



No. 609,445.

Patented Aug. 23, 1898.

M. C. LISLE.  
MAGAZINE GUN.

(Application filed Mar. 5, 1897.)

(No Model.)

3 Sheets—Sheet 2.

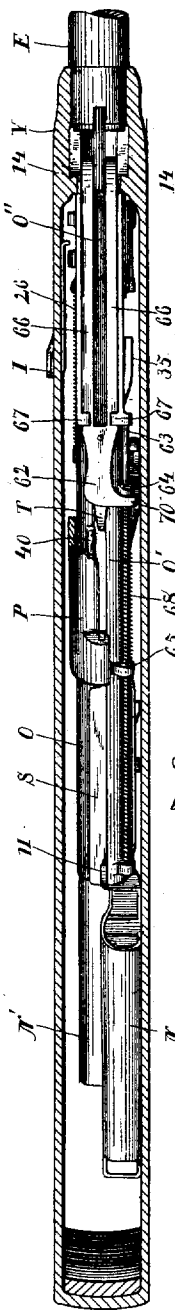


Fig. 8

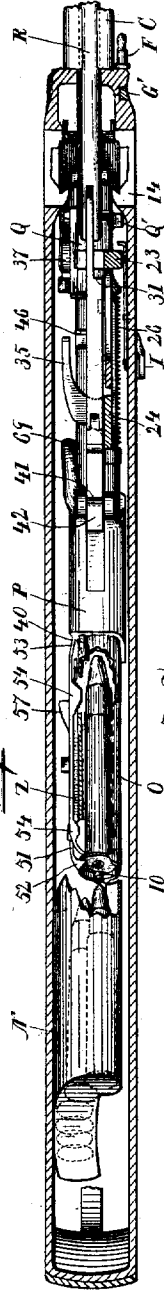
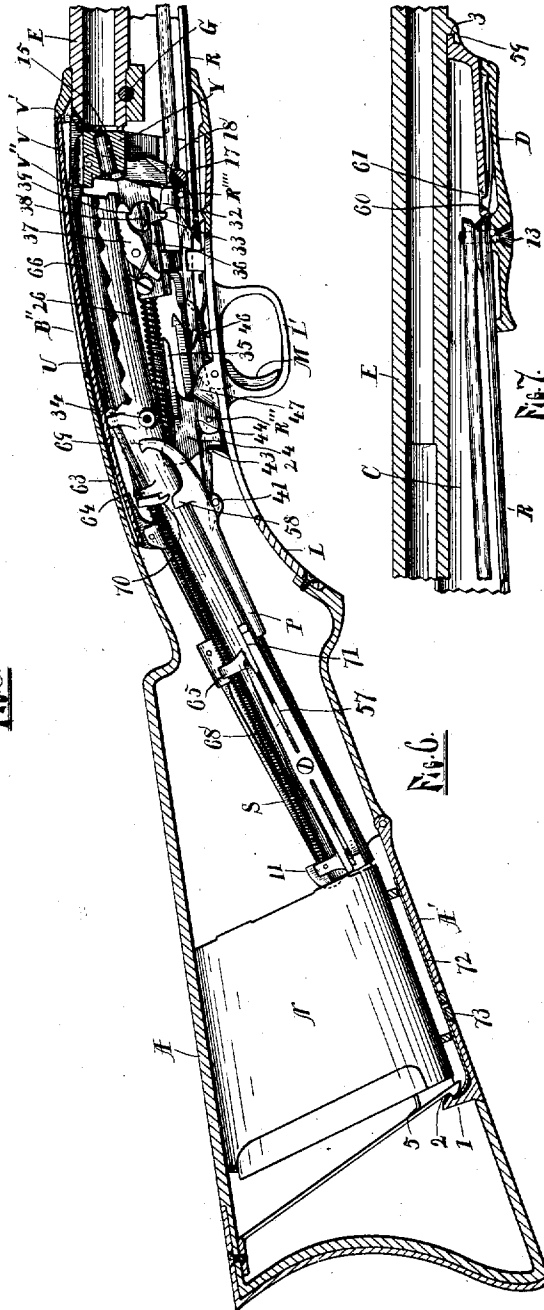


Fig. 9



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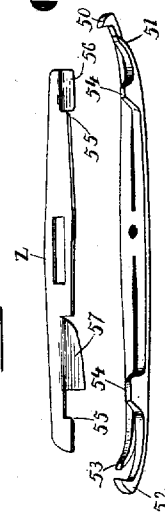
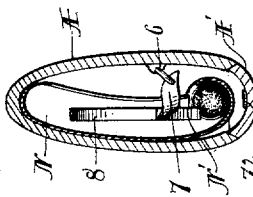
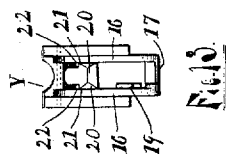
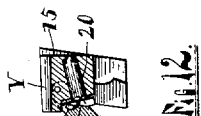
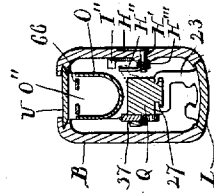
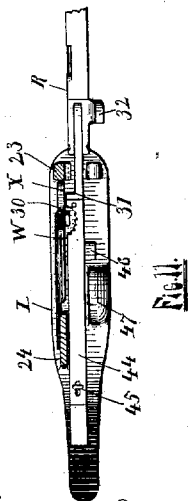
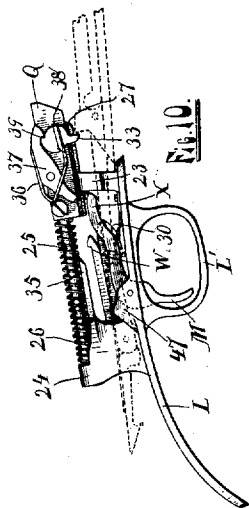


