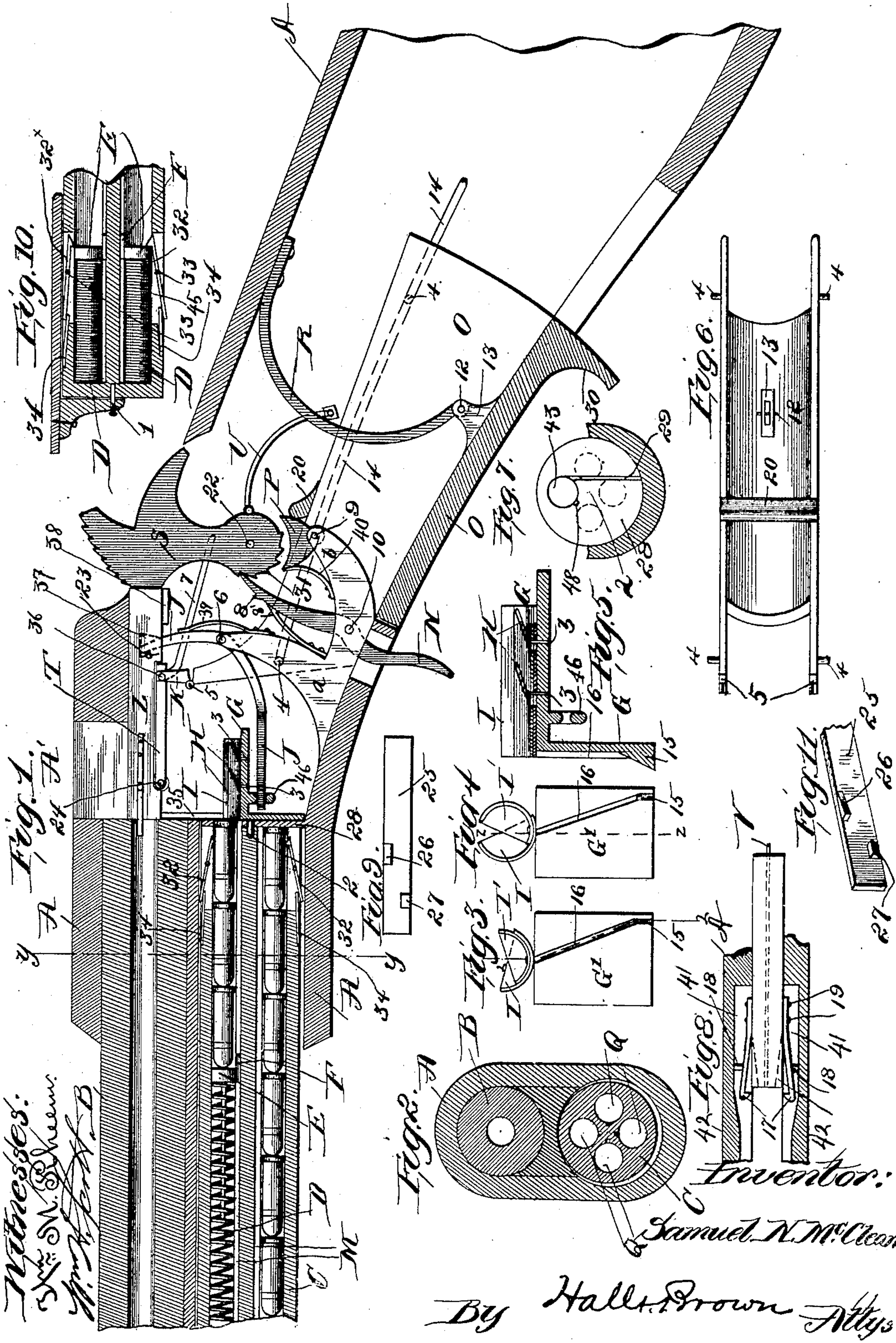


(No Model.)

