

J. H. WESSON.  
 REPEATING FIREARM.  
 APPLICATION FILED MAR. 3, 1915.

1,179,882.

Patented Apr. 18, 1916.

FIG. 1.

FIG. 2.

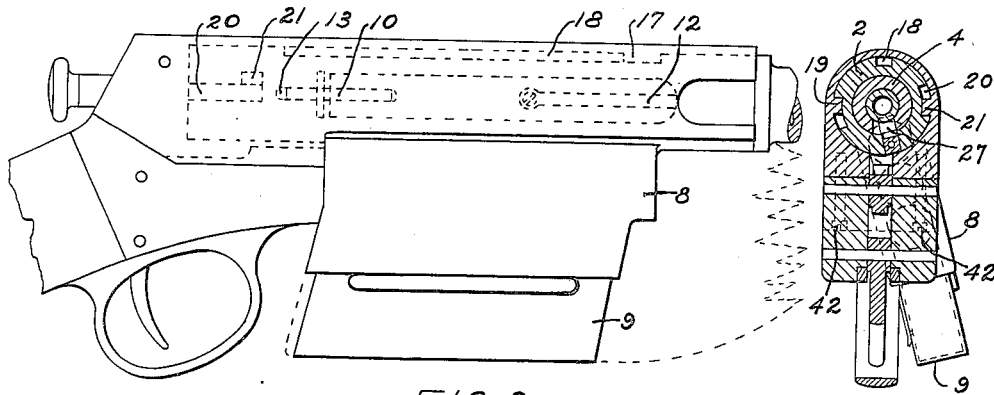


FIG. 3.

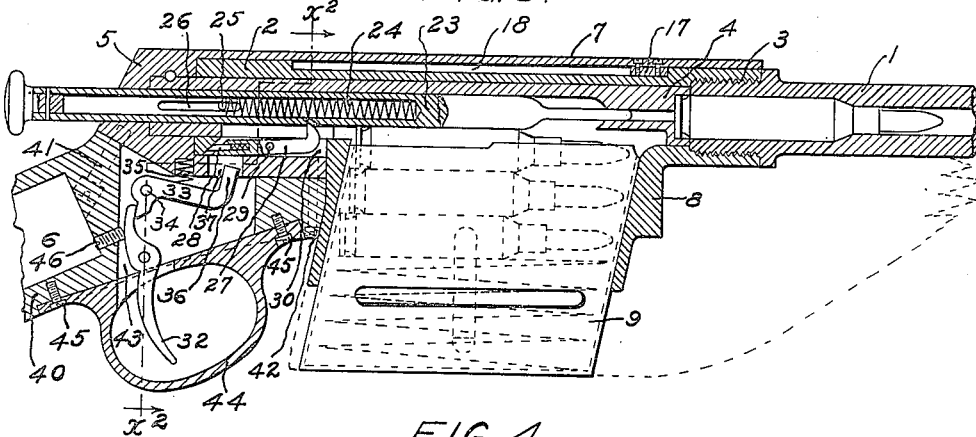


FIG. 4.

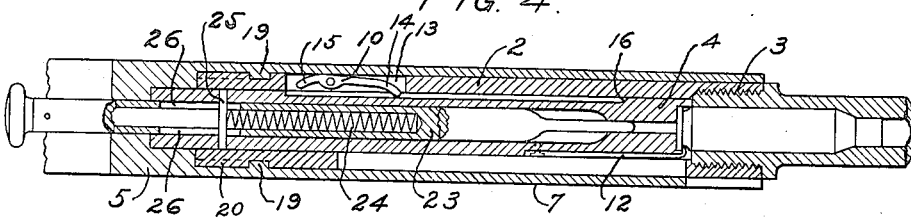
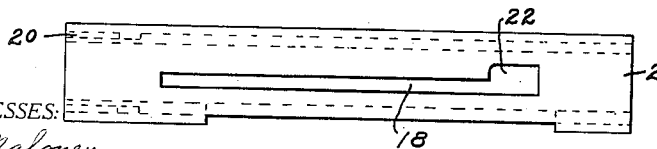


FIG. 5.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## REPEATING FIREARM.

1,179,882.

Specification of Letters Patent.

Patented Apr. 18, 1916.

Application filed March 3, 1915. Serial No. 11,381.

*To all whom it may concern:*

Be it known that I, JOSEPH H. WESSON, a citizen of the United States, residing in Springfield, in the county of Hampden and State of Massachusetts, have invented an Improvement in Repeating Firearms, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

The present invention is shown as embodied in a military rifle, the object of the invention being to simplify the loading, ejecting and firing parts, the gun being so arranged that the ordinary magazine clip can be used in connection with the gun.

