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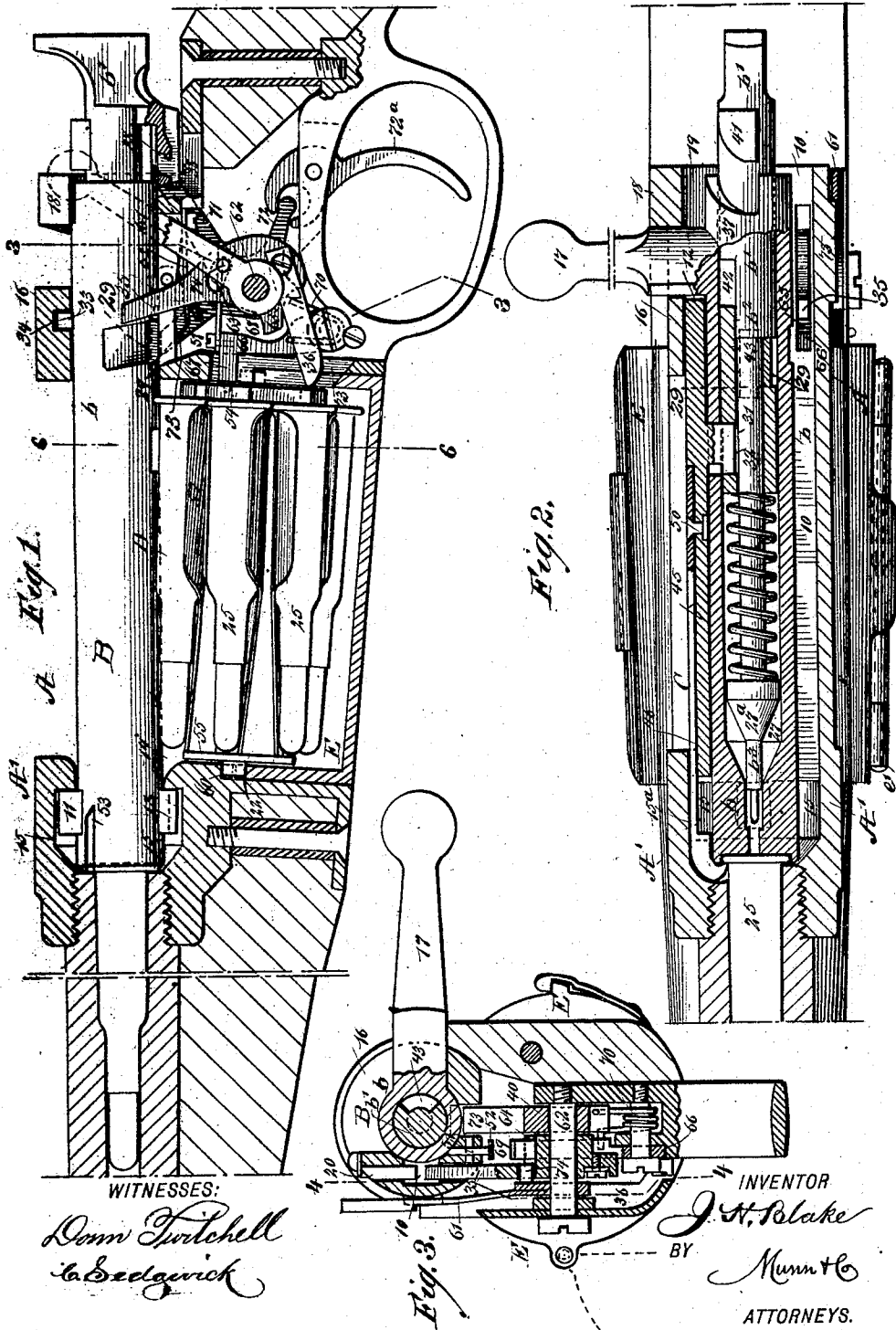
Patented July 26, 1898.

J. H. BLAKE.
MAGAZINE BOLT GUN.

(Application filed May 8, 1893. Renewed Dec. 29, 1897.)

(No Model.)

