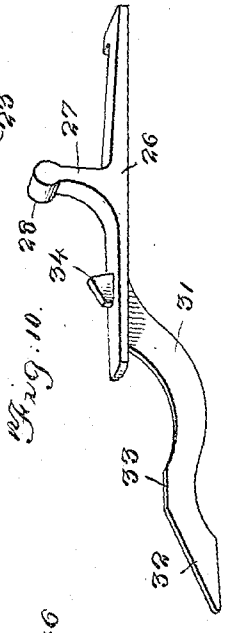

Fig. 10.

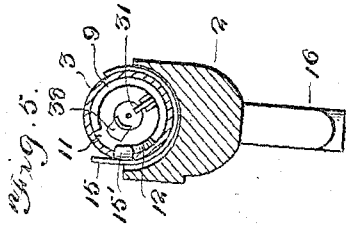

Fig. 5.

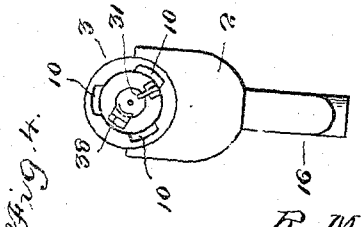

Fig. 4.

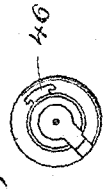

Fig. 12.

Witness

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UNITED STATES PATENT OFFICE.

RAFAEL MENDOZA, OF CHIHUAHUA, MEXICO.

RIFLE.

1,294,295. Specification of Letters Patent. Patented Feb. 11, 1919.

Application filed August 23, 1918. Serial No. 251,183.

To all whom it may concern:

Be it known that I, RAFAEL MENDOZA, a citizen of Mexico, residing at Chihuahua, Mexico, have invented new and useful Improvements in Rifles, of which the following is a specification.

This invention relates to new and useful improvements in fire-arms, and the principal object of the invention is to provide a device of this nature of great simplicity and composed of a small number of parts, insuring economy of construction, and which will be of easy operation so as to facilitate rapid and accurate firing.

Another object of the invention is to provide means whereby the parts are moved into firing position and the cartridges moved into and ejected from the breech casing by a longitudinal movement of the barrel, so the gun may be shot a number of times without removing it from the shoulder.

Another object of the invention is to provide a stationary breech block containing the delicate parts of the firing mechanism, thus protecting said parts from jars and from dust and dirt.

Still another object of the invention is to provide a single spring for actuating the firing pin, moving the cartridges in the magazine and working the ejecting mechanism.

A further object of the invention is to make the barrel easily and quickly detachable from the stock for the purpose of cleaning the same or for using said barrel as a club.

With the above and other objects in view the invention resides in the construction, combination and arrangement of parts set forth in the following specification and falling within the scope of the appended claims.

In the drawings:

Figure 1 is a plan view of the invention,

Fig. 2 is a longitudinal section with the parts in firing position,

Fig. 3 is a like view after the gun has been fired.

Fig. 4 is an end view of the breech casing with the barrel removed,

Fig. 5 is a section on the line 5—5 of Fig. 2 with the barrel removed,

Fig. 6 is a perspective view of the end of the barrel,

Fig. 7 is an end view of the barrel,

Fig. 8 is a view of the extractor,

Fig. 9 is a view of the firing pin,

Fig. 10 is a view of the sear and ejector,

Fig. 11 is a view of the collar for actuating the sear,

Fig. 12 is an end view of the breech block, and

Fig. 13 is a sectional view of the sight.

In these views 1 indicates the barrel, 2 the stock having its end chambered and 3 the casing in said chamber. This casing is formed with an enlarged part 4 and a small part 5. This part 5 acts as the breech block and contains the firing mechanism. The part 4 receives the end of the barrel and acts as the breech casing or firing chamber. The upper part of this chamber is provided with the elongated opening 6 which has a shorter lateral extension 7. The rear end of the opening 6 is grooved as at 8 so as to receive the cartridge carrying clip by which the magazine is filled with cartridges.

Adjacent the front end of the breech casing is formed an inner annular groove 9 and slots 10 lead forward from this groove through the end of the casing. A slot 11 passes rearwardly from said groove 9 to the front end of the opening 6. The said slot has one wall thereof inclined, as at 12. The end of the barrel which engages in the casing is provided with a lug 13 adjacent its end and said lug has its end inclined as at 13′. An appreciable distance from the end of the barrel are located three lugs 14 spaced around the barrel and adapted to engage the slots 10 in the casing. One of these lugs is provided with an inclined end 14′. 15 is a semi-circular spring suitably secured to the outer part of the casing and carrying a lug 15′ for engaging the lug 13 to hold the barrel in the casing. By reason of the inclines on the lugs it will be seen that the lug on the spring will be pressed to one side to permit the gun barrel to be pressed into firing position without touching the spring and also will permit the barrel to be slid into ejecting position but the spring will prevent the lug 13 from passing its lug 15′ and thus prevent the barrel from being entirely withdrawn from the casing. When the barrel is to be entirely withdrawn the spring is bent outwardly to permit the lug 13 to pass by the lug carried by the spring. It will be seen that the slot 11 is to one side of the adjacent slot 10 so that after the lug