S. N. McCLEAN.
MAGAZINE FIREARM.

No. 575,265.

Patented Jan. 12, 1897.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL N. McCLEAN, OF WASHINGTON, IOWA.

MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 575,265, dated January 12, 1897.

Application filed October 19, 1891. Serial No. 409,191. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL N. McCLEAN, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented new and useful Improvements in Firearms, of which the following is a specification.

My invention relates to improvements in firearms; and the objects of my improvements are to provide an automatic rotating magazine for the reception, retention, and discharge of cartridges, their transfer therefrom to their proper position in the barrel of the firearm, and means for discharging the cartridge, extracting the shell, and continuously loading the barrel of the gun and discharging the cartridge by means of a sliding operating-handle located in the stock or handle of the firearm. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal sectional view of the barrel and magazine of the firearm and a view of the construction of the operating device in the stock or handle of the firearm with the left side of the stock or wall of the firearm removed, the left half of the operating-lever being also removed. Fig. 2 represents a cross-section of the firearm on the lines *y y*, the tubes of the magazine being empty, showing the walls of the stock A, the barrel B, the magazine C, the magazine-tubes Q, and the end of the grooves M. Figs. 3 and 4 are front views of the cartridge-carrier, showing the vertical part of plate G and the diagonal groove in the same rotating the magazine and an end view of shells I I, Fig. 3 showing the shells open, Fig. 4 closed. Fig. 5 is a sectional view of the cartridge-carrier. Fig. 6 is a plan view of the operating sliding handle O, showing its two lateral walls and an inside view of the body of the handle, also the projection 13 and the pin 12 for attachment with the spring R, the pins 4 to control its motion, and the pin-openings 5 for attachment with locking-lever K. Fig. 7 represents the front wall of the chamber within the stock or handle of the firearm and is formed by the rear end of the barrel B and the plate 28, showing the opening 43, through which the cartridges pass from the magazine, also the slot 29, in which the projection 15 of

the cartridge-carrier G moves. Fig. 8 is a horizontal sectional view of the stock or handle of the firearm on a line through the center of the bore of the barrel and breech-piece, showing the breech-piece with extractors attached, the lugs 18, and the converging grooves 41, in which the lugs 18 move and are guided. Fig. 10 is a longitudinal sectional view of the forward end of the magazine, showing its tubes, the plunger E, with its pin F, and the spring D, the slots 45, the catch-levers 32, and the spring 34. Figs. 9 and 11 represent the locking-spring 25 with projections for engaging and disengaging the cartridge-carrier as it rises and descends.

Similar letters and figures refer to similar parts throughout.

In the drawings accompanying this specification I have illustrated the construction of my invention with reference to a repeating rifle; but it will be apparent that the operating device will be generally applicable to breech-loading firearms.

The stock or handle of the firearm contains a chamber in which are located the various operating devices for transferring the cartridge from the magazine to the barrel of the firearm, discharging the cartridge, extracting the shell, and rotating the magazine.

The operating sliding handle O is a long slide U-shaped in cross-section, as shown in Figs. 1 and 6. Its body, as shown in the longitudinal section, Fig. 1, is provided with a heel or projection 30, on which the operating force is exerted. This sliding operating-handle is U-shaped in cross-section, and its two sides rise up, and their exterior surfaces are adjusted to conform to the inner faces of the walls of the chamber in the stock or handle. It is constructed to slide back and forth inside of the chamber formed in the stock or handle of the firearm, the movements of this handle being controlled by the pins 4, Figs. 6 and 1. These pins, located on the outer side of the lateral walls of the handle, are integrally attached to it and constructed to slide back and forth in the grooves 14, Fig. 1, said grooves being located in the opposite walls of the stock-chamber. The forward end of this sliding handle, Fig. 6, is bifurcated and constructed to pass forward and upward on either side of the internal operat-

ing devices, as shown in Fig. 1. These separate ends are respectively hinged to the two locking-levers K.