3 Sheets—Sheet 1.



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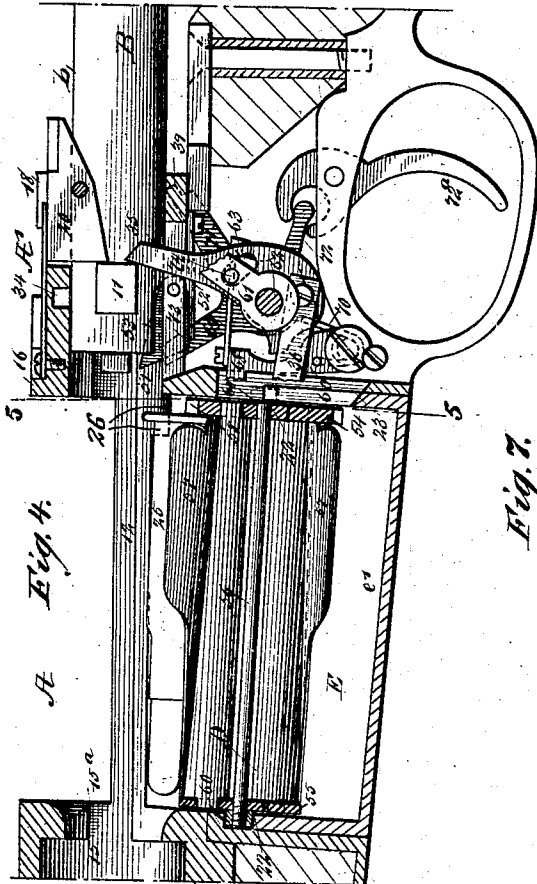
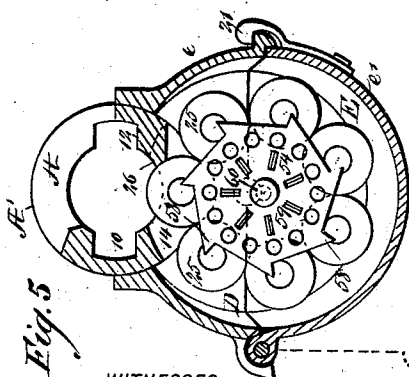
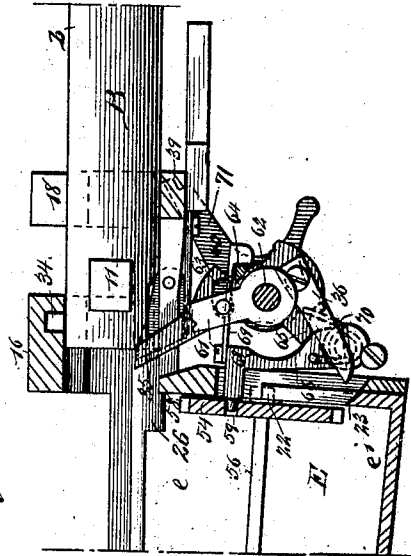
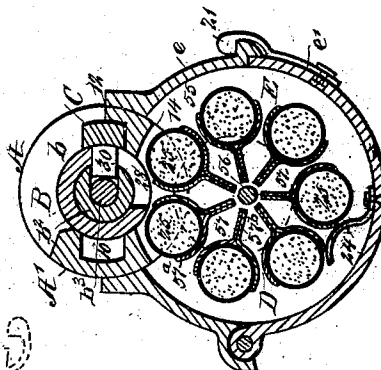


Fig. 4.



WITNESSES:
Dorn Twitchell
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Fig. 5.



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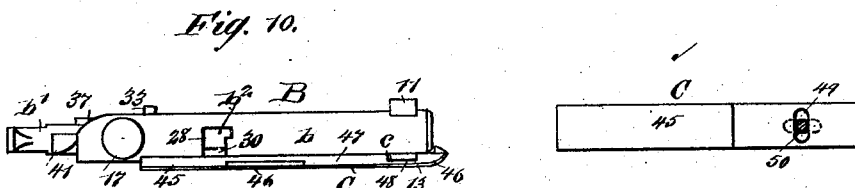
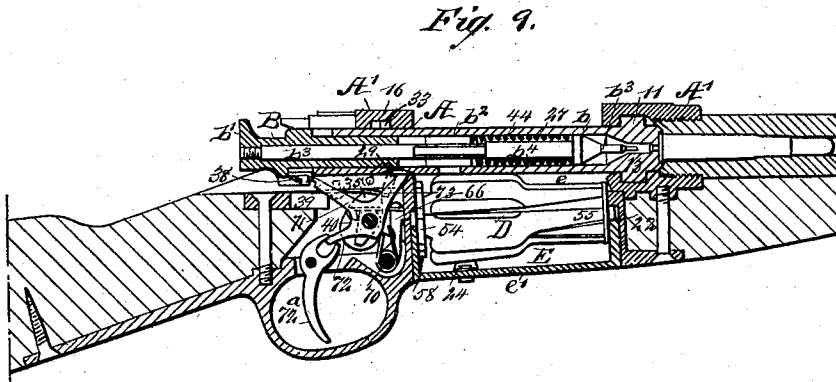
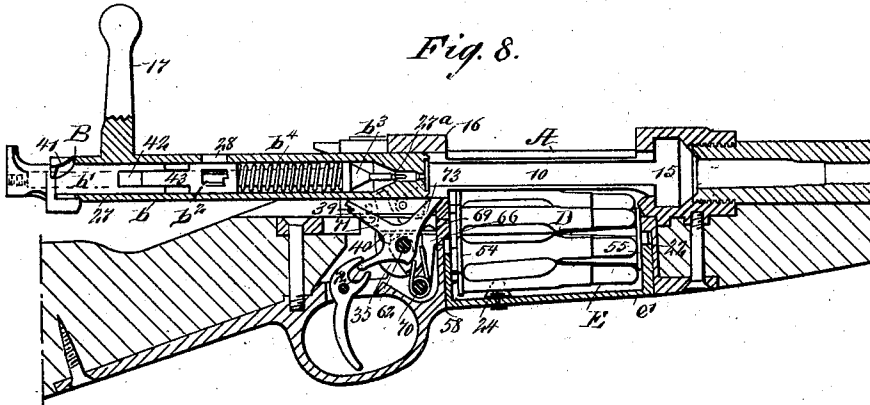
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3 Sheets—Sheet 3.



UNITED STATES PATENT OFFICE.

JOHN H. BLAKE, OF NEW YORK, N. Y.

MAGAZINE BOLT-GUN.

SPECIFICATION forming part of Letters Patent No. 608,023, dated July 26, 1898.

Application filed May 8, 1893. Renewed December 29, 1897. Serial No. 664,448. (No model.)