In accordance with the invention, the loading, ejecting and cocking of the gun are all produced by a longitudinal movement of the barrel with relation to the stock; and the two relatively movable parts are locked together and unlocked by a slight oscillating movement of one with relation to the other, which adds no inconvenience to the ordinary back and forth movement of the hand in the use of the so called pump type of gun.

The forestock, which is connected with the barrel, is adapted to receive the magazine clip and the barrel is sleeved on the breech block which contains the firing pin and is connected with the main stock of the gun. The barrel being sleeved on the breech block, it is capable of being turned thereon, and the two parts are locked together by means of a bayonet joint so that a very slight oscillating or turning movement suffices to lock and unlock the parts.

In using the gun the barrel after the gun has been fired is slightly turned with relation to the stock and then pushed forward, the magazine traveling with the barrel to a point in front of the breech block, and in such movement the spent shell is withdrawn by an extractor of the ordinary construction and ejected through an opening in the barrel sleeve which becomes exposed when the barrel is pushed forward.

The new cartridge is pressed up from the magazine clip in the ordinary way so that it comes in front of the breech block when the spent shell is ejected; and it is then pushed into the breech block chamber when the barrel and breech block are drawn together into locking position.

The construction of the lock is very simple, the firing pin, which is longitudi-

nally movable with relation to the breech block and is pressed forward with relation thereto by a spring, being caught by a sear carried by the barrel in the closing movement so that it is carried back with relation to the breech block thus compressing the spring. The firing pin releasing mechanism consists of a trigger provided with means for separating the firing pin from the part which has caught and retained it as above described.

Figure 1 is a side elevation of a portion of the gun with parts shown in dotted lines; Fig. 2 is a transverse vertical section on the line  $x^2$  of Fig. 3, showing the locking mechanism; Fig. 3 is a longitudinal vertical section; Fig. 4 is a longitudinal horizontal section; and Fig. 5 is a plan view of the sleeve which is connected with the barrel and adapted to be moved longitudinally with relation to the breech block.

Referring to Fig. 3, the barrel 1 is provided with a rearwardly extending sleeve 2 in which the said barrel is shown as screw threaded at 3, the said sleeve surrounding and being longitudinally movable on the breech block 4 which is connected at the rear end with a portion of the frame 5 which contains the gun lock and has the main stock 6 connected therewith. The said frame 5 is provided with a forwardly extending sleeve 7 which surrounds the sleeve 2 and is utilized as a part of the locking device for the barrel and frame and also as an inclosing and strengthening device for the separable parts.

The sleeve is open at the bottom to provide for the oscillating movement of the barrel sleeve 2 which has a downwardly projecting magazine holder 8 having a recess for receiving a cartridge magazine clip 9 of the usual construction, the uppermost cartridge when the gun is in firing position being held down by the breech block 4 which lies over it.

From the foregoing description it will be seen that if the barrel is pushed forward with relation to the breech block it will carry the magazine forward with relation to the breech block until it is beyond the end of the breech block, so that the upper cartridge therein is free to enter the barrel sleeve 2 which constitutes a receiving chamber, the spent shell previously having been ejected through a lateral opening in said sleeve by an ejector 10 cooperating with an

extractor hook 12 of the usual construction (see Fig. 4). The said hook is shown as a spring hook connected with the side of the breech block so that it catches over the flange of the cartridge in the usual way; and the ejector 10 consists of a lever pivoted in a recess 13 in the sleeve 2, the forward end 14 of said ejector being arranged to be thrown into engagement with the side of the cartridge when the rear end 15 of said lever reaches a shoulder 16, formed at the end of a groove or channel in the side of the breech block 4. In the return movement of the barrel the new shell is engaged by the front of the breech block and pushed into the firing chamber at the rear of the barrel.

In order to limit the forward movement of the barrel with relation to the breech block, the sleeve or housing 7 is shown as provided with a downward projection 17 which engages in a slot 18 formed in the top of the barrel sleeve 2 so that when the barrel has been moved forward to the proper position, the said projection 17 will be engaged by the rear end of the slot 18, thus preventing any further movement.