Fig. 15.

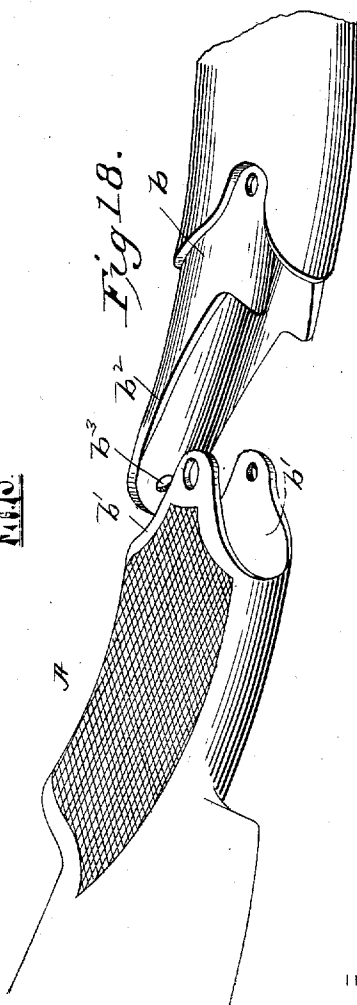


Fig. 18.

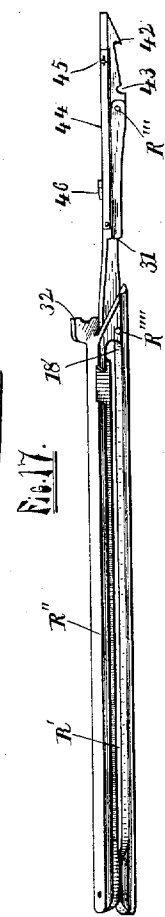


Fig. 17.

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# UNITED STATES PATENT OFFICE.

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## MAGAZINE-GUN.

SPECIFICATION forming part of Letters Patent No. 609,445, dated August 23, 1898.

Application filed March 5, 1897. Serial No. 625,940. (No model.)

*To all whom it may concern:*

Be it known that I, MYRON C. LISLE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Magazine-Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in the class of magazine-guns having a hollow stock having a magazine therein containing a supply of cartridges and automatic mechanism for transferring said cartridges to the barrel, firing the cartridges, and ejecting the empty shells, said mechanism being operated by a handpiece sliding on the fore-arm of the stock; and its object is to provide the same with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a gun embodying my invention with a portion of the barrel broken away; Fig. 2, a side elevation of a portion of the same with portions broken away; Fig. 3, a longitudinal vertical section of the stock, showing the left side view of the contents thereof with portions broken away; Fig. 4, a transverse section on the line 4 4 of Fig. 3; Fig. 5, a transverse section on the line 5 5 of Fig. 1; Fig. 6, a longitudinal vertical section of the stock, showing an elevation of the right side of the contents thereof with breech-block and barrel in vertical section; Fig. 7, an extension of Fig. 6 to the right, showing the parts in longitudinal vertical section; Fig. 8, a bottom view of the stock with parts of the stock and contents broken away to show the construction. Fig. 9 is a top view of the same with parts of the stock and contents removed for like purpose. Fig. 10 is a side view of the lock detached; Fig. 11, a plan view of the same with parts removed to show the sears and a portion of the operating-rod; Fig. 12, a detail of the breech-block in vertical section; Fig. 13, a rear view of the same; Fig. 14, a transverse

section of the stock on the line 14 14 of Fig. 3; Fig. 15, a detail in perspective of the stops and operating-slide; Fig. 16, a detail in transverse section on the line 16 16 of Fig. 3; Fig. 17, a detail of the operating-rod in perspective. Fig. 18 is a detail perspective view of the butt and receiver of the gun-stock, showing the same inverted and separated to clearly disclose the construction thereof at their junction.

Like letters and numbers refer to like parts in all of the figures.