To all whom it may concern:

Be it known that I, JOHN HENRY BLAKE, of New York city, in the county and State of New York, have invented a new and Improved Magazine-Firearm, of which the following is a full, clear, and exact description.

My invention relates to an improvement in magazine-firearms, and has for its object to provide an arm capable of use either for single or magazine firing and a simple and expeditiously-operated cut-off by means of which the magazine may be brought into or thrown out of action as desired, the magazine when not in action remaining within the gun.

A further object of the invention is to provide as a magazine a cartridge packet in which a number of cartridges may be quickly and removably placed, a single packet only being placed within the magazine-chamber, and to so construct the magazine-chamber that the packet, while normally concealed, may be rendered visible at any moment, and, further, to so construct the packets that they may be carried loaded in a belt or other receptacle in like manner, as is customary in carrying single cartridges, thus enabling a marksman to quickly substitute a loaded packet for an empty one in the magazine, a cartridge being at the time within the barrel ready to be fired.

Another feature of the invention consists in the novel construction of the bolt, which is not only simply and durably made, but is so constructed that its several parts may be quickly and conveniently separated and again united and any portion readily replaced if injured.

A further feature of the invention consists in the construction of the extractor and the manner of operating the same and in the construction of the sear, whereby in addition to its usual functions the sear is also employed to prevent a rocking or lateral movement of the bolt when the latter is in its firing position.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully described, and ascertained in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification,

in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical longitudinal section 55 through the magazine-arm, illustrating the cartridge-packet in position for use and the bolt in side elevation, the bolt being in the firing position. Fig. 2 is a horizontal section taken through the bolt, disclosing the firing-pin. Fig. 3 is a vertical section taken practically on the line 3 3 of Fig. 1. Fig. 4 is a vertical longitudinal section taken practically on the line 4 4 of Fig. 3, the magazine-packet being in action and the bolt in its open position. Fig. 5 is a transverse section taken, essentially, on the line 5 5 of Fig. 4, illustrating the cartridge-packet in rear elevation and in position for use. Fig. 6 is a section taken, essentially, on the line 6 6 of Fig. 1 and 70 through the bolt, the magazine-chamber, and the cartridge-packet, the latter, being out of action, occupying the position it assumes when the gun is employed for single firing. Fig. 7 is a partial vertical section disclosing the position of the mechanism for actuating the cartridge-packet when the gun is used for repeated firing, the bolt being shown in its open position. Fig. 8 is a longitudinal vertical section taken through the gun on a line 80 with the center of the bolt, showing the action open. Fig. 9 is a similar section illustrating the action in closed or firing position. Fig. 10 is a detail side elevation of the combined extractor and bolt. Fig. 11 is a detail 85 view of a portion of the extractor. Fig. 12 is a detail perspective view of the extractor, and Fig. 13 is a longitudinal sectional view of the same.

The receiver A of the breech-casing A' is 90 provided in its left-hand side with a deep and broad groove 10, longitudinally produced and extending from a point near the front of the casing through its rear end, said groove being adapted to receive and to admit of the 95 passage of a locking-lug 11; formed upon the left-hand side of the locking-bolt B, while upon the right-hand side of the receiver a longitudinal slideway 12 is constructed, adapted to receive an extractor C, carried by 100 the bolt B, and a lug 13, located upon the right-hand side of the bolt diametrically op-

posite the left-hand lug 11, both lugs being located near the forward end of the bolt, as shown in Figs. 1 and 10.

The entire bottom of the receiver is cut away, as shown at 14 in Figs. 5 and 6, to permit the upward movement of cartridges from a magazine-packet D, to be hereinafter described, as will likewise be the chamber receiving said packet.

In the forward end of the breech-casing an annular groove 15 is produced, having a taper at its forward end, and the said groove is adapted to receive the locking-lugs 11 and 13 of the bolt when the latter is in its firing position, and on the right-hand side of the breech-casing a longitudinal channel 15^a is cut, leading directly into the annular groove 15, the channel being adapted to receive the forward end of the extractor C and admit it into the groove 15, as shown in Fig. 2.

A housing 16 is located at the rear of the receiving-section of the breech-casing, adapted to encircle the bolt and serve as a guide for it, and at the rear of the housing a right-hand channel is left for the passage of the handle 17 of the bolt, while a shoulder 18 is formed at the right side and at the rear of the housing, in front of which the base of the handle 17 locks in a firing position, as shown in Fig. 2.

A channel 19 is cut in the inner face of both the housing and shoulder, the base-wall whereof is in the same horizontal plane as the right-hand slideway 12. (Likewise shown in Fig. 2.) A spring-pressed locking-lever 20 is located in the left-hand wall of the breech-casing back of the housing, adapted for engagement with the left-hand lug of the bolt, as shown in Fig. 4, and to prevent the bolt being entirely withdrawn from the breech-casing when carried to an open position; but the bolt may be entirely withdrawn when desired by carrying the lever out of the path of the said lug.

A magazine-chamber E is constructed below the open bottom 14 of the breech-casing, as shown best in Figs. 4 and 5. The shape of the magazine-chamber is somewhat circular or cylindrical in cross-section, and it is divided longitudinally into two sections *e* and *e'*, the lower section being hinged at its left-hand side to the upper section, and at its right-hand side the lower section is provided with any suitable form of latch 21, capable of being conveniently and expeditiously released by the thumb or fingers of the marksman.