The barrel and stock must be firmly locked together when the gun is in condition to be fired, and of course must be unlocked to admit of the relative longitudinal movement for ejecting and loading. The locking and unlocking of the parts are accomplished by a slight rotary movement of one part relative to the other; and as a simple locking expedient, the housing 7 is provided with one or more inward projections 19 which are adapted to enter longitudinal channels 20 formed in the rear portion of the movable sleeve 2, (dotted lines, Figs. 1, 4, and 5). The said slots 20 are provided at their inner ends with lateral offsets 21 (dotted lines Figs. 1 and full lines Fig. 2) so that after the inner sleeve has been moved to a position in which the projections are at the inner ends of the channel, a slight rotary movement will carry the projections into the offsets 21 thus securely connecting the barrel and frame. The limiting channel 18 is also shown as provided with an offset 22 to receive the projection 17. The said channel 18 determines the position of the barrel when the gun is open, the position of the barrel when the projection 17 is in the channel 18 being such that the channels 20 will be in line with the locking projections 19.

The return movement of the barrel to closed position is also utilized to cock the gun; and the gun lock construction is extremely simple as well as efficient. Furthermore, the mechanism is such that it is impossible to release the firing pin unless the parts are securely locked in firing position. As herein shown, the firing pin 23 is contained in a hollow bore formed in the

breech block 4 and itself has a recess at the rear containing a spring 24 which reacts between the front end of the recess and a transverse pin 25 which is driven through the breech lock 4, and extends through slots 26 formed in the opposite sides of the firing pin. This pin 25 thus constitutes a stationary abutment for the end of the spring 24 which is thus compressed when the firing pin is drawn back with relation to the breech block. The firing pin is arranged to be drawn back in response to the return movement of the barrel, the barrel sleeve being shown as provided with a hook 27 adapted to engage a part of the firing pin, the said hook being normally pressed upward against the bottom of the firing pin by means of a spring plunger 28. The engaging part is herein shown as a shoulder formed by notching the under side of the firing pin, as shown in Fig. 3. In the construction shown the hook is pivoted at 29 in a recess 30 formed in the sleeve, and having an inclined rear wall against which the beveled end of the plunger 28 bears.

In order to trip the hook and release the firing pin, the trigger 32 is arranged to lift the rear end of the hook until the said hook becomes disengaged from the firing pin allowing the spring 24 to act. In the construction shown, the trigger 32 acts directly on an elbow lever 33 which is pivoted at 34 in a recess in the frame and acted upon by a spring 35, the end 36 of said lever being adapted to extend through an opening 37 in the frame below the barrel, so that when the trigger is pressed, the end of the lever will be moved upward toward the under side of the barrel sleeve. The end of the lever 33 which is adapted to engage and trip the hook 27 is equal in width to the width of the channel in which said lever is pivoted so that it is impossible for said end to engage the hook unless the parts are in line, and the alinement of the parts is brought about by the turning movement of the barrel which results in locking the parts together. If, therefore, the trigger should be pulled at any time when the gun is not wholly locked, the lever would bring up against the surface of the barrel sleeve, so that even if a part of the hook were engaged by the lever it could not be tripped.

The frame of the gun is shown as made in two parts, the stock 6 being contained in the part 40, which underlies the part having the breech block and housing above described. The said part 40 extends forward to the downwardly extending portion of the barrel sleeve which contains the magazine, and is connected to the other part of the frame by screws 41, at the rear, and screws 42 at the front. The trigger and elbow lever are contained in the recess 43 which is closed at the bottom by the trigger guard 44, se-

cured by screws 45. The forward position of the trigger is determined by a threaded stop pin 46 located in the frame at the rear of the recess 43.

What I claim is:

1. In a repeating fire arm, a frame having an attached breech-block, a longitudinally movable barrel having a sleeve surrounding said breech-block, a magazine below and attached to said barrel-sleeve, and means for locking the barrel and frame together by a rotary movement of the barrel, sleeve and magazine relatively to said frame.

2. In a repeating fire arm, the combination with a frame provided with a breech block; of a barrel longitudinally movable with relation to said breech block; means for locking the barrel and frame together by a relative rotary movement, and a magazine below the barrel and movable therewith, the top cartridge in said magazine normally lying in engagement with the under surface of the breech block and being adapted to be pushed upward into the space between the breech block and the barrel when the barrel and breech block are relatively moved apart.

3. In a repeating fire arm, the combination with a frame provided with a fixed breech block; of a barrel having connected therewith, means for locking the barrel and frame together by a relative rotary movement, a spring magazine carried by the barrel, the upper cartridge in which normally lies in contact with the breech block; and means for longitudinally separating said barrel and breech block to bring the magazine forward of the breech block.