The stock A is made of aluminum or other suitable material, being formed hollow and divided transversely at a point near the forward part of the pistol grip or handle and detachably secured by screws K, which screws also enter threaded openings 34 in the transfer-tube O and hold said tube in place. The receiver B and fore-arm C are made integral, and the sides of said receiver are formed with tapered recesses *b*, which receive the tapered sides *b'* of the hollow butt, and the lower end of said receiver is formed with a tapered rearward projection *b<sup>2</sup>*, which enters the lower forward end of said butt and is secured thereto by a screw which passes into said butt through an opening *b<sup>3</sup>* in the rear end of said projection, as shown in Fig. 18, whereby the stock is divided transversely at the junction of said butt and receiver, as stated above, and when said parts are secured together a most rigid engagement of each with the other is provided. The barrel E is held in place by a lug 3 on the fore-arm engaging a socket 59 on the barrel and by being inserted at its rear end in a socket in the receiver B and secured therein by a round transverse pin G engaging a transverse groove in the barrel and having a screw-threaded end engaging a threaded socket to hold the pin in place. Said pin is made concave on one side to conform to the surface of the barrel and provided with a pivoted lever G' to turn and hold said pin.

B' is a recess in the receiver. By turning the lever down and placing it in this recess the full side of the pin G engages the transverse groove in the barrel. The pin is thus held from turning by the lever and holds the

barrel in place. By turning the lever up, as in Fig. 2, the pin is turned with its concave side toward the barrel, and the latter can be removed without detaching the pin from the receiver.

D is a handpiece cast integral of aluminum or other suitable material, and provided with inwardly-projecting tongues D', which tongues engage and traverse grooves C' in the sides of the tapered fore-arm. Said grooves are inclined to the axis of the barrel and recede therefrom toward the rear, whereby the handpiece recedes from the barrel as it moves backward and is close to the same in the forward position, thus preventing anything from getting between said handpiece and barrel when the handpiece is in its forward position and relieving all friction upon the barrel when the handpiece is in motion.

E' is a stop-pin having a limited longitudinal movement in the handpiece and held out by a spring 4. When pressed inward, said pin engages a groove C'' in the fore-arm and limits the movement of the handpiece, as hereinafter described.

The magazine cut-off consists of a stud F, attached to a plate F', pivoted to the front end of the receiver B, whereby the position of said stud may be shifted. When in the upper position, as in Fig. 1, the stud F enters an opening D' in the handpiece D and permits full backward movement of the same. When turned down, it limits the said movement, and thus prevents the transfer of cartridges. A spring-stop 60, Fig. 7, having an oppositely-inclined head, is attached to the handpiece D, and said head engages a cavity 61 in the fore-arm when the handpiece is at its extreme forward position. Said stop thus holds the handpiece against moderate force only, keeping the parts in position for firing and releases the same when considerable pressure is applied thereto.

H is an indicator moving in a segmental recess in the side of the receiver and attached to a rocker-pin H', extending inward and having an arm H'' to engage a lug Q' on the hammer Q and provided with a spring H''' to return the indicator to a vertical position. As the hammer Q is moved back the lug Q' engages the arm H'' and turns the indicator backward, and when the hammer moves forward the arm is released and the spring turns the indicator upward, thus indicating the position of the hammer. The safety I consists of a pivoted lever I', having a hook I'' on its inner end to engage the lug Q' and hold the hammer in its rearward position.

J is a bit of different-colored material inserted in the receiver and covered by the safety when the hammer is thus secured and uncovered when the same is released, thus displaying a danger-signal when the gun can be fired. An opening is provided in the under side of the butt A to insert the packets N, which opening is closed by a door A', hinged at its forward end and secured at its rear end

by an inwardly and forwardly projecting hook 1, engaging a rearwardly-projecting hook 2 on a flexible arm. Said arm has a rod 5 extending alongside the packet and having an inwardly-turned end 6, adapted to engage the outwardly-turned end 7 of a spring-follower 8 in the packet, said end 7 projecting through an opening 9 in the wall of the packet, said opening having a downwardly-curved and forwardly-extended lower end. A slide 72 on the door A' extends inward behind the hook 2 and is provided with a thumb-piece 73, movable in an opening in said door, whereby said hook may be released by hand to open the door A'.

The handpiece D is connected to and operates the various parts within the stock by means of the rod R, which rod slides in V-grooves 12 in the fore-arm and closes a slotted opening in the bottom of the same, being attached to said handpiece at its forward end by a screw 13. Said rod extends within the receiver B and is provided with joints R''' and R'''' to permit of vertical movement of a part of said rod, as hereinafter described.

The breech-block Y has acute angles 14 at its rear engaging undercut grooves in the walls of the receiver, whereby said walls are prevented from spreading apart under the strain of the explosion. Said grooves are slightly inclined to the axis of the barrel, and the block has a vertical face 15 to engage the end of the barrel. Said block is thus tightly wedged against the barrel when raised to closed position. The breech-block is moved and held by means of a prop consisting of parallel arms 16, pivoted at their upper end to said block and extending downward at each side of the rod R and connected by a pin 17, having a flattened side and passing through a longitudinal slot R' in the rod R. Said slot has an upward extension 18 at its rear end. On one of the arms 16 is a lug 19, which has a sliding engagement with the rib R'' on the operating-rod, running under the same and holding the breech-block down as the rod runs rearward. As the rod R runs forward the end of the slot R' reaches the pin 17 and carries the same forward, thus causing the prop to force the breech-block to place. The pin 17 rotates meanwhile and engages the forward side of the extension 18, and the lug 19 passes beyond the end of the rib R'' and is free to rise. As the rod R is run backward the pin 17 is carried back by the side of the extension 18 until it has turned with its flat side upward, when it will run into the slot R', thus lowering the breech-block and turning the lug 19 down and running it under the rib R''. The firing-pin 20 has a limited longitudinal movement in the breech-block and is withdrawn by means of cams 22 on the props 16, which cams engage shoulders 21 on the head of said pin and thus hold the pin back until the breech-block is again elevated. The lock is attached to the guard-plate and removable therewith, and

consists, essentially, of a longitudinally-movable hammer and means for operating the same.