Recesses 22 are formed in the upper portion of the front and rear walls of the lower section *e'* of the magazine-chamber, adapted as boxes or bearings for the cartridge-packet D, heretofore alluded to, and at the left of the rear bearing a slot 23 is made in the rear wall of the said lower section, while within the section a spring 24 is secured to its bottom surface, preferably located between the center and rear wall said spring being carried

upward and outward in direction of the left-hand side of the magazine, as is best shown in Fig. 6. The object of this spring is to force a packet when placed in position in a magazine to assume a position bringing the space between two adjacent cartridges 25 contained in a packet opposite the face of the bolt, as shown in Fig. 6, whereby the bolt may be at that time passed freely over the packet without acting upon it. When the packet is in this position, the gun may be used for single firing.

The cartridge-packet when placed within the magazine-chamber and when brought into use is adapted to revolve in one direction only, the revolving mechanism to be hereinafter described, and the position of the packet when it is brought into action with respect to the receiver of the breech-casing is shown best in Fig. 5; and it will be observed that below the slideway 12 in the breech-casing an inwardly-extending lug 26 is constructed, which lug is adapted to bear against the right-hand side of the uppermost cartridge or the one to be guided into the barrel, and thus prevent the possibility of that cartridge being passed beyond the receiving-section of the breech-casing or out of the path of the bolt. The lug 26 is also shown in Figs. 4 and 7. The cartridge-packet is adapted to revolve from the left in direction of the right.

The bolt B consists of a body *b*, the cocking-piece *b'*, the sleeve *b''*, acting in conjunction with the cocking-piece, the firing-pin *b'''*, and mainspring *b''''*, and, as has heretofore been stated, the extractor C is connected with the bolt.

The well 27 of the body, except where closed for the striker 27^a, is bored in one diameter. Near the front of the body the two locking-lugs 11 and 13, alluded to, are located, the right-hand one 13 being preferably provided with a flange upon its upper surface to support the hook end of the extractor C, which flange is not shown in the drawings. The extractor rests upon the lug 13 only when the bolt is moved back and forth.

An opening 28 is provided diametrically in the top and right-hand side of the body, which opening or slot is somewhat L-shaped, the short arm being at the top and extends longitudinally of the bolt. A cavity 29 is made in the right-hand side of the bolt near the handle, and the surface of the bolt-body containing the cavity becomes the under surface when the bolt is in firing position, as shown in Fig. 9. The cavity 29 is likewise shown in Figs. 1 and 2. The opening or slot 28 is adapted to receive a lug 30, produced on the under side of the extractor near its rear end, whereby the extractor is given a rear support and has limited circumferential movement on the body. The lug of the extractor in addition to entering the body-opening 28 also enters an opening 31 in the sleeve *b''*, as shown in Fig. 2, and bears against a flattened surface 32 on the shank of the firing-pin, which

pin passes loosely through the sleeve, and the extractor is moved only when the body of the bolt is turned.

The body *b* is provided with a taper at its forward extremity, adapted to engage with the tapered wall of the groove 15, and on the left of the body *b* a stud 33 is located, adapted to turn in a recess 34, located in the left-hand side of the breech-housing 16, as shown in Figs. 1, 4, and 9, which stud, as the bolt is pushed forward, is intended to impinge upon an operating-arm 35, used in connection with the movement of the packet as the bolt is moved forward and lowers the packet-hand 36 to a position for rotating engagement with the packet when the bolt is again drawn back. The usual cam 37 is located upon the rear end of the bolt-body, it being adapted for forcing back the cocking-piece *b'* as the handle is turned to the left. The cocking-piece is secured upon the rear end of the firing-pin shank and contains notches 38 for the nose 39 of the sear 40 to effect a full or a half cock, and upon the upper face of the cocking-piece a nose 41 is formed, which is acted upon by the cam 37 of the bolt.

The cocking-piece is provided with a longitudinal slot 42 in its forward end, forming a fork adapted to receive a tang 43, projected from the sleeve *b*², as shown in Figs. 2 and 8. The firing-pin and striker are in one piece, and the shoulder of the striker and the forward end of the sleeve form the two bearings for the mainspring *b*⁴, which is coiled around the firing-pin shank.

The extractor consists of a plate 45 and a hook 46, constituting the extractor proper and carried by the plate. The shank of the hook rests between shoulders 47, formed on the side margins of the plate, and the plate is recessed to receive said shank in order that the outer face of both may be flush, as shown in Fig. 10. The shank extends beyond the forward end of the plate, the latter terminating at *c*, (see Fig. 10,) and the head of the hook extends inward. The shank adjacent to the head is thickened to form a recess 48 between the thickened section and the forward end of the plate.

A connection is effected between the plate and hook of the extractor by producing in the former a slot 49 (shown in Fig. 11) and forming upon the under face of the shank of the hook a headed stud 50.

When placing the hook upon the plate, the shank of the hook is usually carried at a right angle to the plate, or practically so, the stud is made to enter the opening 49, and then the shank of the hook is carried over and parallel with the plate and sprung between the shoulders 47. In order that a ready disengagement may be effected between the hook portion of an extractor and the plate, one of the side lugs or shoulders 47, between which the hook rests, is made much shorter than the other, and the hook is

carried over on that side, the stud serving as a fulcrum.

When the extractor is upon the bolt and the firing-pin of the bolt is in its cocked position, the recess 48 in the hook will receive the left-hand bolt-lug 13, as shown in Fig. 10, and the hook will extend over the front end of the bolt-body.