4. In a repeating fire arm, the combination with a frame provided with a breech block; of a barrel having a sleeve fitting said breech block and longitudinally movable thereon; means operated by a rotary movement for locking and unlocking said frame and barrel; and a magazine located below said sleeve, and participating in both movements of the barrel, to deliver a cartridge to the space between the breech block and the barrel when the barrel and magazine are separated.

5. In a repeating fire arm, the combination with a frame provided with a breech block; of a barrel having a sleeve fitting said breech block and longitudinally movable thereon; means whereby the said barrel and frame are locked together or unlocked in response to rotary movements of said sleeve on said breech block; and a magazine attached to and located below the said sleeve and participating in both such longitudinal and rotary movements, and adapted to deliver a cartridge to the space between the breech block and the barrel when the barrel is in its forward position with relation to the breech block.

6. In a repeating fire arm, the combination with the frame; of a breech block connected therewith; a barrel having a sleeve fitting said breech block, said barrel being longitudinally movable with relation to said breech block; an extractor hook connected with the said breech block; an ejector lever pivotally connected to said sleeve; and a shoulder formed in the breech block and adapted in the forward movement of the barrel with relation to the breech block to be engaged by said ejector lever, whereby said lever is moved into engagement with the empty shell.

7. In a repeating fire arm, the combination with a frame; of a breech block connected with said frame, a housing projecting forward from the frame, and partially surrounding said breech block; and a barrel provided with a rearwardly extending sleeve surrounding said breech block and fitting between the same and said housing, the frame being provided with inwardly projecting portions adapted to enter longitudinal channels formed in the rear of said sleeve; said channels having offset portions, whereby the parts are locked together by means of relative longitudinal and lateral movements.

8. In a repeating fire arm, the combination with a frame provided with a breech block; of a barrel having a rearwardly extending sleeve fitting over said breech block; a holder for a magazine clip connected with said sleeve at the bottom thereof; an extractor hook connected with said breech block; an ejector lever connected with said sleeve; and means operating in response to a rotary movement of said sleeve on said breech block for connecting the barrel with the frame.

9. In a fire arm, the combination with a frame and a breech block connected therewith; of a barrel having a sleeve fitting over said breech block and longitudinally movable thereon; means for inserting a cartridge in the space between said breech block and said barrel when the barrel is moved forward with relation to the breech block; a spring actuated firing pin located in the breech block; a spring hook located in the barrel sleeve and adapted to engage and draw back the firing pin when the barrel is moved toward the breech block; and trigger-actuated mechanism located in the frame and adapted to trip said hook when the barrel and frame are locked together.

10. In a fire arm, the combination with a frame; of a breech block connected with said frame; a barrel longitudinally movable with relation to said breech block; and having also a rotative locking movement, a firing pin located in said breech block and having an engaging shoulder; a spring hook connected with the barrel and so located as to

engage said shoulder whereby said firing pin is moved to cocked position by the longitudinal movement of the barrel with relation to the breech block; a lever pivotally supported in the frame and adapted to be rocked into engagement with said spring actuated hook; and a trigger operating on said lever, the trigger and hook so related that they are operatively connected only when the barrel is rotated to the locked position.

11. In a fire arm, the combination with a frame and a breech block connected therewith; of a barrel having a sleeve fitting over said breech block and longitudinally movable thereon; a spring actuated firing pin located in the breech block; a spring hook pivoted in a channel formed in the under part of the barrel sleeve and adapted to engage and draw back the firing pin; a tripping lever located in the frame below the barrel sleeve, the engaging portion of said tripping lever being equal in width to the width of the channel and so located with relation to the channel as to be in line therewith only when the gun is closed and locked; and a trigger adapted to operate said lever.

12. In a repeating fire arm, the combina-

tion with a frame provided with a breech block; of a barrel having a rearwardly extending sleeve fitting around said breech block; a magazine holder carried by and extending downwardly from said barrel sleeve below the breech block; a cartridge clip entering said holder, and offset channels and projections stationary with relation to said breech block and said sleeve respectively whereby said barrel and said frame are locked together by a rotary movement of one with relation to the other.

13. In a repeating fire arm, a frame having an attached breech-block, a longitudinally movable barrel having a rotative locking movement, locking means related to the frame and barrel operative on such rotative movement, and a magazine holder below the barrel and connected thereto to participate in both such longitudinal and rotative movements.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH H. WESSON.

Witnesses:

GEORGE P. CHAPIN,  
EVERETT A. KINNEY.