13 is passed into said slot 10 and pushes up the lug carried by the spring, it is necessary to give the barrel a part turn in order to place the lugs 13 in slot 11. The incline on the lug and the inclined wall of the slot facilitates this turning action. As the lug 13 leaves the slot 11 it enters the opening 6 and just before it reaches the end of the extension 7 the lugs 14 enter the slots 10 and thus prevent the barrel from turning. The incline on the lug 14 presses the spring outwardly so that the lugs 14 may pass into the annular groove and thus permit the barrel to be given a partial turn into firing position. This turn will throw the lugs 14 out of alinement with the slots 10 and the lug 13 will engage the side of the extension 7 at the rear end thereof. The lug 14 which has the incline 14′ is so formed that when the barrel is given a partial turn to the right it will force out the spring and permit the barrel to be pulled out into ejecting position. The lug 13 will prevent the barrel from being entirely withdrawn unless the spring is actuated.

The magazine is indicated by the numeral 16 and this magazine has an extension 16′ on which is formed the trigger guard 17. The trigger 18 is pivoted to this extension. The magazine and its extension fit into an opening in the underpart of the stock and are held in position by screws 19 at each end thereof which engage parts of the casing.

The firing pin 20 is located in the breech block and is under the control of a spiral spring 21 which surrounds said pin. The forward end of the pin, adjacent its pointed end carries an enlargement 22 which is provided with a socket 23 and a flattened part 24 on its upper side forming a projection 25. 26 indicates a sear having an upwardly extending arm 27 ending in a rounded part 28 which engages the socket 23 so that the sear is pivotally connected with the firing pin. A collar 29 is carried by the firing pin and is provided with a forwardly extending lug 30 on its lower side which is held in engagement with the arm 27 of the sear by the spring 21. This spring and collar tend to hold the sear with its front end tilted upwardly as shown in Fig. 2. The sear is provided with a front extension 31 having an inclined end 32 and a central projection 33. The front end of the sear is also provided with an ejecting lug 34. As will be seen, the forward end of the sear with the ejector lug and the extension 31 works in an opening in the bottom of the casing to one side of the magazine opening, the ejector lug working in a slot in the front end of the breech block. As will be seen from Figs. 4 and 5 the extension 31 extends in an inclined direction over the magazine opening so as to engage the topmost cartridge and hold it in the opening.

35 is the extractor placed in a depression in the upper part of the breech block and having a lug 36 thereon engaging a slot 37 in the upper part of the breech block and adapted to be struck by the projection 25 on the enlargement 22 of the firing pin in the movement of said pin. The front end of the extractor is bent downwardly as at 38 and is provided with a curved and inclined end 39 for engaging the cartridge. The other end of the extractor is also bent downwardly, as at 40 and engages a slot 41 in the breech block to hold the extractor in position. A safety device 42 rests on the top of said extractor and is provided with a pair of depressions 43 on its underface which are adapted to engage a small wedge 44 on the extractor for holding the device in its rearward or forward positions. This device is provided with a collar 45 which surrounds the rear end of the breech block and the front end of the device passes through an opening 46 in the rear end of the casing. 47 indicates a thumb-engaging part on said device for sliding the same. The end of the breech block is closed by a cup-shaped member 48 which has screw-threaded connection with the end of the block and has an opening in its end through which the end of the firing pin passes. This member also holds the safety device in place by forming an abutment for the collar of said device. The cup-shaped member carries a post 49 which passes downwardly through the stock and is provided with a screw-threaded hole for receiving one of the screws 19. This post also carries the pivot pin 50 on which the sear actuating lever 51 is pivoted. The cartridge elevator device 52 is also pivoted on this pin. The lever is of triangular shape and has one corner thereof resting on the trigger 18 and its other corner engaging the rear end of the sear when the trigger is operated. The elevator device comprises a finger 53 extending into the magazine and a second finger 54 pivoted to the first finger by means of the ears 55. This second finger is of less length than the first finger so as to engage the butts of the cartridges. The rear end of the second finger is rounded as at 56 and engages the bottom of the breech block. The rear end of the first finger is extended upwardly beyond the pivot pin and is provided with an eye through which the firing pin passes and the end of the coiled spring 21 engages this extension. It will thus be seen that the front ends of the fingers tend to rise under the action of said spring so as to force the cartridges from the magazine into the breech casing. When the barrel is in ejecting position the part 23 on the extension 31 of the sear will hold the cartridges within the magazine as before described and a cartridge will not be released until the barrel is slid forward and engages the