The ejecting mechanism consists in locating within the breech-casing at the left-hand side, preferably below the housing 16, a lever 51, (shown in Fig. 4,) which lever is normally projected upward in the path of the bolt by a spring 52, and the bolt, in its left-hand side and in what is the bottom portion thereof when in position to slide is provided with a recess 53, and when the bolt has been carried back to its fully-open position the flange of the shell held by the extractor will be engaged by the ejector—that is, the lever 51 and the quick and spring-controlled contact which will take place between the ejector and the shell will force the latter upward and laterally out from the receiver and out of engagement with the forward end of the bolt.

It is evident that the bolt may be readily and conveniently taken apart without the assistance of a tool, as when the extractor is carried up upon the top of the bolt its lug may be lifted out of engagement with the body of the bolt and the sleeve, and therefore the extractor may be entirely removed from the bolt. Next, the cocking-piece, sleeve, and firing-pin can be withdrawn from the bore of the bolt-body from the rear of the latter, and by turning the firing-pin in proper direction its shank may be unscrewed from the cocking-piece, and all of the parts adapted to fit into the interior of the bolt may be disconnected, repaired, if damaged, and another piece substituted, if broken. It is further evident that the extractor is exceedingly strong and that it will effectually clamp the flange of the shell. It is also evident that when the ejector engages with an empty shell it will force the shell out from the receiver of the gun.

With reference to the cartridge-packet *D*, this packet may be of any desired size. Preferably, however, it is made of a size enabling it to carry seven large-sized cartridges. The packet is adapted to revolve within the magazine-chamber. The packet consists of a rear head 54, a forward head 55, and a central bolt 56, connecting the two heads and holding them rigidly at a proper distance apart. The structure of the packet may be said to be completed by the addition of a series of longitudinally-arranged clamps 57. These clamps are ordinarily made of spring metal and are open at the top and given such shape longitudinally and in cross-section as to cling to the sides of a cartridge-shell when forced in a clamp, one face of each shell in each clamp being fully exposed.

The clamps usually consist, as shown in Fig. 6, of an upper semicircular section 57^a, adapted to receive a cartridge, and a lower flanges-ecton 57^b, extending longitudinally 5 of the semicircular section and from end to end thereof, the extremities of the shank-sections being attached in the heads of the packet-frame, since the shank-sections of the clamps are made longer than their body-sections. The shank sections are shown as securely fixed in the head 54 in Fig. 5 of the drawings.

Upon the periphery of the rear head 54 a ratchet-surface is formed, and the teeth 58 are all inclined in the same direction. One tooth is located back of the receiving portion of each clamp, as the number of teeth is made to correspond to the number of cartridges to be carried by the packet, and the rear head 20 54 of the packet is further provided with a number of apertures 59, arranged in a circle adjacent to the teeth.

Each head 54 and 55 of the packet is provided with a trunnion 60, as shown in Fig. 4, and these trunnions are adapted to rest in bearings formed in the lower section of the magazine-chamber. Thus it will be readily observed that a packet may be easily placed in position within the magazine-chamber by simply causing the lower section thereof to drop and placing the trunnions of the packet in the bearings of the dropping section. It is further evident that a packet when empty may be quickly removed from the magazine, 35 or the packet may be examined whenever desirable by simply opening the lower section of the magazine, as the packet will not drop out of its own accord.

It is further evident that a number of loaded packets, owing to the peculiar shape of the packet, may be carried in a belt or other receptacle disposed about the person of the marksman with as much ease and is capable of being as readily manipulated as a single 45 cartridge.

The operating-arm 35 is acted upon by the bolt and likewise by a cut-off lever 61. The arm is pivoted near its lower end upon a pin 62, properly supported back of the magazine-chamber and beneath the rear portion of the breech-casing, as shown in Figs. 1, 4, and 7. The upper portion of the arm 35 is of much less width than the lower portion, and its upper extremity extends within the left-hand channel 10 of the breech-casing through an elongated opening made in its bottom, whereby the upper end of the arm may be brought in the path of the left-hand bolt-lug 11, as shown in Fig. 4. A slot 63 is made in the lower 60 larger portion of the operating-arm above its fulcrum, and upon the right-hand side of the arm a boss 64 is formed, preferably adjacent to the slot 63, while a spur 65 is placed upon the lower forward portion of the arm in the 65 same vertical plane as the boss.

A stop or locking-finger 66, preferably of an inverted-L shape, is pivoted at its lower

end in front of and below the fulcrum of the operating-arm. The upper member of the stop extends into the magazine-chamber 70 through a slot 67 in one end, as shown in Fig. 1, said member being so shaped and located that it will enter one of the apertures 59 in the rear head of the packet D, and when so engaging will prevent the packet from revolving. The lower member of the stop or 75 finger is provided with a cavity 68 in its rear edge to receive the spur 65 of the operating-arm. When the arm is up in position to be engaged by the left locking-lug 11 of the bolt, 80 the spur is out of the finger-recess, as shown in Fig. 1, and the operating-arm occupies this position when the packet is to be brought into action. When, however, the operating-arm is carried out of the path of the said 85 locking-lug, as shown in Fig. 7, the spur 65 engages with the lower wall of the stop or finger cavity, and the stop cannot be withdrawn from locking engagement with the packet until the cut-off lever is operated. 90 The gun is at this time capable of use for single fire.