L is the guard-plate, detachably secured in a suitable opening in the under side of the receiver B, and having a trigger-guard I' on its under side and upwardly-projecting posts 23 and 24 near its respective ends.

Q is the hammer-head—an oblong block of metal having a lug Q' on its side to engage the indicator-arm H'' and safety-hook I'' and a rod 25 extending rearwardly through an opening in the post 24 and longitudinally movable therein, said rod being surrounded by a spring 26, tending to force the hammer forward against the firing-pin. Said hammer has grooves 27 in its sides receiving tongues on the post 23 and slidable in said grooves. In the bottom of the hammer-head and near its respective ends are sear-notches 28 and 29, adapted to be engaged by the automatic latch W and firing-sear X. The firing-sear is integral with the trigger and released thereby. The latch W is pivoted to the post 24 and has an arm 30 extending forward and bent inward beneath the sear X and at a distance therefrom and engaged by a shoulder 31 on the operating-rod R.

To move the hammer back ready for firing, a lug 32 on the operating-rod engages a dog 33, pivoted on the hammer and restored to the normal position by a spring 36, engaging a rib 38 on the head of the dog. Said dog is held against the pressure of the operating-rod by the cocking-hook 37 engaging a shoulder 39 on the dog, said hook being held in engagement by the spring 36. A fixed arm 35 extends from the post 24 and engages the extended rear end of the hook 37 to depress the same and release the dog 33 as the plunger Q is forced backward.

O is a tube extending from the packet N to the breech-block Y to convey the cartridges.

P is a slide to operate the transfer mechanism, embracing the tube O and moving longitudinally on the same and guided by ribs 40 on said tube. Said slide has a transverse pin 41, engaged by the rod R, which rod has a hook 42 at its end and a notch 43 near the joint R''' to engage said pin, and spanning said joint is a spring 44, having a sliding connection 45 at one end, whereby the parts of the rod are held normally in line and the joint R''' permitted to yield and rise as the lug 46 on the rod passes over the oppositely-inclined projection 47 on the guard-plate.

In the top of the tube O is a longitudinal slot O', extending about two-thirds of its length from the rear end, and at the forward end said tube is open at the top the full width, as at O'', Fig. 16, sufficient to receive a cartridge. A flexible arm S extends from the rear end of the slide P and within the slot O' and is provided with a downwardly-projecting hook 10 at its rear end to engage the flange of a cartridge and an upwardly-projecting

hook 11 to release the door A' automatically when the packet is emptied. Said arm S is divided longitudinally at its forward end, forming a second flexible arm S', extending forwardly within the slot O' and having a shoulder 48 and an oppositely-inclined projection 49 at its end, with room for a cartridge-flange between the same. Through suitable openings in the tube O extend four spring-stops 50, 51, 52, and 53 to engage the flanges of the cartridges and hold them from moving along the tube, said stops consisting of a suitable plate divided at each end and having a central opening for a screw to attach it to the transfer-tube and ends adapted to engage the flanges of the cartridges. The stops 50 and 53 are adapted to engage the rear side of the cartridge-flanges and hold them from going backward, and 51 and 52 engage the forward sides of the same and hold them from going forward. To lift the stops 51 and 52 and permit the cartridges to move forward at the proper time, said stops are provided with cams 54, which cams are engaged and lifted by a slidable plate Z, having an elongated central opening, lateral projections 55 to engage said cams, and fins 56 and 57, projecting between the stops, to guide said plate. The fin 57 is extended outward and engaged by a lug 58 on the slide P.

The receiver B is provided with an elongated opening B' in the top through which to eject the shells and insert cartridges. Said opening is closed by a cover U, consisting of a sliding plate attached to the slide P and moving in suitable grooves in the receiver B. To the inner side of the cover U is attached an extractor consisting of a flexible arm V, with its free end beneath the forward end of the cover U and having a notch V' near its end to engage the flange of the shell and a cam V'' to lift the said arm by engaging the tube O at the rear of the opening O''. A cross-head 62 slides on a rod 63, attached to the tube O and passing loosely through stops 64 and 65, which stops permit the rod to spring laterally. Said stops also limit the motion of the cross-head 62. Extending from said cross-head and at each side of the extractor are flexible fingers 66, sliding in guides 67. Projecting from the rear of the cross-head and traversing the slot O' is a spring-hook T to engage the flange of a cartridge. A hook 69 on the slide P engages a projection 70 on the cross-head, which projection engages an incline 71 on the stop 65 and sliding up the same is thus released from the hook 69. A spring 68 on the rod 63 engages the cross-head and presses it toward the stop 64.