The automatic action of the locking device is as follows: The locking-bar T, Fig. 1, is a broad strong bar pivotally hinged to the under side of the breech-piece by pin 24, Fig. 1. This bar is also pivotally joined on either side to the locking-levers K by pins 36, Fig. 1. These pins 36 are integrally attached to the locking-bar, pass through circular openings in the levers K, and extend into grooves 7, Fig. 1. These grooves are turned upward toward their forward ends and are located in the walls of the chamber on its respective opposite sides, the grooves being identical in size, depth, and direction. The locking-levers K are pivotally hinged to the operating-handle O by pins entering the holes 5, Fig. 1, the construction being such that when the operating-handle O is drawn back by the force of the hand operating on it the hinged connection of these levers at the opening 5, Fig. 1, is opened, thereby removing the lower end of the lever K from beneath the rear end of the locking-bar T, allowing the pins 36, Fig. 1, to drop down out of the upward-turned forward part of the groove 7, Fig. 1, and be drawn back through the rear part of said grooves, thereby causing the breech-piece and connected parts to be operated as required. The reverse action of the operating-handle O, caused by the resistance of the spring R, Fig. 1, drives the locking-pins 36, Fig. 1, forward through the rear part of the grooves 7, Fig. 1, when they are carried up into the forward part of the grooves 7, Fig. 1, by the forward and upward motion of the locking-levers K, thereby locking the breech-piece in position in front of the bore of the barrel.

The breech-piece is a steel bar or bar, preferably square in transverse section and of a length and size to be determined by the size of the cartridge used in the particular firearm. It is constructed to slide back and forth in the chamber formed by the walls of the stock or handle of the firearm, said chamber being on a line with the bore of the barrel. The breech-piece contains the usual firing-pin, passing longitudinally through it. The under side of the breech-piece is recessed, so that the locking-bar T may be received therein and held in position by the locking-levers K, which are respectively pivotally attached thereto on the opposite sides of T. In the center of the breech-piece at the forward end of the recess is located the lug 24, to which the locking-bar T is pivotally connected. There is provided in the under side of said breech-piece a chambered opening 37, in which the end of the short arm of the lever J is introduced and by means of which the reciprocating motion of the breech-piece operates the lever J and reciprocates the cartridge-carrier. A pin 23 is preferably introduced laterally through the front of chamber 37 as a bearing for the end of lever J.

The rear end of the breech-piece, when in normal position, is in contact with the face of the hammer S, and its rearward movement forces the hammer backward into a cocked position. Grooves 43 may be cut in the sides of the breech-piece to enable the extractors to be compressed.

The automatic shell-extractors 17, which are illustrated in Fig. 8, are attached to the opposite sides of the breech-piece at its forward end on a line with the central axis of the bore of the barrel. The extractors are provided with lugs or bearings 18, which slide in grooves in the opposite walls of the receiver. These grooves converge for some distance between their ends and toward their forward ends to such an extent that by having a compressing operation upon the bearings 18 they cause the catches of the extractors to seize upon the rim or flange of the cartridge as it is entering the bore of the barrel, when the grooves again become parallel and the extractors remain engaged with the shell after it has entered the bore. The extractors retain their grasp until by the rearward motion of the breech-piece the shell is fully extracted. The gradual divergence in the grooves and the resultant diminishing of the pressure exerted on the bearings 18 cause the extractors to release the shell, when it either rolls out at the opening A' or is thrown out at the top by the upward motion of the cartridge-carrier.

The foregoing-described construction differs from that shown and described in my previous application, Serial No. 384,944, in forming the breech-piece to move on a line with the bore of the barrel. A new mode of operation is introduced by this construction and movement of the breech-piece which permits the extractor to be fixedly attached to the breech-piece and to engage with the groove by a lug or bearing, giving a more positive action to the extractor.