incline 32 of said extension to force the extension into its opening and thus release the cartridge. As the cartridge is forced upwardly by the fingers the pointed end thereof will be engaged by a small recess 57 on the end of the barrel and thus directed into the bore of the barrel. The other cartridges in the magazine will be prevented from moving upwardly by the barrel itself. As the barrel is moved rearward toward the breech block a semi-circular groove 58 in its end will engage the end of the sear and push said sear rearwardly and as said sear is connected with the firing pin it will move said pin backwardly against its spring. When the barrel reaches the end of its movement and is given a turn to place it in firing position a notch 59 communicating with the end of the groove 58 in the barrel will come opposite the end of the sear so that when the trigger is pressed and the sear operating lever forced upwardly said sear operating lever will engage the rear end of the sear so that its forward end will pass through the notch 59 and thus permit the spring to force the firing pin forwardly and so explode the cartridge. It will be seen that the trigger cannot be pulled until the barrel is in exact firing position as the groove 58 will prevent the sear being moved until the slot 59 is opposite the same. As before explained the lugs on the barrel will prevent said barrel from being turned until said barrel is moved the full length of the casing. Thus there is no danger of the gun being fired prematurely. When the safety device is pushed forwardly it will engage the lug 13 and prevent the barrel being turned and its collar 45 will come under the end of the sear and prevent the same from being lowered to release the firing pin. When the barrel is moved forwardly to open the casing it will release the extension 31 of the sear and this member will be thrown outwardly by the spring 21 engaging the collar 29 so that the ejector will throw out the cartridge. The extractor will remove the cartridge from the barrel as said barrel is moved forwardly. As before stated the extractor is raised as the sear is pushed rearwardly by the barrel and this movement is completed by the head of the cartridge engaging the incline 39 so that the extractor will engage the groove in the head of the cartridge.

60 is a gage rod pivoted to the elevator device and passing through a hole in the rear of the trigger guard. This rod is provided with a series of notches in its end so that by counting the notches the number of cartridges remaining in the magazine may be determined.

It will thus be seen that the exploded shells can be ejected from the breech casing, a new shell inserted and the gun cocked by a longitudinal movement of the barrel combined with a slight turning movement thereof. Thus the gun may be shot a number of times without removing it from the shoulder. Attention is called to the fact that all the parts are controlled by a single spring.

I provide an improved sight for the rear part of the barrel. This sight comprises an enlargement 90 formed on the barrel and so located that it will contact with the breech casing when the barrel is in firing position. This enlargement is provided with a concave depression in its upper face, and this face has a groove 91 therein, the side walls of which are undercut. A curved strip 92 with beveled edges has sliding movement in said groove and forms the movable member of the sight. The rear end of this strip is provided with the usual notch 93. The strip is prevented from being moved out of the groove by the spring-controlled pin 94 engaging the groove 95 in the bottom of the strip. The strip is held in adjusted position by means of the set screw 96. The parts may be provided with a suitable scale for indicating the distance the sight is to be set for.

When the gun is to be used as a single shot the cartridges may be introduced into the breech casing through an opening A formed in the side of the stock and leading to said casing.

From the above description taken in connection with the accompanying drawings the simplicity and advantages of the invention will, it is thought, be perfectly apparent to those skilled in the art to which such invention appertains without further detailed description.

Having thus described the invention, what I claim is:

1. A fire arm comprising a breech casing, a barrel having longitudinal movement therein, a firing pin, a sear connected with the pin and having a part thereon engaged by the barrel, an ejector carried by the sear, an extension on the sear acting as a stop for the cartridges in the magazine and a trigger for actuating the sear.

2. A fire-arm comprising a stock, a casing therein forming a firing chamber and a stationary breech block, a firing pin in said breech block, a barrel having its end sliding in said chamber, lugs for controlling the movement of the barrel, and a sear operated by the barrel for moving the firing pin into firing position and a trigger for actuating said sear.

3. A fire-arm comprising a stock, a casing therein forming a firing chamber and a stationary breech block, a firing pin in said breech block, a barrel having its end sliding in said chamber, a sear engaged by said barrel for moving the firing pin into firing position, a trigger for actuating said sear,

and means on the barrel for preventing the movement of the sear until the barrel has reached its correct position.

4. A fire-arm comprising a stock, a casing therein forming a firing chamber and a stationary breech block, a firing pin in said breech block, a barrel having its end sliding in said chamber, a sear engaged by said barrel for moving the firing pin into firing position, an ejector carried by said sear, an extractor operated by the firing pin, a trigger for actuating said sear, and a single spring for controlling said parts.

5. A fire-arm comprising a stock, a casing therein forming a firing chamber and a stationary breech block, a firing pin in said breech block, a spring thereon, a barrel having its end sliding in said chamber, a sear engaged by said barrel and connected with the firing pin, an ejector carried by said sear, a trigger for actuating said sear, and an elevator device operated by the firing pin spring for moving cartridges into the firing chamber.

6. A fire-arm comprising a stock, a casing therein forming a firing chamber and a stationary breech block, a firing pin in said breech block, a barrel having its end sliding in said chamber, a sear engaged by said barrel and connected with the firing pin, a trigger for actuating said sear, and a safety device for locking the barrel against movement and preventing movement of the sear.

In testimony whereof I affix my signature.

RAFAEL MENDOZA.