The operation of my device is as follows: As the handpiece D moves backward the firing-pin is retracted, the breech-block Y is lowered, and the hammer Q brought to full-cocked position. Meanwhile the rod R traverses the pin 41 from the hook 42 to the notch 43. The cocking-hook is now tripped by the

arm 35, permitting the lug 32 to pass the dog 33, and the latch W engages the notch 28 and holds the hammer, the sear X being in advance of the notch 29 and inoperative. There is clearance enough between the sear X and the arm 30 so that a pull on the trigger M will not release the hammer. The slide P now begins to move backward on the tube O, carrying along the parts attached thereto. The extractor V starts the shell from the barrel and brings its rear end against the downward bent ends of the flexible fingers 66, compressing the same. The hook 69 now engages the cross-head 62, carrying with it the fingers and hook T and moving in unison with the slide U and extractor V. When the end of the shell escapes from the barrel, the resilience of the fingers 66 projects the forward end of the shell upward and throws it out through the opening B". As the slide P approaches the limit of its movement the hook T engages the flange of the cartridge held between stops 52 and 53, whereupon the hook 69 is detached from the cross-head by the incline 71, the rod 65 springing laterally to permit such detachment. The lug 58 now engages the fin 57 and raises the stops 51 and 52. This releases the cartridges held thereby and permits them to move forward. The spring 67 now quickly moves the cross-head forward against the stop 64, carrying the cartridge engaged by the hook T forward under the fingers 66, the cover and extractor remaining retracted, the extractor being raised by the cam V" to permit the cartridge to pass freely. In the meantime the shoulder 48 has engaged the cartridge-flange between stops 50 and 51, and the hook 10 has engaged the flange of the lower cartridge in the packet N. As the slide P returns to its former position these two cartridges are carried forward, with their flanges between the stops 50, 51, 52, and 53. The projection 49 serves to prevent the cartridge engaged by the shoulder 48 from racing forward, and the spring-follower 8 in like manner resists the cartridge engaged by the hook 10 and moves the cartridges down in the packet. As the handpiece D is moved forward the pin 41 remains in the notch 43 and carries the slide P to its forward position again. This closes the cover U and carries a cartridge into the barrel by means of the extractor, the notch V' of which engages the flange of the same for that purpose. The lug 46 now engages the projection 47 and raises the joint R" in the operating-rod, detaches the notch 43 from the pin 41, thus disengaging the slide P, while the rod R completes its forward movement. The lug 32 now freely passes the dog 33, and the breech-block is moved up to place and locked by the prop. During the last part of the movement the shoulder 31 on the rod R engages the laterally-projecting arm 30 at the end of the automatic latch W and depresses the same, releasing the latch W. The sear X now engages the notch 29, and the hammer may be released and the car-

tridge fired by pulling the trigger M. It is thus impossible to fire the piece unless fully closed. To let the hammer down, the stop E' is pressed inward, entering the groove C". The handpiece is then run back until stopped by the end of the groove, which is so located that the lug 32 will only move back to engage the dog 33 and does not move the hammer back far enough to engage the latch W with the notch 28. The sear X may now be released by pulling the trigger M and the hammer gradually lowered by moving the handpiece forward. By engaging the sear X with the notch 28 the hammer is held slightly removed from contact with the firing-pin to prevent accidental discharge of the cartridge. By pressing the stop E' in and moving the handpiece back to the limit of the groove C" the piece is cocked again ready for firing. By turning the magazine cut-out down, as in Fig. 2, it limits the movement of the handpiece to prevent engagement of the hook 10, shoulder 48, and hook T with the flanges of the cartridges, and at the same time allows the retraction of the cover U and ejection of the shell. When thus operated, the gun can be supplied with cartridges by hand through the opening B" and the contents of the magazine reserved for more rapid firing. For rapid firing constant pressure is applied to the trigger M, which prevents the sear X from engaging and holding the hammer, the result being that as the gun is fully closed and the sear X released the hammer immediately strikes the firing-pin and discharges the piece. Thus a series of shots may be fired automatically by simply reciprocating the handpiece on the fore-arm. When the packet is empty, as the last cartridge is withdrawn from the same the hook 11 engages the end 7 of the follower, which end in turn engages the end 6 of the rod 5 and releases the hook 2, permitting the door A' to open automatically and allow the packet N to fall out. The rod 7 rises in the forward extension of the opening 9, and is thus disengaged from the hook 11. Another packet and contents may now be quickly inserted and the door A' closed. Thus a rapid and practically continuous fire may be maintained as long as packets having cartridges are supplied to the stock.

Having thus fully described my invention, what I claim, and wish to secure by Letters Patent, is—

1. The combination with the barrel, of a sliding handpiece and ways receding from the barrel toward the rear, said handpiece being guided in said ways, substantially as described and for the purposes specified.