The automatic cartridge-carrier, Figs. 1, 3, 4, and 5, consists in a steel plate having vertical and horizontal parts. The vertical plate, being somewhat broader than the horizontal plate, is constructed to move and slide in vertical grooves 35, formed in the opposite walls of the chamber in which the cartridge-carrier moves back and forth from the magazine to the bore of the barrel. On the front face of the vertical part of the plate G', Fig. 1, (illustrated in Figs. 3, 4, and 5,) is a diagonal groove 16, constructed to engage with the pin F and rotate the magazine. The horizontal part of the plate G (illustrated in Fig. 1) is of a width and length to be determined by the cartridge used in the particular weapon. It has on its under side a bearing 46, Fig. 1, for articulation with the forward end of the cartridge-carrier-lifting lever J. Fastened to the central line of its upper surface are two semicircular shells I I', Figs. 3, 4, and 5. They are constructed to slide smoothly one within the other, each shell having cut through its walls two diagonal parallel slots H, the slots in the

different shells converging from opposite directions to a common center, these slots being constructed to cross each other at a point immediately over the central longitudinal line of the horizontal plate G. Through the openings formed by the crossing of these slots pass the pins 3, Figs. 1, 3, 4, and 5, which pins 3 retain the shells I I' on the central line of the plate G and control the movements of these shells. The automatic action of the cartridge-carrier is as follows: When a cartridge driven by the plunger E, Fig. 1, and the force of the coiled spring D, Fig. 1, passes out into the carrier-shells, it slides back through the shells until it comes in contact with the end walls of the shells, and the cartridge forces the shells backward, and they at once by means of the diagonal slots H close upon the cartridge and hold it firmly in position, thereby causing the shells by sliding past the pins 3 in the diagonal grooves H to close around the cartridge from opposite directions, as illustrated in Fig. 4, and they remain in that position until they are brought into the presence of the bore of the barrel. The forward motion of the breech-piece causing the shells to slide forward compels them to resume their former position. (Illustrated in Fig. 3.) The cartridge then being sufficiently engaged in the bore of the barrel, the carrier G is dropped by the force of the spring 39, Fig. 1, to its position in front of the magazine, when it immediately receives from the magazine another cartridge, as before. The cartridge-carrier-lifting lever J is actuated by the reverse movement of the breech-piece and the resilience of the spring 39. The short arm of this lever, coming in contact with the breech-piece, is drawn back by this breech-piece, thereby causing the long arm of this lever to carry the cartridge-carrier to its position in front of the bore of the barrel.

The automatically-rotating magazine, Fig. 1, is held in position beneath the barrel by a pin 2, which passes into a central opening in the magazine, and a removable pin 1, Fig. 10, which passes through a removable arm into a corresponding central opening in the forward end of the magazine.

The magazine may be formed with two or more chambers. I have seen proper to illustrate it as possessing four chambers, as seen in the drawings. Each of these chambers Q, Figs. 1 and 2, is provided with a longitudinal groove M, Figs. 1 and 2. Within these chambers is located a plunger E, Fig. 1, having a coiled spring D, Fig. 1. Integrally attached to the side of the plunger E is the pin F, constructed to slide back and forth in the groove M, Figs. 1 and 2. The force of the spring D, Fig. 1, causes the plunger E to force from the upper chamber of the magazine the cartridges as they are required. When the last cartridge is ejected from the upper chamber of the magazine, the pin F, traveling in the groove M, projects from the end of the magazine and through the small opening 48, Fig.

7, and engages with the diagonal groove 16, Figs. 3 and 4, by means of which engagement the upward motion of the cartridge-carrier causes the next loaded chamber of the magazine to be rotated into position, its contents being then discharged, as hereinbefore described. The diagonal groove 16 in the face of the vertical plate G terminates at its lower part in a vertical groove, and the vertical groove shallows out and forms a projection 15, Figs. 3, 4, and 5. This projection extends out from the face of its plate and moves in the slot 29, Fig. 7, and when the carrier is forced upward this projection engages with the pin F and forces it and the plunger E back into the magazine, when the plunger is caught and held by the catch-lever 32 at the rear end of the magazine.