Whenever the operating-arm is pressed rearward by the opening movement of the locking-bolt, the packet must be revolved one 95 tooth, bringing a cartridge in the forward path of the bolt. Consequently at that time the locking-finger or stop must be withdrawn from the packet, and this is effected by attaching to the upper portion of the stop or 100 finger a latch-bar 69, which extends rearward and is in constant engagement with the boss 64 of the operating-arm, as shown in Figs. 1 and 3. The stop is pressed forward by a spring 70, which spring also acts upon the sear 105 40, as shown in Figs. 8 and 9. The immediate agent in the revolution of the packet is the pawl 36, which is attached to or constitutes an integral portion of the operating-arm at its forward lower portion, as the pawl extends through the recess 23 in the magazine-chamber and engages with the packet-teeth. 110 The pawl and operating-arm jointly form a bell-crank lever.

The sear consists of a body, by which it is 115 pivoted, a rearwardly and upwardly extending arm 71, terminating in a nose 39, a shorter downwardly and rearwardly projected arm 72 in engagement with the trigger 72^a, and an upwardly and forwardly extending arm 73, 120 which when the nose 39 is depressed to effect a firing enters the cavity 29 in the bolt and prevents the bolt from moving laterally or rocking during firing, this engagement being effected only and during the time the trigger 125 is drawn.

The cut-off lever 61 is fulcrumed upon the same pivot-pin 62 as the operating-arm 35, as is likewise the sear, and the cut-off lever is provided with a pin 74, which enters the slot 130 63 in the operating-arm. The cut-off lever is adapted to be carried forward of or to the rear of a boss 75, produced upon the left-hand side of the gun and preferably immediately oppo-

site the locking-recess of the bolt or that recess into which the handle of the bolt is adapted to enter. The operating-arm is moved either into the path of the locking-lug 11 of the bolt or out of the path thereof by the movement of the cut-off lever, the former position of the operating-arm being maintained when the cut-off lever is carried to the rear of the boss 75, and when the lever is placed forward of the boss the operating-arm will not be acted upon by the bolt.

If it is desired to load the magazine and hold it in reserve, the bolt is first closed, whereupon the magazine-chamber is opened and the packet is placed within the magazine, its trunnions resting upon the journals provided for them therein. The magazine-chamber is then closed, whereupon the spring located in the bottom of the magazine will insure the packet occupying a position in which the round of the bolt will be over the space between two adjoining cartridges, as shown in Fig. 6, and will be held in that position by the spring-controlled stop. Then when the magazine cut-off is carried forward of the boss 75 single-loader fire can be delivered.

If the cut-off lever is carried rearward, the operating-arm, as has been heretofore stated, is brought into position to be engaged by a bolt and magazine fire can be maintained.

Presuming the piece to have been fired, turning up the handle throws, in consequence of the cam 37 and nose 41, the cocking-piece of the bolt, and therefore the firing-pin, to the rear; but as the stud 30 upon the extractor, passing through the body of the sleeve of the bolt, prevents the latter from traversing the well of the former the rear bearing of the mainspring does not change its position, and as the striker is drawn back the space for the mainspring is lessened, thus compressing it. When the upward motion of the handle of the bolt is a little over half completed, its base, by the inclined surface of the shoulder 18 of the breech-casing, is moved slightly back, starting the bolt to the rear and loosening the empty shell. After rotation is completed as soon as the bolt is drawn back the cocking-notch passes the nose of the sear. When almost back, the locking-lug 11 abuts against the operating-arm 35, revolving it back, at the same time withdrawing the packet-stop 66 from its engagement with the rear of the head of the packet, and lifting the pawl 36 causes, by the latter's bearing against a tooth of the ratchet, a one-seventh revolution of the packet, bringing a second cartridge into the bottom of the receiver and in front of the bolt. Reversing the movement of the bolt, the stud 33 on the bolt meets the operating-arm 35, moves it forward, and lowers the pawl 36 until it engages below the second of the teeth of the packet. As this motion is completed the cocking-piece is stopped by the nose of the sear, and as the handle is turned down to the right the firing-pin and striker are held, while, the sleeve and body of the bolt moving

slightly forward, the mainspring-space is lessened, this time from the rear, completing its compression. At the same time the cartridge is pushed fully into the chamber and the recoil or locking lugs 11 and 13 are seated within the annular chamber at the forward portion of the breech-casing. The piece cannot be fired until fully locked, for as the trigger is pulled the nose 39 of the sear cannot leave the notch 38 until the arm 73 of the sear rises into the cavity 29, formed in the lower surface of the bolt for that purpose and for a purpose heretofore set forth.

When the bolt is carried rearward to its open position, the empty shell, the flange of which is within the grasp of the extractor-hook, is carried backward with the bolt until when the bolt reaches the end of its rearward stroke the ejector flies up into the slot 53 in the bolt and throws the cartridge-shell out from the receiver, the extractor holding the flange only sufficiently long to give it a lateral direction.

After the last cartridge has been forced by the bolt into the barrel of the gun the packet may be removed from the magazine-chamber. Thus as the packet is placed in the chamber when the bolt is closed there will always be a cartridge in the barrel while the process of loading the magazine is going on, thereby preventing a surprise by an enemy. The operation of loading the magazine is quickly effected, as all that is necessary is to open the lower section of the magazine, throw in the section a packet, and then close said section.

In the event of a misfire the piece can be recocked by turning the handle up and then back to the firing position without retracting the bolt. If the trigger is pulled before the locking-lugs 11 and 13 are properly seated, the action of the nose of the cocking-piece on the side of the cam of the bolt will throw the latter to the right, seating the lugs before the point of the firing-pin reaches the primer.