2. In a gun, a stock having a receiver having an opening at its forward end, a fore-arm having a lug on its forward end, a barrel having a socket to engage said lug and a transverse groove and inserted in said opening, and a pin to engage said groove and having a concave side, substantially as described.

3. In a gun having a concealed hammer, the

combination with the stock and said hammer, of a lug projecting from said hammer, a rock-shaft journaled in the wall of said stock and provided with an indicator upon its outer end, and with an arm upon its inner end, said arm being located in the path of movement of said lug, and a spring to turn the indicator in one direction, substantially as described.

4. In a gun, the combination of a pivoted locking-lever having a hook at one end, the gun-stock, an indicator on the outside of the latter, a rock-shaft to which said indicator is attached, a spring to move the indicator in one direction, an arm on said rock-shaft, and a concealed hammer having a lug to engage said arm and hook, substantially as described and for the purposes specified.

5. In a gun in combination with a concealed hammer, a lug on the hammer, a pivoted lever having a hook to engage the lug and extending outside the stock, a signal displayed by said lever when the hammer is released and covered thereby when the hammer is secured, an indicator moving in a segmental chamber in the outside of the stock, a rock-shaft to which said indicator is attached, a spring to move the indicator, and an arm on the shaft to engage the lug on the hammer, substantially as described.

6. In a magazine-gun, the combination with the internal mechanism, of the hollow fore-arm having a longitudinal slot in its bottom opening into its interior, a movable operating-rod traversing said slot and closing the same, and the slidable handpiece to which said rod is attached, substantially as described.

7. In a magazine-gun, the combination with the internal mechanism, of the hollow fore-arm having a longitudinal slot in the bottom opening into its interior, said slot having grooved side walls, and a movable operating-rod traversing said slot and closing the same, the sides of said rod being received by said grooved side walls, whereby said slot is closed by said rod and said rod supported by said grooved walls, substantially as described.

8. In a magazine-gun, in combination with the internal mechanism of the same, a hollow fore-arm having a slot in its bottom opening into its interior and grooves at each side of said slot, said fore-arm also having longitudinally-grooved sides, a movable operating-rod traversing said grooved walls of the slot and closing said slot, and a handpiece to which said rod is attached, said handpiece having tongues engaging the grooves in the sides of said fore-arm, substantially as described.

9. In a breech-loading gun, a breech-block having acute angles and a receiver having undercut ways in which said block slides, said angles and ways coacting to prevent spreading of the receiver, substantially as described.

10. In a breech-loading gun, a vertically-slidable breech-block, a horizontally-slidable rod having a longitudinal slot having a lateral extension, a prop pivoted to said block

at one end and having a pin provided with a flat side at the other end and traversing said slot and engaging said extension, substantially as described.

11. In a breech-loading gun, a vertically-slidable breech-block, a horizontally-slidable rod having a slot and a lateral extension to said slot, and a rib on the side, and a prop pivoted to the breech-block and having a flattened pin traversing the slot and engaging the extension, and a lug to engage said rib, substantially as described.

12. In a breech-loading gun, a vertically-slidable breech-block, a horizontally-slidable operating-rod, a prop pivoted to said block and operated by said rod, a rib on said rod, and a lug on said prop to run under said rib and hold the block down, substantially as described.

13. In a gun in combination with a movable breech-block, and a firing-pin longitudinally movable in said block, and a prop pivoted to said block to operate the same and means for operating said prop, a shoulder on said pin and a cam on said prop to retract and hold said pin when the block is lowered, substantially as described.

14. In a breech-loading gun, a slidable breech-block, a movable firing-pin in said block having shoulders, a slidable rod having a slot, a lateral extension to said slot, and a rib, props pivoted to said block, a lug on one of said props engaging said rib, a flattened pin connecting said props and traversing said slot and engaging the extension, and cams on said props engaging the shoulders on the pin, substantially as described.

15. In a gun, the combination with the trigger guard-plate having posts extending inward therefrom, a hammer slidably mounted on said posts, a spring engaging the hammer, a horizontal latch pivoted at one extremity to one of the posts and having an upwardly-projecting hook at its forward end to engage the hammer and lock the same in fully-cocked position, said latch having a laterally-extending inclined projection from its lower forward end, a longitudinally-movable rod having an inclined shoulder to engage said inclined projection, and a firing-sear and trigger pivoted to the guard-plate, substantially as described.

16. In a gun, a lock having a longitudinally-movable hammer, a dog pivoted on said hammer, a cocking-hook engaging said dog, a spring engaging said dog and hook, a fixed arm to engage and release said hook, and a slidable rod having a lug to engage said dog, substantially as described.

17. In a gun, a longitudinally-movable hammer, a spring engaging the same, a dog pivoted on said hammer, a rib on said dog, a spring engaging the rib, a cocking-hook engaging said dog, a fixed arm to engage and release said hook, an automatic latch and a firing-sear engaging notches in said hammer, a longitudinally-movable rod having a shoul-

der to engage and release the automatic latch, and a lug to engage the dog, substantially as described.