The catch-levers 32 at the rear end of the magazine and 32^x at the forward end of the magazine are pivotally held in slots in the walls of the magazine, and their ends, provided with catches, are forced upward by the springs 34, pressing upon their other ends. They are forced out of engagement with the plunger by their rear or outward ends coming in contact with the rib uniting the barrel and the magazine. Their construction and operation are similar to the catch-lever devices shown in Fig. 10.

When the chambers of the magazine are full of cartridges, the plungers are forced back and held, as shown by Fig. 10, by the catch-levers 32^x, Fig. 10. These catch-levers are pivotally held at 33 in slots or openings in the walls of the cartridge-chambers, and their engagement with the plungers is effected by the springs 34. The rear ends of the catch-levers extend out of the wall of the magazine. When the magazine is rotated so as to bring one of the cartridge-chambers in front of the opening 43, Fig. 7, the outward ends of the catch-levers meet the under side of the rib between the barrel and the magazine and are depressed, and the lever is thus thrown out of engagement with the plunger, which is then forced by the spring D to expel the cartridge from the chamber.

The construction of my automatic firing device is as follows: The trigger N, Fig. 1, pivotally attached to the projection a by the pin 10, Fig. 1, is constructed to engage with the sear-notches 31 of the hammer S, Fig. 1, its movements being actuated by the spring 8', Fig. 1. The automatic sear P, Fig. 1, is joined by the pins 9 to the arm of the projection a, its forward end being forced against the notches 31 by the spring 40, its rear end being constructed to come in contact with the projection 20 of the operating-handle O, Figs. 1 and 6. This automatic trigger device affords a spring-actuated set for the hammer to engage and hold it in its cocked position and be released from the hammer by the handle in its forward movement, as hereinafter described. The automatic action of those triggers is as follows: Both of the triggers being

thrown against the sear-notches 31 of the hammer S when the handle O is drawn back by the force of the hand, the hammer also being drawn back by the rearward motion of the breech-piece, both triggers slip past and catch behind the notches 31, thereby retaining the hammer in a cocked position until by the forward motion of the lever O the projections 20 of this lever coming in contact with the rear part of the automatic trigger P causes its forward end to become disengaged from the catches at a time when the cartridge has been driven into the bore of the barrel and the breech-piece locked in position, as hereinbefore described. The hammer being then only retained by the trigger N, the gun can be fired in the usual way by this trigger, but if rapid firing is desired the action of the automatic trigger can be utilized by drawing the trigger N fully back, so that the notch in the spring 8' will engage with the catch 8 on the trigger N, thereby leaving the action of the hammer to be controlled only by the automatic trigger, when the gun will be automatically discharged by the automatic trigger, as hereinbefore described.

The projection *a* is rigidly attached to the bottom of the stock-chamber and has two upwardly-extending arms. These arms are bifurcated at their extremities, so as to receive and carry, respectively, the lever J and the automatic trigger P. It is also provided with a vertical chamber through which passes and is pivotally held the trigger N. In the opposite walls of the stock-chamber in line with the bore of the barrel and near the lower corners of the breech-piece are grooves, in each of which is located and firmly attached at one end a spring 25, provided with two latch-shaped catches 26 and 27. The front face of the spring is flush with the face of the wall. The groove behind the free end of the spring is deepened, so that it may be pushed back and the catches taken out of the way. When the cartridge-carrier is elevated, it strikes the catch 27 and forces the spring in until the table of the carrier is above it, when the spring is restored and the catch 27 holds the table in position above it. It is released and the spring forced back by the forward movement of the breech-piece, which engages the catch 26 and frees the carrier to descend after it has left the cartridge.