I desire it to be distinctly understood that while various details of construction have been specifically described the character of such details may be changed without departing from the spirit of the invention—as, for example, the spring in the magazine-chamber engaging with the packet may be substituted by a device which will cause a cartridge to be placed in a position to be engaged by the bolt simultaneously with placing the packet in the magazine-chamber, in which event the packet will be placed in the magazine-chamber with the bolt open instead of closed. I desire it to be further understood that the packet system may be adapted to any suitable breech-closing system.

It may be here remarked that if the forward wall of the receiver-groove 15 is made straight the bullet of the cartridge is liable to strike against the shoulder thus formed and cause delay in single firing, as well as in magazine-firing, and in the latter case a jam would be the result; but by tapering or chain-

fering the said forward wall of the receiver and chamfering the forward end of the bolt entering the forward section of the receiver the difficulties above mentioned are overcome, as the taper toward the barrel directs the cartridges into it no matter what position they may take.

Having thus described my invention, I claim as new and desire to secure by Letters
10 Patent—

1. In a repeating rifle, the combination with the receiving-section of the breech-casing and a magazine-chamber located adjacent to the said receiving-section, and in communication therewith, the magazine-chamber being
15 constructed with an upper fixed section and with a lower drop-section, of a cartridge-carrying packet removably mounted in the magazine-chamber, substantially as described.

20 2. In a repeating rifle, the combination with the receiving-section of the breech-casing and a magazine-chamber located adjacent to the said receiving-section and in communication therewith, the magazine-chamber being
25 constructed with an upper fixed section and a lower semicylindrical drop-section, the drop-section being hinged at one side to the fixed section, and having a fastening device at the opposite side, of a cartridge-carrying packet
30 removably located in the said magazine-chamber and mounted to rotate therein, substantially as shown and described.

3. In a repeating rifle, the combination, with the receiving-section of the breech-casing, and a magazine-chamber located adjacent to the said section and in communication
35 therewith, the magazine consisting of a fixed and a drop section, of a cartridge-carrying packet removably mounted in the chamber and capable of revolving therein, and a spring located within the chamber and in engagement with the packet, whereby when the drop-section of the chamber is closed the packet
40 will be forced to assume a predetermined position, as and for the purpose specified.

4. In a repeating rifle, the combination with the receiving-section of the breech-casing, and a magazine-chamber located adjacent to the said section and in communication
50 therewith, the magazine-chamber consisting of a fixed section and a drop-section, of a cartridge-carrying packet removably mounted in said magazine-chamber, and means for forcing the packet to assume a predetermined position when the drop-section is closed, as and
55 for the purpose specified.

5. In repeating rifles, the combination with the receiving-section of the breech-casing and a magazine-chamber located adjacent to and
60 in communication with said receiving-section, of a cartridge-carrying packet removably and revolubly mounted in the said chamber, an operating-arm for revolving the said packet, means for moving the said operating-arm to revolve the packet, a cut-off lever adapted to
65 act upon the said operating-arm to throw it into or out of working position, and a stop

mechanism adapted to be moved into longitudinal engagement with the said packet when the operating-arm is thrown out of working
70 position, whereby the said packet may be held in reserve or may be brought into action, substantially as described.

6. In a repeating rifle, the combination with the receiving-section of the breech-casing, and a magazine-chamber in communication therewith, of a cartridge-carrying packet having its rear head provided with a ratchet-surface, the said cartridge-carrying packet
75 being revolubly and removably mounted within the magazine-chamber, a revolving mechanism connected with the packet and comprising an operating-arm adapted to engage with said ratchet-surface, the said operating-arm having a member extending within
80 the path of the bolt and a cut-off lever connected with the operating-arm, whereby the latter may be brought into action or carried out of action to maintain a cartridge-packet in reserve or in action, as and for the purpose
90 specified.

7. In a repeating rifle, the combination with the receiving-section of the breech-casing, a stop located within the receiving-section, the said stop being adapted to bear
95 against the cartridge to be guided into the barrel and hold it in the path of the bolt and a magazine-chamber in communication with the receiving-section of the breech-casing, of a cartridge-carrying packet revolubly and
100 removably located within the magazine-chamber and provided with a series of apertures in its rear head, a revolving mechanism connected with the packet, a cut-off connected with the revolving mechanism, and a stop operated
105 from the revolving mechanism, and adapted to enter one of the said apertures in the rear head of the packet, as and for the purpose specified.

8. In a repeating rifle, the combination, with the receiving-section of the breech-casing, a magazine-chamber in communication with the said receiving-section, and a bolt
110 having sliding movement in the said section, of a cartridge-carrying packet removably and revolubly located within the magazine-chamber, a revolving mechanism adapted for engagement with the cartridge-packet and operated by the movement of the bolt, a cut-off
115 connected with the revolving mechanism and adapted to carry said mechanism within or without the path of the bolt, and a stop mechanism in engagement with the packet and operated from the revolving mechanism, as and
120 for the purpose set forth.