18. In a gun, a longitudinally-movable spring-pressed hammer, having a dog and sear-notches, a latch and a firing-sear alternately engaging said sear-notches respectively, and a longitudinally-movable rod having a lug directly engaging said dog and thereby moving the hammer into engagement with said latch and sear, and also having a shoulder engaging said latch to release the same from the sear-notch in the hammer, substantially as shown and described.

19. In a gun, a sliding breech-block, a firing-pin in the same, a sliding hammer engaging said pin a spring to actuate said hammer, a sear to hold said hammer, a trigger to release said sear, a dog on said hammer, a sliding rod having a lug to engage the dog, and a longitudinal slot, a prop pivoted to the block and having a pin traversing said slot, substantially as described.

20. In a gun, a vertically-movable breech-block, a firing-pin movable in said block, a longitudinally-movable hammer engaging said pin, a spring actuating said hammer, a latch-sear and a firing-sear alternately engaging the hammer, a dog on said hammer, a prop pivoted to said block at one end and having a flattened pin at the other end, and a lug on its side, a longitudinally-movable rod having a slot having a lateral extension and traversed by said pin, and a rib engaging the lug on the prop, and a lug engaging the dog on the hammer, and a shoulder engaging the automatic latch, and means for reciprocating said rod, substantially as described.

21. In a gun, a barrel, a stock having an opening at the rear of the barrel, a sliding cover to close the opening, an extractor attached to said cover, a vertically-sliding breech-block, a longitudinally-movable hammer engaging said pin, a spring actuating said hammer, a dog on said hammer, an automatic latch and a firing-sear engaging said hammer, a prop pivoted to said breech-block at the upper end, and having a flattened pin at the lower end, and a lug on its side, a sliding rod having a slot and lateral extension engaged and traversed by said pin, and a rib to engage the lug on the prop, and a lug to engage the dog on the hammer, and a shoulder to release the automatic latch, said rod also being connected to and operating said cover and extractor, and means for operating said rod, substantially as described.

22. In a gun, the combination of a barrel, a stock having an elongated opening at the rear of the barrel, and a tapered fore-arm beneath said barrel, a handpiece slidable on said fore-arm, a rod attached to the handpiece and sliding in a slot in the fore-arm, and having a slot a lateral extension, a rib, a lug, and a shoulder, a breech-block movable in said stock, a firing-pin in the breech-block, said pin having shoulders and being longi-

tudinally movable, a prop pivoted to the breech-block and having cams engaging said shoulders, a lug engaging the rib on the rod, and a flattened pin engaging the slot and extension in the rod, a longitudinally-movable hammer engaging the firing-pin, a spring engaging the hammer, a dog on the hammer engaging the lug on the rod, an automatic sear engaging the hammer and released by the shoulder on the rod, a firing-sear engaging the hammer and released by a trigger, a slide connected to said rod and attached to the cover and operating the same, substantially as described.

23. In a gun, a hollow stock having an opening in the under side, and a door closing said opening, means for detachably securing said door, consisting of a hook on said door, a spring-hook in the stock, and a slide on the door engaging the end of the spring-hook, and having a thumb-piece movable in an opening in the door, substantially as described.

24. In a gun, a hollow stock having an opening in its under side, a door hinged at its forward end and secured by a spring-hook engaging a hook on the door, and having a rod with an inwardly-turned end, a packet held in place by said door, having a follower with an outwardly-turned end to engage the end of said rod, and a transfer-arm having a hook to engage the end of the follower and release the door, substantially as described.

25. In a gun, a hollow stock having a door in its under side, secured by a hook having a forwardly-extended rod having an inwardly-turned end, a packet having a lateral extension at its lower side, a slot in said extension and an opening in its side having a lateral and curved extension near said slot, a follower in the packet having an end projecting through the said opening and traversing the same, and engaging the end of said rod, and a transfer-arm having a hook to engage and remove the cartridges and a hook to engage the follower, substantially as described.

26. In a gun in combination with a transfer-tube, and means for moving the cartridge through the tube, a spring-stop to engage the rear of the cartridge-flange, a spring-stop to engage the front of said flange, a cam on the last-named stop, and a sliding plate engaging said cam to lift said stop and means for moving the cartridge along the transfer-tube, substantially as described.

27. In a gun, in combination with a transfer-tube and means for intermittently moving cartridges in said tube, stops consisting of a plate secured to said tube and divided longitudinally at its ends and adapted to engage the respective sides of the flange and hold the same, cams on the stops engaging the forward sides of the flanges, and a sliding plate beneath the stops having shoulders engaging said cams and means for moving said plate, substantially as described.

28. In a gun, in combination with a transfer-tube having a longitudinal slot and side

openings, and arms reciprocating in said slot having a hook and a shoulder to engage and move the cartridges, two spring-stops in said openings to engage the rear of the cartridge-flanges, two spring-stops in said openings to engage the front of said cartridges, cams on the last-named stops, a slidable plate beneath said stops having fins extending between said stops, and shoulders engaging the cams, and a slide having a lug engaging one of said fins, substantially as described.