It is evident that there may be many changes and modifications in the construction of my invention and of its several parts without departing from the spirit of my invention, and I do not limit myself to the specific construction shown and described.

Having thus described my invention and its mode of operation, what I desire to claim and secure by Letters Patent of the United States is as follows:

1. In a breech-loading firearm the combination of a stock-chamber formed with guide-grooves in its side walls, a sliding handle U-shaped in cross-section the side walls thereof

conforming to the shape of the stock-chamber in which it slides and having lugs to engage with the guide-grooves in the stock-wall and the front end of the sliding handle being bifurcated and extending upward and forward on both sides of the operating mechanism and a reciprocating breech-piece connected to the bifurcated ends of the sliding handle.

2. In a breech-loading firearm, the combination with the breech-piece, of a reciprocable spring-pressed handle, a guide-groove 7 in the wall below the breech-piece, a breech-locking bar T hinged at one end to the breech-piece, and engaging, toward its opposite end, the said groove, and a lever K pivotally connecting the said handle with the breech-locking bar, substantially as described.

3. In a firearm, a spring-actuated, operating sliding handle O, provided with pins or lugs 4, with the stock or handle of such firearm provided with a chamber therein having grooves or channels 14, located in the respective opposite walls of said chamber to receive said pins or lugs, and guide said handle, the rear end of said handle being constructed to engage with the spring R, the forward end of this handle being bifurcated and constructed to pass forward and upward on either side of the operating device, its separate arms having a knee or hinged connection to locking-levers K, which levers K, are hinged by means of pin 36, to the locking-bar T, which bar T, is hinged to the under side of the breech-piece L, the respective opposite ends of pin 36, are constructed to extend into cam locking-grooves 7, which grooves 7 are located in the respective opposite walls of the chamber; have a vertical, a curved and a rearward direction, the cam action of these grooves on the reciprocating movements of pin 36, in and through these grooves operates to unlock, actuate and lock the breech, substantially as and for the purpose set forth.

4. In a firearm provided with a barrel and stock or handle having a chamber therein, the combination with the stock and barrel thereof of a firing device, composed of a spring-actuated operating sliding handle O, which engages with a spring R, the lateral walls of this handle being controlled within the walls of the chamber in which it slides, and being provided with pins or lugs 4, which extend into curved grooves 14, located in the respective opposite walls of the stock-chamber, the forward end of this handle having a knee or hinged connection with an automatic breech-locking device, composed of locking-levers K, locking-pin 36, cam locking-grooves 7, and bar T, which is hinged to the under side of a longitudinally-reciprocating breech-piece L, the automatic action of the locking device being controlled by the locking-pin 36, which engages with the cam locking-grooves 7, these grooves being located in the respective opposite walls and having a vertical, a curved and a rearward direction, the vertical

part being at a right angle with the chamber in which the breech moves, the cam action of these grooves on the reciprocating movement of the pin 36, operates to unlock, actuate and lock the breech, the rear end of the breech-piece engaging with the spring-actuated hammer S, which in turn engages with the spring-actuated trigger N, substantially as and for the purpose set forth.

5. In a firearm, the combination with the stock and barrel thereof of an automatic firing device, composed of a spring-actuated operating sliding handle O, provided with pins or lugs 4, the walls of the stock-chamber being provided with curved grooves or channels 14, to receive said pins and guide said handle, the rear end of said handle engaging with the spring R, the lateral walls of this handle being provided with a projection or arm 20, the forward ends of this handle having a knee or hinged connection with an automatic breech-locking device which engages with cam-grooves located in the walls of the stock-chamber, the said breech-locking device being hinged to the under side of a longitudinally-reciprocating breech-piece L, which engages with a spring-actuated hammer S, having ratchet-teeth cut in the heel thereof, a spring-actuated automatic sear P, located in the path of the forward movement of the projection or arm 20, the said sear being pivotally retained in the bifurcated extremity of a projection or bracket fixedly attached to the stock-wall, this sear engaging with the heel of the hammer in the usual manner, and being disengaged from the hammer by the said projection or arm 20, at a time when the breech-piece is locked in position in the rear of the bore of the barrel, substantially as and for the purpose set forth.