9. In a repeating rifle, the combination with the receiving-section of the breech-casing, a magazine-chamber in communication with the said receiving-section, and a bolt
125 having sliding movement in the said section, of a cartridge-carrying packet removably and revolubly located within the magazine-chamber, an operating-arm adapted to engage the said packet and revolve the same, the said
130

arm being operated by the movement of the bolt, a cut-off lever connected with the said operating-arm and adapted to carry the said arm within or without the path of the bolt, and a spring-pressed pivoted stop having an upper member in engagement with the packet, and a lower member adapted to be engaged by the operating-arm, the said operating-arm when held without the path of the bolt engaging with the lower member of the said stop and holding said stop in locked engagement with the packet, as and for the purpose set forth.

10. In a repeating rifle, the combination, with the receiving-section of the breech-casing having a stop formed near its rear end, a magazine-chamber in communication with the receiving-section, and a cartridge-packet revolvably and removably located within the chamber, the cartridge-packet being adapted for engagement with the stop in the receiving-section, of a bolt having a sliding movement in the receiving-section of the breech-casing and over the cartridge-packet, a lug formed upon the bolt, a revolving mechanism engaging with the packet and adapted to be acted upon by the lug of the bolt, a cut-off connected with the revolving mechanism, and adapted to carry the revolving mechanism in or out of the path of the bolt-lug, and a trip mechanism carried by the bolt and adapted to engage with the revolving mechanism when the lug is brought into like action, the trip mechanism and the lug acting at different periods of time, as and for the purpose set forth.

11. In a repeating rifle, the combination, with the receiving-section of the breech-casing having a stop-lug formed within it, a bolt having sliding movement in the receiving-section of the breech-casing, a magazine-chamber located beneath the bolt and in communication with the receiving-section of the casing, a cartridge-packet removably and revolvably located within the magazine-chamber, the cartridges being adapted for engagement consecutively with the stop in the receiving-section, of a revolving mechanism in engagement with the packet, lugs formed upon the bolt, adapted for engagement with and to act upon the revolving mechanism, a cut-off connected with the revolving mechanism whereby it may be carried in or out of the path of the bolt-lugs, and a stop mechanism normally in engagement with the packet and operated from the revolving mechanism, as and for the purpose set forth.

12. In a firearm, the combination with a bolt, of an extractor located thereon and comprising a plate having circumferential movement upon the bolt, the said plate being recessed on its upper surface and having shoulders formed on its side margins, one of said shoulders being shorter than the other, and a hook-section removably connected with the said plate and extending forwardly therefrom, the said hook-section having a shank adapted

to fit in the said recess in the upper surface of the plate and rest between the shoulders on the side margins of the plate, as and for the purpose set forth.

13. In a firearm, the combination, with a bolt of an extractor located thereon, the said extractor comprising a plate having a circumferential movement upon the bolt, the said plate having its surface recessed, and provided with shoulders on its side margins, and a hook-section extending forwardly of the said plate and having a shank adapted to fit in the said recess and rest between the said shoulders, the said shank being provided with a stud on its under face adapted to engage a slot in the said plate, whereby it is removably connected therewith as and for the purpose set forth.

14. In a firearm, the combination with the breech-casing, of a bolt having sliding movement therein and provided at its forward end with a recess, the said bolt comprising a body having a longitudinal bore, a spring-controlled firing-pin located within the bore, a sleeve having a bearing against the spring of the firing-pin, and loosely mounted upon the shank thereof, a cocking-piece connected with the shank of the firing-pin and having locking engagement with the sleeve, an extractor located exteriorly upon the body of the bolt and provided with a lug on its under side adapted to enter a slot formed in the body of the bolt and also to enter a slot formed in the said sleeve and an ejector located within the breech-casing and adapted to enter the recess in the forward end of the said bolt, as and for the purpose specified.

15. In a firearm, a bolt comprising a body having a longitudinal bore therein, a spring-controlled firing-pin located within the bore, a sleeve having a bearing against the spring of the firing-pin and loosely mounted upon the shank thereof, a cocking-piece connected with the shank of the firing-pin and having locking engagement with the sleeve, an extractor located exteriorly upon the body of the bolt, the said extractor having a lug on its under side which enters a slot formed in the body of the bolt and also enters a slot formed in the said sleeve, as and for the purpose set forth.

16. A bolt for rifles and other firearms, the same consisting of a body-section provided with a bore produced longitudinally therein, open at its rear and closed at the forward end of the bolt with the exception of a small opening for the exit of the firing-pin, the firing-pin having movement in the bore, the shank of which firing-pin extends to the rear portion of the body, a sleeve loosely mounted upon the shank, a spring coiled around the shank of the firing-pin and located between the sleeve and the head of the pin, and a cocking-piece located within the body at the rear and removably connected with the firing-pin shank, the said cocking-piece having sliding and locking engagement with the said sleeve,

whereby all parts of the bolt may be separated and any one part replaced without the use of tools, as and for the purpose set forth.

17. In a firearm, a bolt, the same consisting of a body portion having an essentially L-shaped opening therein and a handle connected therewith, a firing-pin having sliding movement in the body, a portion of the pin being flattened, a sleeve loosely mounted upon the shank of the firing-pin, a spring coiled around the shank and intervening the head of the pin and the sleeve, the sleeve being provided with an opening beneath the opening in the body, a cocking-piece located at the rear of the body, having sliding and rotary movement therein, the cocking-piece

being provided with a nose adapted for engagement with the cam of the body, the cocking-piece having an interlocking yet sliding engagement with the said sleeve, and an extractor located upon the exterior of the body, the extractor being provided with a lug which enters and moves in the slot of the body and passes into the opening in the sleeve to an engagement with the flat portion of the firing-pin shank, as and for the purpose set forth.

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Witnesses:

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