29. In a gun, transfer mechanism, a transfer-tube having ribs, a slide embracing said tube and movable on said ribs and operating the transfer mechanism, a handpiece slidable on the fore-arm, and a rod connecting said handpiece and slide, said parts being arranged, combined and operating substantially as described.

30. In a gun, a tube having a slot in its top and openings in its side, and longitudinal ribs, a slide embracing said tube and slidable on said ribs, a divided and flexible arm attached to said slide, said arm having a hook and a shoulder at its respective ends and moving in said slot spring-stops in said side openings to engage the respective sides of the cartridge-flanges, cams on the stops engaging the forward sides of said flanges, a slidable plate having shoulders to engage said cams, and a fin projecting outward, a lug on the slide to engage said fin, a rod attached to said tube, a cross-head and spring movable on said rod, stops to limit the movement of said cross-head, a hook on said slide to engage and move said cross-head, and a spring-hook on the cross-head to engage the flange of a cartridge, substantially as described.

31. In a gun, a transfer-tube having a slot, a slide embracing said tube and moving on the same, means for reciprocating said slide, a rod attached to the tube, a cross-head running on said rod and engaged by said slide, stops loosely surrounding said rod, one of said stops having an incline engaging a projection on the cross-head a hook on the slide engaging said projection, and a hook on said cross-head engaging the flange of a cartridge, substantially as described.

32. In a gun, a barrel, a stock having an opening at the rear of said barrel, a sliding cover closing said opening a transfer-tube below said opening having an open top and a slot, a slide embracing said tube and moving thereon and attached to said cover, an extractor attached to said slide, a sliding cross-head above said tube having flexible fingers extending below said cover and also having a hook moving in said slot, stops limiting the movement of said cross-head, and a hook on said slide detachably engaging a projection on the cross-head, substantially as described.

33. In a gun, a stock having an elongated opening at the rear of the barrel, a rearwardly-sliding cover to close the same, an extractor attached to said cover, a transfer-tube having an upwardly-open forward end and a

slotted rear end, a packet having a slot opposite the bottom cartridge, a slide moving on said tube, an arm having a hook and shoulder at its respective ends, said arm attached to said slide and moving in said slot, spring-stops to engage the flanges of the cartridges, a sliding plate to lift said stops, a lug on the slide to operate the plate, a cross-head having flexible fingers extending below the cover and at each side of the extractor, and a hook traversing the slot in the tube, a spring to move the cross-head, stops to limit its movement, a detachable hook on the slide to engage said cross-head, and means for reciprocating said slide, substantially as described.

34. In a gun, a breech-block operated by a prop pivoted to the same and having a transverse pin, a lock having a longitudinally-movable hammer, a pivoted dog on the hammer, a cocking-hook holding said dog, a transfer-tube, a slide movable on said tube and operating the transfer mechanism a transverse pin on said slide, an operating-rod having a hook and notch to engage said pin, joints in said rod, a spring to hold the rod in line, a lug on said rod to engage a projection and release said notch, a slot in said rod traversed by the pin on the prop, and a lug on said rod to engage the dog on the hammer, substantially as described.

35. In a gun, a slide to operate the transfer mechanism and having a transverse pin, a lock having a longitudinally-movable hammer, a pivoted dog on the hammer, a hook engaging said dog, springs engaging said dog and hook, a fixed arm engaging said hook to release the dog, a longitudinally-movable rod having a hook at the end and a notch near said hook to engage the pin on the slide, joints in said rod, and a spring on said rod to hold the same in line, a lug on said rod engaging a fixed projection to release the notch from the pin, substantially as described.

36. In a gun, a vertically-movable breech-block having a movable firing-pin, a prop pivoted at one end to said block and having a pin at the other end having a flattened side a lug on the side of said prop, a longitudinally-movable hammer engaging the firing-pin, a spring to actuate the hammer, an automatic latch and a firing-sear engaging notches in said hammer, a pivoted dog on said hammer, a cocking-hook and a spring engaging said dog, a slide to operate the transfer mechanism said slide having a transverse pin, a handpiece slidable on the fore-arm and an operating-rod attached to said handpiece and having a slot and lateral enlargement engaging and traversed by the pin of the prop, and a flange engaged and traversed by the lug on the prop, and a lug engaging the dog on the hammer, and a shoulder to release the automatic latch, and a hook at the end, and a notch near the same to engage the pin of the slide, and joints, and a spring opposite the joint near the notch to hold the rod in line, and a lug on said rod to

engage an inclined projection on the guard-plate and release the hook from the pin, substantially as described.

37. In a gun, a magazine having a spring-  
5 follower engaging and pressing upon the cartridges, a transfer-tube having a slot, a slide moving on said tube, a divided flexible arm attached to said slide and traversing said slot  
10 a hook on the rear end of said arm to remove a cartridge from the packet, a shoulder on the forward end of said arm to move the car-

tridge along in the tube, and a projection on said forward end to prevent the cartridge from racing forward, substantially as described.

In testimony whereof I affix my signature  
15 in presence of two witnesses.

MYRON C. LISLE.

Witnesses:

LUTHER V. MOULTON,  
LEWIS E. FLANDERS.