6. In a firearm provided with a stock or handle, having a chamber therein, the respective opposite walls of the said stock-chamber having curved grooves 14, sunk therein: also cam locking-grooves 7, which grooves 7, have a curved and a rearward direction: the vertical part, being at right angles with the chamber in which the breech moves: also cam extracting-grooves 41, located in the opposite wall of the breech-chamber, these grooves 41, being of varying depth, a spring-actuated operating sliding handle O, having a body and lateral walls, the lateral walls being provided with pins or lugs 4, which engage with the said curved grooves 14, the rear end of this handle engaging with the spring R, its forward arms having a hinged or knee connection with locking-levers K, which levers K, are hinged to the bar T, by means of the locking-pin 36, which pin 36, engages with the cam-grooves 7, the bar T, being hinged to the under side of the breech-piece L, fixedly attached to the breech L spring extractors 17, having bearings 18, which bearings 18, engage with the cam-grooves 41, the grooves 41, becoming shallower near their forward ends, substantially as and for the purpose set forth.

7. In a firearm provided with a stock or handle having a chamber therein; a sliding operating-handle provided with a projection 20, and a forward-actuating spring R, in combination with the spring-actuated hammer, S, having sear-teeth cut in its heel, a sear P, in the path of the forward movement of said projection 20 pivotally held in a projection or bracket, and its spring 40: the trigger N pivotally held in said projection or bracket having a catch 8 to engage with a corresponding catch in spring, 8', whereby, the hammer having been forced into cocked position may be thrown forward, by disengagement of either of said triggers as may be desired, all substantially as shown.

8. In a firearm, having a chamber in its stock or handle, a cartridge-carrier capable of vertical reciprocating motion in said chamber, such cartridge-carrier being provided in its vertical face with a diagonal groove proceeding from its top downward and terminating in a vertical groove: the bottom of said vertical groove shallowing out and extending into a projection 15: the plate 28 constituting the front wall of said stock-chamber provided with its openings 43 and 48 and slot 29: a cartridge-magazine having two or more cartridge-chambers: each chamber provided with a spring-actuated plunger having a pin F, capable of being forced through the opening 48 in plate 28, into the groove 16 in the front face of the cartridge-carrier: the chambers of said magazine having catches 32: whereby when the last cartridge in the chamber is forced out on to the cartridge-carrier the pin, F, of the plunger engages in the groove 16: the upward movement of the carrier rotates the magazine; the projection 15 forces the pin and its plunger wholly within the chamber, and the plunger is caught by the catches and held, until the chamber is reloaded: all substantially as shown.

9. In a firearm, a cartridge-magazine having two or more cartridge-chambers: each chamber provided with a longitudinal groove: also having in the outer walls near each end slots cut into each chamber and each slot provided with spring-actuated catch devices capable of catching and holding a plunger: in combination with a plunger for each chamber actuated by a spring and having rigidly attached to it a pin F, moving in the longitudinal groove: whereby when a chamber is fully charged with cartridges, the plunger is forced back and caught and held by the catch devices located in the slots at the front of the magazine: and when the chamber has been emptied the plunger may be forced back and caught by the catch devices in the slots near the rear end of the magazine, until the chamber has been again filled: all substantially as shown.

10. In a firearm, the combination of the sliding operating-handle, O, provided with a projection capable of bearing upon the automatic trigger, P; the spring R: the spring-

actuated hammer S, provided with sear-teeth; the sear P and spring 40: the trigger N and its spring 8': said two triggers and springs being pivotally supported in a projection or
 5 bracket in said chamber: and mechanism connecting said sliding operating-handle and said hammer: whereby said hammer may be automatically forced into cocked position, and released by the movements of said handle:
 10 or the hammer may be automatically forced into cocked position and released mechanically by the trigger N: all substantially as shown.

11. In a firearm, a breech-piece having a
 15 longitudinal bore for the firing-pin; having grooves cut on opposite sides at its front end to permit the compression of the extractors; recessed on its under side to receive the locking-bar, and at its rear under side having
 20 means for engaging the upper arm of the cartridge-carrier-lifting lever, and also having attached on opposite sides shell-extractors with lugs 18; in combination with the opposite walls of the stock-chamber respectively
 25 provided with grooves sunk therein and running parallel with the bore of the barrel and also with projections 38, which support and retain the rear end of said breech-piece, whereby said breech-piece is made capable
 30 of a longitudinal reciprocating motion in line with the bore of the barrel; all substantially as shown.

12. In a firearm, the combination of the plate 28, provided with a circular opening 43,
 35 the small opening 48, and the slot 29, with the barrel B, and a rotatable cartridge-magazine containing two or more chambers, each chamber provided with a longitudinal groove, and containing a spring-actuated plunger E,
 40 having fixedly attached to it a pin, constructed to move and slide in the said groove, capable when the magazine is empty of projecting through the opening 48, and engaging with a diagonal groove located on the face
 45 of a vertically-reciprocating carrier G, which diagonal groove 16, terminates in a projection 15, which moves and slides in the said slot 29, and in its upward movement engages with the pin F, and forces it back into the magazine and out of engagement with the carrier,
 50 substantially as and for the purpose set forth.

13. In a firearm, a cartridge-carrier having a horizontal plate G and a vertical plate G'; the vertical plate G' being provided in its
 55 face with a diagonal groove shallowing out and extending into a projection; said vertical plate G' being wider than the horizontal plate G so that its edges may be guided in

grooves; in combination with two semicylindrical shells, each provided with diagonal
 60 slots and attached to said horizontal plate by pins or screws, having heads and passing through said slots into said horizontal table; whereby said shells are held in place and by their longitudinal motion on said plate are
 65 opened and closed; all substantially as shown.

14. In a firearm, a reciprocating cartridge-holder having converging cam-slots, a cartridge-carrier provided with pins to engage with the cam-slots of the holder whereby the
 70 holder is opened and closed.

15. In a breech-loading magazine-firearm, a reciprocating cartridge-carrier provided with means for reciprocating it in operating
 75 the gun and having a cartridge-receiver formed with the obliquely-slotted longitudinally-movable curved shell-sections adjustably pinned to the said carrier through said slots, substantially as and for the purpose
 80 set forth.

16. In a breech-loading firearm, the combination of a spring-actuated hammer, a trigger adapted to engage the heel of the hammer in normal relation and a spring-catch to engage the trigger and hold it free from en-
 85 gagement with the heel of the hammer, substantially as and for the purpose set forth.

17. In a firearm, a sliding handle located on the under side of the stock and formed with a projection 20, and provided with lugs
 90 4, a stock-wall having guide-grooves 14 to take the lugs and guide the handle in its movements, a reciprocating breech-piece connected to said handle, a hammer arranged to be cocked by the breech-piece, and a sear to
 95 engage the heel of the hammer and located in the path of said projection on the handle, to trip the sear and release the hammer.

18. In a breech-loading firearm, the combination of a sliding handle provided with a
 100 projection or lug 20, a reciprocating breech-piece connected to the sliding handle, a spring-actuated hammer engaged by the breech-piece, a spring-actuated sear to engage the heel of the hammer, and located in the path
 105 of the lug on the sliding handle which engages with the sear to release it from the hammer, a reciprocating cartridge-carrier, and a carrier-lever connected with the cartridge-carrier and the breech-piece, substantially as
 110 and for the purpose specified.

SAMUEL N. McCLEAN.

Witnesses:

J. LAWRENCE GERRY,
 WM. J. STAPLETON.